

ABSTRACT

# EXCELLENCE IN PAEDIATRICS 2011

## ORAL PRESENTATIONS

### CARDIOLOGY

OP01

#### SUBCLINICAL MYOCARDIAL DYSFUNCTION IN VITAMIN D DEFICIENCY RICKETS

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Introduction: Dilated cardiomyopathy associated with vitamin D deficiency has been reported in infants.

Purpose: To assess myocardial functions in infants with nutritional vitamin D deficiency rickets using tissue velocity imaging (TVI), Strain (S) and Strain rate (SR).

Material: This study included 40 infants (mean age  $15.3 \pm 3.2$  months) with active vitamin D deficiency rickets and 40 age and sex matched controls. Patients had no cardiac symptoms or signs.

Methods: M mode, 2D echocardiography, TVI [early systolic (S') and early diastolic (E') waves of the mitral lateral and septal annulus], S and SR than controls, S and SR were performed to all patients and controls. Patients were treated with vitamin D 600 000 IU as a single IM dose and oral elemental calcium 1 gm/day for 6 weeks. Patients were reevaluated after clinical and radiological healing of rickets and return of laboratory values to normal.

Results: Before treatment, patients showed significant increase in the interventricular septal thickness in diastole (IVSd), left ventricular dimension at end systole (LVIDd) ( $P < 0.05$ ) and significant decrease in ejection fraction (EF) and TVI indices ( $P < 0.05$ ). TDI, S and SR values showed significant positive correlation with serum calcium. Following treatment there was a significant decrease in IVSd and increase in EF and significant decrease ( $P < 0.001$ ) in TVI values. These post treatment values were not significantly different than those of the control group ( $P > 0.05$ ). However, S and SR remained significantly decreased post treatment when compared to the control group ( $P < 0.05$ ).

Conclusions: Infants with active nutritional rickets show subclinical myocardial dysfunction as detected by M-mode, TVI, S and SR. Treatment was associated by normalization of M-mode and TVI but not S and SR values. Increased dose or duration of treatment might be needed for some indices of myocardial function to reach normal values.

OP02

#### NATRIURETIC PEPTIDES NT-PRO-BNP IN CHILDREN WITH CONGENITAL HEART MALFORMATION AND CONGESTIVE HEART FAILURE

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Introduction: In young children, the etiology of heart failure consists of congenital heart malformations (CHM) whose therapeutic solution is surgical correction. The biomarkers derived from compensation neurohumoral activation such as natriuretic peptides are biomarkers in congestive heart failure (CHF).

Purpose: The aim of our study was to compare serum NT-proBNP levels in children with CHF secondary to CHM, with and without heart surgery.

Material: Two groups of patients aged between 0–48 months with CHF secondary to CHM were studied. The first group included 32 patients with unoperated heart malformations and the second group, 21 patients within 24 h after surgery for the correction of the heart malformation. The control group included 18 subjects with normal ventricular systolic function, aged 0–48 months.

Methods: NT-proBNP levels were assessed by ELISA method, (Enzyme-Linked Immunoabsorbent Assay), using a standardized kit containing monoclonal antibodies that recognize epitopes located in the NT-proBNP portion.

Results: The mean NT-proBNP value was 212 mol/mL in patients with operated CHM, 68.2 fmol/mL in patients with unoperated CHM, and 17.9 fmol/mL in the control group. There were significant differences in NT-proBNP values between the control group and the group of patients with CHF and unoperated congenital malformations,  $P = 0.0005$ , as well as between the control group and the group of patients with CHF and operated congenital malformations,  $P = 0.00001$ .

Conclusions: NT-proBNP values are four times higher in patients with CHF secondary to unoperated CHM compared to controls, and 12 times higher in patients with CHM within 24 h post-operation compared to controls, which demonstrates the presence of cardiac dysfunction, more marked in the early postoperative period in which surgical cardiomyocyte injury is associated.

## CHILDREN'S ENVIRONMENTAL HEALTH

OP03

### COMPARISON OF DIFFERENT IRON PREPARATIONS IN THE PROPHYLAXIS OF IRON DEFICIENCY ANEMIA

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**Introduction:** The prevalence of iron deficiency anemia in developing countries is 36% whereas this rate is 8% in developed countries according to WHO. Prophylactic iron therapy to prevent iron deficiency anemia in infants is warranted.

**Purpose:** The objective was to compare the efficacy of ferrous sulfate (two-valent) and ferric polymaltose (three-valent) compounds for the prophylaxis of iron deficiency anemia.

**Materials and methods:** Study infants included exclusively breast milk fed term infants who were being followed up by the well child outpatient clinics of Istanbul University, Cerrahpasa Medical Faculty, Istanbul, Turkey. Subjects were divided randomly into two groups at 4 months of age. Group 1 received two-valent and group 2 received three-valent iron preparation at a dose of 2 mg/kg/day for 5 months. At the 4th and 9th months of age, blood was drawn for the evaluation of iron status and erythrocyte parameters.

**Results:** Fifty-six subjects constituting group 1 received two-valent and 56 subjects in group 2 received three-valent iron, orally. At 4th month of age, iron levels and transferrin saturation (TS) were significantly higher in group 1 ( $P = 0.013$ ,  $P = 0.033$ , respectively). At 9th month, group 1 had significantly higher Hgb, Htc, MCV, iron and TS values and lower RDW values. No significant difference was found in TIBC, ferritin values between the groups.

Iron deficiency was found in 17 (30.3%) of the subjects in group 1, and 23 (41%) of subjects in group 2 while 5 (8.9%) subjects had iron deficiency anemia in group 1 and 12 (12%) in group 2 which was insignificant.

**Conclusion:** We observed increments in iron levels and erythrocyte parameters by iron prophylaxis. There was no significant difference in efficacy or side effects between two iron preparations. However, even with iron prophylaxis, there were still subjects with iron deficiency or iron deficiency anemia.

## GASTROENTEROLOGY, NUTRITION & METABOLISM

OP04

### INFLUENCE OF ELEVATED LIVER FAT ON CIRCULATING ADIPOCYTOKINES AND INSULIN RESISTANCE IN OBESE HISPANIC ADOLESCENTS

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**Introduction:** Ectopic accumulation of the fat in organs is thought to play a crucial role in the development of insulin resistance, and this may be mediated by adipocytokines.

**Purpose:** We performed this study to examine the metabolic differences arising from higher liver fat accumulation in obese Hispanic adolescents, with a particular focus on circulating levels of adipocytokines and insulin resistance.

**Material and methods:** Forty-one obese Hispanic adolescents ( $15.3 \pm 1.0$  years, BMI percentile:  $97.0 \pm 3.9$ ) were assessed for: visceral adipose tissue (VAT), subcutaneous adipose tissue (SAT) and hepatic fat fraction (HFF) by MRI; fasting measures of serum glucose, insulin, and adipocytokines including adiponectin, plasminogen activator inhibitor-1, leptin, monocyte chemoattractant protein-1, interleukin-8 (IL-8), nerve growth factor (NGF), hepatic growth factor, resistin, and tumor necrosis factor- $\alpha$ ; homeostasis model assessment of insulin resistance (HOMA-IR); and insulin sensitivity (SI) and the acute insulin response to glucose (AIR) by intravenous glucose tolerance test. Subjects with normal levels of HFF (below 5%;  $n = 25$ ) were compared to those with HFF  $>5\%$  ( $n = 16$ ).

**Results:** The two groups differing in HFF were similar for total body fat, VAT and SAT. The group with HFF  $>5\%$  had significantly ( $P < 0.05$ ) higher IL-8 ( $6.1 \pm 1.6$  vs.  $3.2 \pm 0.4$  pg/mL), NGF ( $30.2 \pm 9.9$  vs.  $13.9 \pm 1.6$  pg/mL), HOMA-IR ( $8.8 \pm 1.1$  vs.  $5.5 \pm 0.5$ ), AIR ( $1869 \pm 206$  vs.  $1092 \pm 165$ ), and a tendency for lower SI ( $1.2 \pm 0.4$  vs.  $2.1 \pm 0.3$ ;  $P = 0.06$ ), with no significant differences in any of other factors measured.

**Conclusions:** These data suggest that elevated liver fat is most closely associated with elevated serum IL-8 and NGF levels as well as increased AIR and HOMA-IR. These elevated factors may play significant roles in the metabolic abnormalities associated with elevated liver fat in obese Hispanics.

## HAEMATOLOGY & ONCOLOGY

OP05

### A RANDOMIZED TRIAL OF IRON HYDROXIDE POLYMALTOSE COMPLEX VERSUS FERROUS SULFATE IN PEDIATRIC PATIENTS WITH IRON DEFICIENCY ANEMIA

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**Introduction:** Iron hydroxide polymaltose complex (IPC) offers similar efficacy with superior tolerability to ferrous sulfate in adults. In children, IPC shows good acceptability but randomized trials vs ferrous sulfate are rare.

**Purpose:** To compare the efficacy, tolerability and acceptability of IPC vs ferrous sulfate in pediatric patients with iron deficiency anemia (IDA).

**Methods:** In a prospective, open-label, 4-month study, IDA children >6 months were randomized to IPC once-daily or ferrous sulfate twice-daily (both 5mg iron/kg/day). Erythrocyte-related hematologic markers (hemoglobin [Hb], hematocrit, mean corpuscular volume, mean corpuscular hemoglobin, mean corpuscular hemoglobin concentration and red blood cell count) were measured at baseline and months 1 and 4. Iron status markers including transferrin saturation [TSAT] and serum ferritin were measured at baseline and month 4. Treatment acceptability was assessed using a visual scale (0, no difficulties; 5, refused or was forced to take the medicine).

**Results:** 103 patients were randomized (42 girls; mean age  $6.4 \pm 5.1$  years; IPC 52, ferrous sulfate 51). Mean increases in Hb to months 1 and 4 with IPC were  $1.2 \pm 0.9$  g/dL and  $2.3 \pm 1.3$  g/dL, respectively (both  $p=0.001$  vs baseline) and  $1.8 \pm 1.7$  g/dL and  $3.0 \pm 2.3$  g/dL with ferrous sulfate (both  $p=0.001$  vs baseline) (n.s. between groups). The increase in TSAT to month 4 was  $15.2 \pm 14.9\%$  with IPC ( $p=0.001$  vs baseline) and  $17.2 \pm 13.3\%$  with ferrous sulfate ( $p=0.001$  vs baseline) (n.s. between groups). Gastrointestinal adverse events occurred in 26.9% and 50.9% of IPC and ferrous sulfate patients, respectively ( $p=0.012$ ). Mean acceptability score at month 4 was  $1.63 \pm 0.56$  vs  $2.14 \pm 0.75$  with IPC vs ferrous sulfate ( $p=0.001$ ).

**Conclusions:** Efficacy and iron availability were comparable with IPC and ferrous sulfate over a four-month period in children with IDA, but IPC was associated with fewer gastrointestinal adverse events and better treatment acceptability.

## INFECTIOUS DISEASES

OP06

WITHDRAWN

## NEONATOLOGY

OP07

### ORAL ARGININE SUPPLEMENTATION REDUCES THE INCIDENCE OF NECROTIZING ENTEROCOLITIS (NEC) IN VERY LOW BIRTH WEIGHT (VLBW)

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**Introduction:** Necrotizing enterocolitis (NEC) is the most common acquired gastrointestinal disease that occurs predominantly in premature infants. The pathology of NEC frequently resembles intestinal ischemia reperfusion injury. An important regulator of vascular perfusion is endothelial nitric oxide (NO). NO is synthesized from the amino acid L-arginine by NO synthases. Arginine is an essential amino acid in very low birth weight (VLBW) infants. A relative arginine deficiency or immaturity of NOS activity in premature infants may lead to deficient tissue NO levels, vasoconstriction and ischemia reperfusion injury and may predispose to NEC.

**Purpose:** In this study, we aim to investigate the effect of arginine supplementation on the incidence of NEC in VLBW infants.

**Material:** This double blind study enrolled 83 VLBW neonates with birth weight  $\leq 1500$  gr and gestational age  $\leq 34$  weeks consecutively born in 'Alexandra' Hospital in Greece between June 2009 and September 2011. Forty neonates were prospectively randomly assigned to receive a daily oral L-arginine supplement of 1.5 mmol/kg/day (261 mg/kg) with oral feeds, between 3rd and 28th day of life, while 43 neonates received placebo (control group). Ethics Committee approval and informed consent from the parents were obtained.

**Methods:** Demographics and clinical data for all enrolled infants were recorded. The diagnosis and classification of NEC was done according to Bells' criteria.

**Results:** No adverse effects of oral arginine supplementation were noted. Four neonates (10%) developed NEC (stage II and III) in the arginine supplementation group whereas 10 neonates (23.3%) developed NEC (stage II and III) in the control group. There was a statistically significant difference in the incidence of NEC between the two groups ( $P = 0.052$ ). No neonate died due to NEC in arginine group, four neonates died due to NEC in control group ( $P = 0.116$ ). Oral arginine supplementation could be safely used for prevention of NEC in VLBW premature infants.

## OP08

### EATING, SLEEPING, HYPERACTIVITY AND ATTENTION PROBLEMS IN VERY PRETERM CHILDREN AT 12, 24, 36 MONTHS FOLLOW-UP

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**Introduction:** Eating and sleeping problems are top concerns among parents of young children and can affect the mother-child relationship. Stable behavior and attention are important to later academic performance. Both are a matter of concern among very preterm infants.

**Purpose:** To explore the frequency of eating, sleeping, hyperactivity and attention problems in very preterm children according to age at assessment, controlling for gestational age (GA), gender and Mental Development Index (MDI).

**Material:** Eating, sleeping, hyperactivity and attention problems as reported by mothers, and confirmed by clinical observation during testing and spontaneous play, were recorded. The Bayley Mental Scale of Infant Development, II edition, was used to assess MDI.

**Method:** Hundred and fifty-one children born 1996–2006, GA 23–32 weeks, consecutively recruited at the Clinical Psychology Unit of a tertiary pediatric hospital, were assessed at 12 and 24 months corrected age and 36 months chronological age. Cluster multivariable logistic regression was used to assess the effect of age at assessment on the likelihood of reported problems, adjusting for gender, GA (<28, 28–30 and 31–32 weeks), and MDI (<70, 70–100 and >100). Adjusted odds ratios (aOR) and 95% confidence intervals (CI) were computed.

**Results:** At 12 months, 17 children (11.3%) had eating, 35 (23.2%) sleeping, 39 (25.8%) hyperactivity and 21 (13.9%) attention problems. At subsequent assessments, eating and attention problems significantly increased, and sleeping problems decreased, while hyperactivity did not change. Females had less hyperactivity (aOR 0.53, 95% CI 0.31–0.91) and attention problems (aOR 0.53, 95% CI 0.30–0.93) than males. Attention problems increased with decreasing MDI (aOR 1.9, 95% CI 1.04–3.59 for MDI 70–100, and 3.0, 95% CI 1.19–7.83 for MDI < 70). MDI < 70 was also associated with increased eating problems (aOR 2.51, 95% CI 0.99–6.39). These findings confirm the high frequency of regulatory problems in very preterm infants, and highlight the importance of early identification and follow-up.

## OP09

### RSV-PROPHYLAXIS IN PREMATURE INFANTS IN SWEDEN: A BUDGET IMPACT ANALYSIS

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**Introduction:** Respiratory syncytial virus (RSV) may cause severe infections in premature infants. Prophylaxis with the monoclonal antibody palivizumab reduces the risk of RSV infections requiring hospitalization (IMPact, 1998), and is cost-effective if a causal link between severe RSV infection, mortality and/or asthma is assumed (Neovius et al. 2011).

**Purpose:** To estimate the additional health care budget impact in Sweden of providing palivizumab to infants born <33 or <29 weeks compared to <26 weeks of gestation (wGA).

**Material:** Estimates were based on a published model simulating infants from birth to death (Neovius et al. 2011). The number of infants eligible for prophylaxis was identified using the Swedish Medical Birth Register.

**Methods:** The analysis assumed 100% penetration and was conducted from the health care perspective, including prophylaxis, hospitalizations, and asthma costs, and with an RSV-hospitalization rate of 6.7% and 5.4% for infants born at <29 and <33 wGA, respectively (Navér et al. 2004).

**Results:** Under current Swedish guidelines (prophylaxis to infants born at <26 wGA, n = 53) the annual budget impact of RSV prophylaxis was estimated to €170 000. Providing prophylaxis to infants up to <29 wGA (n = 202) would lead to an additional drug budget impact of €520 000/year. Of those costs €110 000 would be recouped via avoided RSV hospitalizations. During future years, assuming a causal link between severe RSV-infection and asthma, about €1100 would be saved annually due to fewer asthma cases. Overall, 7.8 additional RSV-related hospitalisations could be avoided resulting in 63 hospital bed and two ICU days saved. Twenty-five working weeks would be saved in total for parents. Expanding guidelines to include also infants born 29–32 + 6 wGA (n = 798) would result in an additional budget impact (vs. <29 wGA) of €2 020 000 in drug costs of which €270 000 would be recouped via decreased hospitalization (an additional 154 hospital & five ICU days saved).

## NEUROLOGY-NEURODEVELOPMENTAL PAEDIATRICS

### OP10

#### LANGUAGE FUNCTIONS IN PRETERM CHILDREN: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Introduction:** Preterm born children (<37 weeks) have higher rates of language function problems compared to term born children. It is unknown whether these problems increase, deteriorate, or remain stable over time. Language function is essential in social interaction as well as in academic achievement.

**Purpose:** To investigate the developmental course of language functions in preterm born children as compared to term born children throughout childhood by performing a meta-analysis of combined data obtained with the same language test at different ages.

**Material:** The computerized databases EMBASE, Pub Med, Web of Knowledge, and PsycInfo were used to search for studies published between January 1995 and March 2011 reporting language function in preterm born children.

**Methods:** Pooled effect sizes (in terms of Cohen's *d*) and 95% confidence intervals for simple and complex language function were calculated using random-effects models. Meta-regression was conducted with mean difference of effect size as the outcome variable and assessment age as the explanatory variable.

**Results:** Preterm born children scored significantly lower compared to term born children on simple ( $d = -0.45$ , 95% CI  $-0.59$  to  $-0.30$ ;  $P < 0.001$ ), as well as on complex language function tests ( $d = -0.62$ , 95% CI  $-0.82$  to  $-0.43$ ;  $P < 0.001$ ), even in the absence of major handicaps and independent of social economic status. For complex language functions an increasing difference between preterm and term born children from 3 to 12 years of age was found (slope =  $-0.05$ ,  $P = 0.03$ ). For simple language functions no increase or decrease was found (slope =  $0.03$ ,  $P = 0.35$ ).

**Conclusions:** While growing up, preterm born children have increasing difficulties with complex language functions. Follow-up in preterm born children should primarily focus on the assessment and remediation of these complex language functions in order to facilitate social interaction and later academic achievement.

## OP11

### ARE ADHD SYMPTOMS ASSOCIATED WITH COMPROMISED COGNITIVE SKILLS AND SCHOOL READINESS?

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**Introduction:** Attention-deficit/hyperactivity disorder (ADHD) may potentially affect cognitive development. However, limited evidence exists regarding the association between ADHD and cognitive performance among preschool children.

**Purpose:** To compare the cognitive skills and school readiness of preschool children with and without ADHD symptoms.

**Materials:** The presence of ADHD symptoms among preschool children was assessed via interview according to the DSM-III criteria. A standardized school readiness screening test (A-TEET) was used to assess the cognitive skills of study participants.

**Methods:** A cross-sectional study was conducted among a representative panhellenic sample ( $n = 4480$ ) of preschool children. All participants aged (5.5–6.8 years) and attended mainstream public and private preschool settings. Children who presented with cognitive disabilities were excluded from the study. Assessment of ADHD was accomplished through the administration of questionnaires to either participants' primary caretaker or nursery school teacher. Cognitive skills were assessed by special therapists. The Mantel-Haenszel method was used to compare differences between the two groups related to any association of ADHD symptoms and cognitive skills.

**Results:** Among the study population ( $n = 4480$ ), the occurrence of ADHD approximated 4.6% ( $n = 205$ ). Preschool children with ADHD were significantly more likely to present with abnormal scores for critical reasoning skills (OR 5.51, 95% CI 3.41–8.90), as well as visual perceptive skills (OR 3.22, 95% CI 1.83–5.66) and visual motor skills (OR 3.33, 95% CI 2.39–4.63). Moreover, the presence of ADHD among preschool children was associated with an elevated likelihood of difficulties in speech (OR 2.58, 95% CI 1.93–3.44) and linguistic skills (OR 2.68, 95% CI 1.76–4.10). Finally, ADHD symptoms among the study population were associated with an elevated risk of abnormal abstract thinking skills (OR 2.50, 95% CI 1.64–3.83).

**Conclusions:** Preschool children with ADHD run into a notable high risk of compromised cognitive skills and school readiness. Timely screening and early interventions may optimize the above difficulties and enhance school performance.

## PULMONOLOGY

### OP12

### TOWARDS IMPROVING THE PREDICTION OF SEVERE RESPIRATORY SYNCYTIAL VIRUS (RSV) INFECTION IN LATE-PRETERM INFANTS

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**Introduction:** Common risk factors have been identified as predictors of RSV hospitalisation in late-preterm (32–35 weeks' gestational age; wGA) infants. Subsets of these have been assembled as guidelines for the targeting of palivizumab prophylaxis.

**Purpose:** To evaluate the consistency, predictive accuracy and numbers needed to treat (NNT) of risk factor-based guidelines for prophylaxis against severe RSV in late-preterm infants.

**Methods:** European and Canadian seven-variable models and a two-risk factor guideline (day care attendance and those who live with  $\geq 2$  siblings  $< 5$  years) were assessed using receiver operating characteristic curves (AUC) and NNT. NNT calculations were based on predictive accuracy (AUC at point of maximum sensitivity/specificity) and used a baseline RSV hospitalisation rate of 4.0% (from FLIP 2) and 80% efficacy of prophylaxis (from Impact).

**Results:** The European and Canadian models contained several risk factors in common, including: birth relative to the RSV season, gender, birth weight, atopic family history and family demographics. Proximity of birth to the RSV season was the most significantly predictive risk factor in both models. The predictive accuracy of the models was superior to the 2-risk factor guideline (European AUC/NNT: 0.79/13.3; Canadian AUC/NNT: 0.76/13.6; 2-risk factor: AUC/NNT: 0.55/26.3). Systematic variable reduction on the European model demonstrated that predictive accuracy could be retained with three variables (birth  $\leq 10$  weeks of season start, number of siblings  $\geq 2$  years, breast feeding  $\leq 2$  months; AUC/NNT: 0.78/13.9). FLIP2 data showed that 20% of hospitalised infants were admitted at  $\geq 4$  months under the 2-risk factor guideline.

**Conclusions:** This study suggests that an optimised combination of predictive risk factors to identify late-preterm infants (32–35 wGA) at high-risk of RSV hospitalisation alongside whole-season prophylactic coverage appear to be better in guiding appropriate prophylaxis use.

## POSTER PRESENTATIONS

### ADOLESCENT MEDICINE

#### PP001

#### ALCOHOL USE AMONG COLLEGE FRESHMEN: A LONGITUDINAL ANALYSIS USING FACEBOOK

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**Introduction:** College student alcohol use is associated with negative health consequences, but identification of at risk students is challenging. Facebook is a social networking website used by most college students; it may be an innovative venue to identify peak times of problem

alcohol use. Patterns of Facebook alcohol display over time have not been previously examined.

**Purpose:** The purpose of this study was to conduct a longitudinal evaluation of displayed alcohol on Facebook profiles throughout freshmen year.

**Methods:** Public Facebook profiles of freshmen undergraduates from a large state university were examined at four time periods over the course of 1 year. Content analysis included self-displayed demographic information and references to alcohol. Data collections included: prior to beginning college (Time 1), early in fall semester (Time 2), the conclusion of fall semester (Time 3), and the end of freshmen year (Time 4). A zero-inflated negative binomial regression model with subject specific random effects was used to analyze the number of displayed alcohol references.

**Results:** Of 150 included profiles, 97% were 18 years old; 55% were female. Among males, 39% of profile owners displayed alcohol at Time 1; 55% displayed at Time 4 ( $P = 0.037$ ). Among females, 57% displayed references to alcohol at Time 1 compared to 65% at Time 4. Across all time points, the number of alcohol references displayed by females was significantly higher than for males with a mean difference of 2.5 (SD 0.9) references ( $P < 0.001$ ). For females, the number of alcohol references significantly increased from Time 1 to 2 ( $P < 0.001$ ) and decreased afterwards to levels below Time 1 values ( $P < 0.001$ ). In contrast, a linear increase in the number of alcohol references from Time 1 (mean 1.3, SD 0.3) to Time 4 (mean 2.1, SD 0.4) was observed for males ( $P < 0.001$ ).

#### PP002

#### ALCOHOL INTOXICATION AMONG DUTCH ADOLESCENTS: GENDER DIFFERENCES AND TRENDS OVER TIME

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**Introduction:** Alcohol intoxication among adolescents is an increasing concern in paediatric care. The WHO recently identified alcohol intoxication among young people (10–24 years) as the most important factor contributing to disability adjustable life years (DALY's). Alcohol use at a young age is related to alcohol abuse in later life and risk seeking behaviours such as substance abuse, high risk sexual engagement, violence and aggression.

**Purpose:** Obtaining more insight into the population of adolescents admitted with alcohol intoxication, by analysing trends, gender differences and factors associated with increasing BAC.

**Material:** Since 2007 alcohol intoxication among adolescents has been registered by the Dutch Paediatric Surveillance System (NSCK). Paediatricians report any patient

under the age of 18 admitted with a Blood Alcohol Concentration (BAC) of more than 0.0 g/L.

**Methods:** Data were collected from all general and academic Dutch hospitals via a questionnaire. We included children aged 11–18 years, with a BAC > 0.0 g/L and presenting with reduced consciousness. Of a total of 2023 cases reported in the years 2007–2010, 1618 questionnaires were analysed.

**Results:** The number of reports rose from 297 to 684/year. Age increased among boys (14.9–15.6 years,  $P < 0.001$ ) but not among girls (14.8–15.0 years,  $P = 0.124$ ). Duration of reduced consciousness increased from 2.2 to 3.1 hrs ( $P = 0.046$ ). Boys were older (15.7 vs. 15.3 years,  $P < 0.001$ ) and were admitted with higher BAC than girls (1.94 vs. 1.79,  $P = 0.001$ ). Boys drank more than girls during the weekend (3.34 vs. 1.98 glasses,  $P < 0.001$ ). Multivariate analysis showed that BAC increased with age ( $P = 0.042$ ), male gender ( $P = 0.001$ ) and higher educational level ( $P = 0.002$ ).

### PP003

#### IS SELF-REPORTED ENJOYMENT OF PHYSICAL ACTIVITY AND PHYSICAL EDUCATION ASSOCIATED WITH MODERATE TO VIGOROUS PHYSICAL ACTIVITY AND PARTICIPATION IN SPORTS AMONG MIDDLE SCHOOL GIRLS?

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**Introduction:** The U.S. childhood obesity epidemic has many contributing factors, one of which is a sedentary lifestyle. The majority of U.S. children/adolescents are not as physically active as they should be; therefore, potential mediators for adoption of an active lifestyle are important to identify. Enjoyment of physical activity (PA) has been associated with competence and participation in physical activities.

**Purpose:** To examine the association between enjoyment of PA and physical education (PE) with moderate to vigorous physical activity (MVPA) and participation in sports.

**Material:** An accelerometer and a self-report paper and pencil survey.

**Methods:** Female students ( $n = 295$ ) in six middle schools in the Greater New Orleans, Louisiana, area consented to wear an accelerometer for 6 days and complete a self-report cross-sectional survey. Analytic procedures were Pearson correlation coefficients and linear regression models.

**Results:** Girls were mostly black (55%), with Hispanic (18%) and white (16%). Mean BMI was 21.8; average minutes of MVPA per day were 21.5. Most girls reported enjoyment of PA and PE (>80%) yet no statistically

significant associations between enjoyment of PA or PE with MVPA or sports participation were observed. BMI, however, was negatively associated with enjoyment of PA and positively associated with depressive symptoms. BMI was also negatively associated with MVPA in correlational analysis but was not supported in a linear regression model.

**Conclusions:** Although most girls reported enjoying PA and PE, this cross-sectional research did not support an association between enjoyment of PA and MVPA or enjoyment of PE and participation in sports. The observed negative association of PA enjoyment and positive association of depressive symptoms with body weight (BMI) indicate an avenue of research that should be continued in order to understand better the interactions between all of these potential mediators of PA and BMI.

### PP004

#### LEIRIA'S TEENS & INTERNET: USE AND ABUSE

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**Introduction:** Internet usage among adolescents has increased exponentially. Internet expose teenagers to all kinds of contents, which poses serious risks in terms of minor protection. On the other hand, attractiveness of internet can lead to patterns of abuse.

**Purpose:** To evaluate: (i) the prevalence and characteristics of Internet use among Leiria's adolescents (ii) the prevalence of pathological use with Young's Internet Addiction Scale (YIAS).

**Material and methods:** Cross-sectional descriptive study, based on an anonymous questionnaire, designed to be answered by students from seven schools in Leiria's district (Portugal), aged between 12 and 18 years old. Questions concerned: characteristics of Internet use and YIAS.

**Data analysis:** PASW Statistics 18.

**Results:** There were 638 validated answers: 57% corresponded to teen girls; average age of 15 years. Three students didn't have computer (0.5%); 72% had a personal computer. All students had already used internet, mostly for over 2 years (82%). Usually teenagers accessed internet through home (96%), 51% on a daily basis and 58% for more than an hour. The existence of rules at home for internet use was documented in 27%. The primary purpose of accessing the internet was to socialize. Regarding communication established online: 32% reported chatting with strangers and 20% admitted to assume a different identity. Concerning the exposure online: 89% reveals their name, 63% age and 67% publishes photos on social networks, 8% admitted to have set a date with someone



they met online. Regarding internet abuse: 18% had a borderline internet use and 8 teens had an abusive usage (0.012%).

Conclusions: Leiria's adolescents in this study show risky behaviors online and alarming patterns of internet use. The percentage of abusive use of the internet was low comparing with other countries, but there was a significant proportion of borderline use. Urgent measures must be taken to prevent future abusive patterns.

## PP005

### WITHDRAWN

## PP006

### FITNESS ON FACEBOOK: ADVERTISEMENTS GENERATED IN RESPONSE TO PROFILE CONTENT

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Introduction: Obesity is a challenging problem affecting almost half of college students. In order to solve this complex health problem, innovative approaches must be utilized. Over 94% of college students maintain a Facebook profile, providing them a venue to publicly disclose current fitness behaviors. Displayed advertisements on Facebook are tailored to profile content and may influence college students' fitness efforts. Facebook may be an innovative venue for improving college students' fitness behaviors.

Purpose: To determine (i) how and to what extent college students are discussing fitness on Facebook and (ii) how user-generated fitness information is linked to advertisements for fitness products and advice.

Methods: First, public Facebook profiles of individual college students were evaluated for displayed fitness references based on ten fitness behavior categories. Interrater reliability between two coders was 91.18%. Second, 10 fitness 'status updates' were generated and posted by a researcher on a Facebook profile; the first 40 linked advertisements to these statements were examined. Advertisements were categorized and then examined for relevance to the college population.

Results: A total of 57 individual profiles were examined, owners had an average age of 18.3 years (SD = 0.51) and 36.8% were female. 71.9% of profiles referenced one or more fitness behavior; 97.6% referenced exercise: 'Going for a run', 4.9% dieting: 'Starting my diet today', and 4.9% unhealthy eating, 'Junk food night with the girls'. Among the first 40 ads linked to generated 'status updates', 40.3% were fitness related. Most advertisements were for charity runs (30.4%) such as: 'Warrior Dash', fitness apparel (24.2%) like Nike shoes, or fad diets (9.9%) such as '1 Trick to a Skinny Stomach'.

## PP007

### SUBSTANCE ABUSE AMONGST ADOLESCENTS IN MODERN SUBURBAN IRELAND

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Introduction: The substances known to be abused by teenagers include alcohol, cannabis, inhalants, sedatives and other illicit drugs. The European School Survey Project on Alcohol and Other Drugs (ESPAD) suggests that alcohol abuse in particular is a bigger problem in Ireland compared to both Europe and USA.

Purpose: The aim of our study was to determine the prevalence and type of substances being abused by contemporary Irish adolescents and to explore the options available for combating this problem.

Materials and methods: A CRAFFT questionnaire, validated and specifically designed as a screening tool for substance abuse in adolescents was administered to all patients aged between 10 and 16 years (parental consent permitting) admitted to a busy general paediatric hospital for any reason over a 7 day period in January 2011.

A random selection of 24 charts of Irish children admitted to the same paediatric hospital because of substance abuse issues over the 12 month period of 2009 were reviewed and the following data recorded; type of substances abused, frequency of substance abuse, method of access to the substance and presence of substance abuse risk factors.

Results/conclusion: The results from the CRAFFT questionnaire showed that out of the 33 (16 female, 14 male) adolescents surveyed, 2 (6%) reported scores that suggested a potential substance abuse problem. From our chart reviews we found that the two most common substances abused are alcohol (46%) and cannabis (17%). The most commonly combined drugs are alcohol (86%) and cannabis (57%). The majority of patients receive the substances from their home/family (43%) or friends (48%). Furthermore, the presence of substance abusing risk factors (78%) in patients outweighed their absence (22%). Prevention of adolescent substance abuse should involve targeting risk factors on an individual and environmental level.

## PP008

### ADOLESCENT WISH LIST FOR UTOPIAN TRANSITIONAL CARE

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**Introduction:** Transitioning patients with chronic disease from paediatric to adult care is a critical period requiring a planned process directed towards a patient's medical, social, and psychological needs. The ultimate goal of a transition program is to optimize quality of life, life expectancy, and future productivity of young patients whilst ensuring a continuity of care.

**Purpose:** The purpose of this study is to explore is to explore the needs and highlight concerns of pre-transitioned Irish adolescents with either of two major chronic childhood illnesses in Ireland: diabetes mellitus type 1 and cystic fibrosis. The aim being to document patient perspective and provide a suggested framework for building upon a transitional approach that is appropriate to the needs and interests of today's young patients.

**Materials and methods:** A structured questionnaire was designed to collect information on the perceived importance of key caregivers and concern over common transitional barriers. All respondents (n = 30) were pre-transitional and aged 14–18.

**Results:** Participants rated themselves, their nurse specialists and their parents as most important in their care. Social concerns, such as sharing a clinic with older adults (rated 2.43 out of a possible five), outranked medical concerns, such as the worry of cross-infection (1.80). GPs were the least likely caregivers to have discussed the issue of transition (0%) while specialist nurses were the most likely (57%). None of the pre-transitioned participants had visited the adult clinic prior to transitioning and few knew who would be their adult consultant (6.7%). However, the majority expressed interest in being accompanied on their first visit to the adult clinic (70%).

## PP009

### BODY IMAGE: COMPARISON BETWEEN YOUNGER AND OLDER ADOLESCENTS GIRLS

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**Introduction:** The bodily changes at puberty affects the adolescent girl's search for personal identity. Adolescence involves the biological mechanisms which indicate the beginning of the reproductive process. The girl's perception of normal body image is affected by these changes. This also affects her outlook on future prospects of fertility.

**Method:** Adolescent girls attending community and hospital gynaecological clinics were divided by age groups. Group A included the 12–15 age group and Group B included the 16–18 year olds. Assessment of biological objective parameters were compared with the adolescent girl's subjective perception of her problems.

**Results:** A higher BMI was noted in 32% of the younger adolescents compared to the girls aged 16 or older.

There was a high rate of anovulation in the girls with high BMI of each group was associated with polycystic ovarian syndrome as evidenced by ultrasound assessment. Local ablation was the preferred therapy in the management of excess body hair especially in the younger age group whose parents were trying to avoid hormonal therapy. In group B the preferred treatment was the oral contraceptive pill, followed by metformin and spironolactone.

**Conclusion:** In their search for acceptance adolescent girls undergo considerable stress. Social factors interact with self image as each girl adapts to her individual body image which is not necessarily the perceived ideal body image.

## ALLERGY-IMMUNOLOGY

### PP010

#### PRIMARY CARE PAEDIATRICIANS NEED BETTER CLINICAL SUPPORT TO DIAGNOSE AND TREAT COW'S MILK ALLERGY IN INFANTS

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**Introduction:** There is a need for European cow's milk allergy (CMA)/food allergy (FA) guidelines for care paediatricians.

**Purpose:** To identify clinical areas in the diagnosis and treatment of CMA in primary paediatric care requiring further educational support.

**Materials and methods:** In June 2011, 735 paediatricians from Europe and surrounding countries were invited to complete a web-based survey with 21 questions about their management of CMA in infants. Two questions had responses scored on a scale from 0–5.

**Results:** Of 735 invited paediatricians, 326 (44%) responded. The reported prevalence of infants presenting with 'CMA' was 47%, with a perceived increase. Eczema, vomiting, diarrhoea, rashes/hives, blood in stools and a symptom duration >1 week were features associated with 'CMA' (average scores > 3). Only 68 (21%) performed diagnostic allergy tests, including cow's

milk-specific serum IgE or skin prick testing. 218 (67%) indicated that clinical signs alone, or an empirical trial of a replacement formula were sufficient for diagnosis. 141 (43%) included fever as a symptom suggestive of 'CMA'. Specialist referrals were used by 62–103 (19–32%) and delayed, suspected non-IgE-mediated reactions (blood in stools), were rarely referred. 42–88 (13–27%) used partially hydrolysed formula for treatment of CMA. 262 (83%) indicated at least partial shortcomings in their current management. 126 (39%) representing 52 countries reported a lack of guidelines for the diagnosis and treatment of CMA/FA. 261 (80%) welcomed guidance from the EPA on the diagnosis and management of CMA/FA.

**Conclusions:** This survey demonstrates a lack of awareness of current published CMA guidelines and, more generally, illustrates the need for better education in paediatric allergy at the primary paediatric care level.

#### PP011

##### **RESULTS OF AN EPA ADVISORY GROUP DISCUSSION ON THE MANAGEMENT OF COW'S MILK ALLERGY IN INFANTS BY PAEDIATRICIANS IN PRIMARY CARE**

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**Introduction:** There is a need for guidelines on the diagnosis and treatment of cow's milk allergy (CMA)/food allergy (FA) in infants (1).

**Purpose:** To establish guidelines for the management of infants with CMA/FA.

**Materials and methods:** A group of general paediatricians, paediatric nutritionists and allergists analysed a survey (1) which demonstrated the need for guidelines on the management of CMA/FA in infants. General recommendations for the management of CMA/FA by primary care paediatricians (PCP) were proposed.

**Results:** Awareness of existing guidelines for CMA is low. 126 (39%) of PCPs from 52 countries were unaware of CMA/FA management guidelines. PCP-reported CMA

prevalence was much overestimated. Thus, a better knowledge of the clinical signs and symptoms of CMA/FA, as well as diagnostic methods is required. In view of patient numbers in the primary care setting and the limited time available, patients' safety and diagnostic accuracy are very important. Criteria for referral to paediatric allergologists for further evaluation are important and will be proposed. Recommendations for PCPs for the diagnosis of patients with suspected CMA should include analysis of allergen-specific s-IgE levels. Diagnostic procedures should be evidence-based. Referral practices need local agreements. Following diagnosis of CMA/FA, an elimination diet with proven high efficacy should be prescribed; usually an extensively hydrolysed formula (eHF) for CMA. Regular follow-up visits need to be scheduled in collaboration with a specialist.

**Conclusions:** The diagnosis of CMA/FA among PCPs needs to focus on the clinical history and allergen-specific s-IgE. An elimination diet should be prescribed, in the case of CMA an eHF, followed by symptomatic improvement. When tolerance is proven after accidental ingestion or by formal challenge, an unrestricted diet should be instituted. There should be close cooperation with local allergy specialists regarding referrals.

**Reference:** 1. Moya et al., Abstract number XXX submitted to EiP 2011.

#### PP012

##### **THE EFFECT OF SURGICAL TREATMENT IN CHILDREN WITH ALLERGIC RHINITIS**

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**Introduction:** The majority of the upper respiratory tract diseases (URT) in children associated with allergic rhinitis (AR). Conservative treatment is not always effective if AR is associated with endonasal anatomical abnormalities.

**Purpose:** To evaluate the efficacy of surgical correction of endonasal anatomical abnormalities in children with AR.

**Material:** There were 62 children (age 9–16, 38-male, 24-female) studied with AR associated with other endonasal abnormalities. Associated endonasal anatomical abnormalities were diagnosed: nasal septal deviation (NSD) – 41 (66%), inferior turbinate hypertrophy – 39 (63%), adenoids hypertrophy – 27 (43.5%); 'concha bullosa' of middle turbinate – 5 (8%), cysts of maxillary sinuses – 4 (6.5%). Almost all patients had common complaints: impaired nasal breathing (especially during the night), severe rhinorrhea (62%), epistaxis (7%), decongestant dependence (58%), snoring and sleep apnea (47%), headaches (82%), frequent episodes of respiratory infections (74%), decreased school performance (35%), a significant reduction in quality of life (94%).

**Methods:** All children had undergone surgical treatment depending on type of anatomical abnormality: endoscopic septoplasty (41), submucosal turbinoplasty (22), adenoidectomy (5), endoscopic resection of the middle turbinate (3). All patients were evaluated prior to surgery (rhinomanometry, endoscopy, blood tests, CT, etc.).

**Results:** After surgical treatment all children have noted a significant improvement in nasal breathing, positive results also revealed by rhinometry and acoustic rhinometry as well as endoscopic appearance. Therefore the presence of endonasal anatomical abnormalities in children with AR is seen very frequent and is often underestimated, however it requires prompt surgical correction in order to optimize conservative therapy, as well as to improve the quality of life. It is shown that after surgery children with AR have less complaints, conservative therapy is more efficient due to better drug delivery into nasal cavity. To evaluate the effectiveness of surgical treatment, along with clinical and endonasal endoscopic criteria it is recommended to perform rhinometry.

### PP013

#### EXTRINSIC ALLERGIC ALVEOLITIS – HOME EXPOSURE CAN'T BE FORGOTTEN...

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**Introduction:** Extrinsic allergic alveolitis (EAA) is a complex syndrome caused by a nonatopic immunologic response to an inhaled agent. It is characterized by diffuse inflammation of lung parenchyma and airways in a previously sensitized patient. A wide spectrum of inhaled antigens can trigger EAA, including avian antigens. Pediatric incidence is unknown. A comprehensive environmental history and high index of suspicion are the mainstay for diagnosis. The key to effective treatment is identifying the offending agent and avoiding exposure.

**Case report:** The authors report a case of a female adolescent (16 years old) with history of infant recurrent wheezing. She presented to the emergency department with persistent cough and moderate exertion dyspnea in the past month, being previously treated with clarithromycin, inhaled budesonide and salbutamol without clinical improval. Her father is a pigeon fancier. On examination she had respiratory distress, tachycardia and hypoxemia (oxygen saturation of 88% in room air). Pulmonary auscultation revealed bilateral basal crackles. Initial investigations revealed: hemoglobin 14.2 g/dL, white cell count  $9.86 \times 10^9/L$  (71% neutrophils, 15.5% lymphocytes and 4.7% eosinophils), platelet count  $338 \times 10^9/L$ , C-reactive protein of 58.3 mg/L. Chest radiography demonstrated interstitial pattern. Chest computed tomography of revealed bilateral ground-glass

attenuation. Pulmonary function test demonstrated restriction and a reduced capacity for diffusing carbon monoxide. Bronchoalveolar lavage presented with lymphocytosis, CD4/CD8 ratio less than one. IgE pigeon precipitating antibodies were positive. She was admitted under oxygen therapy, clarithromycin and deflazacort. During hospitalization, her symptoms improved. She completed 15 days of oral corticosteroid and was discharged asymptomatic.

**Discussion:** Extrinsic allergic alveolitis is classically considered occupational illnesses, however home contact cannot be forgotten. Reaching the diagnosis can be difficult because symptoms are often nonspecific and common. Corticosteroids do not change the long-term prognosis, nor reduce the need of identifying the causative antigen and elimination of exposure. Nevertheless, it can speed the clinical resolution.

### PP014

#### PROBIOTICS & ATOPY

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In theory, increased levels of Probiotics may induce a 'barrier' influence against common pathogens and antigens. The survival issues of Probiotics are associated with their establishment in the competitive gut ecosystem. Since the generation of immunophysiologic regulation in the gut depends on the establishment of indigenous micro flora and the therapeutic interventions based on the consumption of cultures of beneficial live micro organisms that act as Probiotics. Among the possible mechanisms of Probiotics therapy is promotion of a nonimmunologic gut defense barrier, which includes the normalization of increased intestinal permeability and altered gut micro ecology. The role and effect of probiotics in infant feeding, on the mucosal permeability & microbial flora composition and in turn on the stabilization of Th1/Th2 & IgE production has been tested. Another possible mechanism of Probiotics therapy is improvement of the intestine's immunologic barrier, particularly through intestinal immunoglobulin A responses and alleviation of intestinal inflammatory responses, which produce a gut-stabilizing effect. Many Probiotics effects are mediated through immune regulation, particularly through balance control of pro inflammatory and anti-inflammatory cytokines. Probiotics can be used as innovative tools to alleviate intestinal inflammation, normalize gut mucosal dysfunction, and down-regulate hypersensitivity reactions. The clinical trials with probiotics, especially in the treatment of atopic eczema, have yielded encouraging results. Experimental studies have found that probiotics exert strain-specific effects in the intestinal lumen and on epithelial



cells and immune cells with anti-allergic potential. These effects include enhancement in antigen degradation and gut barrier function and induction of regulatory and pro inflammatory immune responses beyond the intestinal epithelium. There may be other possible mechanisms which operate in the complex gastrointestinal macro environment where Toll receptors play a major part in ameliorating the inflammatory cascade. There are differences which exist in the immune modulatory effects of candidate Probiotics bacteria. Specific immune modulatory properties of Probiotics bacteria should be characterized when developing clinical applications for extended target populations.

## CARDIOLOGY

PP015

### DOWN SYNDROME (DS) WITHOUT CONGENITAL HEART DISEASE (CHD) AND THE RISK OF HOSPITALIZATION FOR A LOWER RESPIRATORY TRACT INFECTION (LRTI) AND LRTI DUE TO RESPIRATORY SYNCYTIAL VIRUS (RSV)

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**Introduction:** Infant LRTI hospitalizations are prevalent, for which RSV is the most common cause. Certain infants are at higher risk for RSV-LRTI hospitalizations including infants born prematurely or with CHD. Infants born with DS are at heightened risk for respiratory problems.

**Purpose:** The purpose was to determine the risk of LRTI and LRTI-RSV hospitalizations in the first 2 years of life due to DS without CHD.

**Material:** Data was derived from the I3 Medical Claims Database (2001–2007).

**Methods:** ICD-9 codes were used to identify infants with DS or other LRTI risk factors. All DS infants were case matched with control infants born term (1:4). All infants with a history of CHD, bronchopulmonary dysplasia, prematurity, palivizumab use, or <2 year of continuous enrollment were excluded. Odds ratios determined the risk of DS on LRTI and LRTI-RSV hospitalization.

**Results:** Of 540 996 births during the study timeframe, 1091 were DS infants (0.2%). Of 1091 DS infants, 77.0 had coexisting CHD. 82% of DS infants were excluded from the study due to the presence of exclusion criteria. The remaining 196 DS infants were matched to 784 term infant controls. 47.5% of each study group were male. 9.2% of DS enrolled infants compared to 2.4% of control infants were hospitalized for LRTI. 3.6% of DS study infants compared to 0.8% of control infant had an LRTI specific for RSV. Compared to term infants without DS, the odds ratios of DS enrolled infants being hospitalized for LRTI or LRTI-RSV were 4.1 ( $P < 0.001$ ) and 4.8 ( $P = 0.005$ ), respectively.

**Conclusion:** Congenital heart disease is a prevalent comorbidity in DS infants and is an appreciated risk factor for LRTI hospitalizations during infancy. These results suggest that DS infants without CHD are also at a substantial increased risk for LRTI and LRTI-RSV hospitalizations within the first 2 years of life.

PP016

### EXHALED NITRIC OXIDE IN CHILDREN WITH CONGENITAL HEART DISEASES

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**Introduction:** Nitric oxide (NO), measured in exhaled air, synthesized by vascular endothel, mediate endothel-dependent relaxation in pulmonary vascular bed and has an important role in response to increased pulmonary flow by vasodilatation and inhibiting smooth muscle growth. Flow characteristics are changed in congenital heart diseases with left to right shunting.

**Purpose:** To investigate the values of exhaled nitric oxide (eNO) in children with congenital heart diseases with left to right shunting (atrial septal defect, ventricular septal defect and persistent arterial duct).

**Material:** Thirty children (13 male, 17 female), aged 5–15 years (<10 years  $n = 19$ , >10 years  $n = 11$ ), with congenital heart diseases and left to right shunting (19 restrictive, 11 nonrestrictive shunt)-cardiac group and 30 healthy controls (18 male, 12 female, <10 years  $n = 18$ , >10 years  $n = 12$ ) were included in this investigation. Allergy questionnaire and recent respiratory infections were negative in all groups.

**Methods:** On line technique was performed to measure exhaled NO concentration using a cheiloluminescent analyser Niox, Aerocrine-Sweden according to ERS/ATS recommendations. In cardiac group, the diagnosis was established by ultrasound examination and the shunt was haemodynamically evaluated as restrictive or nonrestrictive.

**Results:** eNO levels were significantly higher (Kruskal-Wallis test) in cardiac group (nonrestrictive  $C = 12$ , restrictive  $C = 10.9$  vs. healthy control  $C = 6.25$ ,  $P = 0.001$ ,  $P = 0.02$ ). There was no significant difference in eNO values between restrictive and nonrestrictive defects in cardiac group ( $P = 0.67$ ).

**Conclusion:** In this study, children with congenital heart disease and left to right shunting had significant higher values of eNO versus control group. eNO measuring could be noninvasive method of monitoring pathological changes in pulmonary vascular bed in children with congenital heart diseases.

## PP017

**THE SCREENING OF HEMATURIA AND PROTEINURIA IN SCHOOL-AGE CHILDREN**

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**Introduction:** It has been demonstrated in numerous studies that urine screening could be performed in healthy children by a simple and affordable urine dipstick test. A urine screening program for the early diagnosis of chronic kidney diseases is performed in the world.

**Purpose:** In this study, it is aimed to prevent possible chronic kidney diseases in healthy school-age children by performing screenings for hematuria and proteinuria using urine strip.

**Material and methods:** Incidence of hematuria and proteinuria was determined in 1848 healthy school-age children aged between 7–14 years by urine screening. Cases with persistent hematuria and/or proteinuria were consulted by a pediatric nephrologist and further examinations were carried out.

**Results:** Incidences of isolated hematuria, isolated proteinuria and combined hematuria-proteinuria were found as 4.97%, 0.86% and 0.54%, respectively. 11.9% of isolated hematuria and 40% of combined hematuria-proteinuria were observed to have persisted. Incidences of persistent hematuria and persistent hematuria-proteinuria were found as 0.59% and 0.21%, respectively. In these cases, renal stone disease, hypercalciuria, urinary tract infection, vesicoureteral reflux, atrophic kidney and IgA nephropathy were detected. According to this study the cases with persistent hematuria should be examined especially in terms of renal stone, hypercalciuria and urinary tract infection. Also the cases with persistent hematuria-proteinuria need to be explored in terms of IgA nephropathy and atrophic kidney.

**Keywords:** Hematuria, Proteinuria, Urine screening test, School-age children.

## PP018

**CONGENITAL ANOMALIES OF THE CHEST: A REPORT OF TWO CASES**

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**Introduction:** Congenital anomalies of the chest are rare. The evaluation of affected patients frequently requires multiple imaging modalities to diagnose the anomaly and

plan surgical correction. The authors discuss the embryologic aspects and analyze clinical symptomatology of congenital anomalies affecting the lung through two cases of neonates with agenesis of the left lung and congenital lobar emphysema with emphasis on radiologic manifestations.

**Case 1:** Our first patient is a 5 month-old girl that presented for evaluation of cough and dyspnea. The patient was a product of a full-term gestation born by spontaneous vaginal delivery. The patient had not any respiratory distress at the neonatal period. A chest X-ray showed an absence of the left lung. A standard single detector computed tomography (CT) scan showed a total agenesis of the left lung and hypoplasia of the left pulmonary artery.

**Case 2:** Our second patient is a 5 month-old boy that presented for respiratory distress. The patient was a product of a full-term gestation born by spontaneous vaginal delivery. The patient had recurrent pneumonia in his history. A chest x-ray showed a distension of the right lung. A standard single detector computed tomography (CT) scan showed lobar congenital emphysema of the right lung. The patient underwent a right thoracotomy, and a formal right lower lobe resection was performed.

**Conclusion:** Congenital pulmonary malformations represent a heterogeneous group of developmental disorders affecting the lung parenchyma, the arterial supply to the lung, and the lung's venous drainage. In both asymptomatic and symptomatic pediatric patients with congenital pulmonary malformations, the diagnosis of such malformations usually requires imaging evaluation, particularly in cases of surgical lesions for preoperative assessment.

**CHILDREN'S ENVIRONMENTAL HEALTH**

## PP019

**PASSIVE SMOKING IS ASSOCIATED WITH INCREASED RISK OF INFANT EXPOSURE IN LEAD**

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**Introduction:** Passive smoking has been clearly demonstrated to be associated with increased health problems. Among these are low birth weight, increased rates of sudden infant death syndrome and increased rates of wheeze associated lower respiratory illness and pneumonia. Although passive smoking may also lead to increased rates of asthma later in life. Infants and small kids are more susceptible to the consequences of passive smoking. This is so, because <sup>1</sup>smoke is abundant.

**Purpose of study:** This study investigates the dangers associated with the exposure of infants in lead, due to passive smoking.

**Materials and methods:** Vain blood sample from 63 1-year old infants, located at the Western region of Athens, was used for the purpose of this study. In addition, questioners were used in order to address the factors affecting infants' exposure to lead. Such factors include mother's age, duration of pregnancy, infant's birth weight, ferrum and calcium intake during pregnancy, whether parents are smokers or not, as well as area of residence and oldness of the house.

**Results:** Infants, whose parents and especially father was a smoker, were associated with higher lead levels in the blood comparatively to infants whose parents were not smokers ( $P$ -value = 0.1).

**Conclusion:** There are multiple dangers related to infants' exposure to cigarette smoke, with lead infection being among the most serious ones. Due to infant's system sensitivity in toxic lead reaction, the consequences of lead exposure can be dramatic even in the cases of passive smoking. The implication of these findings is that parents should be alert and properly informed about the lead dangers related to passive smoking, even though the lead levels in cigarette smoke are relatively small.

## PP020

### SHOULD SMOKING MOTHERS BREASTFEED?

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**Introduction:** Breastfeeding confers short-term and long-term benefits on both child and mother, including helping to protect children against a variety of acute and chronic disorders. Tobacco addiction is increasing in young girls and women especially in developing countries. Even though pregnancy, childbirth and breastfeeding are good occasions for quitting smoking, an alarmingly large percentage of women who reduce or quit smoking during pregnancy resume smoking within 1 year after giving birth.

**Purpose:** The objective of this report is to present breastfeeding and maternal smoking connection and to investigate whether infants born to smoking parents are better protected by breastfeeding than by formula feeding.

**Material and method:** We conducted a Medline search to obtain data published mainly in peer reviewed journals. English and Turkish language articles, selected cross-references were included.

**Conclusions:** Tobacco smoke exposure is strongly associated with a number of adverse effects on infant's health. What are the harmful effects of maternal smoking on breastfeeding mother and their infants? This question has not been fully answered. Women who smoke are less likely to breastfeed their children than non-smokers. Maternal smoking has been also associated with early weaning. Smoking mothers may have significantly less motivation to

breastfeed. Furthermore, the health care community may not support breastfeeding of smoking mothers because of their belief that nicotine in breastmilk would be harmful to the infant. In 2001 report, Contrary to previous reports, American Academy of Pediatrics (AAP) Committee on Drugs has not placed nicotine in 'Drugs of Abuse-Contra-indicated During Breastfeeding'. In this report AAP has emphasized that breastfeeding and parental smoking are less detrimental to child health than bottle-feeding and parental smoking. It is fundamental not to miss the chance of encouraging and supporting breast-feeding even if public health policies can not stop addicted mothers from smoking during pregnancy.

## PP020A

### THE RELATIONSHIP BETWEEN HEAVY METAL EXPOSURE AND CHRONIC NEUROLOGICAL DISEASES IN CHILDREN

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**Introduction:** Heavy metal exposure that occurs as a result of environmental pollution is an important public health issue. It is argued that exposure to heavy metals can cause chronic neurodevelopmental and neuropsychiatric diseases in children.

**Purpose:** To investigate the relationship between lead and mercury exposure and chronic neurological diseases in children.

**Material:** Between June 2010 to March 2011 in Istanbul University Cerrahpasa Medical Faculty Departments of Pediatric Neurology and Pediatric Psychiatry Clinics children diagnosed with motor-mental retardation (MMR), epilepsy, attention deficit/hyperactivity disorder (ADHD) and autism were included to the study as the cases (39 boys and 20 girls, total 59 children). Matched healthy children (totally, 59) were used as the controls.

**Methods:** DSM-IV criterias were used for autism and ADHD. Serum lead and mercury levels were measured atomic absorption spectrophotometry method. Some environmental factors like vaccination, fish consumption were also evaluated. For statistical analysis, SPSS for 15.0 program was used.

**Results:** The mean blood lead levels in case and control groups were 1.91 µg/dl and 2.19 µg/dl, respectively; the mean blood mercury levels in case and control groups were 0.84 µg/dl and 0.99 µg/dl, respectively ( $p=0.575$ ,  $p=0.357$ ) (cut-off values of blood lead and mercury levels: 10 µg/dl and 5.8 µg/L, respectively). It was found that the autistic group compared to the epileptic group, and the ADHD group compared to the epileptic and MMR group had higher blood lead level ( $p=0.009$ ,  $p=0.002$ ,  $p=0.026$ , respectively). The effects of vaccination and fish consumption on case and control groups were not significant ( $p=0.364$ ,  $p=0.126$ , respectively).



The heavy metal levels of children with chronic neurological diseases are not different from those of healthy children.

## DERMATOLOGY

### PP021

#### OILS ON SKIN: PENETRATION AND OCCLUSION OF MINERAL OIL AND VEGETABLE OILS

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**Introduction:** The study aimed to evaluate the penetration depth of four commonly used vegetable oils and mineral oil into the skin and to observe in parallel the effect on the skin's protective barrier. The behaviour of all oils was compared with Petrolatum known as being very occlusive.

**Purpose:** The intention of the study was to verify the often used argument that vegetable oils compared to mineral oil are significantly less occlusive and on the other hand migrate deeper into the skin. Since all these oils are often used alone or as component in skin care products for children, this question is important for users as for recommenders.

**Methods:** The penetration behaviour of the oils into the Stratum corneum was followed by laser scanning microscopy (LSM). Additionally, the occlusion capacity of these substances was assessed by measuring the transepidermal water loss (TEWL). Petrolatum served as a positive control for skin occlusion. The study was conducted *in vivo* and included six healthy volunteers. The measuring times have been before and 30 min after application.

**Results:** It was shown that mineral oil is neither in its penetration behaviour (by LSM) nor in its occlusive effect (by TEWL) different from commonly used vegetable oils. All oils just penetrate into the top layers of the Stratum corneum and reduce the transepidermal water loss only by 8–15%, still allowing the skin to breathe sufficiently. Almond oil had an even greater effect on the TEWL than all other oils.

**Conclusions:** The study could show that two myths >mineral oil clogs the pores< and >pure vegetable oils penetrate deep into skin< have no scientific basis. Although due to their composition vegetable oils are more skin compatible, they and mineral oil do not penetrate deeply into the skin and only form a semi-occlusive layer on skin.

### PP022

#### TOPICAL OILS: EFFECT OF MOLECULAR COMPOSITION ON SKIN BARRIER DISRUPTION

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**Introduction:** Topical compositions often contain unsaturated aliphatic natural oils (including olive and sunflower seed oil), but the effect of natural oils on skin barrier function in adults and infants remains largely unknown. Prior to investigating the effect of topical oils on infant skin, it will be important to understand interaction of oils with the skin barrier under normal conditions in fully mature, adult skin.

**Purpose:** To determine which molecules (saturated oils, unsaturated oils, and triglycerides) are most disruptive to skin barrier function.

**Material:** We applied saturated alkenes (squalane/eicosane mixture; purity 99%), an unsaturated free fatty acid [oleic acid (OA); purity 99%], and an unsaturated triglyceride (glycerol trioleate) to skin.

**Methods:** We recruited 10 Caucasian females (21–40 years old) to participate in this study. Before application and 24.5 h after application of oils to the volar forearm, we measured transepidermal water loss (TEWL) and skin conductance, and confocal fluorescence imaging (sodium fluorescein solution uptake) was used to assess barrier function.

**Results:** Transepidermal water loss remained unchanged in skin treated with saturated oils (squalane/eicosane) and a triglyceride (glycerol trioleate), and increased in skin treated with unsaturated oils (OA). Conductance decreased after application of OA versus untreated skin at baseline, and increased after application of squalane/eicosane versus baseline. The concentration of fluorescein dye was greater throughout the epidermis in skin treated with OA (Fig. 1A) compared with untreated skin (Fig. 1B), skin treated with a saturated oil (Fig. 1C), or triglyceride (Fig. 1D).

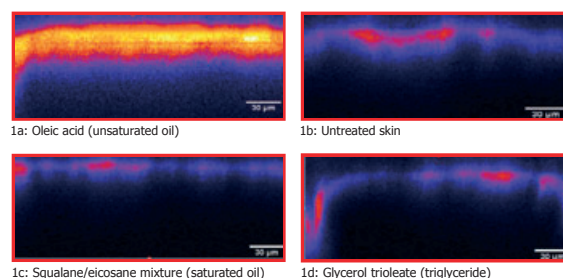


Figure 1: (A) Oleic acid (unsaturated oil). (B) Untreated skin. (C) Squalane/eicosane mixture (saturated oil). (D) Glycerol trioleate (triglyceride).

Conclusion: Unsaturated free fatty acids disrupt skin barrier function. In selecting molecules that are minimally disruptive to barrier function, formulators may be able to manufacture topicals that are more suitable for skin.

Disclosure: M. Catherine Mack, Guangru Mao, Dina VanWyck, Sheela Bhandarkar, Euen Gunn, and Russel Walters are employees of JOHNSON & JOHNSON Consumer Companies, Inc. (Skillman, NJ). Georgios N. Stamatias is an employee of JOHNSON & JOHNSON Santé Beauté France (Issy-les-Moulineaux, France).

## PP023

### CLEANSING EFFICACY AND BACTERIAL REMOVAL BY WIPES ENHANCED WITH EMOLLIENTS

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Introduction: Evidence shows that emollient-based cleansers provide protective effects to baby's skin that cannot be achieved with water alone. It is important to determine if emollient-based wipes provide superior cleansing to the diaper area than water alone. Prior to testing in babies, we evaluated this in a simulated model of the diaper area.

Purpose: In study 1, we compared the efficacy of baby wipes to cleanse soiled skin with that of cotton wool cloths (with or without water). In study 2, we investigated the effectiveness of wipes to remove bacteria from the surface of skin.

Material: Baby wipes enhanced with emollients; cotton wool cloths (with and without water).

Methods: In study 1, we applied a darkly coloured food substance (Nutella® spread) on the surface of three skin zones on five adults (20–40 year old) and covered each area with dry gauze for 30 min to simulate diaper contact with skin. Each zone was cleansed with emollient-enhanced wipes or cotton wool cloths (with and without water). Skin surface colour and appearance were assessed using colourimetry and *in vivo* video microscopy at baseline, immediately after soiling with food, and after skin cleansing. In study 2, we took skin surface biopsies (n = 6 adults; 20–40 year old) before and after cleansing with wipes and quantified bacterial DNA by using a fluorescent nucleic acid stain (SYTO 9).

Results: Skin colour parameters (lightness, L\* and chroma, C\*) were altered significantly after soiling. Following cleansing, only treatment with emollient wipes, but not dry or water-soaked cotton wool cloths, returned both skin colour parameters to baseline values, indicating efficient cleansing. SYTO 9 staining intensity decreased after cleansing with wipes versus baseline, indicating reduction in bacterial count.

Conclusions: Emollient wipes provide better cleansing than water-soaked or dry cotton wool cloths, and remove bacteria from the skin surface.

Disclosure: Georgios N. Stamatias is an employee of Johnson & Johnson Santé Beauté France, Issy-les-Moulineaux, France.

## PP024

### DIAPER RASH IS LINKED TO EMOTIONAL DISTRESS IN BABIES

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Introduction: Diaper rash is one of the most common dermatologic conditions and the most common skin disorder of early childhood. Physiologically, the affected skin becomes compromised, resembling an open wound with high levels of: transepithelial water loss (TEWL), moisture on the skin, oxyhaemoglobin, and erythema. However the impact of such skin changes on the emotional state of babies has not been previously documented.

Purpose: Define baby stress/discomfort level associated with diaper rash compared to when no diaper rash is present.

Material: N/A

Methods: Twenty babies from São Paulo, Brazil aged 1–18 months (mean 10.6) were enrolled and data were collected during two separate weeks: 1 week when diaper rash was present and 1 week with no diaper rash. Data collected included cry frequency, salivary cortisol levels, baby's face and body language changes, skin surface temperature in affected areas, and parent questionnaire.

Results: During periods of diaper rash, cry frequency increased, and the rate of change of cry frequency significantly decreased as the rash resolved. During the week of rash, 55% of babies had greater frequency of crying than when they had no rash. Babies also demonstrated facial and body language cues suggesting stress during periods of diaper rash; 55% demonstrated corporal cues and 60% facial cues. Salivary cortisol levels remained within the normal range, but were overall slightly higher during periods of diaper rash compared to the week with no diaper rash. Skin temperature was higher in the abdomen and buttocks when diaper rash was present. Parent questionnaire indicated that during the week of diaper rash, babies had more frequent crying, altered feeding and sleeping patterns, and reduced frequency of urination and defecation.

Conclusions: Babies demonstrated temporal physical and behavioural changes indicating emotional distress related to the presence of diaper rash.

Disclosure: Georgios N. Stamatias is an employee of Johnson & Johnson Santé Beauté France, Issy-les-Moulineaux, France. Alessandro Vassallo and Luz Romero, partners of VRD Research, serve as consultants for Johnson & Johnson Consumer Companies, Inc. David Mays is an employee of Johnson & Johnson Consumer Companies, Inc. (Skillman, NJ).

## PP025

# IDENTIFICATION AND CHARACTERISATION OF BACTERIA RESIDING ON SKIN THROUGHOUT THE FIRST YEAR OF LIFE

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**Introduction:** Many caregivers associate bacteria with disease, yet many bacterial species are beneficial – and vital – to the development of normal, healthy skin. While the importance of commensal bacteria to overall health has received attention from researchers and healthcare professionals, the role and origin of bacteria present on skin during the postnatal period remains poorly understood.

**Purpose:** Identify and characterise bacteria residing on skin during the first year of life and determine if certain factors influence this pattern.

**Material:** Skin swabs were sampled from infants; DNA was extracted from these samples.

**Methods:** We enrolled 31 healthy Caucasian infants [equally distributed between sex, age (1–3, 4–6, and 7–12 months old), and birth route] and five randomly selected mothers and studied the effect of age, body location (arm, buttocks, forehead), birth route (vaginal versus caesarean section delivery), contact time, and feeding method (breast- versus formula-fed) at time of sampling on the abundance and diversity of bacterial taxa. DNA was analysed and compared to known bacterial DNA markers using PCR and a bacterial tag-encoded FLX-titanium amplicon pyrosequencing method (bTEFAP). The number of operational taxonomic units (OTUs) was analysed by ANOVA, and principle coordinates analysis (PCoA) was used to illustrate changes in the microbiome.

**Results:** Age, body location, and birth route had a statistically significant effect on bacterial OTUs [ANOVA:  $F = 3.73$  ( $P < 0.03$ ),  $F = 4.65$  ( $P < 0.02$ ), and  $F = 10.90$  ( $P < 0.002$ ) for the three listed factors, respectively]. Contact and feeding method at time of sampling did not have an effect on bacterial OTUs [ANOVA:  $F = 0.40$  ( $P < 0.53$ ) and  $F = 0.52$  ( $P < 0.60$ ) for the two listed factors, respectively].

**Conclusions:** Although many factors contributed to variation in bacteria taxa, birth type had a strong influence on the number of OTUs present on infant skin. These findings may contribute to our overall understanding of the importance of microbiota to neonatal and infant health.

**Disclosure:** Kimberly Capone and Janeta Nikolovski are employees of JOHNSON & JOHNSON Consumer Companies, Inc. (Skillman, NJ). Georgios N. Stamatas is an employee of JOHNSON & JOHNSON Santé Beauté France, Issy-les-Moulineaux, France.

# ENDOCRINOLOGY

## PP026

# ORAL CLONIDINE TEST IN THE DIAGNOSIS OF GROWTH HORMONE DEFICIENCY IN CHILDREN

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**Background:** Clonidine, a specific alpha adrenergic receptor stimulant it increases serum Growth Hormone (GH) concentration in children through stimulation of Growth Hormone-Releasing Hormone (GH-RH) release, is one of the most frequently used tests, and represent a very useful screening measure for the detection of Growth Hormone Deficiency (GHD). But the duration of the test is not uniform and can vary from 120–180 min or more depending on the institutions.

**Objective:** The aim of our study was to standardize the duration of the oral clonidine test methods: We retrospectively studied the GH response to the oral clonidine test in 116 children (78 males & 38 females) aged 10.293.7 years, consecutively referred between January 2003 and December 2008. The clonidine stimulation test was started after an over night fast, after abase line blood sample (0 min) clonidine tablet (0.15 mg/m<sup>2</sup>) given by oral route and blood samples for GH measurement were drawn every 30–120 min. We defined the GH peak after the clonidine test in two ways; (i) as a maximum value reached after any stimulus; (ii) the first time in which GH value of (10 ng/mL) occurred, in dependant of the fact that higher values is reached later.

**Results:** First GH values higher than 10 ng/mL in ISS children.

**Conclusions:** Our data show that the biggest frequency of GH peak occurs within the first 90 min, both when considering the first value of 10 ng/mL and when considering the maximum GH value reached during the test. So it is possible to reduce the time of clonidine test to 90 min and limit the blood samples to three collected at 30, 60, and 90 min to reduce cost, patient discomfort, parent staying time and save medical personnel time.



	GHD (n = 42)	ISS (n = 74)	P	
Age (years)	7.1 ± 3.4	10.7 ± 3.6	NS	
Sex, M/F	31/11	47/27	NS	
Height, SDS	-2.4 ± 0.7	-2.1 ± 0.6	NS	
GH basal, ng/mL	2.4 ± 1.3	3.5 ± 5.3	NS	
GH peak, ng/mL	6.45 ± 2.6	17.4 ± 6.4	S	
Baseline characteristic of the patients	30 min	60 min	90 min	120 min
GHD	2	22	17	1
ISS	2	58	13	1
Frequency distribution of GH peak during the test in GHD and idiopathic short stature (ISS)	90 min	>90 min		
All subjects%	97.4	2.6		
ISS%	98.6	1.4		
GHD%	96	4		
Percentage of GH peaking during clonidine in all subjects and in ISS and GH children before and after 90 min	30 min	60 min	90 min	120 min
Frequency distribution	12	51	6	1
Percentage	16.1%	72.8	8.5%	1.4%
First GH values higher than 10 ng/mL in ISS children	90 min	>90 min		
Percentage	98.6	1.4		

## PP027

## DEVELOPMENTAL DEFECTS OF THYROID GLAND: RELATIONSHIP WITH ADVANCED MATERNAL AGE

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Developmental defects of the thyroid, resulting in absent gland (aplasia), small gland (hypoplasia), or unusual location (ectopia), are collectively referred to as thyroid dysgenesis. In iodine sufficient countries, 85% of permanent congenital hypothyroidism is due to thyroid dysgenesis. Most cases are sporadic and their pathogenesis remains unknown.

Aims: Investigating the epidemiological features of patients with thyroid dysgenesis and determining the possible related conditions.

Patients and methods: Medical reports of 234 patients with thyroid dysgenesis was inspected retrospectively. In the assessment of thyroid volume with sonography, the volumetric ellipsoid method was used and volumes were estimated according to reference thyroid volumes in Turkish children.

Results: Of 234 patients, 120 (51.3%) male and 114 (48.7%) female, 128 (54.7%) were referred by the neonatal screening program within the first two months of life. At admission mean age was 13.85 ± 1.92 months. 183 patients (78.2%) were diagnosed as hypoplasia, 35 (14.9%) as thyroid aplasia, four as ectopic thyroid gland and 12 as hemiagenesis. Mean maternal age was 28.9 ± 0.4 and maternal age distribution was advanced.

Conclusion: This study, contrary to the literature, revealed 'thyroid hypoplasia' as the most common developmental defect and no significant sexual difference in clinical and epidemiologic features. We also have discovered that advanced maternal age was more existed with thyroid dysgenesis. The role of humoral and environmental factors are not well known but advanced maternal age may increase the possibility of new mutations in genes encoding some transcription factors having role in thyroid gland development; suggesting the need for further investigations.

## PP028

## RESULT OF MASS VITAMIN D THERAPY IN GROWING GIRL IN SUNNY CITY OF YAZD DURING ACADEMIC YEAR

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Introduction and propose: Prevalence of Vitamin D deficiency in girl is remarkable during adolescence throughout the word, especially in Middle East. Sufficient intake of vitamin D is contributed to numbers of health outcomes. The aim of this before and after study is to show the effect of monthly bolus vitamin D3 therapy on serum level of 25hydroxy vitamin D in growing girls during academic year in Yazd, a sunny city in center of Iran.

Materials and method: Eleven thousands girls aged between 12 and 15 years were supplemented with 50 000 IU vitamin D three each months from September 2009–April 2010. Before and after intervention serum 25OH vitamin D was randomly measured from 100 girls, by chemiluminescence immunoassay method. Two weeks after giving vitamins a general practitioner saw girls to find any side effect and records ones who has not received vitamins. 25OH vitamin D more than 20 ng/mL accept as sufficient level.

Results: Prevalence of vitamin D sufficiency before and after intervention was 40% and 97% respectively. At the end of study blood level of 10 girls who did not receive vitamin show half of them were sever vitamin D deficient (<12 ng/mL). There was no major clinical side effect which needs medical intervention but headache, abdominal pain, nausea were among prevalent complains.

Conclusion: Crucial rapid growth phase of puberty in girls needs more attention about vitamin D, specially in region that veiling is common, monthly bolus dose of vitamin D3 (50/000 IU) is a way to ensure sufficient delivery of the vitamin to our girls during academic year in our region.

## PP029

**CASE REPORT: REMISSION IN CUSHING' DISEASE WITH CABERGOLINE**

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**Introduction:** Cushing's disease (CD) is caused by ACTH-secreting pituitary adenoma in the majority of cases and is the most frequent etiology of endogenous Cushing syndrome. First-line treatment in Cushing's syndrome consists of the surgical removal of the secreting tumor. However, surgery may not achieve a complete cure in a number of cases, hence emphasizing the potential benefit of a medical complementary treatment, either when waiting for, or when the patient is not eligible for surgery. Cabergoline is a long-acting dopamine receptor agonist used to treat prolactinomas. Identification of D<sub>2</sub> receptors in corticotroph tumors led to clinical trials of cabergoline therapy in limited cases of Nelson's syndrome, ectopic ACTH-secreting tumors, and recently CD. There are a few adolescent patients with CD who was treated with cabergoline. We describe a 17 and 15 years old two boys with CD in whom cabergoline treatment was effective in inducing a remission.

**Case 1 and 2:** Two adolescent patients were presented whose clinic and laboratory findings showed in Table1.

Table 1:

	The patient 1	The patient 2
Age	17	15
Gender	Male	Male
Body mass Index (kg/m <sup>2</sup> )	29	37
Blood pressure (mmHg)	140/100	150/100
Basal cortisol (μg/dL)	28	26
Basal ACTH (pg/mL)	165	135
24 h urine free cortisol (N < 77)	252 μg/m <sup>2</sup> /day	218 μg/m <sup>2</sup> /day
Serum cortisol after overnight dexamethasone suppression	1.18 μg/dL	15.9 μg/dL
24 h urine free cortisol level after low-dose dexamethasone suppression (LDDS) (N < 10)	11 μg/m <sup>2</sup> /day	13.1 μg/m <sup>2</sup> /day
Low-dose dexamethasone suppression (LDDS) cortisol (N < 1.8)	0.17 μg/dL	0.48 μg/dL
MRI of pituitary	Normal	Normal
Thorax and abdominal imaging	Normal	Normal
Inferior Petrosal Sinus sampling (IPSS) central/peripheral ratio (N < 3)	4	5.7
IPSS-lateralization (N < 2)	Right-3.98	Left-2.8
Treatment	Cabergoline (1 mg/week)	Cabergolin (1.5 mg/week)
Result	Remission after 4 months	Remission after 6 months

**GASTROENTEROLOGY, NUTRITION & METABOLISM**

## PP030

**MODULATION OF THE ACTIVITY OF NONSPECIFIC DEFENSE MECHANISMS OF THE INTESTINAL MUCOSA IN CHILD'S WITH CHRONIC HELICOBACTER PYLORI-ASSOCIATED GASTRIC PATHOLOGY**

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**Introduction:** Influence on the factor of Helicobacter pylori in the development of gastrointestinal disease, is generally accepted. Response against Helicobacter pylori depends on the state of immunity, the number of receptors on the gastric mucosa contributing to the micro-organism adhesion, *H. pylori* virulence. Discovery of the molecular mechanisms of nonspecific innate immunity (Toll-like receptors (TLR) and TLR-accessory molecules), clarified the meaning of the latter in the development of *H. pylori* infection in children. TLR4 plays a special role in the development of inflammatory process caused by *H. pylori*.

**Purpose:** To investigate the clinical and immunological efficacy of Imupret in combination therapy of chronic Helicobacter pylori-associated gastritis in children.

**Material:** Forty-one children aged from 10–17 years with chronic *H. pylori*-associated gastric pathology. Study group: 21 children with chronic Helicobacter pylori-associated gastric pathology who took vegetative immunomodulator 'Imupret' in addition to standard therapy (antibiotics, proton pump inhibitors). Control group: 20 children with the same pathology who took standard therapy.

**Methods:** Endoscopy of the esophagus, stomach and duodenum, biopsy mucosa of antrum and immunological investigations that reflect the level of interest of Helicobacter pylori infection in the pathogenesis of the disease was conducted for all children.

**Results:** On the background of Imupret treatment there was a reliable increase of sCD14 concentration and TLR4 expression level remained unchanged. According to the clinical data, we can assume that the immunomodulating effect of Imupret strengthen production of the sCD14 molecule which prevents the interaction of Helicobacter pylori LPS with mCD14 and macroorganism TLR4 activation.

**Conclusions:** The combination of basic therapy with medication Imupret promotes more rapid decrease of the main symptoms in children with chronic *H. pylori*-associated gastric pathology. Therapy by Imupret in complex treatment significantly reduces gastric mucosa vulnerability to Helicobacter pylori invasion.

## PP031

## EFFECT OF MATERNAL VITAMIN D SUPPLEMENTATION – ON VITAMIN D LEVELS OF BREASTFED INFANT

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**Introduction:** Many studies have shown that the vitamin D status of a newborn is closely related to that of the mother. Pregnant and lactating women who were thought to be immune to vitamin D deficiency since they took a daily prenatal multivitamin containing 400 IU of vitamin D many of them and most of their infants were found to be vitamin D-deficient.

**Purpose:** The purpose of this study was to examine the effect of maternal vitamin D (400 U/day) supplementation to the breastfed infants at 6 months of age.

**Material and methods:** The newborns and their mothers were divided into two groups in order of application to the clinic, as study (n = 46) and control (n = 44). All infants were recommended to continue vitamin D (400 U/day) supplementation. Mothers in the study group received vitamin D 400 U/day. The mothers in the control group were asked not to take any supplementation. At the beginning of the study blood samples were taken from all mothers. At the end of the 6 months blood samples were drawn from infants and their mothers to evaluate the vitamin D levels by HPLC method.

**Results:** The mean vitamin D level of all mothers was  $13.5 \pm 8.6$  ng/mL at the beginning. Of all mothers 22.2% had vitamin D levels above 20 ng/mL. Mothers who regularly covered their heads had significantly low levels. At the end of the study the vitamin D levels of infants whose mothers received vitamin D supplementation were similar to those of the control group. Thirteen percent of children in study group and 20.5% of the control group had vitamin D levels below 12 ng/mL.

**Conclusions:** The maternal vitamin D supplementation (400 U/day) after delivery had no influence on the vitamin D levels of infants. Further studies are required on this subject.

## PP032

## WITHDRAWN

## PP033

## COMPARISON OF ORAL ALENDRONATE VERSUS PREDNISOLONE IN TREATMENT OF INFANTS WITH VITAMIN D INTOXICATION

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**Introduction:** Vitamin D intoxication occurs as a result of accidental intake or unnecessary use of high doses of Vitamin D and can lead to life threatening hypercalcemia.

**Purpose:** The purpose of this report is to compare the efficacy of oral alendronate versus prednisolone treatment in addition to conventional measures in infants with Vitamin D intoxication.

**Methods:** Time to achieve normocalcemia was compared in 6 infants (aged  $8.0 \pm 2.1$  months) with Vitamin D intoxication on prednisolone treatment (Group I, n: 4) or alendronate treatment (Group II, n: 2 from the beginning and 2 after unsuccessful prednisolone treatment) in addition to intravenous hydration and diuretic therapy.

**Results:** Initial serum calcium levels ranged between 15.2–19.1 mg/dL. In the prednisolone group, two patients achieved normocalcemia on 7th and 12th days of treatment, other two patients did not achieve normocalcemia despite 23th and 15th days of treatment and therefore switched to alendronate treatment. The mean duration of

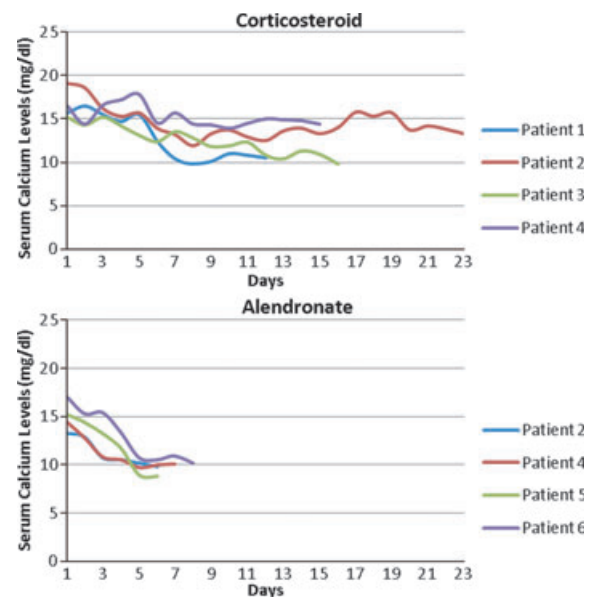


Figure 1: (A) Serum calcium levels of patients on corticosteroid treatment. (B) Serum calcium levels of patients after single oral dose of alendronate (Patient 2 and 4 were switched to alendronate treatment after 23 and 15 days of corticosteroid treatment, respectively).



prednisolone administration in these 4 patients was  $14.2 \pm 6.7$  days (7–23). In the alendronate group, two patients who received alendronate from the beginning achieved normocalcemia on the 5th day of treatment. Other two patients achieved normocalcemia 2 days after switching to alendronate. Thus, the mean time to achieve normocalcemia after single oral alendronate administration was  $3.5 \pm 1.7$  days (2–5) ( $P < 0.01$  vs. Group I) (Fig. 1).

Conclusion: Alendronate treatment achieves normocalcemia four times earlier than prednisolone treatment and shortens hospital stay in infants with Vitamin D intoxication.

#### PP034

##### METABOLIC CHANGES IN PEDIATRIC OR OBESE PATIENTS – OBSERVATIONAL STUDY

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Introduction: Worldwide, throughout one generation the prevalence of obesity in the pediatric population doubled. This is a known fact for Romania too. 65% of obese children combine at least three cardiovascular risk factors comparatively to the healthy population (0.8%).

Purpose: The authors evaluated the metabolic changes in overweight/obese patients.

Material and method: We conducted a prospective observational study that included 52 overweight/obese children (mean age: 10.09 years; girls to boys ratio: 1/1.86) admitted in the Department of Pediatrics from December 2010 until June 2011. Selection criteria were: BMI over 85th percentile, the consent of the family to fill in a questionnaire and undergo a series of tests. Evaluation consisted of: age, sex, antropometric parameters, weight and height of the parents, significant heredofamilial history in cardiovascular or metabolic disease at a young age. Specific lab tests and an abdominal ultrasound were performed.

Results: Out of 52 patients, only 7 (13.4%) came from a family with normal weight parents. The children's BMI correlated with the maternal BMI ( $P = 0.003$ ). 23 patients (44.2%) had cardiovascular disease at a young age among first or second degree relatives and 40 (76.9%) had relatives with obesity and comorbidities (diabetes mellitus, dislipidemia). In our patient sample, the BMI colligated to the abdominal circumference ( $P < 0.001$ ) and increased proportionally with age ( $P = 0.001$ ). 26.9% of all patients tested positive for dislipidemia. In the lipid profile we did not identify suggestive changes for metabolic syndrome, although seven patients (13.4%) were diagnosed with hepatic steatosis.

Conclusions: Obesity is a disease that ‘grows’ in the family, from a young age. The number of overweight/obese children with at least three major risk factors for cardio-

vascular disease is alarmingly high. Education and medical advice should target nutrition, normal growth and a healthy lifestyle in order to prevent an ‘epidemic’.

#### PP035

##### ADIPONECTIN IN CHILDHOOD OBESITY AND ITS ASSOCIATION WITH THE METABOLIC SYNDROME

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Introduction: Pediatric obesity is a complex and growing global problem. In Egypt, the prevalence of obesity among school children was found to be 14.7% among boys and 15.08% among girls.

Objectives: To investigate the relationship between serum adiponectin level and the metabolic syndrome and to examine the independent association between serum adiponectin level.

Subjects and methods: Cross-sectional. Participants: 56 obese children with body mass index  $\geq 95$ th percentile for age and sex and 50 normal weight children matched for age and sex with the obese children acted as controls. Main outcome measure: serum adiponectin level.

Results: Serum adiponectin level was significantly lower in obese children compared to normal weight controls ( $7.35 \pm 3.1$  vs.  $10.64 \pm 3.04$   $\mu\text{g/dL}$ ). Obese children with the metabolic syndrome have a significantly lower adiponectin level compared to obese children without the metabolic syndrome ( $5.92 \pm 1.9$  vs.  $8.57 \pm 2.1$   $\mu\text{g/dL}$ ). There was a significant negative correlation between adiponectin level and waist circumference, triglyceride level, systolic blood pressure, diastolic blood pressure, and fasting blood glucose. Adiponectin level correlated positively with the level of HDL-C. After controlling for the confounding effect of age, sex, and visceral fat, adiponectin level remained a significant predictor of the metabolic syndrome (OR: 0.76, 95% CI: 0.63–0.91).

Conclusion: Adiponectin demonstrated a consistent relation to each metabolic syndrome component. Adiponectin may be a comprehensive marker of the metabolic syndrome condition.

#### PP036

##### WITHDRAWN

## PP037

**FRENCH CHILDREN START THEIR SCHOOL DAY WITH AN HYDRATION DEFICIT**

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**Introduction:** Fluid requirements of children vary as a function of gender and age. Children who drink too little to meet their fluid requirements are likely to become dehydrated. To our knowledge, there is very little literature on the hydration status of French children.

**Purpose:** We assessed morning hydration status in a large sample of 529 French children attending primary schools, aged between 9 and 11 years.

**Methods:** An almost equal number of boys and girls were recruited from 14 schools in and around the city of Rennes, France. After signature of the consent form by parents, children completed a questionnaire on fluids and food intake at breakfast and collected the very same day a urine sample after their breakfast. Breakfast nutritional composition was analysed and urine osmolality was measured using cryoscopic osmometer.

**Results:** Our main result is that almost two third (62%) of the children had a urinary osmolality over 800 mOsmol/kg of water reflecting a trend of a mild dehydration status. This was more frequent in boys than in girls (72% vs. 52%). Furthermore, 22.7% of children were having a urinary osmolality over 1.000 mOsmol/kg. Total fluid intake at breakfast was significantly and inversely associated with high osmolality values. A majority of children (73.5%) drank less than 400 mL at breakfast (mean intake of drinking water and other beverages: 210 mL) had a greater risk of having a high osmolality after breakfast than children drinking more than 400 mL of fluids. To conclude, this study on a large cohort of French school children shows for the first time that more than two thirds of children have a hydration deficit when they go to school in the morning, despite breakfast intake. Children fluid intake at breakfast does not suffice to maintain an adequate hydration status for the whole morning.

## PP038

**RELATIONSHIPS BETWEEN MATERNAL AND CHILD NUTRITIONAL STATUS IN LAGOS, NIGERIA: A COMPARISON OF RURAL AND URBAN COMMUNITIES**

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**Introduction:** Under-nutrition remains a major public health concern in developing countries despite several approach made to reduce its prevalence. One major factor that contributes to the occurrence of under-nutrition among children less than five years old is maternal education. It is known that less educated mothers are poorly nourished and are likely to give birth to malnourished children. These children will grow up malnourished and are also likely to give birth to malnourished children and the cycle thus continued.

**Purpose:** To determine the nutritional status of mothers and their children and the relationship between them in rural and urban communities of Lagos, Lagos State, Nigeria.

**Material:** Women in reproductive age group and their children aged 0–59 months.

**Methods:** This was a questionnaire-based, cross sectional survey which relied on anthropometry to assess the nutritional status of mothers and their children aged less than five years. It was conducted using the multistage cluster sampling technique in two rural and two urban communities in Lagos State, Nigeria. A total of 300 mother-child pair were studied consisting of 150 each from rural and urban communities.

**Results:** Using BMI of 18.5 kg/m<sup>2</sup> as the cut off point in women, the overall prevalence of chronic energy deficiency was 6.7% with a significantly higher prevalence among mothers from rural areas compared with those from urban areas (10.7% vs. 2.7%). The prevalence of underweight and stunting among the children were significantly higher in rural area (19.4% and 43.3% respectively,  $P = 0.025$ ) than urban areas (9.3% and 12.6% respectively,  $P = 0.001$ ). In both rural and urban areas, the correlations were generally low ( $r = 0.01-0.3$ ) and there was only significant correlation between mothers' height and stunting in rural areas while in urban areas there were significant correlations between mothers weight and underweight and mothers height and stunting.

## PP039

# PLASMA TOTAL HOMOCYSTEINE LEVELS IN HEALTHY CHILDREN AND ADOLESCENTS OF A GREEK ISLAND AND ASSOCIATION WITH LIPID PROFILE

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**Introduction:** Hyperhomocysteinemia has been established as an independent risk factor for thrombosis and vascular disease in adults. Elevated homocysteine concentrations have been associated with oxidative stress and endothelial damage. In children elevated levels are positively associated with cardiovascular disease in their family.

**Purpose:** To assess plasma total Homocysteine (tHcy) levels in healthy children and adolescents and connection with lipid profile and anthropometric parameters.

**Material:** A cross-sectional study was conducted in 483 healthy children and adolescents (241 boys), aged 7–17 years (Mean:  $13.7 \pm 2.8$ , Median: 13) living in Samos, Greece, during January to December 2009.

**Methods:** Plasma tHcy and serum lipids were determined in an overnight fasting blood sample. THcy levels were measured using HPLC. Statistical analysis was performed using STATA V10.0.  $P < 0.05$  was considered significant.

**Results:** Mean tHcy levels were  $4.25 \pm 2.55 \mu\text{mol/L}$  (Median:  $3.7 \mu\text{mol/L}$ ). THcy  $\leq 75\text{th}$  ( $<5.6 \mu\text{mol/L}$ ),  $>75\text{th} \leq 90\text{th}$  and  $>90\text{th}$  ( $7.3 \mu\text{mol/L}$ ) percentile had 76.4%, 12.6% and 11%, respectively. Boys had higher levels than girls ( $P = 0.0017$ ). THcy levels were found to have a significant positive correlation with age ( $r = 0.3375$ ,  $P < 0.001$ ), age group ( $\leq 12$  and  $>12$  years,  $P < 0.001$ ) BMI ( $P < 0.001$ ), BMI categories (normal, overweight, obese) ( $P < 0.001$ ). Age, gender and BMI were independent significant factors. The regression formulas were:  $\text{tHcy} = 0.12 + 0.31 \cdot \text{age}$ ,  $\text{tHcy} = 0.38 + 0.32 \cdot \text{age} - 0.88 \cdot \text{female}$ ,  $\text{tHcy} = -0.41 + 0.28 \cdot \text{age} - 0.81 \cdot \text{female} + 0.05 \cdot \text{BMI}$ . THcy levels had no correlation with TC ( $P = 0.77$ ), TGs ( $P = 0.07$ ) and LDL-C ( $P = 0.83$ ). Negative relationship with HDL-C levels was observed ( $r = -0.12$ ,  $P = 0.0064$ ). In obese and overweight participants the likelihood of having tHcy  $>95\text{th}$  percentile was 2.04 (95% CI: 0.81–5.17) and 3.59 (95% CI: 1.11–11.60) times greater, respectively. Non-modifiable factors as increasing age; male sex; and modifiable as obesity are independent risk factors for elevated tHcy levels. Moreover, overweight and obese children presented with increased tHcy and decreased HDL-C concentrations indicating a high risk for endothelial damage and early atherosclerosis.

## PP040

# CLINICAL CHARACTERISTICS OF ROTAVIRUS GASTROENTERITIS IN CHILDREN

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**Introduction:** Rotavirus (RV) is the leading cause of acute infective diarrhea in children.

**Purpose:** We analyzed the age of onset, symptoms, clinical signs and complications of acute RV in children.

**Material:** The study was based on a sample of 216 children, aged 0.08–12.33 ( $= 5.21 \pm 2.05$ ) years with acute RV gastroenteritis.

**Methods:** The diagnosis of RV was verified by the commercial latex agglutination test (*Rotalex, Orton Diagnostica, Finland*) with exclusion of other causes of acute diarrhea.

**Results:** Of total 216 children, 100 or 46.30% were aged 0.5–2 years, 29.63% were aged 2–5 years, 14.35% were up to 0.5 years and 9.72% over 5 years. Watery diarrhea lasting  $4.67 \pm 2.16$  days was registered in all, vomiting during the first 1–2 days in 85.65%, and increased body temperature lasting for 1–3 days in 85.19%. Dehydration was present in all, milder in 49.07%, moderate in 31.94% and severe in 18.99%, of which in 7 (3.24%) hyponatremic and in one hypernatremic. Hypocalcemia was present in 14 (6.48%) patients, while increased values of serum potassium was not confirmed in any of the patients. Otitis media, as a complication of pharyngitis and vomiting was detected in 25 (11.57%) and febrile convulsions in 8 patients.

**Conclusion:** Rotavirus gastroenteritis most often occurs in children aged 0.5–2 years. It is characterized by watery diarrhea followed by vomiting and increased body temperature. The basic complication of the disease is dehydration, and rarely otitis media and febrile convulsions.

## PP041

# RELIABILITY AND VALIDITY OF A NEW STANDARDISED QUESTIONNAIRE FOR THE EARLY IDENTIFICATION OF FEEDING PROBLEMS AND GASTROINTESTINAL SYMPTOMS IN YOUNG CHILDREN WITH AUTISM SPECTRUM DISORDERS

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**Background:** Managing feeding problems and gastrointestinal (GI) symptoms in young children with Autism



Spectrum Disorders (ASD) is a challenging process for professionals and parents especially if they become persistent and longstanding. It is important to identify feeding problems and GI symptoms at an early stage, so that parents can receive appropriate advice and support.

**Aims:** The primary aim of the study was to develop a new standardised questionnaire called the 'Brief structured questionnaire for the early identification of feeding problems and GI symptoms in primary school children with ASD (BEFG-ASD)'. The secondary aim was to evaluate the psychometric properties (including reliability and validity) of the new questionnaire.

**Methods:** The development of the BEFG-ASD involved a comprehensive literature review, items construction and specialist review. The final review was undertaken with two panels (professionals and parents of children with ASD) using a modified Delphi technique. The final draft of the BEFG-ASD was pre-tested and then field-tested with a group of professionals (working in health and education settings) and parents of primary children with ASD in North East England. The evaluation of the psychometric properties of the BEFG-ASD was based on the responses from the field-testing.

**Results:** Both panels in the Delphi reviews (N=20) rated the questions as either 'important' or 'very important'. 15 sub-domains and 42 items of feeding problems, GI symptoms and the impact of these problems were agreed and included in the final version of the BEFG-ASD. The preliminary findings using the first 60 responses will be reported. The internal consistency of the BEFG-ASD is good (Cronbach's Alpha: 0.84) and details of test-retest reliability, between-rater reliability and construct validity will be presented.

**Conclusions:** The content and face validity have been established in the Delphi technique and the pre-test. Overall, the BEFG-ASD has good reliability and validity. It is hoped that the BEFG-ASD will be useful for community professionals alongside other tools for children with ASD.

#### PP042

### EVALUATING INCIDENCE OF GIARDIASIS IN KINDERGARTEN OF YAZD CITY BY MICROSCOPIC STOOL EXAMINATION AND ELISA

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*Giardia lamblia* is the commonest protozoa in human intestine. Its prevalence is higher in children and day care centers play an important role in transmission of infection in communities. In diagnosis, microscopic stool examination is the gold standard test, but ELISA is very sensitive and accurate one. This study was carry out to detect the incidence of childhood giardiasis in day care centers in Yazd city, and also to compare the above two diagnostic tests.

**Method:** During October 2009 till February 2010, 178 children from 12 day care centers in Yazd, had been studied for giardiasis by microscopic stool examination and ELISA test.

**Results:** From 178 children whom studied, giardiasis was detected in seven ones, from whom, four cases were diagnosed by both tests and three ones only by ELISA. So incidence of giardiasis in this survey was 3.9% and the sensitivity and specificity of microscopic stool examination in comparison to ELISA was 57.1% and 100%. Other infestations were diagnosed in eight children by direct stool smear which required medical intervention. Additional diagnosis of one case of giardia with ELISA costs more than 100\$ US.

**Conclusion:** In the area with low incidence of giardiasis, there is no need for ELISA test or empirical therapy for giardiasis in pediatric GI disorders and from economic point of view, it is not reasonable to do ELISA.

**Keywords:** Giardia, Incidence, Children, ELISA, Microscopic stool examination.

#### PP043

### CRANBERRY (VACCINIUM MACROCARPON) CHANGES THE SURFACE HYDROPHOBICITY AND BIOFILM FORMATION OF *E. COLI*

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**Aims:** Cranberry has been shown useful in the prevention of urinary infection by *E. coli*. To determine the changes in the hydrophobicity of P fimbriated *E. coli* and biofilm formation after incubation with commercial cranberry syrup extract at various concentrations.

**Methods and results:** Thirteen strains of P fimbriated *E. coli*, were grown in TSB and CFA culture medium. After incubating a bacterial suspension with cranberry at dilutions of 1:100 and 1:1000, a haemagglutination inhibition test, surface hydrophobicity and biofilm formation were carried out. The surface hydrophobicity *E. coli* decreases significantly after incubation with cranberry and this effect is not modified by the culture media. The biofilm formation it is inhibited after incubation with cranberry syrup and this effect depends on the culture media.

**Conclusions:** Depending of the culture media, cranberry can modify nonspecific adhesive properties of *E. coli*.

**Significance and impact of study:** Cranberry far only been implicated in the inhibition of P-fimbriae of *E. coli*, our observations show that it acts by modifying adhesive properties under P-related fimbriae.

## PP044

**THE USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINES IN CHILDREN WITH SPECIAL NEEDS**

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**Introduction:** The use of complementary and alternative medicine (CAM) is widespread in children with and without special needs. CAM services and facilities are growing in number in Ireland due to a huge increase in demand. There is often little or no scientific evidence to support the use of many complementary therapies yet many parents choose to pay for them as an adjunct to (and in some cases instead of) conventional treatments.

**Purpose:** Our objective was to ascertain the prevalence and types of complementary and alternative therapy used in children with and without special needs in a suburban Dublin setting. We wanted to examine the reasons why parents were turning to CAM and if parents believe the treatment to be beneficial for their children.

**Materials and methods:** One hundred parental questionnaires were distributed at paediatric clinics between December 1st 2010 and January 31st 2011.

**Results and conclusions:** A total of 78 surveys were returned of which 14 were completed by parents of children with special needs. 86% (n = 12) of parents of special needs children had used CAM on at least one occasion for their child with massage (for relaxation) being the most common form of CAM. In comparison 54% (n = 35) of parents of children without special needs (n = 64) had used CAM with vitamins and supplements (for the pursuit of health and well-being) being the most common form used (23%). Several participants in both groups had used more than one form of CAM. Other complaints for which parents sought CAM were colic, constipation and teething. Almost all respondents stated that they found CAM beneficial for their children. Parents continue to invest their time, money and hope in the treatments offered by therapists. Rigorous scientific studies are needed to investigate the evidence behind the claims on offer.

## PP045

**THE EFFECT OF RAMADAN FASTING ON EXCLUSIVE BREAST-FEEDING**

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**Introduction:** The Islamic religion requires fasting from dawn to sunset during the month of Ramadan. Women are

allowed to withhold fasting if they have an apprehension about their babies' health or about the possibility of insufficient breast milk. In Ramadan, health staff is frequently faced with questions about whether fasting affects breast-feeding. Studies related to the effect of fasting on lactation and child health are scarce.

**Purpose:** This study aimed to evaluate the effect of Ramadan fasting on exclusive breast-feeding rate during the first 6 months of life.

**Material:** The Well Child Clinic records of all infants who were 0–5 months old on May 11, the date of the beginning of the Ramadan month in year 2002, were evaluated and 136 infants noted to be exclusively breast-fed were included in the study.

**Methods:** At the end of Ramadan a structured questionnaire was applied to all mothers of these infants to obtain data on fasting status, changes in eating habits and in lifestyle, breastfeeding status of their babies and reasons for starting complementary foods during Ramadan. Chi-square test, Student's *t*-test and logistic regression analysis were used for the evaluation.

**Results:** Of all mothers, 45.6% fasted. Mean age of the infants was similar in the fasting and non-fasting groups. Of all mothers, 12.5% reported that they had started giving complementary foods during Ramadan. At the end of the Ramadan month, the exclusive breast-feeding rate and the reasons for giving complementary foods were similar in the fasting and non-fasting groups.

**Conclusion:** This present study was conducted among women attending a Well Child Clinic where breastfeeding is supported and promoted at each visit by trained health personnel. In an unsupported group, the effect of fasting on exclusive breastfeeding may be different. Therefore further studies are required in different environments and in summer Ramadan months.

## PP046

**MILK-FEEDING PATTERNS AND OBESITY – IS THERE ANY RELATIONSHIP?**

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A balanced and proper nutrition plan is one of the essential factors on community individuals health and its improvement in different age groups, especially children, is considered as one of the significant action in primary health care. The research is an analytical case-control study (prospective) which has been conducted in kindergartens and pre-elementary schools affiliated to health organization in Qazvin. After preliminary study on twenty children aged 5–6 years in case and control groups, based on research subjects, 35 case and 70 in control group were chosen. The kindergarten and pre-elementary schools were picked based on random cluster case-picking method. The tools for collecting data were questionnaire, tape measure and spring scale. Obesity in this instance, based on weight

for stature index and adjusted by child sex, was specified as a standard deviation score  $>2$ . The statistical tests X and Mann-Whitney U-test used to calculate outcomes ( $P = 0.05$ ). The research findings showed the individual characteristics, except birth weight and playing-time, were identified in the case and control group. The research findings revealed, the milk-feeding patterns in case and control group were subsequently, 71.1% and 85.7% dominant feeding on mother's milk, 20% and 8.6% feeding on formula and 2.9% and 5.7% feeding jointly and there is no meaningful difference between two case and control groups. In regard to the duration of each pattern a meaningful difference was not figured out in two groups. Therefore all the survey hypotheses are rejected. According to the research findings, no meaningful relationship was found between milk feeding patterns in infancy and children obesity aged 5–6 years and probably another factors have effect on predisposing to obesity, therefore more extensive researches recommended to accomplish.

**Keywords:** Milk-feeding pattern, Infancy, Obesity, Children.

**Introduction:** Milk feeding patterns have much influences on physical and emotional growth of milk-fed infants, especially during the first 6 months of life (1). Complete feeding can be supplied the growing infant needs with human milk and different kinds of formulas during the first 6 months of life. Breast milk is nutritionally the best for the milk-fed infant (3). Today, up to 40% of infants in the United States are discharged from the hospitals with mothers who aren't breast-feeding (4). Statistical evidence in Iran revealed the infants under 4 months old were not exclusively breast-fed, the rate separated by urban and rural communities are in order 37.9% and 30.85, by sex, male and female are 38.9% and 34.2% (5). Although breast feeding is nutritionally superior to any kind of formulas but

many of milk-fed infants are received formula at the birth time (6). Commercial infant formulas are combined 90% of all formulas being used feeding infants (7). In one study on performances of milk-fed infants nutrition in Asian family who dwelled in England, 10% of Bangladeshi, 24% of Pakistani and 18% of Indian infants were bottle-fed (8). The findings of one research in Iran revealed 84.6% of milk-fed children were breast-fed during the first six months of life and 4.1% feeding on another kind of milk except mother's milk and 11.3% feeding on jointly mother's and another milk (9). Choosing the proper milk-feeding pattern in early milk-fed period has an important role on the early infant growth and development. One of the most important period is the preschool time. Choosing inappropriate nutrition plan predispose infant to obesity in childhood and through the life course (10). Almost 22 millions infant under 5 years old are obese all over the world (11). The researchers declare, the prevalence rate of obesity among Iranian children has risen and is reaching to its rate in industrial countries, so considering the side effects of obesity warrant the attention and a wide range of performances in preventing progression from obesity and its treatment (12). Many studies have considered the link between milk-feeding patterns in infancy and children obesity. Obesity prevalence among children lived in south of Germany and never breast-fed was 4.5%, but this rate among children who had breast-fed was 2.8% (13). Unequivocally midwives as a member of health care team and considering her supportive role, they have the duty as educating and counseling breast-fed mothers, encourage them to breast feeding their infants and inform them time to start artificial feeding whenever it is necessary. Also by taking infant care more serious and by screening and managing the obese child prevents from its following complications. Considering the role of proper nutrition in infancy and the importance of normal infant growth and development we conducted the present study.

**Material and methods:** The research is an analytical case-control study. The method of sampling was random cluster case-picking. Considering preliminary pilot evaluation, 35 cases and 70 in control group were chosen. Mothers and fathers body mass, family child number, birth grade, age and gender of the cases were identified with the control group. The tools for collecting data were questionnaire, tape-measure and spring scale (German Soehnle). The first section of questionnaire contained anthropometric questions and the second divided into three sections (1 – continuing children individual characteristic questions. 2 – milk feeding patterns in infancy during the time of each pattern. 3 – individual characteristics of parents) which were filled by the researcher through interview and physiologic measurement. Obesity in this instance, based on weight for stature index and adjusted by child sex, was specified as a standard deviation score  $>2$ . In order to determining the tools validity and reliability, content validity and retest method were used. The analyses were conducted by descriptive statistic (frequency, mean, standard deviation, confidence interval of the mean differences





between two groups) and inferential statistics (X test and Mann–Whitney U-test).

Conclusions: Age, education, fathers occupation and family income, in both case and control groups are provided in Table 1. As considering, there is no meaningful difference between two case and control groups. The characteristics of weight, birth age, time starting supplementary food, time watching television, daily and night sleeping – time in case and control groups were provided in Table 2. As considering there is a meaningful statistical difference between birth weight and time spent playing in case and control groups and in regard to other characteristics no difference is seen. Also among the infant individual characteristics, the high percent score of food frequency, 48.6% in case group and 57.1% in control group was 89.7–120.9. And X statistical test not revealed a meaningful difference between case and control groups. The findings of Table 3 revealed, the milk-feeding patterns in case and control group were subsequently 71.1% and 85.7% dominant feeding on mother's milk, 20% and 8.6% feeding on formula and 2.9% and 5.7% feeding jointly. So in regard to X statistical test, in case of milk-feeding pattern, there is no meaningful difference between two case and control groups. The findings provided in table 4 revealed the mean duration of dominant feeding on mother's milk in two case and control were subsequently 5.6 and 5.8 (month) and in regard to T statistical test, in case of this variable, no meaningful difference was found between case and control group. The findings of Table 5, also revealed the mean score for duration of artificial nutrition in case and control group were 7.6 and 6.3 and Mann–Whitney U-test revealed no meaningful differences between case and control groups.

Discussion and conclusion: The findings of the study showed, there is no meaningful relationship between milk feeding patterns and obesity in children aged 5–6 years. Wadsworth's study results (1999) showed no meaningful difference in the relation between breast-feeding and reducing the rate of overweight and obese children aged 6 years (14). In Hediger and Colleagues study results (2000) also there is a weak meaningful difference between infant growth status and the first feeding in infancy (15) the results from the another study, by the same researchers reporting in 2001, showed there is an unstable relationship between breast feeding and the risk of weight gain in children aged 3–5 years (16). According to the results, there is no meaningful relationship between duration of dominant feeding on mother's milk, duration of artificial feeding (formula) and obesity. The researcher think the factors which lead to reveal no meaningful relationship between milk feeding patterns in case and control groups may relate to the duration of each feeding patterns in the both groups and the different kind of study, sample size and research environment are other cofactors which may lead to differ this study from the others. In regard to the result there is a meaningful difference between birth weight of two case and control groups. Kain and colleagues (1998) result from their study reporting assessment of obesity

among preschool children in case and control group, there is a meaningful relationship between birth weight and obesity (17). According to the result there is also a meaningful difference between the playing- time in case and control. Takahashi and colleagues (1999) found there is a meaningful relationship between physical inactivity and obesity of children aged 3 years (18). obesity seems to be multifactorial and progressing obesity in infancy and childhood increase the obesity incidence during teenage and adolescence and so they are at risk for becoming ill. So accurate identification and referring to the specialist can prevent progression of obesity and education about weight control can be designated for a wide range audience in various setting especially including parents, kindergarten and pre-elementary educators, teachers and school health care providers programs have an important role on managing and preventing the disease and it's following sequences.

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Table 1: Individual characteristics of research subjects parents in case and control group

No	Variables of the study	The most high percent		Test result (P)
		Case	Control	
1	Mother's age	71.5% 26–34y/o	74.3% 26–34 y/o	0.951
2	Mother's education	42.9% High school diploma	37.1% High school diploma	0.765
3	Mother's occupation	82.9% Housekeeper	75.7% Housekeeper	0.404
4	Father's age	74.3% 31–39 y/o	70% 31–39 y/o	0.642
5	Father's education	42.8% High school and Diploma	38.6% High school and Diploma	0.765
6	Father's occupation	62.9% Odd jobs	48.9% Odd jobs	0.134
7	Family income	More than 1 000 000 RLS	More than 1 000 000 RLS	0.116

Table 2: Child Individual characteristics in case and control groups

No	Variables of the study	Mean		Standard deviation		Result
		Case	Control	Case	Control	
1	Birth Weight	3500 g	3300 g	342.1	396.9	$P = 0.017$
2	Birth Stature	51.9 cm	51	2.2	2.7	$P = 0.092$
3	Time starting supplementary food	5.7 months old	5.6 months old	1.2	1.1	$P = 0.632$
4	Time watching TV	2.5 h	2.4 h	1.1	1.3	$P = 0.736$
5	Playing-time	2.8 h	3.8 h	1.2	1	$P < 0.0001$
6	Daily sleeping-time	1.2 h	0.9	1.1	1	$P = 0.165$
7	Night sleeping	10.4	10.3	1.2	1.3	$P = 0.872$

Table 3: Distribution of absolute and relative frequency of research subjects in regard to milk feeding patterns in infancy in case and control groups

Feeding pattern	Case		Control		Total	
	In number	In percent	In number	In percent	In number	In percent
Groups frequency						
Dominant feeding on mother's milk	27	77.1	60	85.7	87	82.7
Artificial feeding (formula)	7	20	6	8.6	13	12.4
Feeding jointly (dominant feeding on mother's milk + formula)	1	2.9	4	5.7	5	4.8
Total	35	100	70	100	105	100
Result	d.f. = 2	$P = 0.216$	$X = 3.068$			

Table 4: Comparison the mean duration (months) of feeding dominant on research subject's mother milk in case and control groups

Mean score for the duration of dominant feeding (months) groups	Numbers	Mean	Standard deviation
Case	27	5.6	1.2
Control	60	5.6	1.2
Test result	d.f. = 85	$P = 0.363$	$T = 0.915$

Table 5: The comparison the mean score of the duration the research subjects fed on formula in case and control group

Mean score of artificial duration groups	Numbers	Mean score
Case	7	7.6
Control	6	6.3
Test result	$T = 0.657$	$T = 0.657$

**PP047****PARENTS' PERCEPTIONS OF THE WEIGHT OF THEIR PRESCHOOL CHILDREN****M Khalifa, N Fayed, F Abdelrazek***Faculty of Nursing, Minofya, Egypt*

**Introduction:** Despite the many known risks of overweight, many parents fail to accurately perceive their children's weight status. Meanwhile, the success of any intervention is dependent on parents' perceptions of overweight and obesity.

**Purpose:** This study was conducted to assess parents' perception of their children's weight.

**Materials:** The study used a descriptive comparative research design. The sample of this study was a convenient sample of 200 parents and their preschool age children (3–6 years). This study was conducted in suburban areas such as Seedy Khamies nursery school in Shebin El Kom and rural areas such as El Kady nursery school in El Batanon. Tools of the study included a questionnaire that was used to assess parents' perceptions of their children's weight and a chart for children's body mass index.

**Methods:** A pilot study was conducted on 20 children and their parents to make the necessary modifications and assure the stability of results. For data collection purposes, parents were individually interviewed and children were weighed using regular calibrated standing scale.

**Results:** Over weight and obese children represented approximately one quarter of the sample. More than three quarters of obese children were in rural areas. Three quarters (75.0%) of parents of obese children perceived that their children had normal body weight, only 58.2% of

parents of obese children in suburban areas and 32.4% of them in rural areas were concerned of the effect of their children's overweight on their general health.

**Conclusion:** The study concluded that many parents had mistaken perceptions of their children's weight. Also, obesity was more prevalent in rural setting.

**Implications:** Nurses should provide health education to increase parents' awareness of obesity and its impact on their children's health status.

#### PP048

##### **EFFECT OF A PARTIALLY HYDROLYZED WHEY PROTEIN FORMULA WITH HIGH *sn*-2 PALMITATE AND REDUCED LACTOSE ON STOOL COMPOSITION AND CONSISTENCY**

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**Introduction:** In early infancy, mild gastrointestinal intolerance issues such as fussiness, regurgitation, flatulence and hard stools are common. Compositional modifications to standard formulas may alleviate these symptoms. These modifications include the use of a partially-hydrolyzed protein to ease digestion; a fat blend with higher proportion of *sn*-2 palmitate to address stooling difficulties; and reduced lactose to decrease flatulence. A high *sn*-2 palmitate level, similar to breastmilk, may soften stools by decreasing stool soap formation.

**Purpose:** To compare the stool composition and consistency of infants fed an experimental formula (EF) containing partially hydrolyzed whey protein, high *sn*-2 palmitate and reduced lactose to standard formula (SF).

**Material and methods:** Randomized, double-blind, controlled trial of healthy term infants who received EF or SF for 8 weeks. At study end, stool samples were collected and analyzed for soap fatty acid and mineral content (mg/g stool dry weight). Stool consistency was reported via 3-day diary. Safety and nutritional adequacy was assessed by physician reported study events and blood protein biomarkers.

**Results:** Of 70 enrolled infants, 67 completed the study. Infants receiving EF had 41% less stool palmitate soaps (EF:  $98.3 \pm 58.1$ , SF:  $166.2 \pm 68.0$ ;  $P < 0.0001$ ), 28% less total soap fatty acids (EF:  $174.3 \pm 108.2$ , SF:  $242.1 \pm 98.8$ ;  $P < 0.0093$ ) and 20% less calcium (EF:  $25.6 \pm 11.7$ , SF:  $32.2 \pm 11.2$ ;  $P = 0.0206$ ) in stools compared to infants receiving SF. There were slightly less formed or hard stools in EF group ( $12 \pm 26\%$ ) compared to SF ( $18 \pm 30\%$ ), although not statistically significant. Mean serum albumin

and plasma amino acids were within normal ranges. Physician reported gastrointestinal events were low.

**Conclusions:** Low gastrointestinal events and protein biomarkers within normal ranges indicate EF is nutritionally suitable, safe and well tolerated. Infants receiving EF demonstrated decreased stool soap formation which may result in softer stools.

#### PP049

##### **FACTORS AFFECTING THE EARLY TERM BREASTFEEDING OF NEWBORN**

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**Introduction:** Successful nourishment has an important role in the healthy growth and development of newborn infants.

**Objective-methods:** This is a cross-sectional study, carried out on 63 healthy mothers and babies in Obstetrics and Gynecology Department of Balcalı Hospital, in order to examine the factors affecting newborn breastfeeding in early neonatal term. The data were collected through face to face interviews, using LATCH breastfeeding diagnostic tool, and a questionnaire by use of literature review including socio-demographic information, the importance of breast-feeding and mother milk, pregnancy and birth-related characteristics, mothers' desire to breastfeed, etc. The maternal prolactin levels were also monitored and noted.

**Results:** The mothers who breastfed their infants in the first 30 min were 73%. There was found to be no relationship between mother's opinion and experience about the mother milk and breastfeeding in early term. The 95.4% of mothers having in-time delivery breastfed their babies within the 30 min; this ratio was 61% for those who had cesarean delivery. 50% of mothers having delivery with general anesthesia breastfed their babies within 30 min, whereas this ratio was 71.4% for whom had regional (spinal, epidural) anesthesia. Socio-demographic characteristics were not found significant on the infants who were breastfed at an early term. However, it was found a correlation between the type of delivery and prolactin levels. Prolactin levels of mothers who breastfed their babies in the first 5 min were  $380.164 \pm 84.770$  ng/mL, those breastfed in the 6–30 min were  $301.745 \pm 115.313$  ng/mL and those breastfed after the first 30 min were  $277.772 \pm 115.848$  ng/mL. The mean values of mothers' LATCH scores at cesarean delivery were  $5.56 \pm 3.3$ , while this was  $7.18 \pm 3.4$  for the otherwise.

**Conclusion:** Therefore, normal births should be supported as much as possible, the cesarean deliveries should



be performed only when the otherwise would not be appropriate, while, in such cases, regional anesthesia should be preferred, and the breastfeeding on early term should be encouraged and supported.

Keywords: Mother milk, Early breastfeeding, LATCH, Prolactin, Nursing.

#### PP049A.

#### EVALUATION OF 20 CASES WHO HAVE EOSINOPHILIC ESOPHAGITIS

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**Introduction:**Eosinophilic esophagitis is a chronic esophageal inflammatory disease.Because signs and symptoms of the disease are similar to the gastroesophageal reflux disease (GERD) many patients are treated as GERD.

**Purpose:**In this study we aim to evaluate 20 children with the diagnosis of eosinophilic esophagitis with the follow-up of demographical, clinical and laboratory findings, disease course and treatment response over the last year.

**Material-Methods:**Clinical and laboratuary databases of 20 patients who were followed-up, outpatient clinic were included in this study. Gastroscoy is applied all the patients, in biopsy samples at least 15 eosinophils were detected and no peptic esophagitis findings was seen. Statistical study was done by Statistical Package for the Social Sciences for Windows 10.0.

**Results:**65% of patients was male, mean age  $8,14 \pm 4,7$ . 30% of patient has only heartburn or/and abdominal pain.,10% has food refusal. 8 patients have allergic asthma. Skin prick test was applied to the patients who have high IgE levels however the factor that may cause allergies could be detected in 1/5 of them. We applied gastroscopy to all patients and nodular appearance was seen in 90% of them. Biopsy specimens of all cases had at least 15 eosinophils infiltration and had no signs of peptic esophagitis. A number of patients before admission and some during the follow-up period was taking PPI and H2 blocker for 3 months however their symptoms were going on despite the treatment. Food elimination was performed to 3 patients whose allergic factor was detected by skin pirck test.

**Conclusion:**Complaints and the findings are similar to much of GERD however it should be considered first in patients whose complaints are going on despite the GERD treatment. Treatment costs and the quality of life is high in terms of early response to treatment in pediatric patients which is recognizable form of the disease is gaining importance.

## GENERAL PEDIATRICS

#### PP050

#### REDUCED ERYTHROCYTE DEFORMABILITY AND THE ASSOCIATION OF THIS PARAMETER WITH ORGAN INVOLVEMENT IN CHILDREN WITH HENOC SHONLEIN PURPURA

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**Aim:** To investigate the alterations in red blood cell (RBC) rheological properties i.e.; deformability, aggregation and oxidative stress in Henoch Shönlein Purpura (HSP) and to examine the possible relationship between RBC deformability and organ involvement in this disease.

**Methods:** Plasma malondialdehyde (MDA) levels and total antioxidant status (TAS) as an indicator of oxidative stress, together with RBC deformability and aggregation were measured in 21 children with HSP at the onset of the disease and during the remission period in comparison with healthy subjects.

**Results:** HSP patients at the active stage had significantly higher MDA and lower TAS levels compared to the remission period and control group ( $P < 0.05$ ). Although RBC deformability at the active-stage of HSP was decreased compared to control subjects, it was increased again at the remission period ( $P < 0.05$ ). RBC deformability was significantly decreased at four different shear stresses in patients with gastrointestinal system or renal involvement compared to patients without organ involvement; and it was decreased at six different shear stresses at patients with both GIS and renal involvement ( $P < 0.05$ ). No statistically significant alteration was observed in aggregation parameters.

**Conclusion:** Our results emphasize the association between impaired RBC deformability and organ involvement in HSP.

#### PP051

#### WITHDRAWN

#### PP052

#### EFFECT OF BREASTFEEDING ON SERUM ZINC LEVELS AND GROWTH IN HEALTHY INFANTS

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**Purpose:** To investigate the association between breastfeeding, serum zinc levels, and nutritional status of children.

**Methods:** One hundred healthy infants were included in the study, anthropometric measurements of the children

were taken and their plasma zinc levels were determined. The mothers were interviewed about the duration of breastfeeding and nutrition pattern of the children at the time of zinc measurement.

Results: Low zinc levels were associated with lower weight measurements ( $r = 0.49$ ,  $P < 0.001$ ), but the association between height and zinc level was not statistically significant ( $r = 0.18$ ,  $P > 0.05$ ). There was a negative correlation between breastfeeding duration and weight-for-age percentile ( $r = -0.2$ ,  $P < 0.05$ ), height-for-age percentile ( $r = -0.3$ ,  $P < 0.05$ ), and serum zinc level ( $r = -0.3$ ,  $P = 0.002$ ). The pattern of nutrition correlated only with the weight of the infant ( $r = 0.2$ ,  $P < 0.05$ ) and with neither height nor serum zinc levels ( $P > 0.05$ ).

Conclusion: Exclusive breastfeeding beyond 6 months of age has negative effects on serum zinc levels and can be associated with low weight gain, which will be especially important in developing countries.

Keywords: Body height, Body weight, Breastfeeding, Growth, Zinc.

#### PP053

### PSYCHOLOGICAL LATE EFFECTS AT SURVIVORS OF CHILDHOOD CANCER: DEMOGRAPHICAL, CLINICAL AND THERAPEUTIC CORRELATIONS

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Introduction: The increasing rate of surviving in childhood cancer involves psychological late effects.

Purpose: To evaluate the psychological aspects in long-term survivors of childhood cancer.

Material: We performed a comparative study between two samples, first sample was represented by 70 survivors of childhood cancer who survived more than three years after end of the treatment and a control sample, represented by 70 healthy subjects having approximately the same age, sex, provenience.

Methods: Patients were evaluated by the psychologist, using some special tests for anxiety, depression, self-esteem and stress related growth. For anxiety it was used State-Trait Anxiety Inventory, Beck Inventory for depression, Stress-Related Growth Scale for stress-related growth, Rosenberg Self-esteem Scale for self-esteem.

Results: It was detected a significant difference between depression, anxiety, stress-related growth and self-esteem between the two samples. Depression was detected at 63% from cancer survivors, 51% presented anxiety, self-esteem was decreased in 74% from cancer survivors. Only 16% from the patients with cancer presented stress-related growth. It was a positive correlation between self-esteem, depression and the age of the patients, subjects older than 10 years had lower levels of self-esteem and a high frequency of depression; self-esteem was also higher at girls comparing to boys. Patients with neo-protestant religions

had a higher level of self-esteem, a superior stress related growth development, and a low frequency of depression comparing to subjects with other religions. Self-esteem was decreased in patients with SNC tumors, anxiety had high levels in patients with other tumors than leukemia, lymphoma or SNC tumors. It was a positive correlation between surgical treatment and anxiety.

Conclusions: All the survivals of childhood cancer had at least one psychological modification. Detection of the late psychological effects are important for their social reinsertion.

Keywords: Childhood cancer survivors, Psychological aspects.

#### PP054

### THE IMPORTANCE OF FUNCTIONAL DIAGNOSIS IN NASAL BREATHING EXAMINATION STANDARDS OF PATIENTS WITH DISPHONIA

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Introduction: Anatomical and physiological features of the facial skull (the state of the nasal cavity and paranasal sinuses) affect not only the resonance of the spoken voice, but its tone. Nasal cavity and nasopharynx may influence the qualitative characteristics of the voice. However, nowadays few studies presented, estimating the degree of voice quality characteristics changes in various nose and paranasal sinuses diseases. It seems logical to evaluate not only the (endoscopy) nasal cavity state, but also functional parameters (e.g. nasal breathing) in patients with different voice disorders. It will give an opportunity to develop more comprehensive approach to the treatment of patients with dysphonia.

Purpose: To prove the relevance of the nasal breathing assessment in patients with voice disorders.

Materials and methods: We observed a group of dysphonia patients (32 persons) from 5 to 15 years admitted to the ENT department of Morozovskaya Children Hospital No. 1 for endoscopy study. All children, along with endoscopy larynx research, subjective and objective evaluation of voice quality, had an active front rino-manometriya, and acoustic rhinometry.

Results: According to the survey, the cause of dysphonia in 85% of children in this group was organic lesion of the larynx (knots, different types of chronic laryngitis, subacute laryngitis). In 15% of children dysphonia was considered as a functional disorder (absence of organic pathology larynx). This study revealed voice disorders along with the presence of various nose and paranasal sinuses diseases: 31.5% allergic rhinitis, 25% adenoids, 9.4% deviated septum, 6% different types of sinusitis. In 28% of patients with no nose and paranasal sinuses diseases were found. Asso-

ciated nasal breathing disorders changed to a greater degree the qualitative characteristics of the voice compared with the quantitative. While estimating the degree of phonation disturbance. The results in children with absence of nasal breathing disorders were better.

Conclusion: The influence of the resonators on the voice quality is indisputable. The inclusion of an objective nasal breathing assessment (front active rinomanometriya, acoustic rhinometry) is logical and can not only optimize the tactics care of patients with various voice disorders, but also serve as mark of the quality treatment effectiveness.

## PP055

### COMPARISON OF THE EMOTIONAL - BEHAVIORAL PROBLEMS BETWEEN CHILDREN BORN AFTER INTRACYTOPLASMIC SPERM INJECTION AND NATURALLY CONCEIVED CONTROLS

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Introduction: Assisted reproductive technologies (ART) are gaining popularity worldwide. The whole procedure still remains particularly stressing for the couples, since these pregnancies are precious. Moreover, multiple gestation increments the probability of the offspring being small for Gestational Age (SGA). Finally, parents of ART children are older and overprotective suggesting a potential higher incidence of emotional and behavioral disorders in their offspring.

Purpose: Evaluation of the prevalence of emotional/behavioral problems in children born after Intracytoplasmic Sperm Injection (ICSI) and those conceived naturally (NC) and the association of their emotional/behavioral problems with markers of organic stress such as serum levels of cortisol and prolactin.

Subjects: Seventy-six children aged 5.5–10, of which 32 (42%) were ICSI and 44 (58%) NC were enrolled in the study and questionnaires were completed by their mothers.

Methods: The Greek version of the Strengths and Difficulties Questionnaire (SDQ-Hel) was administered to all participating mothers. Furthermore children's anthropometric (height, weight, BMI-z score, blood pressure, etc)

and biochemical (cortisol, prolactin etc) parameters were collected.

Results: No significant differences were shown in any of the 5 scales of the SDQ-Hel between ICSI and NC, while in ICSI the total-score of SDQ-Hel correlated positively with mother's age ( $r=0.45$ ,  $p=0.009$ ). In both groups the psychosocial adaptation of the children correlated positively with the educational level of their mothers. Moreover in ICSI, SDQ-emotional symptoms correlated negatively with serum cortisol levels ( $p=0.04$ ).

Conclusions: Despite the existence of aggravating factors in the ICSI group (e.g. older parents, overprotection, prematurity) these children don't present a higher incidence of psychosocial burden according to SDQ-HEL. The higher educational status of the mother has a positive impact on the psychosocial adjustment of children regardless of the way of their conception.

## PP056

### NECESSITY OF SCREENING FOR VITAMIN D DEFICIENCY IN COUPLES REFERRED TO PREMARITAL COUNSELING CENTERS TO PREVENT HYPOVITAMINOSIS IN FETAL PERIOD

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Introduction: Vitamin D is important for the development and growth. There are a growing number of reports on the high prevalence of vitamin D deficiency in women of child-bearing age and in children specially in muslim countries. In Iran, primary evaluation demonstrated a high percentage of vitamin D deficiency in different age groups specially in pregnant women. As treatment of vitamin deficient mothers usually starts from second trimester this study try to show extent of deficiency at time of marriage as a primary care prevention to maintain sufficient vitamin D in first trimester of pregnancy in mothers who are going to be pregnant this study was performed at 2009, to assess the prevalence of hypovitaminosis D among women at premarital counseling centers in Yazd.

Material and methods: In this cross sectional study 55 young couples who were referred for counseling were assessed. A 3–5 mL blood sample was taken and assessed for 25(OH)D.

Results: The results showed that 94% of women who going to be pregnant and 65% of men were insufficient (25-hydroxyvitamin D < 30 ng/mL) and 74% of women and 35% of men had 25-hydroxyvitamin D (25-OHD) concentrations < 20 ng/mL (vitamin D deficient) all were treatment with 600 000 IU vitamin d3 and the pamphlet was distributed them to increase their knowledge.

Conclusion: Due to the high prevalence of vitamin D deficiency in women of childbearing age and its role as a hormone and brain development in fetus this study recommend a policy to screen young couples in muslim country



to diagnose and prevent vitamin D deficiency in ongoing mother is associated with reduced bone-mineral density in the offspring during childhood, it seems diagnosis and treatment of vitamin D deficiency before pregnancy can be more effective in preventing the consequences of vitamin deficiency in children.

#### PP057

##### PASSIVE SMOKING'S CONSEQUENCES AT CHILDREN IN GREECE

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**Introduction:** Children's passive smoking is determined as their exposure at smoke's products in enclosed places.

**Purpose:** Our study's purpose was to collect data for passive smoking's frequency and consequences at children in Greece.

**Material:** Questionnaires completed by parents that accompanied their children at our Hospital's Emergency Room, were used for the study.

**Methods:** Statistical analysis of 277 answered questionnaires was made where smoking habit of family members that live in Kalamata and their children's family history were recorded.

**Results:** 29.9% of mothers in Kalamata was found to smoke, while 54.7% of Kalamata's family have at least one smoker parent. Children with at least one parent smoker appear higher possibility to suffer from respiratory's infections and to have hospitalization compared with non-smokers' children. Children of mothers that smoked during pregnancy have higher possibilities to suffer from asthma and respiratory's infections compared with children of mothers that did not smoke at pregnancy. 38.5% of smoker mothers' kept smoking during pregnancy and their children were found to suffer more often from asthma and respiratory's infections compared with children of smoker mothers that quitted from smoking during pregnancy.

**Conclusion:** This study's findings confirm the problem of increased percentage of passive smoking at children in Greece.

#### PP058

##### DISAPPEARANCE OF NEPHROCALCINOSIS IN A CHILD WITH DENT'S DISEASE

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**Background:** Dent's disease is an X-linked renal tubular disorder, in most cases caused by mutations of the CLCN5 gene, characterized by low-molecular-weight proteinuria, hypercalciuria, renal failure and rickets. Hypercalciuria promotes nephrocalcinosis and kidney stones, that occur respectively in 75% and 50% of males. Patients with Dent's disease also have hypocitraturia, a risk factor for stone formation. Nephrolithiasis contributes to renal failure. At present there is no strategy for the treatment of patients other than supportive measures.

Hydrochlorothiazide (HCTZ), by decreasing urinary calcium excretion, has been proposed but it exposes patients to extracellular dehydration, favored by sodium depletion, and to hypokalemia. Moreover the volume depletion, caused by HCTZ, stimulates the renin-angiotensin system, that may offset the hypocalciuric effect. Furthermore hypokalemia can lower urinary citrate excretion. Of note, in the CIC-5 knockout mouse model of Dent's disease, a diet high in citrate has been effective in retarding progression of the renal disease and nephrocalcinosis.

**Case report:** We report the case of a 8 years old white male with Dent's disease and nephrocalcinosis. At presentation he was asymptomatic. Initial investigation revealed a normal serum creatinine concentration and good metabolic control. Hypercalciuria was observed in 24 h collection and morning spot urine. On ultrasonographic examination bilateral nephrocalcinosis was observed, but no kidney stones. He was started on a potassium citrate, despite normal urinary citrate levels and followed a diet rich in fruit and vegetables (avoiding food high in oxalate), normal calcium intake, avoiding salty and processed foods. An high water intake was recommended. Renal ultrasonographic controls showed a progressive reduction of nephrocalcinosis, that disappeared after three years. No relevant clinical and/or laboratoristic change was observed.

**Conclusion:** Potassium citrate can prevent nephrolithiasis in Dent's disease and induce remission of nephrocalcinosis.

#### PP059

##### WITHDRAWN

## PP060

# MOST FREQUENT CLINICAL MANIFESTATIONS OF ACUTE APPENDICITIS IN CHILDREN UNDER THE AGE OF THREE: FIFTEEN YEARS OF EXPERIENCE IN THE HOSPITAL INFANTIL DE MEXICO FEDERICO GOMEZ EMERGENCY DEPARTMENT

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**Introduction:** Appendicitis in preschool children and infants represents <2% of pediatric appendectomies. In children under three years old at the time of diagnosis, the appendiceal perforation has usually already occurred in 37–94%, because the symptoms and signs are often nonspecific as well as laboratory studies that have low predictive value and this results in a late diagnosis.

**Purpose:** To describe the clinical presentation of acute appendicitis as well as laboratory and imaging data in children under 3 years of age.

**Material and methods:** Retrospective observational, cross-sectional and descriptive of a series of cases, with exploratory data analysis, descriptive statistics.

**Results:** Fifty-six dossiers, 54% boys and 46% girls previously healthy, in three out of four an accurate diagnosis was made. 80% ingested drugs (up to five), antibiotics and antipyretics, the majority before diagnosis, almost always indicated by the doctor. 93% had abdominal pain, 95% fever, 84% vomiting and 43% diarrhea, onset of symptoms 4 days before. Upon examination, 93% had abdominal pain, 84% altered peristalsis and 63% had signs of peritoneal irritation. 60% had leukocytosis, this associated with bands. In 90% of the cases an abdominal X-ray was taken and the most frequent findings were dilated loops and bowel sounds. Confirmation of diagnosis: by histopathology study of 76%, with 76% perforation.

**Conclusions:** Acute appendicitis in patients under three years old represents a diagnostic challenge for the poor specificity of symptoms. In the presence of abdominal pain, fever, vomiting and diarrhea, plus leukocytosis with a predominance of neutrophils and bands, acute appendicitis must be suspected and a differential diagnosis made with acute gastroenteritis due to the similarity in the medical profile. Avoid indiscriminate use of medicines, mainly antipyretics and antibiotics as they delay the diagnosis. An erroneous and delayed diagnosis reflects in an increase in morbidity and mortality of these patients, whose reduction will depend on the suspicion of appendicitis from the first contact.

## PP061

# THE EVALUATION OF ENERGY AND NUTRIENT INTAKE OF CHILDREN AND ADOLESCENTS WITH TYPE 1 DIABETES

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**Purpose:** The aim of this study was to examine energy and nutrient intake and to compare nutrition recommendations between 6 and 16 years of age children and adolescents with type 1 diabetes.

**Materials and methods:** Study was conducted among 103 children and adolescents (61 female, 42 male), aged 6–16 years, with type 1 diabetes from Istanbul Faculty of Medicine, Turkey. The study population divided into two groups according to their ages. Group 1 (6–9.5 years of age) and Group 2 (9.5–16 years of age). A self-filled questionnaire was used to collect demographic and pathologic information about diabetics and their families. Weight and height were measured. Body Mass Index (BMI) was calculated. Turkish reference curves were used to evaluate BMI of children and adolescents. Three day dietary recalls were collected and analyzed by Bebis software program and also compared Turkish nutritional recommendations. Statistical analyses were performed by using SPSS package.

Table 1: Anthropometric characteristics of participants female, male

Gender, %	59.2	40.8
Age, years	11.7 ± 3.0	12.0 ± 3.2
Diabetes duration, years	3.8 ± 2.9	4.1 ± 2.9
HbA1c, %	8.5 ± 2.1	8.5 ± 1.6
Weight, kg	40.6 ± 13.6	45.0 ± 17.6
Height, cm	146.5 ± 16.9	149.9 ± 19.9
BMI, kg/m <sup>2</sup>	18.3 ± 3.0	19.2 ± 4.0
Underweight, %	8.2	7.1
Normal, %	91.8	90.5
Overweight and obese, %	–	2.4

Table 2: Mean daily energy and nutrient intakes of diabetics by age and gender compared with Turkish recommended intakes (%)

Energy and nutrients	Children		Adolescent	
	Male Mean, SD	Female	Female	Male
			Mean, SD	Mean, SD
Energy	67.4 ± 17.3	87.8 ± 15.7	93.2 ± 18.0	71.4 ± 15.1
Dietary fiber	77.4 ± 26.8	75.6 ± 18.3	84.5 ± 31.6	77.4 ± 25.4
Vitamin A (µg)	181.5 ± 163.0	240.6 ± 82.2	355.7 ± 530.5	149.4 ± 75.8
Vitamin E (µg)	65.0 ± 30.7*	116.7 ± 41.1	111.7 ± 62.7	63.9 ± 30.4*
Vitamin B <sub>1</sub> (mg)	77.2 ± 30.9	117.0 ± 27.6	132.7 ± 35.5	81.7 ± 23.5
Vitamin B <sub>2</sub> (mg)	154.3 ± 72.4	272.8 ± 64.6	332.1 ± 122.2	165.5 ± 54.5
Vitamin B <sub>3</sub> (mg)	82.1 ± 39.8	101.1 ± 32.4	145.5 ± 89.4	76.0 ± 24.6
Pantothenic acid (mg)	105.1 ± 41.2	145.9 ± 33.2	164.7 ± 45.8	105.2 ± 38.2
Vitamin B <sub>6</sub> (mg)	107.7 ± 37.9	179.1 ± 42.3	191.2 ± 51.5	109.0 ± 35.0
Folate (mg)	38.4 ± 19.1*	57.3 ± 17.2*	65.2 ± 22.6*	30.5 ± 11.9*
Vitamin B <sub>12</sub> (mg)	165.4 ± 118.0	204.9 ± 91.3	414.1 ± 658.2	145.6 ± 70.6
Vitamin C (mg)	110.8 ± 59.0	179.0 ± 94.1	133.8 ± 86.8	130.4 ± 70.3
Calcium (mg)	73.8 ± 30.8	120.2 ± 32.0	129.1 ± 32.3	69.6 ± 26.3
Magnesium (mg)	93.7 ± 53.3	184.3 ± 44.9	219.1 ± 58.9	93.9 ± 38.7
Phosphorus (mg)	110.5 ± 55.8	232.0 ± 55.7	266.7 ± 64.2	100.3 ± 37.9
Iron (mg)	107.8 ± 29.8	84.9 ± 20.2	103.2 ± 25.0	79.4 ± 26.7
Zinc (mg)	104.8 ± 51.6	171.9 ± 41.8	211.7 ± 60.7	102.0 ± 34.0

Results: Most of the diabetics (91.3%) had normal BMI. According to gender 8.2% of females and 7.1% of males were underweight. None of the female was obese. But 2.4% of males were overweight and obese. The mean age of study group was  $11.8 \pm 3.1$  years. Mean duration of diabetes was  $3.9 \pm 2.9$  years. The mean HbA1c was  $8.3 \pm 1.6\%$  and  $8.5 \pm 2.0\%$  in group 1 and group 2 respectively. Folate intake was inadequate in both groups and vitamin E intake was inadequate in group 2 when compared to the recommendations. Energy and calcium intake were limited among male adolescents. The other energy and nutrient intake were adequate in all diabetic patients.

Conclusion: Energy and nutrient intake of diabetics were evaluated according to Turkish nutritional recommendations and observed that their dietary assessment were adequate and they had healthy eating habits.

Keywords: Type 1 diabetes, Children, Adolescents, Energy, Nutrients.

## PP062

### ACQUIRED TORTICOLLIS IN EMERGENCY DEPARTMENT – THE HIDDEN DIAGNOSIS...

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Introduction: Acquired torticollis is a common problem in emergency department. There are several possible underlying conditions, more than traumatic, such as infectious, inflammatory and tumoral.

Case Reports: Patient 1 – an 8 year old boy presented with sudden neck pain and restricted movement. Initial clinical examination including neurological examination was normal, being interpreted as spasmodic torticollis. He returned 9 days later, for persisting symptoms and visual impairment. He had an abnormal neck posture, mydriatic pupils with hippus and papilledema. Cervical spine radiographs were normal. Neuroimaging studies revealed triventricular hydrocephalus and a posterior fossa tumor, with cerebellum origin (Fig. 1). Patient 2 – a 3 year old boy presented with fever, occipital headache and restricted neck movement for 4 days. One week before he had



tonsillitis. A hyperemic oropharynx was noticed. It was initiated empirical antibiotic therapy. He returned 36 h later being unable to extend his head. Oropharyngeal examination displayed a posterior pharyngeal wall bulge. Cervical spine radiograph showed an increased prevertebral soft tissue shadow and CT confirmed the diagnosis of retropharyngeal abscess (Fig. 2). Patient 3 – an 8 year old child presented with insidious neck pain, associated with head tilt to the left side and chin deviation to the right. She returned after three weeks of nonsteroidal anti-inflammatory and muscle relaxants treatment without clinical improvement. CT revealed an atlantoaxial rotatory displacement (Fig. 3). A proximal interphalangeal joint arthritis raised the diagnosis of juvenile idiopathic arthritis, confirmed by laboratory tests.

Discussion: Persistent torticollis requires a thorough workup, because of its broad spectrum of possible diagnosis with some being severe and life threatening although rarely seen, such as posterior fossa tumors. Pharyngeal abscess is one of the most common causes. Torticollis in the older child is most frequently a manifestation of atlantoaxial rotatory displacement resulting from trauma or inflammatory condition.

#### PP063

##### GUILLAIN-BARRÉ SYNDROME: A REVIEW OF 11 CASES

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Introduction: Guillain-Barre' syndrome (GBS) is an acute post-infectious immune-mediated peripheral neuropathy with a highly variable clinical course and outcome. It presents with progressive symmetric limb weakness, with complete loss of deep tendon reflexes, absent or mild sensory signs and variable autonomic dysfunction. It is considered the most frequent cause of acute flaccid paralysis in children since the marked decline in poliomyelitis.

Material and methods: We reviewed the clinical and electrophysiologic features of 11 children with Guillain-Barré syndrome admitted to the department of Pediatrics, Emergency and Intensive care in Hedi Chaker Hospital between 2007 and 2010.

Results: The male/female ratio was 2.02, and the syndrome occurred most frequently in those between 1 and 4 years of age. There was no seasonal variation. A total of 46.1% patients had experienced an infection 1–4 weeks before the onset of the syndrome. The main subtype was acute motor axonal neuropathy (50.0%), with acute inflammatory demyelinating polyradiculoneuropathy (38.1%) ranked as second in frequency. A total of 36.5% patients had sensory symptoms at admission. Only two patients required mechanical ventilation. Typical cytoalbuminologic dissociation at cerebrospinal fluid examination was

demonstrated in 88% of those who underwent lumbar puncture.

Conclusion: Guillain-Barré syndrome often follows an antecedent gastrointestinal or respiratory illness but, in rare cases, follows vaccination. Early therapy by immunomodulatory therapy in patients presenting with these features is recommended to prevent complications during acute stage which is essential to maximize the potential for survival and improve long-term outcome.

#### PP064

##### REDUCING THE USE OF ANTIBIOTICS IN THE ERA OF EMERGING RESISTANCE: PEDIATRICIANS APPROACH

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Introduction: Pediatricians are aware that a high percentage of antibiotics prescription is not justified especially in the respiratory tract infection where the causative agents are mainly viruses. Despite this knowledge there is overuse of antibiotics leading to increase in resistance of multiple germs.

Purpose: Our aim is to reduce antibiotics resistance by doing awareness concerning prescription.

Material: To do so we should differentiate between: situations where antibiotics should be prescribed and their efficacy was proven, situations where the efficacy of antibiotics is not demonstrated, and situations where efficacy of antibiotics is still uncertain. Antibiotic prescription has proven efficacy in cases of severe respiratory infections, pyelonephritis, purulent bacterial meningitis to avoid complications and sequelae. Furthermore in case of pneumococcal pneumonia and in acute tonsillopharyngitis due to *Group A β hemolytic strep* we should have a quick amelioration of clinical symptoms with antibiotics. Also the decision to give antibiotics should be based on specific lab test. The efficacy of antibiotics is not demonstrated in viral upper respiratory tract infection. Situations where efficacy of antibiotics is still uncertain are acute sinusitis where bacterial superinfection is less than 5% and acute otitis media where we can have a good improvement without antibiotics in well defined situations.

To reduce the use of antibiotics the vaccination can have a principal role in this strategy. Finally the role of education is very important. It should start with an academic approach for the management of infectious diseases and educational strategies for the parents.

Methods: Search through Pubmed and Medline was done to collect the data.

Results: Antibiotic resistance is due to overuse so awareness and education are mandatory.

## PP065

## SOTOS SYNDROME: FOUR PATIENT REPORTS

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Introduction: Sotos Syndrome, also known as cerebral gigantism was first described in 1964. Cardinal features include early onset overgrowth, characteristic facial configuration and stereotypical behavioral profile. Sotos syndrome is rare, typically sporadic and caused by intragenic mutations or microdeletions in NSD1 gene at 5q35.

Patient 15 <sup>4/12</sup> years old girl hospitalized for febrile convulsion and consulted for overgrowth. (Height age: 8 <sup>6/12</sup>, bone age: 6 <sup>10/12</sup>). She had prominent forehead, thorax deformity and pes planus. Baseline growth hormone (GH): 0.64  $\mu$ IU/mL, IGF-1: 36 ng/mL, IGFBP-3: 4050 ng/mL. MRI imaging showed corpus callosum hypoplasia and normal pituitary gland. IQ score: 100

Patient 29 <sup>7/12</sup> years old girl with neurofibromatosis was referred for rapid growth. (Height age: 10 <sup>6/12</sup>, bone age: 10). Prominent forehead, highly arched palate, long philtrum, nasal bridge was present. GH: 1.25  $\mu$ IU/mL, IGFBP-3: 8750 ng/mL. IGF-1 was slightly high; 450 ng/mL (30–428 ng/mL). Mild ventricular dilatation was present in cranial MRI, pituitary gland was normal. Moderate learning disability was established with IQ test.

Patient 37 <sup>9/12</sup> years old girl. Overgrowth was recognised when referred for hip and foot deformities. (Height age: 10, bone age: 10 years). Macrocephaly, prominent forehead, highly arched palate, irregular teeth, long chin, dysplasia of hip, severe pes planus and bilateral hallux valgus were present. GH: 0.326  $\mu$ IU/mL, IGFBP-3: 2433 ng/mL, IGF-1: 88.6 ng/mL. IQ score: 65

Patient 4.

9 years old girl presented with overgrowth. (Height age: 11 <sup>4/12</sup>, bone age: ). Mental and motor retardation, frontal bossing, prominent chin, thin nose, big hands and feet were present. Acromegaly was excluded with “GH suppression by oral glucose” test. Cranial MRI was normal.

Conclusion: Patients with long stature should be carefully inspected for dysmorphic features. Convulsions, developmental delay, behaviour disorders, dysmorphic features like macrocephaly and prominent forehead should remind Sotos Syndrome.

## PP066

## NATURAL BEHAVIORS IN CHILDREN

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Introduction: All the children in some ages section involve with a series of behaviors including fear, focus on the subject and sadness that the appearance of these behaviors

is usually considered a natural part of their growth. According to the studies carried out the main causes of continuation of this behaviors are including: improper factors in children and family life environment. So with regard to the necessity of cognition of this behaviors in children performed research with determined aim survey of natural behaviors in 3–6 years children city of Ahvaz in Iran.

Method: In this cross sectional study (descriptive-analytical) 3–6 years children 150 (boys 75 and girls 75) to a simple accident were elected. According to the demographic and children behavior questionnaire (CBQ) their natural behavior (fear, the amount of attention and sadness) were studied. For assess is used from likert scale (0 number, score at least and 100 number, score maximum). Then data were analyzed with the use of SPSS software and methods of the statistics based on description and deduction.

Discussion: The results showed that the mean of fear score in boys  $25.77 \pm 2.97$  in comparison with girls  $40.54 \pm 4.68$  ( $P = 0.000$ ), sadness in boys  $34.14 \pm 3.94$  in comparison with girls  $33.38 \pm 3.85$  ( $P = 0.366$ ) and the amount of attention and focus in boys  $24.65 \pm 2.84$  in comparison with girls  $31.56 \pm 3.64$  ( $P = 0.032$ ). so it can be said in an example of the amount of sadness in boys has been more than girls but had not significant difference. In connection with fear, attention this amount in girls has been more than boys and the between the two is existing significant difference.

Conclusion: With regard to the results of this research necessary trainings to the families of the timely follow any behavioral disorder in children and then do necessary care proposal.

Keywords: Natural behaviors, Children, Behaviors.

## PP067

## INCOMPLETE KAWASAKI DISEASE IN A 9-YEAR-OLD BOY: A CASE REPORT

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Introduction: Kawasaki disease (KD) is an acute, febrile, multi-systemic and self-limiting vasculitis of unknown etiology which affects mainly children under 5 years old. Besides being an acute disease, it can result in cardiac sequelae, as myocardial infarction, ischemic heart disease or sudden death. The incomplete KD refers to patients who do not fulfill the classic criteria of at least four of the five findings, but still need to establish the diagnosis and initiate treatment until the tenth day of disease to diminish the complications.

**Purpose:** To report a case of incomplete KD, emphasizing the importance of correct diagnose and treatment to prevent sequels.

**Material and Methods:** Case report

**Results:** A 9-year-old boy was presented with a 6-day history of fever and headache with nauseas, vomiting and abdominal pain 3 days prior the admission. One day before, he presented scarlatiforme exanthema. He had received amoxicillin and hidroxizine 2 days before the admission, without response. Physical examination revealed indurative feet and hands edema and strawberry tongue. The differential diagnose was escarlat syndrome, so the patient receive penicillin without response either. Besides the fever he had three other clinical criteria to KD: skin rash, strawberry tongue and extremities edema.

Besides, he had ESR > 40 mm, with three other laboratorial changes: increased SGPT, anemia, WBC > 15 000/ $\mu$ L and platelets after 7 days of history >450 000/ $\mu$ L. As those results were consistent with incomplete KD, the patient was submitted to echocardiography, which was normal, and was treated with intravenous immunoglobulin 2 g/day and aspirin 100 mg/day. After the treatment, he presented an improvement of symptoms and desquamation of skin of hands.

**Conclusion:** DK is the leading cause of acquired heart disease in developed countries. Therefore, is important to recognize the incomplete cases, which have a more difficulty diagnostic, to implant the correct therapeutic.

**PP068**

**WITHDRAWN**

**PP069**

#### **CHILDREN IN PAIN**

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**Introduction:** As adults, we know how much it hurts to watch a child suffer. As health professionals, we would like to think that everything possible is done to prevent and alleviate the pain of children. Unfortunately, this is not always the case. Multiple studies have indicated that pain in children is drastically undertreated. Despite ongoing research documenting physiological and psychological side effects from inadequate pain control, pain continues to be undertreated, especially by the less experienced nurse.

**Purpose:** The goal of this article is to update nurses' knowledge of how to recognize, assess, and treat children experiencing pain.

**Material and Methods:** This is a review article about accurate assessment and control of pain in children. Pain that remains unrecognized can become severe, established, and difficult to control, with negative physical and psychological consequences.

**Results:** The problem of assessing and treating pain in young patients has no simple solution. Children vary greatly in their cognitive and emotional development, medical conditions, responses to pain and interventions, and personal preferences. Health professionals have a responsibility to learn the language of pain expression by children, listen carefully to their reports of pain, and attend to behavioral cues. The detection and management of children's pain can be improved by strategies to facilitate children's expression of their pain in a way that is appropriate to their cognitive development and can be understood by those who care for them. A systematic review of the literature completed by a group from Toronto, Ontario, found use of distraction, or hypnosis, with local anesthetic (specifically Amethocaine not currently available in the US), was highly effective for acute procedural pain. They also found that not enough research has been done to identify other safe and effective modalities. Nurses should continue to struggle with putting evidence-based knowledge into everyday practice.

**PP070**

#### **CHILDREN AND THE SEA**

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**Introduction:** Our children love the sea! Ireland, being a country surrounded by water is heavily involved in both occupational and recreational aquatic activities with significant economic and health benefits for our nation. However drowning is a major international public health problem. Worldwide, over 300 000 people die as a result of drowning every year. Children under the age of 5 years have the highest mortality rates.

**Purpose:** Our aim was to gather data on Irish children regarding their participation in sea related recreational activities, water safety knowledge and skills and any dangers they may have encountered at the sea.

**Materials and methods:** We formulated a questionnaire composed of 18 questions regarding age, gender, level of swimming experience in the sea, level of life saving training, parents swimming skills, participation in recreational water activities and dangers encountered at sea. We surveyed 443 students between the ages of 5–18 years from two different coastal schools in Ireland during the months of April and May 2011.

**Results and Conclusion:** We found that 80% (n = 353) of participants stated that they could swim with over 80% stating they had taken swimming lessons and 85% (n = 375) stating that they had participated in sea-related recreational activities. Less than 20% of children in all age groups had completed a life saving course. Recreational water activities were popular among all age groups with the most popular sea-sports in order of frequency being



canoeing, kayaking, surfing and sailing. A total of 40% (n = 177) of all the children surveyed reported to have felt in danger at the sea with jelly-fish and near-drowning incidents being the most common culprits.

The sea is a great source of enjoyment and recreation for children the world over. Proper guidelines and resources to enhance safety at sea are an essential part of our quest for optimal global child health.

## PP071

### **NORMAL ULTRASONOGRAPHIC APPEARANCES OF ABDOMINAL ORGANS IN ASYMPTOMATIC INFANTS; WHAT DO THE PEDIATRICIANS NEED TO KNOW IN ORDER TO AVOID FURTHER UNNECESSARY INVESTIGATION**

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**Introduction:** Abdominal ultrasonography in infants is performed for a variety of causes. The method is readily available, lacks radiation and reassure confidently both parents and pediatricians.

**Purpose:** We intend to highlight the potentials of the method, to present normal appearances and to emphasize on findings that do not need further investigation.

**Material:** Common abdominal ultrasonography imaging findings of asymptomatic infants and review of the relative literature.

**Methods:** We used high frequency linear transducers.

**Results:** Liver grows as body length increases. Liver echogenicity does not differ from adults. Portal vein diameter should be at least 4 mm, hepatic artery 1.3 mm and bile duct diameter 2 mm during infancy. Accessory spleens, Splenic lobulation and septations are normal variants. Pancreas is poorly reflective and relatively bulky with a prominent tail. Renal volume is estimated according to body length. During the first trimester of life renal medulla is prominent and renal cortex present more echogenic than liver parenchyma. An antero-posterior diameter of the renal pelvis of <7 mm does not require further investigation unless Urinary tract Infection is present. During the 1st wk of life adrenals are large and prominent. During the first 6 months of life, ovaries contain adult sized follicles and uterine body is larger than the cervix. Testicles may be detected along the inguinal canal while a small hydrocele is normal. Minimal peritoneal fluid and small mesenteric nodes are considered a normal finding. Gas distended bowel loops are usually present, especially in crying infants. Infants are not just small-sized adults. Organs' volume and echostructure differ from adults and change rapidly during infancy.

**Conclusion:** Knowledge of normal appearances is mandatory and helps to avoid unnecessary investigation.

## PP071A

### **A SEVEN-YEAR-OLD BOY WITH LUPUS NEPHRITIS**

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Systemic lupus erythematosus (SLE) is an autoimmune disorder which is less often observed in children than adults. It is uncommon in children younger than age 8 years, especially in male children. Lupus nephritis is one of the most serious organ involvements of the disease. The symptoms of lupus nephritis are generally related to hypertension, proteinuria, and renal failure. Recent reports suggest that renal involvement is more frequent in children than in adults. We present a 7-year-old boy with lupus nephritis whom was previously misdiagnosed as HenochSchöenleinPurpura (HSP).

A seven-year-old boy, previously diagnosed as HSP based on polyarthritits and generalized rash was referred to our hospital for further diagnostic work-up and management. His physical examination was normal except for a disseminated maculopapular rash and hypertension (130/90 mmHg). There was no sign of active arthritis. The laboratory findings showed hypoalbuminemia (albumin: 2.6 g/dl) and nephrotic-range proteinuria (urinary protein: 3.2 g/m<sup>2</sup>/day) with microscopic hematuria. Other laboratory findings were unremarkable, except an elevated C-reactive protein (1.53 mg/dl) and erythrocyte sedimentation rate (56 mm/hour). Because of the clinical suspicion of SLE, further laboratory investigation was made. The diagnosis of SLE was confirmed with findings of positive ANA in 1:1000 titer and anti-DNA level being >800 IU/ml with decreased complement levels (C3: 81.3 mg/dl and C4: <6.15 mg/dl). Renal biopsy showed diffuse global proliferative lupus nephritis, active class IV G (ISN/RPS 2003). Fibrocellular crescent formation was observed in 23 of the observed 29 glomeruli. The patient was diagnosed with lupus nephritis based on the clinical evidence of SLE and the laboratory and renal biopsy findings. Proteinuria and hematuria disappeared after methylprednisolone and pulse cyclophosphamide treatment. At the one year of follow-up, the patient is still in a good clinical condition with a normal renal function and no proteinuria.

**PP071B**

**WITHDRAWN**

**PP071C**

**ULTRASOUND AND COLOR DOPPLER IMAGING IN THE EVALUATION OF SOFT TISSUE LUMPS IN INFANTS AND CHILDREN**

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**Introduction:** Soft tissue lumps is a common indication for ultrasonography (US) in children.

**Purpose:** The aim of this study is to present normal anatomical structures and variants that can mimic soft tissue masses, to highlight the role of US as the first imaging modality in the evaluation of soft tissue tumors and to emphasize the importance of MRI in doubtful cases.

**Material:** During a 3 years period, 76 patients (pts) aged 6 days to 16 years, underwent US for the evaluation of a soft tissue lump.

**Methods:** We used high frequency linear transducers. The additional use of color Doppler enabled demonstration of the vascular pattern when a lesion was detected.

**Results:** In three cases US did not demonstrate abnormal findings. In 18 cases normal anatomical structures and variants (bifid ribs, asymmetric costal cartilages, subcutaneous fat) were revealed. Benign characteristics of a mass were evaluated in 56 pts and these were specific for cellulitis (6 pts), lipoma (12 pts), abscess (5 pts), haematoma (4 pts), fibromatosis coli (6 pts), Baker's cyst (14 pts), ganglia (6 pts), infantile haemangioma (4 pts), venous haemangioma (2 pts), A-V malformation (1 pts) and lymphangioma (2 pts). A sarcoma was suspected in one patient and MRI confirmed malignant features of the lesion.

**Conclusions:** In most cases US can confidently confirm the presence of a mass. It can distinguish between cystic and solid lesions, depict the tumor echo-structure and inform about its relationship with surrounding tissues. Pattern of vascularity adds valuable information. MRI is performed in doubtful cases, when extent of the lesion is difficult to define or malignancy is suspected.

**PP071D**

**MOTHERS' KNOWLEDGE AND PERFORMANCE ABOUT APPLICATION OF SWADDLING**

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**Introduction and aim:** Swaddling is a traditional practice of wrapping infants in swaddling clothes so that movement

of the legs and foot are tightly restricted. People and mothers commonly believed that this is necessary for the infants to develop proper posture. Application of swaddling lead in decrease restlessness, crying, frequency of insomnia, stress and increase comfort and silence in infants. Despite of these advantages, if swaddling use inappropriately, would result in Dislocation of Hip. In addition swaddling has profound negative effects on the adult emotional health of a swaddled child. In this research we assess the Mothers' knowledge and performance about application of swaddling.

**Methodology:** This is a descriptive-analytical research. We assess 211 mothers whom have infants 1-24 months with diarrhea. Data gathered through a researcher-administered questionnaire and interview by professional midwife. The validity of questionnaire confirmed through experts (Pediatricians, Faculty members in nursing and midwifery, orthopedist) and its reliability after distributed in a sample of 30 mothers gained %91 through Cronach's alpha. Data analyzed by expert through SPSS version 16.00. During the semi- structured interview, after gaining the data, professionals taught the mothers about advantages and disadvantages of swaddling.

**Findings:** Finding showed that the majority of mothers (%65) have not knowledge about benefits and pitfall of swaddling. Percentage 86 of them knew that it was good for calming babies, sleeping and warming. Percentage 16 of them knew that swaddling may lead in dislocation of hip. Educated mothers and housekeepers swaddled their babies less than others. They told that they received information about swaddling from her mothers and relatives and very less from health professionals. Educated mothers told in the interview that they did not receive information about swaddling much from media and doctors (%65). In interviews analysis, found that they were interested in participated in classes about swaddling (%78) to learn the correct swaddling.

**Discussion:** With regards of weak results about knowledge and performance of mothers on swaddling and its consequences such as adult emotional health and dislocation of hip, promotion of mothers' knowledge suggested through health workshop and practical teaching sessions by professional and governmental official is necessary.

**Keywords:** Mothers, Swaddling, Knowledge, Performance.

## GENETICS

**PP072**

**CYCLOSPORINE RESPONSIVENESS IN DENYS-DRASH SYNDROME**

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Denys-Drash syndrome (DDS) is characterized by progressive glomerulopathy caused by diffuse mesangial sclerosis (DMS), genitourinary defects and a higher risk of developing

Wilms' tumor. It is commonly assumed that the DMS is unresponsive to any medications. DDS is mainly caused by mutations in the WT1 gene, which encodes a transcription factor involved in kidney and gonadal development.

Here we present the patient with Denys-Drash syndrome, in whom the cyclosporine A (CsA) was found to induce total remission of proteinuria. The girl in this report had early-onset steroid resistant nephrotic syndrome secondary to DMS, what was confirmed in kidney biopsy. Genetic studies showed mutations in intron 9 of WT1 gene c.1180 C>T (mutational analysis was performed thank to Prof. Friedhelm Hildebrandt; University of Michigan). This is the most common mutation found in DDS. The full diagnosis was done in the 8th month of life. The girl fulfilled the criteria of nephrotic syndrome definition. No reaction for initial prednisone treatment was found. In this situation CsA therapy was started with a significant reduction of proteinuria and remission of nephrotic syndrome. Three months following a dose of 5–6 mg/kg per 24 h a complete remission of proteinuria was observed. After the dose reduction the proteinuria recurred.

Cyclosporine A (CsA) has been used in the treatment of idiopathic syndrome for 20 years. The mechanism of CsA action in minimal change disease was the inhibition of NFAT signalling in T lymphocytes. However the therapeutic effect of CsA in genetic nephrotic syndrome is probably related to a direct influence of CsA on podocytes.

Our observation and observations of other authors confirm the beneficial effect of CsA treatment in genetic nephrotic syndrome; however the potential nephrotoxicity of this drug will probably not allow the long-term use. Understanding the regulation of podocyte actin dynamics in glomerular diseases and the role of calcineurin-cathepsin L in this process may be the starting point for developing new podocyte-protective drugs.

#### PP073

#### OSTEOGENESIS IMPERFECTA – EXPERIENCE OF THE CHILDREN'S ORTHOPEDIC DEPARTMENT IN A PEDIATRIC HOSPITAL IN LISBOA REGION

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**Introduction:** Osteogenesis imperfecta (OI) is a genetic disease characterized by bone fragility and decreased bone mass. Medical and surgical treatment requires a multidisciplinary approach aiming to improve quality of life in these patients.

**Purpose:** Characterize a population of children with OI evaluate the treatment done and clinical evolution before and after therapy.

**Materials and Methods:** Observational, longitudinal and descriptive study based on data from clinical files of all patients with OI included in a pamidronate treatment protocol in a tertiary pediatric hospital in Lisboa area. Epidemiological, clinical, treatment and follow-up data were evaluated. Statistical significance was considered at the 0.05 level.

**Results:** Twenty one patients, 60.2% female and 11 with defined OI type (5 type I, 2 type III, 3 type IV, 1 type V). Mean age at diagnosis was 20.6 months, with two diagnosis peaks: on the first month – 37%, and 24 months – 26%. Patients presented a mean of 0.62 fractures/patient/year, 17.4% in the perinatal period and 62% before 3 years old. Most of the fractures occurred on the inferior limbs (55.6%). All patients were medically treated, starting in mean by 4 years and 4 months. On the sample with follow-up data (n = 14) there was a decrease in the number of fractures per patient between the periods before (0.76 fractures/patient/year) and after pamidronate (0.35 fractures/patient/year) ( $P = 0.63$ ). Nine patients received intramedullary rods (56.3%). In eight cases in femur, four unilateral and four bilaterally, in three cases without history of previous fracture. We verified no fractures in bones surgically treated.

**Conclusion:** Osteogenesis imperfecta is clinically heterogeneous and prognosis depends mainly on OI subtype. Despite no cure has been found, medical treatment with biphosphonates and surgical treatment, with intramedullary rods, seem to reduce the incidence of new fracture occurrence.

#### PP074

#### 22Q13.3 DELETION SYNDROME: AN UNDERDIAGNOSED CAUSE OF MENTAL RETARDATION

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**Introduction:** Recent advances in genetic testing can help provide a specific diagnosis for children born with syndromes that result in congenital anomalies and developmental delay. With the introduction of subtelomeric fluorescence in-situ hybridization (FISH) analysis, the 22q13 deletion has become recognized as a relatively widespread and underdiagnosed cause of mental retardation.

**Case Report:** The patient was a 11 years of old girl, born from healthy non-consanguineous parents who presented with repeated seizures during the course of a rubella



infection. Her neuromotor development was delayed. She had marked mental motor retardation. She was unable to talk, except for a few words; she could not speak in sentences. Family medical history was unremarkable. The physical examination revealed dysmorphic features included a long shaped face with thick eyebrows, a smooth philtrum, a thin upper lip, narrow palpebral fissures, broad nasal root and mild micrognathia. Neurological examination was remarkable. Cytogenetic analyses done on a peripheral blood lymphocyte sample by Giemsa-trypsin banding method revealed a normal karyotype. Dysmorphic findings of the patient led us to perform a FISH analysis to assess DiGeorge/Velocardiofacial syndrome (VCFS) syndrome in the differential diagnosis. The probe, an LSI TUPLE1 (HIRA) DiGeorge region probe with an LSI ARSA control probe (Vysis Inc., Downers Grove, IL, USA) revealed 22q11.2 (HIRA×2), del(22)(-q13.3)(ARSA) result.

**Conclusion:** We recommend high resolution chromosome analysis and FISH, or molecular analysis to exclude this diagnosis in patients with idiopathic mental retardation especially associated with severely compromised language development.

#### PP075

##### LONG-TERM SURVIVAL CASES OF PARTIAL TRISOMY 16Q

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**Introduction:** Trisomy 16q is very rare and causes either miscarriage in the first trimester or multiple abnormalities, leading to premature death of the newborn. We report two cases of partial trisomy 16q with intra-uterine growth restriction (IUGR) during pregnancy, resulting in long-term survival of the patients.

**Case1:** The mother was 31 years old, gravida 2, para 1 (one spontaneous abortion). She was given an emergency cesarean section 37 weeks into her prior pregnancy due to fetal distress and the newborn passed away in 2 h due to severe respiratory failure.

Mild IUGR had been indicated in this case. The infant weighted 2086 g (-2.5SD) at birth, had an Apgar score of 8/9. Respiratory disorder worsened in few hours. Odd-looking with low-set ears, a narrow forehead and clubfeet was observed. He was placed on high frequency oscillation and treated for persistent pulmonary hypertension of the newborn (PPHN). A chest X-ray revealed pulmonary hypoplasia. Extubation was conducted at day 8. He was discharged from hospital day 98. At present, he is 6 years and 5 months with home oxygen therapy. Chromosome banding revealed 46,XY,der(12)t(12;16;17)(q24.31;q21;q23.1)mat,der(17)t(12;16;17). One of the child's parents is a translocation carrier.

**Case 2:** The mother was 34 years old, gravid 5, para 1 (four spontaneous abortions, one intrauterine fetal death and one stillbirth). IUGR was indicated at 29 weeks gestation. Amniocentesis revealed 46,XX,des(7)t(7;16)(q34;q21)mat. Microphthalmia, polymelia, right vesicoureteral reflux (VUR) and myocardial noncompaction were observed. She weighed 724 g (-3.2SD), had an Apgar score of 2/5. Gastrostomy at 1 year of age due to reflux esophagitis and underwent a tracheotomy at 2 years of age due to upper airway stenosis. They are currently receiving home oxygen therapy.

**Conclusion:** The vital prognosis for trisomy 16q varies because of accompanying chromosomal abnormalities. Although various complications were observed in the above two cases after birth, home oxygen therapy has enabled their long-term survival.

#### PP076

##### A 15 - MONTH YEAR OLD BOY WITH RECURRENT PROTEINURIA AND TRANSAMINASEMIA DIAGNOSED WITH HEREDITARY FRUCTOSE INTOLERANCE

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**Introduction:** Hereditary fructose intolerance is an autosomal recessive disorder due to aldolase B insufficiency. The body cannot turn glycogen into glucose. As a result, the blood sugar falls and toxic substances build up in the liver. The incidence of HF1 is estimated one in 20 000 people in European countries. Fructose intolerance is inherited, as an autosome recessive trait. Patients exhibited vomiting, hypoglycemia, failure to thrive, cachexia, hepatomegaly, jaundice, coagulopathy, coma, renal Fanconi syndrome, and severe metabolic acidosis due to lactic acidosis. The diagnosis of HFI relies on the deficiency of enzyme in liver biopsy, the pathologic transferrin isoelectric focusing and the molecular analysis of the responsible gene 9.

**Case presentation:** We report on a 15 month old boy who was admitted to our clinic for evaluation of recurrent episodes of proteinuria and transaminasemia during the past 7 months. On admission the patient was hypotonic, irritable, with palpable liver 3 cm below the costal margin. His weight, height and head circumference were at the 25th percentile. Laboratory workup revealed metabolic acidosis transaminasemia, increased urine albumin and low molecular weight proteins and reduced uric acid, while bilirubin, alkalic phosphatase, cholesterol and aminoacids were within normal range. The patient's urine aminogram was pathological Figure 1. The abdomen ultrasound demonstrated increased size of liver and kidneys. Assessment of patient's history revealed recurrent episodes of pallor, lethargy and

sweat after meals. Interestingly the parents avoided fruits from patient's diet as they thought he had allergy to them. Taking into account the clinical manifestation along with metabolic acidosis and renal disorder a transferrin isoelectric focusing (TfIEF) was ordered. The result was pathological. Hepatocellular involvement was estimated by liver biopsy. The diagnosis of HFI was confirmed by the deficiency of fructose 1.6-diphosphatase (FDPase) on liver tissue. The molecular analysis revealed that our patient was homozygote for mutation A175D which is the most frequent mutation for HFI in Europe. Today our patient, after 2 years from initial diagnosis is on fructose free diet and his condition is stable, with normal growth and laboratory workup.

**Conclusions:** Hereditary fructose intolerance should always be suspected in any infant with abrupt symptoms after fruity meals. The paediatrician must have high degree of suspicion when facing those children who fruit intolerance and exclude metabolic disease before consider symptoms after meals as a possible food allergy. Close dietary monitoring is important for a good outcome. The combination of a therapeutic response to fructose elimination and a positive response to the fructose tolerance test in conjunction with transferrin isoelectric focusing (TfIEF) could be used in the follow up of patients with hereditary fructose intolerance. This case report focused on the importance of detailed assessment of patient's history along with evaluation of metabolic acidosis.

#### Admission laboratory findings

##### Serum:

UA:1.6 mg/dL, SGOT:244 U/L, SGPT:474 U/L

##### Urine sample:

Pr/cr:3.91

Ca/cr:1 (0.025–0.53)

pH:6.5

microalbumin:174.8 mg/dL (<20)

$\alpha$ 1-microglobulin:154 mg/dL (<10)

$\beta$ 2-microglobulin:1.8 mg/dL (<0.3)

Aminogram positive for aminoaciduria

24-h urine protein test: 0.6gr/24h (52mg/m<sup>2</sup> per h), V:530 mL

hans cells accumulate in a variety of organs. Staging LHC relies on organ involvement; single system and multisystem (MS) disease have different treatments, goals and prognosis.

Clinical presentation may be very heterogeneous. Biopsies and pathologic evaluation are essential for diagnosis.

**Case report:** A 21 months old girl presented with a 6-month history of chronic ear discharge and exuberant seborrheic dermatitis of the scalp, together with perianal and vulvar ulcerated vegetative lesions and a skin purpuric rash in the past 2 months. No associated fever, malaise or weight loss. Physical examination revealed scalp dermatitis, gingivitis, purpuric rash in the trunk and flexural areas and condilomalike lesions of the perineal region. Otorrhinolaryngology examination revealed several granulomas in the external ear canal (EEC) bilateral.

Routine laboratory tests, urinalysis, infectious and immunological studies were unremarkable. The scalp, EEC and vulva biopsies were consistent with LCH and immunohistochemistry revealed S 100 protein, CD1a, CD11 and cyclin D1 positivity.

Skeletal X-Ray showed a small osteolytic lesion in the left parietal area. Cranial CT and MRI scans showed extensive erosion of both ears and destruction of the skull basis but no involvement of the hypophysis. There was no others organs involvement.

She started treatment (protocol LCH II – MS low risk) with vinblastine and prednisolone, with improvement after the first 6 weeks of induction treatment. Unfortunately, she has gone abroad and interrupted the maintenance treatment with recurrence of lesions.

**Discussion:** Although uncommon, LCH should be considered in any child with chronic otorrhea, scalp dermatitis and unexplained perineal lesions unresponsive to conventional therapy.

In the MS low risk stage, residual abnormalities are very frequent, and may be enhanced by each episode of reactivation. Because of this recurring nature, maintenance treatment and long follow-up is essential.

## HAEMATOLOGY & ONCOLOGY

### PP077

#### UNCOMMON PRESENTING SIGNS OF LANGERHANS CELL HISTIOCYTOSIS IN CHILDREN

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**Introduction:** Langerhans cell histiocytosis (LCH) is a rare proliferative disorder in which pathological Langer-

### PP078

#### IMPACT OF WORKING AT CHILDREN'S ONCOLOGY SERVICE ON THE NURSES' PERSONAL AND PROFESSIONAL LIVES

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**Introduction:** Cancer is a growing and a universal problem which affects people of all ages regardless of geographical borders. Nurses, clinicians and caregivers, working within the landscape of death and dying in Children's Oncology Service are able to provide insight into death-related experiences and have the opportunity to incorporate these experiences into their personal and professional lives. Much less is known about how these

professionals incorporate these experiences into their personal lives and clinical practices.

**Method:** This study was conducted to determine the impact of working at the Children's Oncology Service on nurses providing care to children with cancer during April-June 2011. Personal and professional lives were of the nurses under consideration were examined in-depth qualitative study. Semi-structured interviews and participatory observation techniques were used in the study.

**Results:** As subjects in this study stay with families for a long time and they are in a very close relationship due to nature of the child's illness, empathy and sympathy to the children's families was observed. Clinical exposure to death and dying taught participants to live in the present, develop a spiritual life, reflect on their own mortality and reflect deeply on the continuity of life.

**Conclusion:** Participants working with children with cancer reported that their work provided a unique opportunity for them to discover meaning in life through the lessons of their patients, and an opportunity to incorporate these teachings in their own lives in a positive way.

#### PP079

#### TWO CASES OF DYSFIBRINOGENEMIA IN CHILDHOOD

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**Introduction:** Fibrinogen plays a crucial role in blood coagulation. Serine protease thrombin catalysed cleavage of N-terminal parts of A $\alpha$  and B $\beta$  chains to produce fibrin monomers which spontaneously polymerize to form a fibrin clot. Hereditary dysfibrinogenemia is a disease wherein an inherited abnormality in fibrinogen molecule results in defective fibrin clot formation.

**Purpose:** The aim of our study was to characterize a cause of abnormal coagulation and bleeding tendencies in two unrelated children.

**Material and methods:** Fibrin polymerization and fibrinolysis were measured by turbidimetric method. Kinetics of fibrinopeptide release was measured by HPLC. The presence of impaired fibrinogen molecules in circulation was approved by mass spectrometry. Gene sequencing was performed by dideoxysequencing method.

**Results:** Patient I Eight year-old boy with prolonged thrombin time, low Clauss fibrinogen level (0.68 g/L) and easy bruising and epistaxis. Fibrin polymerization was impaired and measurement of fibrinopeptide release showed higher rate of released fibrinopeptide B. Genetic analysis revealed a heterozygous point mutation A $\alpha$  16 Arg to Cys.

**Patient II** Two year-old boy presented with prolonged thrombin time, low Class fibrinogen level (0.5 g/L) and

bleeding tendencies. Fibrin polymerization was impaired and fibrinopeptide release showed similar course as in the Patient I. DNA sequencing revealed a heterozygous point mutation A $\alpha$  16 Arg to His.

The patients were found to bear point mutations in the site of thrombin catalyzed cleavage of N-terminal parts of A $\alpha$  chain which is necessary for correct fibrin polymerization. The change of Arg to His or Cys impairs fibrinopeptide release and thus affect fibrin polymerization. This leads to dysfibrinogenemia with prolonged thrombin time and low functional fibrinogen level and bleeding problems of the carriers of the mutation.

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## INFECTIOUS DISEASES

#### PP080

#### THE HUMAN ROTAVIRUS VACCINE RIX4414 IN INFANTS: AN INTEGRATED SAFETY SUMMARY (ISS)

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**Introduction:** An oral, live-attenuated human rotavirus vaccine, RIX4414, was developed to prevent rotavirus gastroenteritis.

**Purpose:** We report ISS results from 28 randomised, placebo-controlled, double-blind phase II and III trials of lyophilised and liquid RIX4414.

**Materials and Methods:** Healthy 6- to 20-wk-old infants received two or three doses of RIX4414 (n = 56 562) or placebo (n = 45 512) at 4- to 8-wk intervals. Statistical analyses were performed on solicited adverse events (AEs) 0-7 days post-vaccination, and unsolicited AEs and serious AEs (SAEs)/deaths 0-30 days post-vaccination. Ninety five percent confidence intervals (CIs) for the relative risk (RR) across studies excluding "1" signified potential imbalances.

**Results:** Table 1 shows the incidence of solicited AEs between groups. At least one unsolicited AE was reported by 47.8 and 49.4% of infants in the RIX4414 and placebo groups, respectively (RR = 0.99 [95% CI: 0.94; 1.04]; P = 0.72). Unsolicited AEs occurring with a significantly higher frequency in the RIX4414 group included flatulence, heat rash and irritability; pharyngitis and rhinorrhoea occurred more frequently with placebo (Table 2). At least one grade 3 unsolicited AE was reported by 3.6 and 4.6% of infants in the placebo and RIX4414 groups, respectively (RR = 0.91 [95% CI: 0.77; 1.08]; P = 0.31). A significantly higher proportion of SAEs were reported in the placebo group (RR = 0.9 [95% CI: 0.82; 0.98]; P = 0.01) with a similar incidence of deaths across groups (RR = 1.14 [95% CI: 0.78; 1.68]; P = 0.54). Very few serious cases of intussusception



were reported (11 and 7 cases in RIX4414 and placebo groups, respectively;  $RR = 1.39$ ;  $P = 0.66$ ). No statistical imbalance was observed between groups for fatal pneumonia ( $RR = 0.89$ ;  $P = 0.88$ ) and Kawasaki disease (one case reported in each group;  $RR = 1.00$ ;  $P = 1.00$ ).

**Conclusions:** In this analysis, the safety and tolerability profiles for RIX4414 vaccine and placebo were similar, consistent with findings from a previous ISS analysis.

**Table 1: Incidence of general solicited adverse events following any dose of RIX4414/placebo during the 8-day (Days 0–7) post-vaccination period (total vaccinated cohort)**

Symptom	RIX4414 vaccine		Placebo (%)	
	n	% (95% CI)	n	% (95% CI)
Cough	4900	30.0 (29.3; 30.7)	1825	29.3 (28.2; 30.5)
Diarrhoea	822	4.2 (3.9; 4.5)	288	4.0 (3.5; 4.4)
Irritability	8772	44.5 (43.8; 45.2)	3073	42.2 (41.0; 43.3)
Loss of appetite	4249	21.5 (21.0; 22.1)	1450	19.9 (19.0; 20.8)
Temperature (axillary)	5765	29.2 (28.6; 29.9)	1903	26.1 (25.1; 27.1)
Vomiting	2089	10.6 (10.2; 11.0)	727	10.0 (9.3; 10.7)

**Table 2: Percentage of subjects with significant differences in incidence of unsolicited symptoms classified by MedDRA preferred term, within the 31-day (Days 0–30) post-vaccination period (total vaccinated cohort)**

Symptom	RIX4414 N = 11856		vaccinePlacebo N = 4778		Relative risk (RIX4414 vaccine over placebo)	
	n	% (95% CI)	n	% (95% CI)	RR (95% CI) <sup>‡</sup>	P-value <sup>§</sup>
Flatulence*	157	1.32 (1.13; 1.55)	50	1.05 (0.78; 1.38)	1.48 (1.07; 2.08)	0.02
Irritability*	730	6.16 (5.73; 6.60)	312	6.53 (5.85; 7.27)	1.15 (1.00; 1.31)	0.05
Heat rash*	40	0.34 (0.24; 0.46)	3	0.06 (0.01; 0.18)	5.04 (1.60; 25.59)	0.002
Pharyngitis <sup>†</sup>	140	1.18 (0.99; 1.39)	63	1.32 (1.01; 1.68)	0.66 (0.48; 0.91)	0.01
Rhinorrhoea <sup>†</sup>	164	1.38 (1.18; 1.61)	112	2.34 (1.93; 2.81)	0.58 (0.45; 0.75)	0.00

\*Significantly higher incidence in RIX4414 vaccine group. <sup>†</sup>Significantly higher incidence in placebo group. <sup>‡</sup>RR calculations were performed based on the Poisson method on stratified studies (incidence rate was not directly dependent on the RR value generated). <sup>§</sup>P-value: 2-sided Exact Stratified Test conditional to number of cases. Studies 023, 024, 028, 029, 030 and 037 are not included in this part of the analysis since collection of unsolicited AEs in these studies is different from the others.

## PP081

### KAWASAKI DISEASE IN GREEK CHILDREN DURING 9 YEARS PERIOD: EPIDEMIOLOGY, CLINICAL COURSE AND OUTCOME

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**Introduction:** Kawasaki disease (KD) is an acute vasculitis of childhood. It is the leading cause of acquired heart disease in children. Diagnosis is based on clinical criteria and the etiology remains unknown.

**Purpose:** To describe the incidence, clinical course, outcome and complications of children with KD in our area.

**Material and Methods:** We retrospectively analyzed the medical records of children who were admitted at our hospital with final diagnosis KD.

**Results:** From 2001–2010, 86 children <14 years of age were hospitalized with KD. The incidence of KD in our area was estimated 19.1/100 000 hospitalized children <14 years. The male/female ratio was 1.5 : 1, the mean age was 36.16 months ( $\pm 31.3$ ) and 78% of children were <5 years. Most cases occurred in early spring (30.2%) and winter (29.1%). Complete diagnostic criteria for KD were fulfilled for 64 children (74.4%), while the rest, (25.6%), were diagnosed with incomplete criteria. The mean duration of febrile disease was 9.5 days (IQR: 7–11) and the mean duration of hospitalization was 11.3 days (IQR: 8–13.8). Intravenous  $\gamma$ -globulin (IVIG) was administered to all children and additional dose of IVIG was necessary for 22 cases (25.6%). A multivariate logistic regression indicated that risk factors for an additional dose of IVIG were desquamating rash in groin ( $P = 0.023$ ) and higher SGOT levels at admission ( $P = 0.047$ ). Abnormal cardiovascular findings were reported in 48 cases (55.8%). Coronary arterial abnormalities (CAA) accounted for 32.6% (22 cases) and this finding was more common among children <5 years of age (82.1%). CAA were associated with presence of erythema in lips or oral cavity ( $P = 0.007$ ). Other complications reported were hydrops of gallbladder (3.5%), aseptic meningitis (4.7%) and hepatitis (1.16%). Due to severe complications three children (3.5%) were admitted in the intensive care unit. No fatal cases were reported during this period.

## PP082

### POSITIONING THE DIRECT BUDGET IMPACT OF PALIVIZUMAB WITHIN THE CONTEXT OF OTHER CHILDHOOD PREVENTATIVE HEALTH PROGRAMS IN COLOMBIA

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**Introduction:** Respiratory syncytial virus (RSV) is a leading cause of upper and lower respiratory tract infection

in children and leads to substantial childhood morbidity and mortality worldwide. Palivizumab is a monoclonal antibody to RSV shown to significantly reduce the frequency of hospitalizations for RSV infection, in high risk populations including preterm infants and children with bronchopulmonary dysplasia and congenital heart disease. However, the national costs of implementing this childhood immunization program are not well characterized.

**Purpose:** To compare the 1-year budget impact of implementing a program in Colombia designed to prevent RSV infection in high-risk infants using palivizumab, against three currently-implemented childhood immunization programs.

**Methods:** Models were developed to estimate the 1-year budget impact of childhood programs targeted at preventing RSV, pneumococcal disease, Haemophilus influenzae type b (Hib), and pertussis. Model inputs were derived from clinical trials and published literature as well as Colombian costs and population demographics. Outputs included total disease costs including hospitalizations, direct costs outside the hospital, and costs associated with sequelae and total cost offsets from the healthcare perspective. The model assumed RSV prophylaxis was administered according to current product labeling.

**Results:** Total disease costs were highest for RSV infection in high risk infants (Col\$32 billion), followed by pneumococcal disease (Col\$8 billion), Hib (Col\$5.5 billion) and pertussis (Col\$52 million). Estimated cost offsets after adoption of immunization program totaled Col\$1.4 billion for RSV infection, Col\$3.9 billion for pneumococcal disease, Col\$5.5 billion for Hib, and Col\$25 million for pertussis. The RSV prophylaxis costs were Col\$152 billion compared with Col\$434 billion for the pneumococcal vaccine, Col\$237 billion for the Hib vaccine and Col\$31 billion for the pertussis vaccine.

**Conclusions:** The national 1-year budget impact for RSV prophylaxis for high risk infants as defined by the current guidelines is positioned well within the context of other childhood preventive health programs.

#### PP083

### INFORMATION TO PARENTS ON THE IMPORTANCE OF VACCINES COULD HELP PAEDIATRICIANS IMPROVE THE EUROPEAN VACCINATION COVERAGE RATES

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**Introduction:** Paediatricians in Europe need better clinical support with parent information to improve the vaccination coverage [1].

**Purpose:** Identify areas related to parent information requiring additional support for paediatricians.

**Materials and Methods:** In August 2011, 1317 paediatricians from Europe with surroundings were invited to complete a survey with written questions on their vaccination support needs. Responses were collected using a scale from 0 to 5.

**Results:** Responses were submitted by 842 (64%) paediatricians in 85 countries, mostly Europe with surroundings. Early life support was considered the most important principle for parent support for vaccinations, more important than prepare for parenthood (average scores  $\pm$ SE;  $4.43 \pm 0.03$  vs.  $3.29 \pm 0.05$  out of 5;  $P < 0.001$ ). The principle of multiple, age-specific vaccination messages distributed over time was also preferred to that of single comprehensive information packages ( $3.92 \pm 0.04$  vs.  $3.65 \pm 0.05$ ;  $P < 0.001$ ). Vaccination reminders to parents would be useful for 804 (95%). Better information to parents about the importance of vaccines was considered more important ( $4.42 \pm 0.03$  vs.  $3.92 \pm 0.04$ ;  $P < 0.001$ ) than more effective reminders for improving vaccination coverage rates by maximising attendance to regular vaccinations and minimizing drop-outs from follow up visits. A majority (793/94%) would like to see the European Paediatric Association (EPA) provide vaccination leaflets to inform parents. Half of the paediatricians believed that parents in their country would benefit from information provided by EPA in English and most of them (676/80%) also supported the dispatch by EPA of these reminders to parents.

**Conclusions:** Information to parents on the importance of vaccines, backed by an official organisation could help paediatricians improve the European vaccination coverage, especially if shared on multiple occasions and early in the life of the children.

**Reference:** Konstantopoulos et al. abstract number XXX submitted to EiP 2011.

#### PP084

### MODEL-BASED PROJECTIONS OF THE POPULATION-LEVEL IMPACT OF HEPATITIS-A VACCINATION IN MEXICO

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**Introduction:** In Mexico, a high-to-medium shift of Hepatitis-A (HAV) endemicity has been suggested following recent socioeconomic improvements, which affects older age-groups in whom the risk of symptomatic HAV and severity is higher. Therefore, a dynamic model of HAV was developed to quantify the impact of HAV universal childhood vaccination in Mexico.

**Methods:** This fully dynamic model captures HAV natural history and transmission, accounting for demographic

and epidemiological changes, age-specific symptomatic-to-infection ratio and under-reporting. Transmission parameters and under-reporting were estimated by calibrating the model outcomes to nationwide age-specific seroprevalence and HAV-disease incidence from Mexico. The model projects the population-level impact of the recommended HAV (*Havrix*<sup>TM</sup>; GSK-Biologics) 2-doses at 12- and 18-months, with 70% or 90% coverage, assuming 97% efficacy against HAV-infection post-dose-1 and 99% post-dose-2; and a waning of immunity annual rate of 0.0012 during first 25-years and 0.0062 thereafter. The results are presented under different assumptions about transmission.

**Results:** The best-fit model outcomes were close to the seroprevalence and HAV-disease incidence data. It estimated a 14–16-fold under-reporting of symptomatic HAV cases; 1.9–2.4-fold decrease in HAV transmission from 1990 onwards. With 70% and 90% coverage, the model projected a 67–73% and 81–91% reduction in incidence of HAV-infection (including asymptomatic) after first 40-years vaccination. Somewhat lower reductions in symptomatic HAV were projected as a consequence of age-shift and risk of symptoms increasing with age: 52–61% and 75–87% reductions in HAV-incidence after 40-years and 48–57% and 68–76% reductions in cumulative HAV cases over first 40-year period, with 70 and 90% coverage.

**Conclusions:** The model indicates that 2-doses vaccination at 12 and 18 months with 90% coverage might reduce the cumulative-incidence of symptomatic HAV by 68%–76% over 40-years. The model outcomes can be used as the basis for an economic evaluation of childhood UMV in Mexico.

#### PP085

##### **RETROSPECTIVE ANALYSIS SUGGESTS PALIVIZUMAB PROPHYLAXIS IS NOT ASSOCIATED WITH AN INCREASED RISK OF SERIOUS INFECTION, SERIOUS ARRHYTHMIA OR DEATH IN PEDIATRIC PATIENTS <24 MONTHS OF AGE WITH HEMODYNAMICALLY SIGNIFICANT CONGENITAL HEART DISEASE (HSCHD)**

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**Background:** Palivizumab is indicated for the prevention of serious lower respiratory tract disease caused by respiratory syncytial virus (RSV) in pediatric patients at high risk of RSV disease including those with HSCHD. The safety of palivizumab in HSCHD patients in a real-world setting has not been assessed previously.

**Purpose:** This retrospective chart analysis was designed to examine the risk of the primary serious adverse events (PSAEs) of serious infection, serious arrhythmia, and death, and to detect any changes in the prevalence or pattern of these outcomes, among palivizumab-treated

HSCHD patients compared with matched, unprophylaxed controls.

**Methods:** PSAEs in children with HSCHD who were <24 months of age when the first dose of palivizumab was administered (CASES) were compared over an 8-month period with an historical cohort of matched patients with HSCHD who did not receive palivizumab during the first 24 months of life (CONTROLS). A total of 2018 patients (1009 in each cohort) from 32 sites in 10 countries across the European Union were assessed for non-inferiority of CASES compared to CONTROLS in the difference in incidence rates for each of the three PSAEs separately and cumulatively. As prospectively specified, non-inferiority of CASES compared with CONTROLS was demonstrated if the odds ratio calculated at the 95% upper confidence bound for the difference in event rates (CASES minus CONTROLS) (OR-UCBD) was <2.

**Results:** Non-inferiority of CASES compared with CONTROLS was achieved for the PSAEs of infection (OR-UCBD = 0.95) and arrhythmia (OR-UCBD = 1.64) and the cumulative incidence of any PSAE (OR-UCBD = 0.96). Although the criterion for non-inferiority was not met for the PSAE of death (OR-UCBD = 2.19), the incidence of death was numerically lower for CASES compared with CONTROLS (0.9% [9/1009] and 1.0% [10/1009], respectively). These results indicate no increased risk of serious infection, serious arrhythmia, or death with palivizumab in children with HSCHD.

This study was sponsored by Abbott.

#### PP086

##### **WHOOPING COUGH – A CASE SERIES OF 7 YEARS**

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**Introduction:** Whooping cough is an acute respiratory illness with high contagiousness, *Bordetella pertussis* is the most common etiologic agent. With the advent of vaccination there was significant reduction in mortality, but it has been seen an increasing number of cases in extreme pediatric age (<6 months and >10 years).

**Purpose:** Characterize (epidemiological, clinical and therapeutic) the cases of whooping cough.

**Material and Method:** Descriptive, retrospective study of children hospitalized at the Department of Pediatrics with whooping cough, from January 1, 2004 to December 31, 2010.

**Results:** Of the 29 cases, 51.7% were female, aged between 0 and 6 months (average 1.98). Nine infants had carried out anti-DTaP vaccine (one or two doses). Cough was present in all cases, facial congestion in 96.6%, associated with cyanosis in 55.2% and 34.5% had inspiratory whoop. The coughing ranged between 2 and 21 days



(average 8.93). There was respiratory distress in three patients and fever in 2. In 69.0% pulmonary auscultation was normal. Lymphocytosis was found in 27.6% and thrombocytosis in 65.5%. Only in nine cases there were radiological abnormalities. Five cases had coinfection (1 influenza A, 2 parainfluenza, 1 adenovirus and 1 SRV). Three infants had complications (pneumonia with hypoxemia, apnea, and persistent cyanosis). Hospitalization ranged from 5 to 11 days (mean 6.8). The antibiotic therapy was azithromycin in 16, erythromycin in 11 and clarithromycin in two patients. In all cases was instituted prophylaxis to close contacts.

**Conclusion:** Despite vaccination, pertussis remains a disease common in children, especially aged <6 months. The results reinforce the need to consider this differential diagnosis in infants with paroxysmal cough, unvaccinated or with incomplete vaccination schedule anti-DTPA. According to the literature there is an increased susceptibility to infection and subsequent spread to small infants years after immunization, highlighting the possible need for revision of the immunization schedule.

#### PP087

#### HAEMOTHORAX – UNUSUAL PRESENTATION OF INTRATHORACIC NEUROBLASTOMA

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**Introduction:** Neuroblastoma is the most common malignant solid tumor in newborns, however intrathoracic location is very rare. The presentation as a haemothorax and coagulopathy is even more unusual.

**Purpose:** Report of a clinical case.

**Material:** Clinical, imagiological, analytical, autopsy and tumor histological data.

**Methods:** We report the clinical case of a full-term female newborn, with a normal third trimester ultrasound, born by vaginal delivery. Labor was unremarkable. The 5th min Apgar score was 10, and the birth weight was 3.245 kg. Within an hour after birth, she developed a progressive respiratory distress, hypoxemia, acidosis and need for respiratory support. The chest X-ray showed a massive right pleural effusion and a chest tube was placed with continuous blood drainage. The blood analysis revealed severe anemia (Hb 6.8 g/dL), thrombocytopenia (platelets 45 000/m<sup>3</sup>), and coagulopathy (prothrombin time 153.4 s, activated partial thromboplastin time >180 s, fibrinogen <10 mg/dL). Multiple packed red blood cells, platelets and fresh frozen plasma transfusions were performed. She maintained persistent systemic hypotension despite inotropes, severe metabolic acidosis, and hyper-

kalemia unsuccessfully treated with bicarbonate and insulin. Oliguria was present since birth. The 2D-echocardiogram was normal and the chest ultrasound identified a right paravertebral, supra diaphragmatic hypoechogenic lesion, described by computed tomography as a possible haematoma or cystic lesion. The abdominal computed tomography revealed hepatomegaly, hipoperfusion, but no masses. On cranial ultrasound she presented a class IV intraventricular hemorrhage. She died within 48 h after birth.

**Results:** Autopsy findings revealed a paravertebral tumor (5.5 × 4.5 cm), without relation to the lung, histologically characterized as a neuroblastoma, no metastasis, multiple visceral hemorrhagic necrosis, a haemopericardio (4 mL) and a haemoperitoneo (3.5 mL).

**Conclusions:** Coagulation disorders are a recognized but rare complication of neuroblastoma. Neuroblastoma must be considered in the differential diagnosis of haemothorax and other haemorrhagic complications.

#### PP088

#### A RARE AND INTERESTING CASE OF NEONATAL HYPERBILIRUBINEMIA

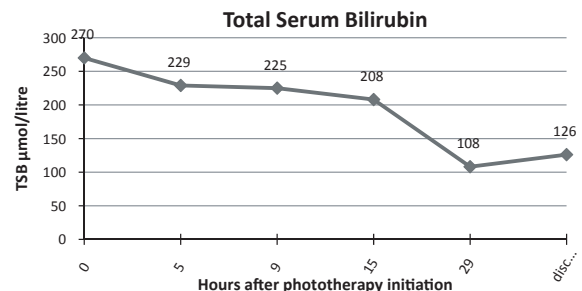
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**Introduction and Purpose:** Maternal Criggler Najjar syndrome (CNS) type2 is a rare situation and very few case reports are available in the literature detailing the neonatal outcomes of such pregnancies. This is one such rare report.

**Materials and Methods:** Baby girl X was born at term to G2P1B+mother. Mother was a known case of CNS type2. Apart from jaundice, mother was healthy and had Total Serum Bilirubin (TSB) value of 250 µM (14.6mg/dl) with indirect fraction being 243 µM (14.2 mg/dL) just prior to delivery. Baby had normal Apgars. However, the baby was shifted to NICU in view of significant icterus noted soon after birth.

**Results:** Cord blood TSB was 228 µM (13.3 mg/dL) and blood group was A+. Retic count value was 7%. Intense double surface phototherapy was instituted. Serial TSB



values at frequent intervals showed declining trend. TSB value at discharge was 126  $\mu$ M (7.4 mg/dL). Neonatal screening tests and neurodevelopmental follow up at one month of age were normal.

Discussion: Till date, CNS in pregnancy has been reported only four times in CNS type2 mothers and twice in a CNS type1 mother. Neurologic complication in the form of quadriplegia of the neonate has been reported in a pregnant CNS type1 patient. In all other reported cases including the present one, neonates had satisfactory outcome with either no treatment or requiring only phototherapy. One case required exchange transfusion.

Passive diffusion, the predominant mechanism for bidirectional flux of bilirubin in these patients explains the roughly similar plasma concentrations of bilirubin in both mother and neonate. This is noted in the above case too.

Early identification of icterus and expedite institution of intense double surface phototherapy in neonates of CNS mothers may avoid unnecessary exchange transfusion; prevent neurologic impairments and leads to excellent outcomes. The need for close neurodevelopmental follow up including hearing tests of these infants cannot be overemphasized.

#### PP089

##### INCIDENCE AND SENSIBILITY IN ANTIBIOTICS OF *STAPHYLOCOCCUS AUREUS* IN NASOPHARYNGEAL SWABS OF CHILDREN

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Purpose: The purpose of this study is to determine the frequency of isolation of *Staphylococcus aureus* in pharyngeal and nasal swabs of children that were sent to the Microbiological Laboratory of Venizeleio General Hospital of Heraklion during one year (1/2/2010–1/2/2011) and the sensitivity in antibiotics.

Material and methods: The material of this study consisted of 30 pharyngeal and 36 nasal samples taken from children that resulted positive for *S. aureus*. The samples were cultured in blood, MacConkey, chocolate, sabouraud and chapman agar and were first identified with the coagulase test. The final identification of the micro-organism and the antibiotic sensitivity test was done with the MicroScan WalkAway® plusSystem® (Siemens). In case of MRSA strains the resistance was reconfirmed by using cefoxitin disk in Mueller-Hinton agar. The incubation lasted 24 h in 37°C.

Results: From 66 cultures positive for *S. aureus*, 14 were MRSA (21%). No strain showed resistance to gentamycin, vancomycin, teicoplanin, synercid and linezolid. The sensibility for erythromycin, clindamycin, tetracyclin, clari-

thromycin and ciprofloxacin was: 48/66, 61/66, 60/66, 51/66 and 35/66 respectively.

Conclusions: *S. aureus* remains a very common cause of nasal and pharyngeal infection in children and in large proportion (21%) these strains are MRSA. Further effort is required for successful control of MRSA in paediatric wards, emphasising the need for rigorous hand hygiene and control for MRSA staff status.

Antibiotics	Sensibility (%)	Antibiotics	Sensibility (%)
Penicillin	48	Ciprofloxacin	53
Oxacillin	79	Gentamycin	100
Erythromycin	73	Vancomycin	100
Clindamycin	92	Teicoplanin	100
Tetracyclin	91	Synercid	100
Clarithromycin	77	Linezolid	100

#### PP090

##### DEEP NECROTIZING ULCERS SEEN IN LEUCOCYTOCLASTIC VASCULITIS

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Introduction: Henoch-Schönlein Purpura (HSP) is an acute immunoglobulin A mediated leukocytoclastic vasculitis that primarily affects children. The dominant clinical features include predominantly cutaneous purpura, arthritis, abdominal pain, GI bleeding and nephritis. The male-to-female ratio is 1.5–2:1. Although the etiology is unknown an upper respiratory tract infection precedes the clinical onset of HSP by 1–3 weeks in 2/3 of children. HSP is typically an acute, self-limited illness; however, one third of patients have one or more recurrences.

Purpose: The aim of this study was to emphasize that although the skin involvement seen in HSP is known to be self limiting and benign, it may even present as deep ulcers in varying degrees.

Materials and Method: Twelve year old girl presented with multiple necrotizing ulcers, largest reaching 6\*6 cm in size, dominantly around medial and lateral malleoli in both feet. There was no additional systemic finding on physical examination except ulcers and significant petechial purpuric rash in bilateral lower extremities. In laboratory findings CBC, glucose, BUN, creatinin levels were normal. Urinalysis was normal and CRP was negative. Wound culture revealed Meticillin susceptible *S. aureus*. *D. dimer* was detected 5403 (0–150). Immunological tests were done including C3, C4, Immunglobulins A,G,E,M levels. Ability of phagocytosis oxidative burst and chemotaxis functions were studied. All resulted normal. Skin



punch biopsy resulted leucocytoclastic vasculitis. Hyperbaric oxygen therapy and combined broad spectrum antibiotics were started as treatment. The patient received 22 sessions of hyperbaric oxygen therapy. All lesions healed with success.

Result: HSP remains a benign disease in the majority of cases. The severity of clinical features varies widely between children. Skin lesions seen in HSP may vary from small palpable purpura to wide echymotic lesions and rarely ulcers like in our patient. Although the clinical features of HSP may include arthritis, abdominal pain, GI bleeding, orchitis, and nephritis; patients mostly present with skin involvement.

#### PP091

##### VIFERON MEDICATION AS AN ANTIRELAPSING TREATMENT OF CMV INFECTION OF A CHILD AFTER KASAI OPERATION

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Introduction: Approximately 700 children are born every year with biliary atresia in Europe. The exact causes of biliary atresia are still unknown. However, the following reasons might trigger the disease: disorder in the immune system; abnormality in the bile component; viral or bacterial infection; problem in the development of the bile ducts and liver.

CMV – infection is the leader in nascency of sthenic cases of billiary artesia. Viferon is an antivirus medication

in Russia. It consists of human interferon recombinant alpha – 2b with vitamin C and E.

Purpose: The examination of Viferon affectivity in CMV-hepatitis treatment after Kasai operation.

Material: Under research there was a child N, who tolerated the KASAI operation at the age of 4 month old with DS: Intranatal CMV infection. Biliary cirrhosis, fibrosid induration. The child was under research in catamnesis until the age of seven.

Methods: Viferon treatment was made continuously during 3 years per rectum, under the scheme: every day twice a day during 1 month; then every day once a day during 3 months; every other day during 3 months; twice a week until the age of three. Viferon medication was taken with hepatoprotector.

Results: There were no:

- Reactivation of CMV infection (DNA CMV in blood is being negative since 12 months and DNA CMV in saliva and urina is being negative since 20 months).
- Symptoms of hepar inefficiency.
- Recrudescence hepatoportal activity
- Retention in psychophysical development

Conclusion: Viferon possesses strong antivirus and antioxidant activity in CMV hepatitis treatment, non-damaging way of entering and the absence of pyretogenous reactions.

#### PP092

##### PAEDIATRICIANS NEED HELP WITH PARENT INFORMATION TO IMPROVE THE VACCINATION COVERAGE

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Introduction: Paediatricians in Europe need better support for their parent contacts, to work more effectively with vaccinations and to increase the vaccination coverage rates.

Purpose: Identify paediatric vaccination areas requiring additional clinical support.

Materials and Methods: In May 2011, a survey on the vaccination support needs was conducted at two separate levels, individual paediatricians (IP) and national paediatric societies (NPS) in Europe with surroundings. They were individually invited to share their vaccination support needs within current vaccination schedules, and preferences using a numerical scale from 0 to 5.

Results: Responses were submitted by 283 IP and 22 NPS. For IP, general concerns with vaccines included the safety ( $3.77 \pm 0.08$ ) of vaccines, and the lack of understanding among parents of the full value of vaccination ( $3.69 \pm 0.07$ ). For IP and NPS respectively, information for



parents on the safety  $4.3 \pm 0.06 / 4.0 \pm 0.3$  (IP/NPS average  $\pm$  SE) and importance  $4.1 \pm 0.06 / 3.9 \pm 0.3$  of vaccines were also the two most urgently missing medical support types required to increase the vaccination rates. The main limiting factor for achieving full compliance with current vaccination schedules was the lack of support or information materials to share with parents ( $2.8 \pm 0.1 / 2.5 \pm 0.3$ ). The drop-out rates (in %) for receiving a booster dose increased with patient age (IP  $P < 0.001$  and NPS  $P = 0.032$  for 0–1 year olds vs.  $>5$  year olds). They were also higher among IP than NPS:  $11.0 \pm 1.0 / 6.6 \pm 1.4\%$  ( $P = 0.013$ ) for 0–1 year olds;  $16.4 \pm 1.1 / 9.7 \pm 1.5\%$  ( $P = 0.001$ ) for 2–5 year olds;  $21.8 \pm 1.2 / 11.6 \pm 2.1\%$  ( $P < 0.001$ ) for  $>5$  year olds.

**Conclusions:** The results of this survey indicate a need for improved parent support to help paediatricians across Europe increase the vaccination coverage. Booster drop-out rates increase with patient age, although individual paediatricians currently estimate higher percentages than national paediatric societies, which may more closely reflect official national evaluations of coverage rates.

#### PP093

##### ANALYSIS OF ACUTE GASTROENTERITIS AGENTS IN CHILDHOOD

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**Aim:** The search and demonstration of age and season of acute gastroenteritis agents particularly effective in childhood (0–16) is aimed.

**Materials and Methods:** The cases who were diagnosed as “acute gastroenteritis” were evaluated with the antigen tests, stool cultures and microscopic findings. The antigen tests agents: adenovirus serotype 40–41, norovirus, and rotavirus, were studied with immunochromatographic assay method. Seasonal distribution within a year and quantitative distribution was analyzed with demographic data and laboratory findings.

**Results:** In a year, 594 cases of acute gastroenteritis between 3 months and 16 years of age were evaluated. The agents could be detected in 184 of the cases (31%), and in 11 of those cases (1.9%) two or more agents were detected. In the quantitative analysis of the agents; within 145 cases (24.4%) viral agents were detected. Bacterial agents were detected in 36 cases, in 58.3% ( $n : 21$ ) *Salmonella*, in 41.6% ( $n : 15$ ) *Campylobacter jejuni* was found to be the agent. On the monthly distribution of the cases, rotavirus was found to be more frequent in the first 4 months of the year. Adenovirus was prominently frequent in January and May. Norovirus was seen more frequently in February,

May, July and September. In hottest months of the year (July, August and September) norovirus was found to be the dominant viral agent. Bacterial agents were seen more in summer and autumn.

**Conclusion:** Viruses were the leading pathogens in all age groups; for the first 24 months norovirus, for groups 2–5 years of age and ages over 5 years rotavirus was the most common acute diarrhea agent. In January, February, March, April, June, October and November rotavirus was the dominant agent; whereas in May, July, August and September norovirus was notified.

#### PP094

##### NON-INFERIORITY OF CRANBERRY SYRUP PROPHYLAXIS VERSUS TRIMETHOPRIM IN RECURRENT URINARY TRACT INFECTIONS IN CHILDREN: A CONTROLLED TRIAL

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**Aims:** Trimethoprim prophylaxis for recurrent paediatric urinary tract infections (UTI) has been shown to be effective in reducing the recurrence of such infections. As an alternative, the present study evaluates the effectiveness of cranberry syrup in treating paediatric recurrent UTI.

**Methods:** A controlled, double-blind clinical trial was carried out on infants aged more than one month and older children. The initial hypothesis was that the results obtained from cranberry syrup treatment would be equivalent to those achieved with trimethoprim, in children with a history of recurrent UTI. The outcome was evaluated in terms of UTI recurrence. The statistical analysis was performed using the Kaplan Meier method.

**Results:** Of the 201 patients eligible, 192 were included to receive either cranberry syrup or trimethoprim. Urinary tract infection observed in 47 patients, 17 of whom were male and 30 female. We recruited 95 patients diagnosed with recurrent UTI at entry. During subsequent follow-up, 26 of these patients presented UTI (27.4%, CI 95% 18.4–36.3%) six of them (6.3%) were male and 20 (21.1%) female. 18 of the patients (18.9%, CI 95% 11–26.3%) receiving trimethoprim had UTI, versus eight of the patients (8.4%, CI 95% 2.8–13.9%) given cranberry syrup.

**Conclusions:** Our study confirms that, for the paediatric population, cranberry syrup is a safe and non-inferior alternative treatment to trimethoprim (European Clinical Trials Registry EuDract 2007-004397-62) (ISRCTN16968287).

## PP095

## HERPETIC MENINGOENCEPHALITIS: A CASE REPORT

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**Introduction:** Herpes simplex encephalitis (HSE) is a life-threatening consequence of herpes simplex virus (HSV) infection of the central nervous system (CNS) and, without treatment, mortality and morbidity can reach 20% and 70%, respectively. Early diagnosis leading to prompt treatment can be a challenge due to its similarity in presentation to other CNS infections as well as atypical presentation.

**Case Report:** A 3-year-old girl, with no significant personal or family history, was admitted to our emergency department with a 3-days febrile syndrome and oral lesions accompanied by four paroxysmal episodes characterized by upper limbs tonic movements and conjugate upward eye deviation. At admission she presented with irritability, mild lethargy, aphthous stomatitis and unsteady gait; she presented no meningeal signs. The cranial CT was normal and the EEG showed a diffuse abnormal slow rhythm with no paroxysmic activity; a lumbar puncture was made with normal cerebrospinal fluid biochemistry. The polymerase chain reaction for HSV-1 was positive in cerebrospinal fluid.

She was admitted to our department and treated with acyclovir. In day three she was transferred to the Pediatric Intensive Care Unit due to waning of mental status, dysarthria and speech lentification. A cranial MRI showed diffuse hyperintense lesions in the white matter similar to a demyelination diffuse pattern. She gradually improved with favorable evolution and commenced physiotherapy. She completed 21 days of acyclovir. At discharge she had no speech disability but presented a mild left lower limb claudication.

**Comments:** In our case, due to the demyelination lesions found in MRI, there is a need for close follow-up. As HSE is a potentially fatal disease without prompt treatment, a high index of suspicion is vital for early diagnosis. However, significant morbidity exists even among those treated correctly with possible influences in their neurologic and motor development.

## PP096

## EPIDEMIOLOGY OF EAR INFECTIONS IN CHILDREN IN A GREEK GENERAL HOSPITAL

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**Purpose:** The purpose of this study is to determine the frequency and the type of microorganisms, isolated from ear infections in children.

**Material and methods:** The material of this study consisted of 223 ear samples, taken from children and sent at the Microbiological Laboratory of Venizeleio Hospital of Heraklion from 1/6/2009 until 6/1/2011. The samples were taken with special swabstick of calcium alginate, were cultured in blood, MacConkey, chocolate, Sabouraud and Chapman agar and were recultured after incubation at 37°C in nutritional broth for 24 h. The identification was done with MicroScanWalkAway® plusSystem® (Siemens).

**Results:** A total of 152 different strains have been isolated. From 223 ear cultures, 203(91%) were found positive for aerobic microbes. In 119 (53%) samples 1 microorganism was isolated, while at 84 samples (38%) were isolated two or more organisms. The remaining 20 cultures (9%), no organism was developed, or microbes that have been isolated were not evaluated as a cause of infection.

**Conclusions:** The micro-organisms that were isolated more frequently in children were *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, *Streptococcus pneumoniae* and *Staphylococcus aureus*. Adequate treatment of ear infections in children requires understanding of the epidemiology and the collection of ear sample for culture before treatment.

Pathogenes	%	Samples	Pathogenes	%	Samples
P. Aeruginosa	18%	31/152	S. Scleriferi	1.00%	2/152
S. Epidermidis	11%	17/152	C. Freudii	0.65%	1/152
S. Pneumoniae	9%	14/152	V. Alginolyticus	0.65%	1/152
S. Aureus	7%	10/152	P. Mirabilis	0.65%	1/152
S. Pyogenes	7%	9/152	M. Morganii	0.65%	1/152
S. Haemolyticus	4%	6/152	S. Intermedius	0.65%	1/152
H. Influenza	4%	6/152	A. Baumannii	0.65%	1/152
E. Cloacae	3%	4/152	E. Aerogenes	0.65%	1/152
E. Capitis	2%	3/152	S. Simulans	0.65%	1/152
S. Pneumoniae	2%	3/152	H. Parainfluenza	0.65%	1/152
E. Faecalis	1%	2/152	P. Fluorescens	0.65%	1/152
S. Warneri	1%	2/152	Aspergillus	2.00%	3/152

## PP097

## MICROORGANISMS ISOLATED IN URINE CULTURES OF PATIENTS FROM PEDIATRIC WARDS AND OUTPATIENT DEPARTMENTS OF A GENERAL HOSPITAL IN 2010

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**Introduction:** Urinary Tract Infection (UTI) is one of the most common causes of hospital visits among pediatric patients. Empiric antibiotic therapy is not effective in a large percentage of patients and sensitivity specific therapy based on culture and susceptibility testing is then necessary.

**Purpose:** To record the prevalence of microorganisms isolated in urine samples and associated resistance to commonly used antibiotics.

**Material:** We studied the results of urine cultures from children that presented at the Pediatrics clinic and outpatient department of our hospital during the period 1/1/2010-31/12/2010. Ninety eight children with clinical symptoms of UTI with positive cultures were included.

**Methods:** All cultures were performed using standard methods on MacConkey and blood agar as growth media. The isolated strains identification was done by Microscan WalkAway plus System (SIEMENS®). The same system was used to check the sensitivity of the isolated bacterial strains to common antibiotics.

**Results:** Of the 98 samples included in our study, isolated strains were as follows: *E. Coli* 68 (69.39%), *Pr. mirabilis* 12 (12.24%), *K. Pneumoniae* 9 (9.18%), *E. Faecalis* 5 (3.10%). The resistance to the checked antibiotics for the more frequent microorganisms is shown in the following table:

	Amikacin	Amox/K Clav	Ampicillin	Ceftazidime	Cefuroxime
<i>E. Coli</i>	0.00%	2.94%	45.59%	2.94%	2.94%
<i>Pr. mirabilis</i>	0.00%	8.33%	50.00%	0.00%	0.00%

#### PP098

##### LYMPH NODE TUBERCULOSIS IN SOUTH TUNISIA

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**Introduction:** Known as White Plague XVII and XVIII centuries. It is a present disease with 1.7 billions inhabitants who are touched (OMS). Disease of future with eight to 10 millions of new cases per year (99% of countries underdeveloped are touched). It kills more than other infectious disease: with three millions of death (deaths) among which 3105 children per year. During the last decade, the frequency of the extrapulmonary localizations seems to increase. The purpose of this study was to analyze the cases of extrapulmonary tuberculosis especially lymph nodes tuberculosis at department of pediatrics, Emergency and Intensive care in Hedi Chaker Hospital, an academic hospital who receive children coming from all the south of Tunisia.

**Material and methods:** We made a retrospective study during 14 years from January 2007 to December 2010. Characteristics of demography, clinical features were obtained from medical case records. Diagnosis of tuberculosis was confirmed by the histology.

**Results:** There were nine cases of lymph node tuberculosis (47.3%). The mean age of our patients was 6.5 years. The male to female ratio was 0.81. Vaccination by the BCG was reported in all patients. The involvement of the lymph node form was observed in 45% among all cases of extrapulmonary tuberculosis. The positive diagnosis was

obtained by isolation of BK in the histopathologic study in seven patients. The outcome was recovery in all the cases.

**Conclusion:** This study shows the frequency of the extrapulmonary tuberculosis in children despite the efforts made in the fight against the tuberculosis in our country and this confirms that the protection conferred by BCG vaccination when applied to newborns does not protect perfectly.

#### PP099

##### RAMSAY-HUNT SYNDROME: ABOUT A CLINICAL CASE

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O Síndrome de Ramsay-Hunt é uma complicação rara da reativação do vírus varicela zoster (VZV), latente no gânglio geniculado. Ramsay-Hunt syndrome is a rare complication of varicella zoster virus (VZV) reactivation, which is latent in the geniculate ganglion. Este síndrome caracteriza-se por paralisia facial periférica, sintomas cócleo-vestibulares e exantema vesicular eritematoso que afecta o canal auditivo externo, o pavilhão auricular e/ou a mucosa da orofaringe. This syndrome is characterized by peripheral facial paralysis, cochlear-vestibular symptoms and vesicular erythematous rash affecting the ear canal, the pinna and/or mucous membrane of the oropharynx.

We describe the case of a 9 year old male child, with a personal history of varicella at 8 months of age, who began complaining of right ear pain associated with the appearance of erythematous vesicular rash at the pinna and external auditory canal of right ear. Três dias depois desenvolveu quadro de paralisia facial periférica, síndrome vertiginosa e cefaleias. Three days later he developed peripheral facial paralysis, vertigo and headache. O diagnóstico foi feito com base na clínica e na exclusão de outras causas de paralisia facial periférica. The diagnosis was based on clinical examination and supported by the exclusion of other causes of facial paralysis. Foi avaliado por ORL e realizou audiometria compatível com surdez de transmissão e surdez neurosensorial para altas frequências à direita. He was evaluated by an ear-nose-throat specialist and held an audiometry compatible with high frequencies transmission and neurosensorial deafness on the right. A serologia era compatível com reativação do VZV. Serology tests were consistent with VZV reactivation. Iniciou tratamento com aciclovir e corticoterapia, complementado com fisioterapia. Treatment with acyclovir and steroids was started and supplemented with physiotherapy. At 4 weeks of follow-up he showed marked improvement of peripheral facial paralysis and hearing.

With this case the authors intend to highlight the importance of clinical suspicion of this syndrome in a child with peripheral facial paralysis. O síndrome de



Ramsay-Hunt é muitas vezes sub-diagnosticado e confundido com a paralisia de Bell, mas o seu prognóstico é menos favorável dado que a taxa de recuperação da mímica facial é inferior a 50%. Ramsay-Hunt syndrome is often underdiagnosed and confused with Bell's palsy, but its prognosis is less favourable, as the rate of recovery of facial movement is less than 50%. Nevertheless, clinical improvement can be achieved with early treatment with steroids and acyclovir.

## PP100

### CLINICAL EXPERIENCE WITH RSV INFECTIONS IN HOSPITALIZED CHILDREN

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**Introduction:** RSV is the leading cause of lower respiratory tract infections in infants and children .

**Purpose:** We aimed to present our data about RSV infections in hospitalized children.

**Patients and Methods:** The prospective study was performed between 2008 and 2011 in children, who were referred to the Yeditepe University Hospital with fever or respiratory tract infection with RSV positive nasopharyngeal aspirate samples. Virologic diagnosis was made by multiplex reverse transcription-polymerase chain reaction. Demographic and clinical data of the patients were evaluated. Findings were analysed with SPSS.13 package-programme.

**Results:** A total of 61 cases, including 28 girls 33 boys were studied. 28(45%) of the cases were between 0 and 6 months, 23(37%) were between 6 and 24 months and 10(16.3%) were older than 24 months. Eleven point five percent had the history of premature birth. Of the 85% of the cases were admitted during the winter and 15% in the spring. None of the cases have admitted in summer. While all of the patients presented with cough, fever was observed in 23(37.7%), and tachypnea in 30(49%) of the cases. The bronchiolitis scoring revealed 26(42.6%) patients as mild, 34(55.7%) patients as moderate. A single case (1.7%) was assessed as severe. In chest radiographs, bronchopneumonic infiltration in 30(49.1%) and aeration difference was found in 10(16.3%) cases. In 10(16.3%) patients parenteral steroids and in 9(14.75%) patients the inhaler steroids were indicated. Average length of hospital stay was 5 days. Recurrent episodes of bronchiolitis were observed in seven patients during the follow-up after discharge. Only one patient had hypoxia. The presence of fever in children older than 24 months and the parenteral steroid administration in cases with the history of premature labor were found statistically significant.

**Conclusion:** Findings in our study except for the fever in the children over 24 months of age and the parenteral steroid administration in cases with the history of premature labor were consistent with the literature.

## PP100A

### DETECTION AND EVALUATION OF HAEMOPHILUS INFLUENZA IN BACTERIAL MENINGITIS IN CHILDREN

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**Background:** Haemophilus influenza type b has been demonstrated to be the most frequent bacterial pathogen causing meningitis in infants and young children. H. influenzae may be under detected because of inadequate techniques for isolation or overuse of antibiotics before with recovery of causative agents in bacterial meningitis.

**Methods:** To determine whether a diagnostic test based on a polymerase chain reaction could be used as an alternative to conventional CSF culture for diagnosis of Haemophilus influenza type b(Hib) meningitis in infants and young children investigated. DNA was extracted from CSF and probed for the presence of Hib DNA with PCR assay with primer derived from the sequences encoding a capsulation-associated protein; a protein most probably involved in the intracellular transportation of the capsular polysaccharide, and would be expected to react only with capsulate H.influenzae strains.

**Results:** Two hundred three cerebrospinal fluid (CSF) samples collected consecutively from children(<5 years) suffering from meningitis were investigated by PCR. There were all the cases of clinical meningitis admitted to three children hospitals in 18 months duration period. Five samples were culture positive for Haemophilus influenza.

## PP100B

### PRIMER OCULAR TUBERCULOSIS PRESENTED WITH UVEITIS IN CHILDREN

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**Background and aims:**Uveitis associated with rheumatic diseases is more common in children. In the developing world, infectious uveitis occurs in greater frequency, attributing from 11.9% to 50% of cases to infection.

**Methods:**Herein, we report two cases of primary ocular tuberculosis when they were under the corticosteroid and azathioprine treatment for sight-threatening uveitis. First case had granulomatous uveitis, but it was non-granulomatous inflammation at the time of diagnosis and the

second one was developed non-granulomatous inflammation. The positive test results of ppd and QuantiFERON-TB® Gold In-tube test (QFT-GIT) and with the clinical response to anti-tuberculosis treatment were convincing for the diagnosis of ocular tuberculosis. In these cases, chest x-ray and computed thorax tomography did not show any evidence of active or healed/primary or reactivated disease in the study period.

**Results:** During the anti-tuberculosis therapy, uveitis was subsided and, complete remission was achieved in six months.

**Conclusions:** Up to now it was reported very few cases of uveitis presented with primary ocular tuberculosis. It is important as very few cases may present with uveitis as an initial sign. Tuberculosis should be considered in the differential diagnosis when the uveitis worsens despite immunosuppressive therapy for those living in high-risk regions.

#### PP100C

##### **STREPTOCOCCUS PYOGENES IN PHARYNGEAL CULTURES IN CHILDREN**

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**Introduction:** Group A beta-hemolytic streptococcus (GAS) is one of the most common causes of bacterial pharyngitis-tonsillitis in children. The best way to provide definite diagnosis is by pharyngeal swab culture.

**Purpose:** To record the prevalence of GAS in pharyngeal swab and associated resistance to Penicillin, Erythromycin and Clindamycin.

**Material:** We studied the results of pharyngeal cultures from children that presented at the Pediatrics dept. of our hospital during the period 1/1/2010 to 31/12/2010. Hundred and eighty seven children with clinical symptoms of pharyngitis were included.

**Methods:** All cultures were performed using common growth media, MacConkey-chocolate agar-blood agar. The bacterial species identification was done by Microscan WalkAway plus System (SIEMENS)®. The sensitivity of the isolated bacterial strain to different antibiotics was checked by diffusion disks in blood agar. Three of the most commonly used antibiotics were checked, Penicillin, Erythromycin and Clindamycin according to the Clinical Laboratory Standard Institute (CLSI) guidelines.

**Results:** Of the 187 samples included in our study, GAS was isolated in 50 (26.73%). The strains were found to present resistance to the checked antibiotics as follows: Penicillin 0 (0%), Erythromycin 15 (30%), Clindamycin 8 (16%). No resistance was found to Penicillin which makes it the antibiotic of choice for treating bacterial pharyngitis.

Erythromycin and Clindamycin are still a good alternative though they present an increasing resistance rate in Greece.

## **NEONATOLOGY**

### **PP101**

#### **MANAGEMENT PRACTICES OF NEONATAL ABSTINENCE SYNDROME IN SCOTLAND**

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**Aim:** To ascertain the present management of NAS in Neonatal Units in Scotland.

**Method:** Telephone questionnaire to 15 neonatal units in Scotland with repeated telephone follow-up of non responders.

**Results:** The response rate was 100% and 93% (14 units) of responders treat NAS in their units. All these 14 units have had a formal guideline (protocol). The median number of infants treated annually for NAS was 4 (range 1–100). Most (50%) of the units used Finnegan scoring system to assess NAS, but 28.5% of the units used Lipsitz scoring system, one unit (7%) used their own system and two units (14%) did not use any scoring systems.

All 14 units used morphine sulphate as 1st line treatment for opiate. Dosing regimens varied widely. And most of the units (92%) used morphine as a 1st line agent for polydrug withdrawal. Phenobarbital was the drug of choice to treat seizures secondary to both opiate and polydrug withdrawal in 78% and 71% of units respectively.

Cranial ultrasound scans used only for selected cases like babies who are having seizures and for cocaine withdrawal. Renal Ultrasound scan was also done only on selected cases. 21% of the units discouraged breast feeding of mothers whose serology was +ve for hep B and/or hepC.

All 14 units encourage breast feeding while mum is on methadone. Of the 57% of units allowed infants to be discharged home on medication, out of this 50% followed up in the community.

In all these units nurses are involved in the scoring systems but in three units (21%) parents are also involved in the scoring systems.

Urine Toxicology of babies routinely had been done in only 50% of the units. 57% of the units had done urine toxicology of mothers before delivery.

**Conclusions:** Our study shows morphine sulphate is the drug of first choice in the majority of neonatal units to treat NAS. And there are variations among the units regarding scoring systems, indications for cranial ultrasound scan, renal ultrasound scan and breastfeeding policy when mother is on methadone. This could reflect lack of randomized controlled studies in this field and further research is required to evaluate the short and long term physical and emotional effect of current medical therapy and prolonged hospitalisation.

**PP102**

**PHOTOTHERAPY AND DNA CHANGES IN FULL TERM NEONATES WITH HYPERBILIRUBINEMIA**

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**Background:** Phototherapy has remained the standard care for the treatment of hyperbilirubinemia in infants for four decades. Oxidative effects of phototherapy on cell membranes may have a wide range of potential adverse effects, which can lead to lipid peroxidation and DNA damage. Human cells use many strategies to protect genomic DNA from accumulating such lesions. Apoptosis is very critical for the maintenance of homeostasis, tissue differentiation, and removal of damaged cells. BCL2 is an oncogene which blocks apoptosis.

**Objectives:** To assess the effect of phototherapy on DNA including apoptosis in full term neonates with hyperbilirubinemia.

**Patients and Methods:** This study included 35 newborn with indirect hyperbilirubinemia and had received phototherapy for 48 h. The other (20) were apparently healthy full term neonates with normal serum bilirubin level as control group. Determination of DNA damage by: DNA fragmentation and micronucleus assay. Determination of anti apoptotic protein (Bcl2).

**Results:** The frequency of micronuclei in circulating lymphocytes was significantly higher among cases before and after phototherapy compared to controls ( $P < 0.001$ ;  $P < 0.00001$ ) respectively. DNA fragmentation in circulating Lymphocytes, was significantly higher among cases before and after phototherapy compared to controls ( $P < 0.0001$ ;  $P < 0.00001$ ). The plasma Bcl-2 protein was significantly lower in the cases before and after phototherapy compared to controls ( $P < 0.01$ ;  $P < 0.01$ ) respectively.

**Conclusions:** Phototherapy was found to induce DNA damage and induce apoptosis through an evident down regulation of BCL2 level in newborn with hyperbilirubinemia.

**Keywords:** Hyperbilirubinemia, Phototherapy, DNA, Apoptosis.

**PP103**

**RSV HOSPITALIZATION IN INFANCY IS ASSOCIATED WITH AN INCREASED RISK OF CHILDHOOD RESPIRATORY MORBIDITY: A POPULATION-BASED STUDY**

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**Introduction:** Hospitalization for respiratory syncytial virus (RSV) or lower respiratory tract infection (LRTI) in

infancy is associated with increased childhood chronic respiratory morbidity. However, no population-based data are available to characterize this morbidity throughout childhood.

**Purpose:** To estimate the increased risk of chronic respiratory morbidity after hospitalization for RSV or LRTI in infancy.

**Methods:** A retrospective population-based study of the Régie de l'Assurance Maladie du Québec databases included all babies born in 1996–1997 and continuously enrolled for their first 2 years of life. Hospitalizations for RSV or LRTI were identified by ICD-9 codes within the first 2 years of life, and a comparison cohort generated from all babies not hospitalized. Chronic respiratory morbidity over eight years of follow-up was identified by ICDs for asthma, chronic wheezing, chronic bronchitis, or chronic lung disease. Incidence rates and incidence rate ratios (IRRs) with 95% confidence intervals (CIs) comparing risk among those hospitalized in infancy to the comparison sample were calculated.

**Results:** Of 144 952 eligible babies, 228 (0.2%) and 7081 (4.9%) were hospitalized for RSV or LRTI, respectively, before age two; the cause of 97% of LRTIs was unspecified. Over the follow-up period, 50.0% of those hospitalized for RSV (114/228) and 52.0% of those hospitalized for LRTI (3679/7081) were diagnosed with chronic respiratory morbidity; compared to 27.8% (38 339/137 863) of the non-hospitalized comparison. IRRs for respiratory morbidity were 2.18 (2.10–2.25) and 2.37 (2.26–2.49), for males and females aged 2 to <5 years, respectively. IRRs for respiratory morbidity at age 5 to <10 years were slightly less: 1.67 (1.59–1.74) and 1.76 (1.66–1.88) for males and females, respectively. Results were similar for RSV hospitalization.

**Conclusion:** Infants hospitalized for RSV or LRTI are twice as likely to develop chronic respiratory morbidity in childhood, compared to non-hospitalized children, suggesting the burden of RSV and LRTI continues beyond infancy.

**PP104**

**ASSESSMENT OF FACTORS AFFECTING LYMPHOCYTE ACTIVATION IN THE NEONATE**

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**Introduction:** Alterations of the adaptive immune system play a central role in the development of perinatal complications.

**Purpose:** To assess the relation between the elements of adaptive immunity and chief factors leading to preterm birth (preeclampsia (PE), premature rupture of membranes (PROM)), as well as gender and prenatal steroid treatment (PS) during the first postnatal week.

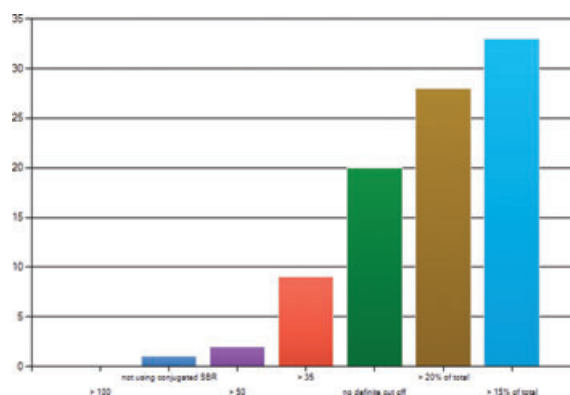
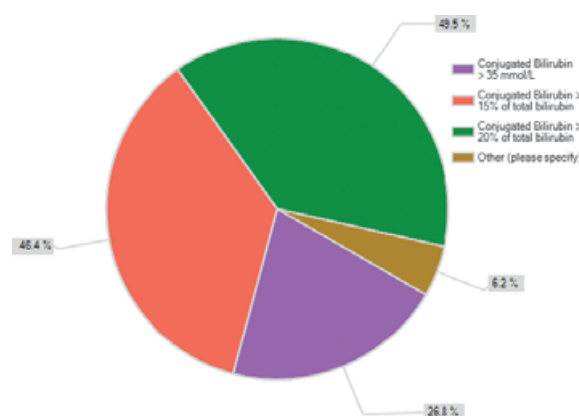


**Material:** We enrolled 22 female and 21 male preterm infants born before the 33rd week of gestation and with <2000 g birthweight.

**Methods:** Peripheral blood samples were drawn at birth (from cord-blood) and on the 1st, 3rd, and 7th postnatal days of life. We characterized the prevalence of major lymphocyte subsets (CD4, CD8, Th1 [CXCR3+], Th2 [CCR4+]) and that of activated lymphocytes (CD69+, CD25+, CD62L+) using flow cytometry. The independent effects of postnatal age, PE (n = 8), PROM (n = 13), PS (n = 25) and gender were analyzed using the “mixed effect model”. Where an effect was noticed, Mann-Whitney test was applied to determine the extent of alteration.

**Results:** The prevalence of CD62L+ lymphocytes was higher in male than in female infants. The prevalence of CD25+ cells was increased in cases of PROM. The prevalence of CD4 and CD8 cells were decreased in PE. Postnatal age and PS did not affect the prevalence of investigated markers. Prevalence of other lymphocyte subsets investigated was not influenced by the above factors.

**Conclusions:** The gender of patients and the ground for preterm birth do influence the elements of adaptive immunity. Based on clinical experience, severe perinatal complications occur more frequently in cases when PROM or PE is present. Furthermore, it is known that perinatal morbidity of male infants is elevated compared to female infants. Our observations indicate that alterations affecting the elements of adaptive immunity investigated in this study contribute to these phenomena.



## PP105

### RANGE OF NICU PRACTICE IN ENGLAND AND WALES REGARDING THRESHOLDS FOR NEONATAL CONJUGATED HYPERBILIRUBINAEMIA AND RELEVANT INVESTIGATIONS

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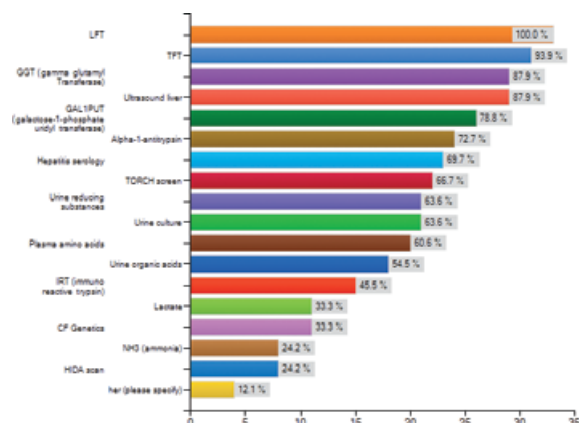
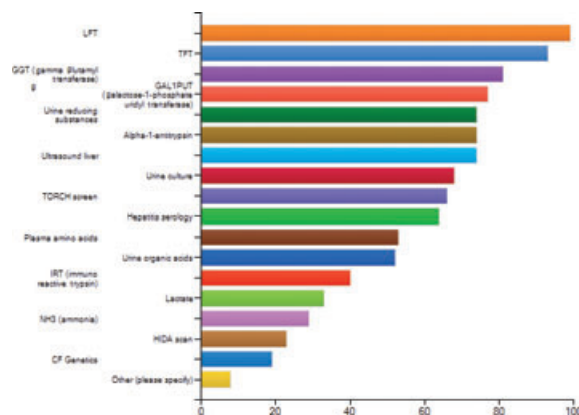
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**Introduction:** Conjugated jaundice is a common problem in NICU care setting. However, several investigations are performed to exclude underlying liver disease. Opinion differs on diagnostic value of such investigations.

**Purpose:** To evaluate practice related to investigation of conjugated jaundice in NICUs across England and Wales.

**Material and Method:** Questionnaire survey of lead neonatal consultants from all neonatal units in England and Wales. Questions included definition of conjugated jaundice, bilirubin cut off that prompted investigations, tests performed and opinion on the yield for investigating.

**Results:** Of 102/194 NICUs (52%), responded to the survey of which 33 were level 3 units, 50 level 2 and 19 level 1 units. 96 units (94%) performed conjugated jaundice screen and 6 units (6%) did not. Seventy seven units (75%) had a written policy. 49% of responders defined conjugated jaundice as conjugated bilirubin >20% of total



bilirubin and 46% as >15% of total bilirubin and 5% of units did not have a clear definition. Conjugated bilirubin levels that prompted investigations varied between units with 28 (30%) using conjugated bilirubin >20% of total, 33(36%) a conjugated bilirubin >15% of total and 20 (21%) with no definite threshold. Majority (>76%) of units performed liver and thyroid function tests, Galactosaemia screen,  $\alpha$ -1 antitrypsin and liver ultrasound. In addition to above investigations, 65% of units performed urine culture and hepatitis serology, 32% performed urine organic acids, NH<sub>3</sub> and lactate. 19 units performed CF genetics and 23 HIDA scan. 71% of responders (which included two out of three neonatal units with in-house paediatric hepatology services) thought "diagnostic yield" from these tests were "poor" and 44% based this on their personal view, 29% on local data and 27% on anecdotal evidence.

**Conclusion:** Our study identified a wide variation in definition and investigation of conjugated jaundice in neonates. Most neonatologists believe yield from these investigations is poor. Further studies are needed.

#### PP106

##### CHANGES OF NEUROSPECIFIC PROTEINS IN CHILDREN WITH CEREBRAL ISCHEMIA

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**Introduction:** Neurotrophins constitute the family of structurally related, secreted proteins, which regulate the survival, differentiation and maintaining of functions for various neuronal populations. In this connection, it appears to be very promising to determine the levels of the following neurospecific proteins in biological fluids: S100B, growth factor, isolated from cerebrum brain derived neurotrophic factor (BDNF), and ciliary neurotrophic factor (CNTF).

**Object of study:** To determine concentration changes of S100B, BDNF and CNTF proteins in blood serum of children of the first year of life, that undergone ischemic lesions of brain, in order to estimate the diagnostic value of these biomarkers.

**Materials and Methods:** Total of 167 children aged from 1 to 12 month (average age of  $5.5 \pm 1.6$  month) that undergone perinatal cerebral lesions have been studied. There were 109 boys (65%) and 58 girls (35%). Infants were divided into four groups: I – children, that undergone cerebral ischemia-hypoxia of light severity, II – children, that undergone cerebral ischemia-hypoxia of moderate and hard severity, III – children with intraventricular hemorrhage; and group IV was comprised of arbitrary healthy infants.

Under clinical observation electroencephalography, ultrasound examination of brain and MRI have been conducted. Concentrations of S100B, CNTF and BDNF in blood serum for all studied children were determined by the ELISA method.

All data were statistically treated using application program package Statistica 6.1. Statistical confidence was estimated using Student *t*-test ( $P < 0.05$ ).

**Results:** The conducted studies showed that serum concentrations of S100B have been increased in more than 1.4 times ( $P < 0.05$ ) in children, that undergone hypoxic-ischemic lesions of light and moderate severity versus control. In children with intraventricular hemorrhages protein S100B levels have been increased in 1.2 times ( $P < 0.05$ ) versus control.

Blood serum contents of BDNF have been decreased in more than two times ( $P < 0.05$ ) in children that undergone intraventricular hemorrhages. However, in children with hypoxic-ischemic lesions of brain, irrespective of lesion severity, BDNF serum concentrations have not been substantially changed. The analysis demonstrated that high frequency of motor defects in children of group III closely correlates with BDNF contents in blood serum ( $r = 0.62$ ,  $P < 0.05$ ) which can be defined by the direct participation of BDNF in regulation of synaptic activity and neuronal motor function.

The dynamics of CNTF contents in blood serum of studied children was characterized by the increasing of its concentrations in 1.8 times ( $P < 0.05$ ) only in children with light hypoxic-ischemic lesions of CNS versus control. In patients of groups II–III with hard severity of brain lesions, CNTF serum concentrations have been decreased in two times ( $P < 0.05$ ) versus control, which may be associated with the formation of chronic neurodegenerative process in these patients.

**Conclusions:** Cerebral ischemia in children causes substantial increase of neurotrophins contents in blood serum only in case of light cerebral hypoxic-ischemic lesions. With the increasing of severity of cerebral ischemic lesions the levels of neurotrophins have been substantially decreased that demonstrates formation of chronic neurodegenerative process and contributes to the diagnostic criteria of cerebral ischemia in newborn infants.

#### PP107

##### URINARY EXCRETION OF PHENOLIC ACIDS BY INFANTS AND CHILDREN: IMPLICATIONS FOR THE RECURRENCE OF URINARY INFECTION

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**Abstract:** Cranberry syrup has proven useful for the treatment of urinary tract infection (UTI). Its bioactivity, mainly aimed at inhibiting the adherence of *E. coli* to the uroepithelium, has been related with its high concentration of A-type proanthocyanidins. In the present study, we analyse the urinary excretion of phenolic acids by patients

recruited during clinical trial ISRCTN16968287, on cranberry syrup treatment for UTI among a paediatric population.

**Methods:** A total of 192 patients were recruited. The subjects were aged between 1 month and 13 years. Each was randomly given 0.2 mL of either cranberry syrup or trimethoprim (8 mg/mL). The maximum follow up period was 1 year. Follow up was terminated when patients developed UTI. Kaplan-Meier survival analyses and Cox's regression analyses were performed. The urinary excretion of phenolic acids was determined at 12 h after taking the syrup.

**Results and Conclusions:** We observed urinary levels of 3,4-di-hydroxyphenylpropionic, protocatechuic and 3,4-dihydroxyphenylacetic equivalent acids among the patients who took cranberry syrup or trimethoprim. The urinary excretion of ferulic acid and total phenolic acids was higher among the patients aged under 1 year, with no significant differences being found between the patients who took cranberry syrup or trimethoprim. We observed a very significant increase in the risk of urinary infection, related to the excretion of ferulic acid. The excretion profile of phenolic acids among younger children seems to indicate that the doses of cranberry syrup used during assay ISRCTN16968287 may be insufficient for very young lactating infants.

#### PP108

##### THE PROTECTIVE ROLE OF BREASTFEEDING AGAINST SEVERE RESPIRATORY INFECTIONS

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**Introduction:** Breastfeeding is a valuable resource that has a protective role against infections in infancy and childhood.

**Purpose:** The objective of this study is to define the nutritional profile- breastfeeding or formula feeding- of all infants that were hospitalized because of acute respiratory infections and measure the breastfeeding effect on hospitalizations.

**Material and Methods:** We conducted a single-centered retrospective study of all infants that were admitted to a pediatric department of a third-leveled hospital during a one year period (especially winter and spring time) because of severe and acute respiratory infections. We included all infants, boys or girls, full-term or preterm, aged from 30 days old to 18 months old that were hospitalized according to clinical and laboratory criteria, indicative of a severe, acute respiratory infection. Their nutritional profile that involved breastfeeding or not and its duration from

birth up to now was registered. Other known adverse factors were also taken into consideration such as gestation, simblings, vaccination status, social-economic conditions, mother age.

**Results:** During 2010, 102 infants-69 boys and 33 girls- were admitted to our clinic because of severe bronchiolitis, acute otitis media, pneumonia, respiratory distress, wheezing. From these, only 20 infants were breastfed for at least 6 months. All the others were provided with formula. A 53% percentage of the above mentioned infants had brothers and sisters and a 46% of all were also of low social economic background.

**Conclusions:** Adverse factors were all associated with an increased risk of admission with respiratory infection but breast feeding still appears to play a strong, leading role among the beneficial, protective factors.

#### PP109

##### THE EFFECTS OF INTRAVENOUS IMMUNOGLOBULIN(IVIG) IN HEMOLYTIC JAUNDICE OF THE NEWBORN DUE TO ABO AND RH ISOIMMUNIZATION

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**Introduction:** Recent studies suggested the role of IVIG in decreasing immune hemolytic jaundice of the newborn and need to exchange transfusion using.

**Purpose:** This study evaluated the effects of IVIG on hemolytic jaundice of newborn due to ABO and Rh isoimmunization.

**Material:** This clinical trial study was performed on 80 hospitalized newborns with hemolytic jaundice due to ABO and Rh isoimmunization in neonatal ward of Tehran Mahdih hospital between October 2007 and October 2008.

**Methods:** Neonates were assigned randomly to control (phototherapy) and case (phototherapy plus IVIG) groups. IVIG was administered as 500 mg/kg during 4 h and up to maximum three doses, if it was required. Severity of jaundice, duration of phototherapy, hospitalization stay, need to exchange transfusion and complications of IVIG administration were evaluated. Data was analysed using SPSS software and by Chi-square and independent *t* tests.

**Results:** Duration of phototherapy, hospitalization and exchange transfusion were significantly lower in neonates who took IVIG in addition to phototherapy than control group. No complication of IVIG were observed.

**Conclusions:** Administration of IVIG is an effective and safe method for decreasing severity of immune hemolytic jaundice of newborns and need to exchange transfusion using.



## PP110

# **POST-DISCHARGE FEEDING PRACTICES AND GROWTH OF HUMAN MILK-FED INFANTS: RESULTS FROM A MULTICENTER STUDY OF PRETERM INFANTS IN CHINA**

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**Introduction:** Improved understanding of feeding patterns of post-discharge preterm infants in China is essential to facilitate appropriate nutritional management. Currently limited data exists.

**Purpose:** To characterize feeding practices, human milk (HM) use, and growth in preterm, low-birthweight Chinese infants after hospital discharge.

**Methods:** Preterm infants  $\leq 34$  weeks gestation and  $< 2000$  g at birth were enrolled across three centers in a prospective, observational study. Anthropometry and feeding information were collected at term (40 weeks), 1 and 2 months corrected age (CA). Feeding type, frequency, and caloric density were captured using a 1-day feeding diary.

**Results:** Of 100 infants enrolled, 90 completed the study (54 male; 36 female). Mean gestational ages at birth and discharge were 31.3 (1.6) and 35.5 (1.5) weeks, respectively. Sixty percent of infants consumed HM (exclusively or in combination with formula) through 2 months CA (Table 1). Mean weight-for-age z-score for predominantly ( $> 80\%$ ) HM-fed infants was -0.95 (0.7) at hospital discharge. Subsequent mean weight gain velocity (WGV) of these infants during the study was 38.7 (8.7) g/day, which exceeds current recommendations of 25–35 g/day. Of clinical interest, 16–22% of HM feedings through 2 months CA were supplemented to  $\sim 82$  kcal/dL with a HM fortifier intended for hospital use, possibly contributing to higher WGV.

**Conclusion:** Provision of specialized nutrition in HM-fed infants may be beneficial to promote catch-up growth. This foundational research emphasizes the need for further data and suitable nutritional solutions to help ensure appropriate post-discharge growth and nutritional management of HM-fed preterm infants.

Table 1: Percent of infants fed HM, formula or combination of both

	Term (40 weeks)	1 month CA	2 months CA
Exclusively human milk-fed	21.1	19.8	17.8
Combination-fed	46.7	40.6	42.2
Exclusively formula-fed	32.2	39.6	40.0

## PP111

# **WITHDRAWN**

## PP112

# **INVESTIGATION FOR NEONATAL TREATMENT OF PRENATAL DIAGNOSED HYPOCHONDROPLASIA**

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**Introduction:** Hypochondroplasia is rare and the prognosis is very different. Prenatal diagnoses, based on ultrasound (US) examination and computed tomography is crucial for parental counseling and babies management after birth. We report five cases of hypochondroplasia who were detected skeletal dysplasias *in utero*.

**Methods:** We investigate five hypochondroplasia cases diagnosed *in utero* by fetal computed tomography(CT), prenatal diagnosis, gestational week (GW), birth weight (BW), clinical features after birth, clinical course, definitive diagnosis and prognosis.

## **Material**

**Case1:** Male, 39 weeks gestation (GW), BW 3070 g Apgar Score(Apg) 4/5. Hypochondroplasia had been detected in second trimester. Alkaline Phosphatase was 0 U/L. Hypophosphatasia was due to *TNSALP* gene mutation. Homozygote mutation of 1559T *del*. He was dead by pulmonary hypoplasia and pulmonary hypertension on day 222.

**Case2:** Female, 37GW, BW 2826 g, Apg 5/6. Hypochondroplasia had been detected in 24 GW. Fetus 3D-CT was performed and suspected Kniest dysplasia. Mutation of *COL2A1* gene was detected in exon 17 splicing acceptor site 2nt A  $\rightarrow$  C.

**Case3:** Male, 40GW, BW 3118 g, Polyhydramnios and short extremities had been detected in 30GW. Short extremities and stature in 3D-CT in uterus suggested hypochondroplasia but no mutations was detected.

**Case 4:** Male, 37GW, BW 2184 g, Apg 4/4. Short extremities had shown *in utero* US at 30GW.

Hypoplastic thorax, severe short extremities and cervical vertebral body dissociation were detected in 3D-CT. Mutation in *COL2A1* gene was detected. Exon 26 codon 367 GGT  $\rightarrow$  GAT. He is mechanical ventilation at home.

**Case 5:** Male 37GW, BW 2452 g, Apg 7/9. Short extremities and Polyhydramnios had shown in uterus US at 33GW. Severe hypoplastic bell-shaped thorax and severe short extremities in Fetus CT suggested thanatophoric dwarfism. After birth, due to clinical presentation and course, definitive diagnosis was thanatophoric achondroplasia

**Results:** Characteristic finding in fetus 3D-CT makes prenatal diagnosis properly. Prenatal diagnosis makes appropriate treatment for baby and explanation for family smoothly.

Conclusion: Definitive diagnosis needs clinical findings and genetic test. Fetus 3D-CT and US makes comparatively correct prenatal diagnosis without molecular exam.

#### PP113

##### **STUDY OF PRESSURE VOLUME LOOP IN RELATION TO X RAY FINDINGS AMONG VENTILATED NEWBORN INFANTS**

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**Introduction:** Pulmonary graphics monitoring of lung during ventilation have shown a reliable data among many ventilated newborn infants. Exposure of the newborn infants and NICU staff to frequent radiation from X-ray chest carries great risk.

**Aim of work:** The aim of this study is to correlate the chest X-ray changes to the pressure –volume loop findings.

**Subjects and Methods:** Fifty five ventilated infants were included in this study .They all subjected to medical evaluation and care according to the routine of our unit. The findings from X ray were collected as well as the pressure volume loop monitoring data at the same time. The data were collected and analyzed using SPSS.

**Results:** The most common cause of admission was respiratory distress syndrome. Our results showed that a correlation between pressure volume loop abnormalities as there was narrow loop and slit like pattern when X-ray chest showed bilateral pacification and white out lung (60%), and increases inspiratory resistance with widening of pulmonary loop when classic findings of radiological chronic lung diseases . The positive predictive value was 90.6 and sensitivity 100%.

Also study of pressure volume loop can indicate faulty in air flow when showed a flow starvation pattern. Segmental radiological abnormalities did not correlate with pressure volume loop anomalies.

**Conclusion:** Pressure volume loop abnormal changes can correlate significantly with the generalized lung diseases.

#### PP114

##### **FAECAL CALPROTECTIN INCREASES IN PRETERM INFANTS WITH NECROTIZING ENTEROCOLITIS**

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Calprotectin used as a marker of inflammatory bowel disease in children . There is limited information about

calprotectin in neonatal necrotizing enterocolitis (NEC). We performed a study to investigate faecal levels of calprotectin for necrotising enterocolitis in preterm infants and correlate it's levels with severity of disease. Infants with necrotising enterocolitis had increased faecal calprotectin concentrations at the time of diagnosis compared with controls (185 mg/L and 104 mg/L respectively;  $P = 0.006$ ). There was a correlation between calprotectin concentrations and severity of NEC. Faecal calprotectin is a useful marker for diagnosis and severity of NEC in preterm infants.

**Keywords:** Calprotectin, Necrotising enterocolitis.

#### PP115

##### **WITHDRAWN**

#### PP116

##### **CRYPTOCOCCUS ALBIDUS FUNGEMIA IN A PREMATURE NEONATE**

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**Introduction:** Cryptococcus Albidus is a cosmopolitan fungus found on plants, water and on humans' skin. The isolation of Cryptococcus species should be interpreted with caution and supporting with clinical and microscopic evidence. We report a rare case of Cryptococcus Albidus fungemia in a premature infant, in Greece.

**Methods:** A premature male, 27 weeks of gestation, weighting 1100 gr, was born by cesarean section and Apgar score (at 1'-3 and 5'-5). It was immediately intubated and admitted to the NICU. Synthetic surfactant was administered. He had been mechanically ventilated for 13 days and was started on antibiotic therapy. Umbilical veins were placed. On the 9th day, the infant looked unwell. On the 10th day, a central venous line (long-line) was placed. The 17th day, CRP was 28 mgr/dL and blood and urine cultures grew Cryptococcus Albidus. CSF study revealed no growth of fungi or bacteria. After that, amphotericin B and flucytosine were added in infant's treatment, based on susceptibility pattern and he received them for 12 days.

There was clinical and laboratory response to them.

**Conclusion:** Although infections with Cryptococcus Albidus are rare it should be considered as a potential cause of ocular and systemic disease in immunocompetent patients and those with AIDS. Almost all isolates are susceptible to amphotericin B, flucytosine and azoles.

PP117

**SEVERE FAT CUTANEOUS NECROSIS IN A INFANT OF DIABETIC MOTHER- A CASE REPORT**

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**Introduction:** Abnormal maternal glucose regulation occurs in 3–10% of pregnancies. It's known that infants of diabetic mothers have an increased risk of perinatal mortality and morbidity, like dystocia, macrosomia, hypoglycemia, hypocalcemia, hyperbilirubinemia and congenital malformations.

**Purpose:** We report a rare consequence of uncontrolled gestational diabetes in association with hypothermic newborn and management.

**Case report:** A female child was born in a level-1 hospital, after a normal pregnancy, except for diabetes screening. Due to fetal distress at 39th wk, c-section was performed. The baby was LGA, with apgar score of 3/6/6.

Initially, she had clinical criteria for therapeutic hypothermia and was transferred to a NICU, in passive hypothermia with 3 h of life. As the EEG was normal, it was decided not to proceed. Hypertrophic cardiomyopathy and pulmonary hypertension were diagnosed and treated with iNO. On the 6th day, she developed severe fat cutaneous necrosis requiring opioid analgesia, sedation and mechanical ventilation. She had hypoglycemia and early and late-onset sepsis with thrombocytopenia that required transfusions. The MRI showed ischemic periventricular lesions, with normal basal ganglia and posterior limb of the internal capsule. She was discharged at day 35, but 5 days later she was readmitted with feeding difficulties and hypercalcemia (max 18 mg/dL). She was treated with furosemide, steroid and hydric reinforcement. She developed renal lithiasis and bilateral medullary nephrocalcinosis, with normal renal function. Currently, she maintains monitoring, with favorable evolution.

**Discussion:** This is a case of a macrosomic infant with truncal fat deposition due to uncontrolled gestational diabetes. The hypercalcemia, unusual in these infants, can be explained by calcium mobilization from the necrotic area. The consequence of hypercalcemia is nephrocalcinosis that is aggravated by steroid and diuretics. The neonatal complications of gestational diabetes can be avoided by an early screening and proper management.

PP117A

**EVEN A BROKEN CLOCK IS RIGHT TWICE A DAY**

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**Introduction:** Accurate time keeping is fundamental to the clinical care of preterm/sick infants particularly at birth. Important decisions will be made based on total time elapsed during resuscitation. These children will also receive treatment in different areas of the hospital i.e. delivery room, resuscitation room and neonatal unit. Variation in the time displayed on wall clocks can lead to marked discrepancies in recording of events with direct consequences to clinical decision making and thus raising medico legal concerns. Limited evidence exists regarding the accuracy and clinical impact of time keeping by hospital clocks. Various studies have noted the inaccuracy of clocks in different ward settings [1–5] but question remains unanswered.

**Purpose:** To check accuracy of all the clocks in the maternity hospital against British Standard Time (BST).

**Methods:** We undertook an audit of the time displayed on all the clocks in maternity hospital. A digital watch was synchronised with BST prior to the survey and this was checked again immediately after the survey to ensure accuracy of retention.

**Material:** Following the initial audit results, all the clocks in both the neonatal unit and labour ward were replaced with radio-controlled clocks and re-audited after 6 months.

**Results:** In total we assessed 73 clocks, of which 30 (41%) correlated with BST. Time variation in others ranged from -6 to + 12 min, giving a clinical time variation up to 18 min.

A re-audit after 6 months of changing clocks revealed 100% accuracy against BST in the neonatal unit and labour ward, but a third (33%) of clocks in postnatal ward continued to demonstrate a time difference of up to 6 min.

**Conclusions:** Radio controlled clocks represent an inexpensive and highly effective way of displaying accurate time in clinical areas in the hospital and can have direct impact on your patient care.

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## NEUROLOGY-NEURODEVELOPMENTAL PAEDIATRICS

PP118

### EPILEPSY AND ADOLESCENTS: DANGEROUS QUESTIONS – DIFFICULT ANSWERS

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**Introduction:** Epilepsy and sufficient epilepsy treatment is a challenging problem for all clinicians taking care of patients crossing the difficult period of adolescence.

**Purpose:** The aim of the study was to investigate the impact of epilepsy in adolescents regarding their desire to have relationship with healthy classmates of the same or opposite gender.

**Material:** Of 137 adolescents (63 males, 74 females) epilepsy diagnosed (25 months mean time since disease diagnosis and treatment initiation) and aged 11–16 years were enrolled.

**Methods:** All patients were asked to fill a questionnaire trying to answer 5 "hot" questions: the mean number of seizures per month they had during the last 12 months period, the number of different anticonvulsant drugs used during the last 12 months period, the number of friends of the same gender they had during the last 12 months period, the number of friends of the opposite gender they had during the last 12 months period and finally the mean time in hours they spent with friends every week. SPSS-13 statistical software and chi-square test were used for data statistical analysis.

**Results:** Statistical significant correlation ( $P < 0.05$ ) was found between the number of seizures and the number of drugs from the one hand, and the number of friends and the mean time spend with friends from the other hand: the higher the number of seizures and/or drugs used, the lower the number of friends and/or the mean time spend with them. The results of this study show very clearly that epilepsy remains a major problem in the world of adolescents, regarding relationship with friends and that successful anticonvulsant therapy has a pivotal role not only in epilepsy itself but also-and this is the key-in establishment of an acceptable quality of everyday life.

PP119

### THE HEALTH CONDITION OF CHILDREN DURING THE FIRST THREE YEARS OF LIFE, WHO WERE CONCEIVED AND BORN AS THE RESULT OF ASSISTED REPRODUCTIVE TECHNOLOGIES

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**Applicability:** Data obtained in epidemiological research revealed that over the last decade the incidence rate of sterility has been growing, and in different regions of Russia it currently stands at 8%, in some areas reaching up to 17.8%. There is a clear predisposition and tendency for the incidence rate of sterility to grow, which allows scientists to designate the demographic situation in Russia as critical. Currently, Assisted Reproductive Technology (ART) is the only method available to correct most forms of both female and male infertility.

**Objectives of the investigation:** To study and evaluate the health condition of children during the first three years of life, who were conceived and born as the result of ART.

**Patients, materials and methods used:** In our Center comprehensive research was conducted in 375 children during the first three years of life after being born as result of the ART. The research included anthropometric methods in somatic development evaluation, physical examination, neurological and laboratory evaluation, neurosonography, ultrasound evaluation and MRI. 308 children (82% of all children involved in the research) were born via c-section. 34% of all evaluated children were twins (there were 64 sets of twins).

**Results:** Of 32 children (8%) were born with congenital abnormalities. Cardio-vascular, skeletal, muscular, and vision systems appear to be the most affected by abnormalities; whereas evaluation of the spinal cord and encephalon also reveal some pathology. Ninety four children (27%) were born prematurely with birth weights of <1.5 kg, and 128 children (34%) were born with birth weights of 1.5–2.8 kg.

Sixty nine of the newborns (18%) were diagnosed with signs of Intrauterine Growth Retardation (IUGR) which in most cases manifested as severe symmetrical IUGR. Of 329 children (87%) suffered hypoxic-ischemic encephalopathy during the neonatal stage of development: III degree – 42%, II degree – 31% and I–II degree – 14%. Nearly all children with severe and moderate hypoxia had an expressed paroxysmal neurological syndrome. Of 353 children (94%) had signs of respiratory distress syndrome (RDS), pathologic hyperbilirubinemia, hyperinsulinemic hypoglycemia. Eighty four children (22%) had to undergo through treatment in neonatal emergency care.

During the first year of life 101 children (27%) developed infantile cerebral palsy (ICP), and 146 children (38%) had severe paroxysmal disorder. Practically all of the children had psychiatric disorders and speech disturbances. By the time the children reached 3 years of age, 156 of them (42%) developed a cognitive development disorder of either a mild or moderate degree.

It is important to note that the disorders identified were most often confirmed in the children born as twins. Also, it is worth stressing the following observation: the rate of neonatal morbidity, infant and child morbidity, as well as incapacity or debilitation of children born as result of the ART was most prevalent. It was 6.3-fold higher than those of children born after natural fertilization.

**Conclusions:** Along with improving Assisted Reproductive Technologies, children born via ART should undergo an in-depth health evaluation during the early neonatal period. The postnatal period must be closely monitored as well. Special attention must be placed on studying morbidity patterns. The approach to conducting remote catamnestic surveys must be differentiated by whether a child is born of a twin pregnancy or of a single child pregnancy.

#### PP120

##### **KAWASAKI DISEASE COMPLICATED BY MILD ENCEPHALOPATHY WITH A REVERSIBLE SPLENIAL LESION (MERS)**

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**Introduction:** Kawasaki disease (KD) is an acute febrile, systemic vasculitis of unknown pathogenesis. Encephalitis or encephalopathy is an extremely rare complication of KD.

**Purpose:** To evaluate clinical and radiological features of KD patients complicated by clinically mild encephalitis/encephalopathy with a reversible splenial lesion (MERS).

**Patients:** Information on patients with KD who developed MERS was collected retrospectively. We reviewed the clinical charts of the patients in order to accrue information on symptoms, medication, treatment, outcome, and results of CSF analysis, MRI, and EEG.

**Results:** Five previously healthy Japanese patients (one male and four females, aged from 2 to 14 years) were enrolled in this study. All were treated with  $\gamma$ -globulin (1.8 to 6 g/kg) after the diagnosis of KD, the fever being alleviated between day 6 and 25. Two patients (8 and 14 years) had a cardiac aneurysm (five and eight mm) as a sequela. All five

patients presented with fluctuating delirium with onset between day 1 and 10, and a duration of 3 to 8 days. The Na level during neurological symptoms decreased to 119–134 mEq/L, which had become normal at the time of follow-up. MRI performed during their neurological manifestations revealed homogenously reduced diffusion in the splenium of the corpus callosum, which had completely disappeared by the time of follow-up (day 7–15). No specific treatment for MERS was performed for any patient; however, their neurological manifestations disappeared completely. EEG showed slow waves in three patients (became normal on follow-up EEG), and normal in the other two.

**Conclusions:** It is important for pediatricians to acknowledge that MERS can be observed in patients with Kawasaki disease, especially in older children, and that they might be at high risk for cardiac abnormalities.

#### PP121

##### **QUALITY OF LIFE IN SIBLINGS OF AUTISTIC CHILDREN**

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**Introduction:** Characterized by qualitative abnormalities in social interactions and its incidence increased. The aim of this study was to evaluate the Quality of Life (QOL) among siblings of autistic children.

**Methods:** Ninetyfive Egyptian siblings of autistic children as group1 and, 95 healthy children matched in age as a control group took part in this study. The study was conducted in the period of February 2009 -May 2010. Inclusion criteria: age between 6 and 12 years old and regular attendance to school. Exclusion criteria: absence of chronic illness; or psychiatric diseases; motor disabilities; cognitive and/or intelligence disabilities. Quality of life was evaluated by WHOQOL-BREF questionnaire, which assesses satisfaction in different life circumstances, by means of four factors (autonomy, leisure, functions and family).

**Results:** The mean age 9.2 year,  $\pm$ SD 3.7. QOL among siblings of autistic children was significantly limited in sibling of autistic than control ( $P = 0.02$ ). The level of impairment of physical ( $P = 0.002$ ) social relationships ( $P = 0.004$ ) and psychological ( $P = 0.01$ ) well-being were higher in female than in male sibling.

**Conclusion:** The quality of life was compromised in children by the presence of an autistic sibling. They are in need for additional support.

## PP122

**CHARACTERISTICS AND ETIOLOGICAL FACTORS OF NOCTURNAL ENURESIS IN SUDANESE CHILDREN**

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**Introduction:** Nocturnal enuresis is an involuntary passage of urine at night. It is most common in children aged 3–5 years and is classified as primary and secondary.

**Purpose:** This is case control study conducted in the outpatient clinic in a large tertiary hospital in Khartoum (Sudan). The objective of the study is to determine characteristic feature of children with nocturnal enuresis over a period of 2 years as a case control study (from Feb 2009 to Feb 2011). Another objective of the study is to determine case prevalence among Sudanese children admitted into the clinic during the study period.

**Methodology:** Inclusion criteria included all children aged 3–15 years who visit the clinic, diabetic patients, and patients with chronic heart disease on diuretics. Questionnaires were filled by the consultant in the outpatient clinic and patients were all given a reservation for a follow up visit. Then through clinical examination including systemic examination, blood pressure and through the investigations (CBC, urine analysis [RFT]) and electrolyte. The study population data was collected at the outpatient clinic one day a week. Verbal consent was taken from all the participants in the study. Consent was taken from the hospital for undertaking this study.

**Results:** The prevalence of enuresis was found to be 5.9% in children aged 3–5 years. Enuresis was found to be more common in males than females. With lowest prevalence in the children aged 11–15 years of age. Nocturnal enuresis was associated with family history in 58.3% of study group, 5% of control group had family history which is a significant difference with  $P = 0.001$ . Stressors and medical conditions had equally a strong association with enuresis with values of 9 (18.9%) and 11 (22.9%) respectively ( $P$  value in comparison with the control = 0.001). Both socioeconomic class and level of paternal education were insignificant in control and study group. Nocturnal enuresis is a distressing condition in which the parents and the child are both involved by the symptoms and further research is advised.

**Keywords:** Children, Family history, Females, Males, Nocturnal Enuresis, Socioeconomic, Sudan.

## PP123

**A RARE CAUSE OF UPPER AIRWAY OBSTRUCTION: BRAINSTEM DEMYELINATING ENCEPHALITIS**

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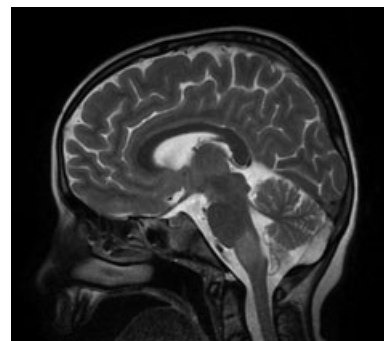
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**Introduction:** Acute disseminated encephalomyelitis (ADEM) is an inflammatory disease of the central nervous system (CNS). Although multifocal or disseminated lesions are characteristics of ADEM, there have been instances with localized central nervous system lesions. We defined a case referring to emergency department with fever, inspiratory stridor and respiratory failure mimicking epiglottitis and diagnosed as brainstem demyelinating encephalitis.

**Case:** A 10-year old male was admitted with 3 days of history of sore throat, fever and difficulty in swallowing, speaking and breathing progressed within hours. In physical examination inspiratory stridor, increased respirations, drooling, shortness of breath, dyspnea, decreased lung sounds, proneness to sleep and decreasing oxygenation saturation were determined. Besides, abnormal findings of VII, IX, X, XII cranial nerves involvement were observed in detailed neurological examination. Analysis of cerebrospinal fluid were normal. Cranial magnetic resonance imaging (MRI) showed the hyper-intense lesion covering all of the medulla oblongata on T2-weighted images (Picture 1) as strongly suggestive for ADEM. Since, clinical and laboratory findings strengthened the diagnosis of ADEM, pulse-steroid and then intravenous immunoglobulin treatments were given to the patient. He needed 13 days intensive care for respiratory failure. His clinical neurologic abnormalities were recovered in 3 weeks. Control MRI at the first month of the illness showed significant regression of the lesion (Picture 2).

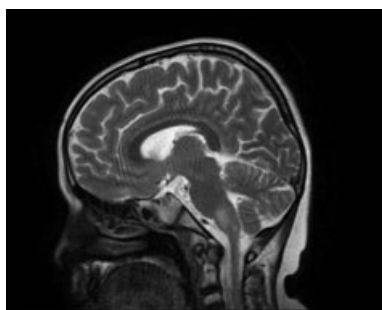
**Conclusions:** We emphasize that ADEM can be presented with different clinical symptoms. In this case, demyelinating brainstem lesion caused to upper airway obstruction and respiratory failure.

ADEM should be considered in cases with multicranial nerves involvement. Early diagnosis and appropriate treatment of the disease is important to reduce mortality and morbidity.



Picture 1 Hyper-intense lesion in medulla oblongata on the first MRI.





Picture 2 Regression of the lesion on control MRI.

#### PP124

### **MACROCEPHALY, DYSMORFIC FEATURES, WEST SYNDROME AND MENTAL MOTOR RETARDATION DUE TO UNBALANCED SEGREGATION OF FAMILIAL RECIPROCAL TRANSLOCATION BETWEEN CHROMOSOMES 8 AND 9**

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**Introduction:** We report on a patient, carrying the derivative chromosome originated from the reciprocal unbalanced translocation t (8,9) (p11.2;p22), presenting with macrocephaly, West syndrome, severe mental motor retardation and hypotonia.

**Case Report:** The patient was a boy now 2 years of age, born from healthy non-consanguineous parents who presented with hypotonia and craniofacial anomalies including macrocephaly, apparently low-set ears, hypertelorism; short, broad nose at 5 months of age. Family medical history is remarkable for the presence of severe mental motor retardation, epilepsy and macrocephaly in one paternal aunt, one uncle and one paternally related male cousin. Neurological examination revealed profound hypotonia with brisk deep tendon reflexes. Fundoscopic examination was normal. Laboratory analyses revealed a normal complete blood count and normal blood chemistry values, including levels of lactate, pyruvate and ammonia. Tandem mass spectrometry of serum and urine organic acid analysis were normal. He began to display flexor spasms at 8.5 months of age. Electroencephalography indicated modified hypsarrhythmia, and the patient was diagnosed as having West syndrome. Vigabatrin was administered and his spasms were resolved. We examined the affected 5 years old paternally related affected male cousin whose physical and neurologic examination was similar with our patient and medical history was remarkable with West syndrome. We were not able to examine the other affected family members. Cytogenetic analysis of both the patient and his cousin revealed a karyotype reported as 46,XY,-der(9)t(8,9)(p11.2;p22). The origin of derivative chromosome was a familial translocation detected in our patient's

father and his cousin's mother. Genetic counseling was given to the family.

**Conclusion:** Chromosome abnormalities should be considered in the differential diagnosis of children with all neurologic problems with craniofacial anomalies. This report defined a new chromosomal anomaly with infantile spasm.

#### PP125

### **CASE REPORT: SUBDURAL COLLECTIONS IN A 13-YEAR OLD GIRL WITH KIKUCHI DISEASE**

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**Introduction:** We report an unusual case of a girl diagnosed with Kikuchi disease, ten days later presenting with focal neurological signs secondary to bilateral subdural collections. We will discuss the diagnostic dilemmas that we were faced with and the specificity and sensitivity of testing for tuberculosis.

**Case report:** A 13-year Indian girl presented to our department with symptoms of weight loss, night sweats, fevers, cervical lymphadenopathy and headaches. There was history of contact with tuberculosis in the past.

On examination, she had palpable tender cervical lymph nodes. Bloods tests were unremarkable other than an ESR of 46. Investigations for tuberculosis including a Mantoux test, T-spot test and gastric washings were negative for acid-fast bacilli. Cervical lymph node biopsy was typical of Kikuchi lymphadenopathy with no evidence of granulomatous disease or malignancy.

Following her discharge home, 10 days later she presented with headache, neck pain, vomiting and diplopia. On examination she had bilateral papilloedema. A CT scan (unenhanced) of the head showed bilateral subdural collection. An MRI brain scan performed showed bilateral subdural collections of proteinaceous fluid with mass effect from the left side collection. There was also dural enhancement with gadolinium.

A left parietal burr hole and drainage of the collection was undertaken in order to relieve the mass effect as well as get fluid for analysis. Also a dural biopsy was performed.

**Results:** Microscopy of the fluid revealed white cell count of 680 mm<sup>3</sup> and protein of 77 g/L. She was prescribed a 14-day course of intravenous cefotaxime. Cultures were negative for acid-fast bacilli. PCR was negative for pneumococcus and meningococcus. The biopsy from the dura showed a caseous necrotising histiocytic inflammation, possibly representing Kikuchi disease, but could not rule out tuberculosis. Following drainage of the subdural collections she made an immediate and complete recovery, returning to school a week after discharge.

## PHARMACOLOGY

PP126

### "NARI METHOD": CLINICAL RESEARCH FOCALIZED ON THE CHILD

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To promote Patient -and Family-Centered Care (PFCC) in pediatric clinical research and to evaluate its impact on recruitment and compliance of families, we created a model of approach to pediatric clinical trials, named *NARI*. This model challenges the pediatrician to focalize his attention on the needs, the wishes and the socio-cultural identity of children and caregivers. This should enhance the partnership, favoring an aware participation to the trial.

According to *NARI method* the physician should be perfectly aware of methodological and ethical features of the trial (Evidence Based Medicine), should apply current guidelines (GCP) and should involve the child and his family in the decision-making process.

The pediatrician should be able to meet the anxieties and the expectations of the family, trying to understand and handle the concerns of the parents.

*NARI method* requires practice of pediatric counselling in the field of communication, listening, empathy, leadership, collaboration in critical conditions.

These skills are achievable with a specific education and training. The training phase of the experimenter (that makes use of interactive methods: small working groups, role-plays, recalls, conversation etc) is at the basis of the application of *NARI method*.

In carrying out trials, self-help forms and a checklist will help the physician to arrange the proposal of enrollment and follow up according to this integrate approach.

*NARI method* has the aim of warrant the right of patients to be protagonist of the choices which concern them self. We think that its application in clinical trials could improve the enrollment, the compliance and the mutual satisfaction of physician and patient as it happens when PFCC and counseling methodology are applied in other field of pediatrics.

## PULMONOLOGY

PP127

### EFFICIENCY OF AEROBIC TRAINING AND INCENTIVE THERAPY IN TEENAGERS WITH CYSTIC FIBROSIS

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Introduction: Physical therapy is an integral part of cystic fibrosis suffering patient management, being one of the treatment's objectives contributing to the increase of the quality of life of these patients.

Purpose: The purpose of this study is to develop a flexible protocol based on the combination of incentive techniques and individual aerobic training in order to increase the compliance and effectiveness in patients with cystic fibrosis.

Material: We have used individualized aerobic training three times per week 45 min, and incentive therapy with TrainAir computer system three time per week under a strict supervision. Train Air is the high-tech respiratory muscle training aid which can increase exercise capacity and give better breath strength. During a Training Session, the exercise will be repeated many times with the Sustained Maximum Inspiratory Pressure at 80% of maximum, with timed rest periods between exercises.

Methods: This prospective study was conducted in the Romanian National Cystic Fibrosis Centre till present (8 months) and the study lot was represented by a number of 20 patients, aged between 13 and 19 years. Before and after the treatment we have evaluated the functional respiratory parameters: FVC, FEV1, PEF, PIF. The statistical processing of data was made with the help of the t pair statistic programme.

Results: Incentive therapy associated with aerobic training significant enhance the reapiratory function .

Conclusions: The evaluation of the efficiency of physiotherapy using combined techniques has shown the substantial benefit in the level of fitness, an important predictor of quality of life of CF patients. The bio-feedback provided by the computer graphics significantly improved performance and gave an excellent compliance.

Acknowledgements: CNCSIS Romania grant TE 36.

Table 1:

Parameters	Initial	Final	Statistical significa- tion (P)
FVC (%)	89.83 ± 29.47	92.17 ± 26.77	ns (0.058)
FEV*1 (%)	60.5 ± 37.92	64.17 ± 35.65	S (0.003)
PEF (L)	3.188 ± 1.403	3.264 ± 1.398	S (0.003)
PIF (L)	2.925 ± 1.541	3.043 ± 1.552	S (0.001)

## PP128

**DETERMINING THE FREQUENCY OF FIFTEEN MUTATIONS OF CFTR GENE IN PATIENTS WITH CYSTIC FIBROSIS REFERRED TO DR SHEIKH HOSPITAL CF CLINIC**

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**Introduction:** Cystic Fibrosis (CF) is an autosomal recessive disorder which is chiefly characterized by respiratory and gastrointestinal symptoms. Various mutations of Cystic Fibrosis Transmembrane Regulator (CFTR) gene which codes an ion channel protein are responsible for this pleiotropic disorder.

**Purpose:** The main aim of this study is to determine the frequency of a number of common CFTR mutations in patients with CF in North East of Iran.

**Material and Method:** Total of 60 documented CF patients were participated in this study. Peripheral blood was obtained and DNA extraction was done by using routine methods. Three steps were done for determining the target mutations: ARMS-PCR was performed for all mutations in all DNA samples. PCR-RFLP was done for appropriate mutations in exon 7 (R344W and R347P) and finally PCR-Sequencing was performed for exon 10 in all samples. Samples with no mutation in exon 10 were investigated for mutation in exon 11 by PCR-Sequencing.

**Results:** Analysis of samples by PCR-RFLP resulted in detection of only one heterozygous status for R344W mutation. For four samples (eight chromosomes) analysis of sequencing data was not reliable. Among remaining 56 samples (112 chromosomes) 21 mutated chromosomes were detected. The most common detected mutation was c.1521-1523delCTT/ p.Phe508del (12 out of 21, more than 50% of detected mutations and ~11% of all analyzed chromosomes). Two other mutations, each was detected in four chromosomes (c.1397C>G/ p.Ser466X and c.1545-1546delTA/ p.Tyr515X). Therefore the frequencies of these two mutations were 19% each (~3.5% of all analyzed chromosomes). Only one c.1399C>T/ p.Leu467Phe mutation was seen out of 21 detected mutations (~5%) and less than 1% of all analyzed chromosomes. Seven out of 56 individuals analyzed, confirmed as homozygous. One patient was genotyped as compound heterozygous and five samples showed heterozygous status. No mutations were detected in exon 11 of sequenced samples.

## PP129

**IMPACT OF PARENTAL SMOKING ON RESPIRATORY SYNCYTIAL VIRUS (RSV) RISK AND EFFICACY OF IMMUNOPROPHYLACTIC PROTECTION IN LATE-PRETERM INFANTS**

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**Introduction:** Parental smoking has long been associated as a risk factor for RSV hospitalisation in vulnerable infants. Debate remains about its contribution to RSV hospitalisation of late-preterm infants (32–35 weeks gestational age).

**Purpose:** To evaluate the impact of parental smoking on the risk of RSV hospitalisation and effectiveness of RSV prophylaxis in late-preterms.

**Methods:** Data were taken from the FLIP 2 and IMpact studies covering the use of palivizumab in late-preterm infants (without CLD) and RSV hospitalisation. Bayesian meta-analytical modelling employing Markov Chain Monte Carlo (MCMC) sampling was carried out using WinBUGS (Bayesian inference Using Gibbs Sampling) software.

**Results:** Data from 5441 infants in the FLIP 2 and 462 infants in the IMpact datasets were analysed. A total of 2357 (39.9%) were exposed to parental smoking. Smoking was shown to correlate significantly with other known risk factors for RSV hospitalisation: birth weight (-ve corr.; FLIP 2:  $P < 0.01$ ; IMpact:  $P < 0.01$ ), breast feeding (-ve corr.; FLIP 2:  $P < 0.01$ ), family wheeze (+ve corr.; FLIP 2:  $P < 0.01$ ; IMpact:  $P < 0.01$ ), family atopy (+ve corr.; IMpact:  $P < 0.01$ ). RSV hospitalisation rates were comparable (FLIP 2: 3.7%; IMpact: 4.5%). Bayesian meta-analysis showed that hospitalisation rates for non-prophylaxed infants from smoking households were 6.8% higher than for non-smoking households (11.0% vs. 4.2%; 63% excess risk of RSV hospitalisation). In smoking families, prophylaxis reduced the RSV hospitalisation rate by 9.0% vs. non-prophylaxed infants (2.0% vs. 11.0%; 94% excess risk of RSV hospitalisation).

**Conclusions:** Parental smoking is an important risk factor for severe RSV disease in late-preterm infants. Prematurity increases the risk for severe RSV disease, and this study suggests that late-preterm infants from smoking families are at a heightened risk for severe RSV disease. Such infants could benefit considerably from RSV immunoprophylaxis.



## PP130

# A VISUAL INDICATOR FOR INHALATION FROM A PRESSURIZED METERED-DOSE INHALER (PMDI) WITH VALVED HOLDING CHAMBER (VHC) IS AN IMPORTANT ATTRIBUTE WHEN DELIVERING INHALED MEDICATION TO INFANTS

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**Introduction:** Inhaled medication delivery to infants by VHC-facemask may require more than one inhalation.

**Purpose:** This study investigated movement of an integrated inspiratory flow indicator (IFI) with emitted mass (EM) ex VHC-facemask.

**Materials and Methods:** Anti-static AeroChamber Plus®-IFI VHCs/infant-facemask ( $n = 5.3$  replicates/device; TMI) were coupled to a simulator mimicking 6–9 month infant tidal-breathing (tidal volume = 50 mL; duty cycle = 25%; 30-cycles/min). The facemask was fitted to a flexible infant face model with 1.6 kg force. A filter behind the model's lips captured aerosol. Medication delivery was evaluated from: Flovent-50 (FP), Ventolin-100 (SAL) (both GSK plc, UK) and Clenil-100 (beclometasone dipropionate (BDP)), Trinity-Chiesi, UK). The first actuation was delivered at onset of inhalation, and the filter removed after 1-breathing cycle, observing IFI movement. This procedure was repeated, removing the filter after 2-, 3-, 4-, 5- and 6-cycles. Assay for FP, SAL or BDP was undertaken by HPLC-UV spectrophotometry.

**Results:** EM after the first cycle ( $EM_1$ ) was  $2.1 \pm 0.7 \mu\text{g}$  (FP),  $5.8 \pm 2.2 \mu\text{g}$  (SAL) and  $6.0 \pm 3.0 \mu\text{g}$  (BDP); <the corresponding values after six cycles ( $EM_6$ ), being  $9.0 \pm 2.1 \mu\text{g}$  (FP),  $15.9 \pm 3.1 \mu\text{g}$  (SAL) and  $23.3 \pm 4.2 \mu\text{g}$  (BDP) [paired  $t$ -test for each formulation;  $P < 0.001$ ]. After 2-cycles, values of  $EM_2$  ( $6.9 \pm 2.0$  (FP),  $13.0 \pm 4.0 \mu\text{g}$  (SAL) and  $16.0 \pm 4.2 \mu\text{g}$  (BDP)), though significantly greater than their corresponding  $EM_1$  values [ $P \leq 0.002$ ], were still < corresponding  $EM_6$  values for FP and BDP ( $P \leq 0.028$ ), and barely statistically insignificant for SAL ( $P = 0.063$ ). After 3-cycles,  $EM_3$  increased to  $7.6 \pm 2.0 \mu\text{g}$  (FP),  $13.8 \pm 3.8 \mu\text{g}$  (SAL) and  $18.6 \pm 4.2 \mu\text{g}$  and thereafter remained close to the corresponding  $EM_6$  values. The IFI always moved in synchrony with valve opening.

**Conclusions:** At least two successive inhalations are required to achieve optimum medication delivery. The IFI is an important feature validating that the facemask is sealed to the infant's face, confirming number of inhalations, thereby optimizing the therapeutic dose.

## PP131

# INFLUENZA A (H<sub>1</sub>N<sub>1</sub>) INFECTION AND COMPLICATED CASES

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**Introduction:** The new Influenza A virus infection (H<sub>1</sub>N<sub>1</sub>) was defined as pandemic by WHO in June 2009. The disease could be severe if bacterial infection is implicated, when occurs with pneumonia which leads to respiratory or polyorganic deficiency, or connected with aggravation of a system disease.

**Purpose:** The purpose of this study is to describe the incidences of hospitalized children with H<sub>1</sub>N<sub>1</sub> and the frequency of complicated cases.

**Material and Methods:** We study retrospectively all the patients with H<sub>1</sub>N<sub>1</sub> during November 2009 to February 2009. The virus detected in nasopharyngeal specimens and confirmed by RT-PCR.

**Results:** Forty-five children were enrolled to our study. Sixteen (35.6%) were males and 29 (64.4%) were females aged from 1 month to 14 years old. All children had high fever and clinical respiratory symptoms, and 9/45 (20%) gastrointestinal. Risk factors (bronchial asthma) for severe disease reported to 6/45 (13.3%) cases. The chest X-Ray showed pneumonia in 5/45 (11%) bronchoalveolitis in 2/45 (4.44%) and peribronchial percolations 6/45 (13.3%). They also presented 1/45 afebrile seizures, 1/45 bacillemia (Haemophilus Influenza non-type b in a patient aged 1 month old), 1/45 myositis, 4/45 streptococcus tonsillitis, 3/45 acute medium otitis. The infection H<sub>1</sub>N<sub>1</sub> is associated with neutropenia in percentage 8.88%. We administered oseltamivir in 2 cases. The average time of hospitalization was 4.2 days.

**Conclusions:** Severe disease occurred frequently with pneumonia (15.5%). None incident was transported in Intensive Care Unit. All our patients had a good outcome.

## PP132

# PARENTAL SMOKING HABITS AND CHILDREN'S ASTHMA

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**Introduction:** Parental smoking has negative influence on children's development and respiratory diseases' manifestation.

**Purpose:** Recording of parental smoking habits and correlation with children's asthma manifestation.

**Material:** Our study's material consists of 88 pediatric patients with asthma.

**Method:** Sex and age were recorded from our clinic's archives asthmatic patients', while questionnaire with parental smoking habits was completed. The study is retrospective and concerns years 2008–2009.

**Results:** During this period 88 children (1–13 years old) were hospitalized with asthmatic crisis, 46 (52.3%) boys and 42(47.7%) girls, with dyspnea and  $\text{satO}_2 \leq 94\%$ . Seventy two point seven percent were 2–7 years old while 54.7% were boys. Exposed at their parents' passive smoking were 55 children (percentage 62.5%), of which 38.2% were passive smokers of both parents' smoke, while 61.8% of the one parent smoke- fathers at the majority. Twenty three point six percent of these patients appeared often paroxysms, >1 hospitalizations at 9%.

**Conclusions:** Children's asthma is correlated with exposure to toxic factors, like smoke. Two Little patients' health is unfavorably influenced at disease's paroxysms and hospitalization's frequency, as well.

#### PP133

##### TEN YEARS AUDIT OF POST INFECTIOUS BRONCHIOLITIS OBLITERANS IN PAEDIATRICS RESPIRATORY CENTRE

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**Introduction:** Post infectious bronchiolitis obliterans (PIBO) is an infrequent clinical syndrome of chronic obstructive airway disease with inflammatory changes in small airways following a viral insult, usually adeno virus.

**Purpose:** Review of children presenting with radiological changes suggestive of bronchiolitis obliterans following viral respiratory tract infection.

**Material and methods:** Retrospective review of charts from January 2001 to January 2010 from our (Hospital inpatient enquiry) HIPE data base, for bronchiolitis obliteran.

**Results:** We find three cases under this above mention search.

**First case:** Six years old boy who presented with clinical bronchiolitis at 15 months of age, requiring oxygen for 7 days. His naso pharyngeal aspirate (NPA) was positive for adenovirus. Rest of her detailed investigations were normal.

Persistent changes on chest X-rays (CXR) necessitating CT chest which reported mosaic or geographical pattern in RUL consistent with BO. Repeated CT's chest showed no further progression. He was placed on trial of asthma therapy with good response.

**Second Case:** Seven years old girl who presented with severe (ventilation) clinical bronchiolitis at 4 months of age. Her NPA was positive for RSV positive.

She remained oxygen dependant for few months. Persistent changes on chest x-rays (CXR) necessitating CT thorax

suggesting BO. Rest of her detailed investigations were normal. She had further CT chest in March 2007 which was suggestive of BO. Unfortunately she was lost to follow up with us.

**Third Case:** Five years old girl who referred to our clinic at 42 months of age with a history of recurrent lower respiratory tract infections (LRTI). Her IgM to mycoplasma was positive in March 2010. The rest of her detailed investigations were normal. Her NPA was negative for Adenovirus and RSV. For Persistent CXR changes she had CT chest in 2010 which was suggestive of bronchiolitis obliterans. Currently she is on asthma treatment therapy.

#### PP134

##### INNOVATIONS FOR BRONCHIAL ASTHMA PREVENTION IN CHILDREN WITH ELEVATED BLOOD LEVELS OF HEAVY METALS

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*Federal Scientific Centre for Medical and Preventive Health Risk Management Technologies, Perm, Russia*

**Introduction:** Environmental bronchial asthma (BA) prevention in children is urgent since the disease has a severe course and is conventional treatment resistant.

**Purpose:** Develop innovative BA prevention methods in children with recurrent bronchitis (RB) in environmentally unfavourable areas.

**Material:** We examined children aged 3–7 years with RB (non-acute condition) and blood levels of such toxicants as lead, chromium+<sup>6</sup>, nickel and manganese exceeding reference values by 1.1, 1.2, 1.3 and 1.3-fold, respectively.

**Methods:** The proposed technology of environmental BA prevention is based on the complex course of the antileukotriene drug Montelukast\* (4 mg at bed time, for 6 months), the enterosorbent Enterosgel (one teaspoon twice daily, an hour before meals for 10 days/month during 3 months) and a hepatoprotective drug (Eslidine or Chophytol).

**Results:** An examination carried out a year later showed a 2.7-fold reduction in acute conditions. The number of children having 1–2 acute conditions dropped by 1.8-fold. Seventy nine percent of the children demonstrated a less severe course of the disease cf. initial 13% ( $P = 0.01$ ). We determined the normalisation of immune indicators (total IgE levels decreased from  $176.3 \pm 18.3$  to  $98.74 \pm 15.23$  IU/cm<sup>3</sup>,  $P = 0.025$ ; lymphocyte count – from  $3.64 \pm 0.12 \times 10^9/\text{dm}^3$  to  $2.5 \pm 0.22 \times 10^9/\text{dm}^3$ ; IFN- $\gamma$  – from  $5.30 \pm 0.23$  to  $8.30 \pm 0.35$  pg/mL) and a redox homeostasis improvement (anti-oxidant activity – from 24.1% to 49.1%,  $P < 0.05$ ; plasma malondialdehyde levels – from  $2.8 \pm 0.15$  to  $2.3 \pm 0.04$   $\mu\text{mol}/\text{cm}^3$ ,  $P = 0.037$ ). Blood testing revealed a reduction in levels of manganese (from  $0.041 \pm 0.003$  to  $0.022 \pm 0.001$  mg/dm<sup>3</sup>,  $P < 0.05$ ), nickel (from  $0.024 \pm 0.002$  to  $0.12 \pm 0.015$  mg/dm<sup>3</sup>,  $P = 0.004$ ), chromium+<sup>6</sup> (from  $0.041 \pm 0.001$  to  $0.024 \pm 0.002$  mg/

dm<sup>3</sup>,  $P = 0.004$ ) and lead (from  $0.143 \pm 0.003$  to  $0.11 \pm 0.005$  mg/dm<sup>3</sup>,  $P = 0.005$ ) to the reference levels.

Conclusions: Thus, the suggested technology for BA prevention in children with RB living in highly industria-

lised areas and having elevated blood toxicant levels can be used to decrease the incidence of environmental respiratory diseases and prevent severe environmental and complicated BA.



## EXCELLENCE IN PAEDIATRICS 2011 SPEAKERS' ABSTRACTS

### SP01

#### LONG TERM CONSEQUENCES OF EARLY CHILD FEEDING AND GROWTH PATTERNS

**L S Adair**

*Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC, USA*

This presentation will review and provide examples of how early child feeding may influence later health, with a focus on the multiple pathways that may be operating, and the challenges researchers face in studying this topic. A substantial literature relates infant and early child growth rates, primarily rapidity of weight gain, to later risk of obesity and chronic diseases. Thus, it is important to understand how early feeding patterns influence growth. At the same time, we need to know how feeding patterns affect later health independent of growth and body composition. Observed effects may reflect *tracking* (persistence of patterns related to common underlying influences over time) or *programming* (perturbations of systems at one phase affect susceptibility to inputs at future ages). Relevant aspects of early child feeding include breastfeeding, quantity and quality of what is fed, macro and micronutrient composition, taste, and parental feeding styles. Well studied long term outcomes include adiposity, non-communicative diseases, and cognitive development. Studies are complicated by the difficulty of isolating specific aspects of feeding and diet and the long time period and opportunity for multiple factors to influence adult outcomes. Early feeding may influence the development of dietary patterns and preferences which then persist. For example, exposure to specific tastes (sweet, salty) may enhance preferences for those tastes, with implications for consumption of sweet or salty foods. Specific components of diet may have direct effects on organ structure and/or metabolic processes that alter susceptibility to future inputs to health. For example, high sodium intake in infancy is related to adult blood pressure, and high protein intake during infancy is related to insulin signaling and to higher BMI and adiposity in later childhood. Diet composition may also influence gut microflora, with consequences for energy balance and obesity risk.

### SP02

#### TOP 10 PAEDIATRIC ARTICLES OF 2011

**H Bauchner**

*MD, Editor-in-chief of the Journal of the American Medical Association (JAMA), Vice Chairman, Department of Pediatrics, Professor of Pediatrics, Boston University School of Medicine, Boston, USA*

There are thousands of peer-review journals. It is vitually impossible for any single person to keep up with the medical literature. Drawing on numerous abstracting services, Dr. Bauchner will present the "Top 10" articles of the last year. The objective, results, and clinical importance will be reviewed. Some of these articles will impact on the practice of medicine, while others will contribute to the evolving science of a particular issue.

### SP03

#### SKIN-TO-SKIN BRINGS LATEST NEUROSCIENCE INTO CONTACT WITH CLINICAL NEONATOLOGY

**N Bergman**

*University of Cape Town, Pinelands, South Africa*

Skin-to-skin contact is the technical intervention underlying what is commonly called Kangaroo Care. This is becoming increasingly accepted, but a coherent scientific rationale is lagging. I will present such a rationale, built on the central dogma of all biological processes: the DNA makes proteins, which make the brain, which with more DNA makes everything else. The adaptation in epigenetics, sensory experience for developmental neuroscience, and reproductive fitness in evolutionary biology converge holistically in this understanding. The common thread in all these is the environment. The 'Environment of Evolutionary Adaptedness' (EEA) for humans is the mothers' chest, defined in essence as 'maternal-infant skin-to-skin contact' (SSC). The environment is never static, and the EEA spans a spectrum from 'expected' through 'harsh' to 'hostile'. Genetic and neurological adaptations in harsh environments allow the organism to achieve 'reproductive fitness', by trading optimal development and well-being for a shorter lifespan with rapid reproduction. The mechanisms whereby this is achieved have recently been revealed, they are triggered by maternal separation, leading to 'toxic stress', autonomic activation with high cortisol. The concept of 'allostasis' further elaborates how long term adverse effects follow from early life events. The basis of

this understanding comes from mammal research on maternal neonate separation models. Our own recently published research will be presented showing that separation from mother trebles autonomic nervous system tone, and dramatically impacts quality of sleep, compared to SSC. These findings are consistent with the science presented. In terms of our evolutionary biology, this suggests that infants should not sleep alone, and any clinical care in the absence of mother may be experienced as 'toxic stress'. SSC is currently seen as a non-invasive intervention; the challenge for the future is to view it as the normal care environment. Working with nature in this way, even very preterm infants will better tolerate any needed invasive care.

#### SP04

##### PREVENTION OF ATOPIC DERMATITIS

R Boyle

*Clinical Senior Lecturer, Imperial College London, London, UK*

Eczema is the most common inflammatory skin disease of childhood. There is currently no curative treatment for eczema, so the reduction of eczema incidence through disease prevention is a desirable goal. Potential interventions for preventing eczema include exclusive breastfeeding, hydrolyzed protein formulas and soy formulas when bottle feeding, maternal antigen avoidance, omega oil supplementation, prebiotics and probiotics. The randomised controlled trials evaluating these interventions have been reviewed in 7 systematic reviews containing 39 relevant trials with 11,897 participants. Overall, there is no clear evidence that any of these main interventions reduce eczema incidence. In subgroup analyses of infants at high risk of allergic disease, an observational study found that exclusive breastfeeding for at least six months compared to introduction of solids at 3–6 months decreased the incidence of eczema by 60% (RR: 0.40; 95% CI: 0.21, 0.78), and a randomized controlled trial found that prebiotics compared to no prebiotics decreased incidence by 58% (RR: 0.42; 95% CI: 0.21, 0.84). However, each of these findings was based on the results of a single small trial, and longer term prevention beyond the first 2 years of life has not been shown. Although there is currently no clear evidence showing that any of these interventions prevent eczema, the epidemiology suggests that primary prevention should be possible. Future research on prevention of eczema is needed and should examine different types of hydrolysed formulas, prebiotics and probiotics, as well as enhancement of the skin barrier and other novel approaches to promote healthy immune development in infants at different risk levels for developing allergic disease.

#### SP05

##### SEVERE ASTHMA

A Bush

*Professor of Paediatric Respiriology, Imperial College & Consultant Paediatric Chest Physician, Royal Brompton & Harefield NHS Foundation Trust, UK*

**Definitions:** Persistent chronic symptoms despite high dose inhaled corticosteroids (Beclomethasone equivalent 800 µg/day) and trials of add-on medications (long acting β-2 agonist, leukotriene receptor antagonist, oral theophylline in the low, anti-inflammatory dose); recurrent severe exacerbations despite best therapy to abort exacerbations, that have required either at least one admission to an intensive care unit, or at least two hospital admissions requiring intravenous medication/s, or ≥2 courses of oral steroids during the last year, despite the above therapy; persistent airflow obstruction: post oral steroid, post-bronchodilator Z score <-1.96 for FEV<sub>1</sub>; prescription of alternate day or daily oral steroids to achieve control. Children meeting these criteria are referred to as problematic, severe asthma. Problematic, severe asthma is an umbrella term, comprising children with difficult to treat asthma, and severe, therapy resistant asthma. All reasonable efforts to eliminate other, non-asthma diagnoses must have been made. Significant co-morbidities should be excluded. Children in the category of problematic, severe asthma should be evaluated in including assessment as far as possible of accessibility of medicines in the home, numbers of asthma prescriptions obtained, and ability to use the prescribed medication delivery device. Difficult to treat asthma is the category in which poor response is due to issues such as poor adherence to medication; adverse environmental circumstances such as passive smoke or allergen exposure; psychosocial issues, including dysfunctional breathing; and co-morbidities such as rhinosinusitis and gastro-oesophageal reflux. This category accounts for more than 50% of those with problematic severe asthma. Severe, therapy resistant asthma comprises children who despite attention to co-morbidities and the other factors described above continue to have severe symptoms as defined above. The Brompton approach to this group will be discussed (*Lancet* 2010; 376: 814–25).

#### SP06

##### UNDERSTANDING ADOLESCENT DEVELOPMENT AND WHY IT DOESN'T CHANGE ANYTHING

D Christie

*Department of Paediatric and Adolescent Psychology, London, UK*

Adolescence is a developmental stage involving complex bio-psycho-social changes. These developmental changes both impact upon and are impacted by chronic illness.

Whilst specific health needs of adolescents have been clearly acknowledged and extensively documented in the UK few paediatricians have received specific training in adolescent health. The presentation will discuss the 10% of our lifespan that all of us experience, few of us remember, yet might be argued has the greatest impact on our futures. During adolescence our bodies go through the greatest biological changes, our brains make the most dramatic development in our ability to think, reason and understand and we strive to achieve independence, try out different life styles and experiment with behaviours that are often considered 'risky'. Whilst young people remain healthy adolescence may be a turbulent transition from childhood to adulthood. For those with chronic illness conditions the reciprocal impact of chronic disease and developmental processes introduce a number of significant challenges for both young people and those charged with their care. The presentation will consider psychological development through early to late adolescence and into emerging adulthood. The impact of these different stages of development on exploratory behaviours and adherence to health care regimens will be discussed. Participants will be invited to think about how to use these understandings to motivate young people to stay healthy and keep their lives on track.

#### SP07

### MANAGEMENT OF COMMUNITY ACQUIRED PNEUMONIA

#### D Greenberg

*Pediatric Infectious Disease Unit, Soroka University Medical Center, Beer-Sheva, Israel*

It is estimated that 150 million episodes of community acquired pneumonia (CAP) occur yearly in children worldwide, causing 11–20 million hospitalizations, and approximately 2 million deaths. Identifying the etiologic agents of CAP remains a challenge, primarily because of lack of reliable diagnostic methods. *Streptococcus pneumoniae* is considered the most important bacterial pathogen. Respiratory syncytial virus is the most common virus associated with CAP followed by rhinovirus, and influenza. Mixed viral-bacterial infection can be detected in 30% of the patients. Definitions of CAP in children vary widely worldwide. The World Health Organization's CAP definition, used mainly in developing countries, requires only certain respiratory signs or symptoms. In contrast, in developed countries, criteria for diagnosing CAP are diverse, some requiring evidence of infiltrates by chest radiograph, and WBC count combined with certain respiratory signs or symptoms. It is accepted that alveolar pneumonia is commonly caused by bacterial pathogens, therefore, necessitating antibiotic treatment. Lack of uniformity in CAP definition has been an important hurdle to studying the epidemiology, antibiotic treatment regimens resulting in heterogeneity in treatment recommendations. Moreover, these recommendations are often based on

clinical trials which included a spectrum of respiratory illnesses, with only a minority of those cases being bacterial pneumonia necessitating antibiotic treatment. The most commonly recommended antibiotic for non-severe CAP is amoxicillin. The recommended duration varies from 3–5 days to 7–10 days. However, the ideal duration of antibiotic treatment for CAP in developed populations has not yet been established due to the absence of comparative studies in these countries. Thus, extrapolating from studies conducted in the developing world to developed populations may be impractical. Implementation of the seven-valent pneumococcal conjugate vaccine demonstrated significant reduction of CAP in children. Other prevention strategies such as influenza vaccination and immuno-prophylaxis for RSV can potentially reduce the burden of CAP in children.

#### SP08

### PREBIOTICS EFFECTS IN INFANCY: FROM MICROBIOLOGY TO HEALTH

#### A Guarino, A Wudy

*Department of Pediatrics, University of Naples Federico II, Naples, Italy*

Prebiotics are defined as 'non digestible food ingredients that beneficially affect the host by selectively stimulating the growth and/or activity of a limited number of bacterial species in the colon'. Prebiotics occur in human milk and promote the beneficial gut microflora. Many infant formulas enriched with prebiotics are commercially available. The major microbiological effect by prebiotics is increase of bifidobacteria but whether bifidogenic effect has clinical relevance is not clear. Selected prebiotics in infant formula reduce stool pH and lead to softer stools in neonates. Evidence of prebiotic effects on growth is conflicting: a pooled metaanalysis of the data from 4 trials showed a better weight gain during the trial period in the prebiotic-supplemented formula group than in controls. Nevertheless the clinical significance of these effects is unclear. Clinical trials proved that prebiotics exert a significant preventive effect on intestinal infections when added to infant formula, but no effect was demonstrated using prebiotics as adjunctive treatment of acute gastroenteritis. A lower rate of respiratory infections was also observed, and less antibiotic courses were prescribed during prebiotic supplementation. Furthermore, in healthy term infants with a parental history of atopy, prebiotics reduced the incidence of atopic dermatitis and infectious episodes during and after the supplementation period although this has not been confirmed. These evidences may be ascribed to the immune modulation of prebiotics, which contribute to the proper development of the immune system through intestinal flora modification at an early age. However, any potential direct effect of prebiotics on the immune cells cannot be excluded. The ESPGHAN Nutrition Committee

and the American Academy of Pediatrics agree that the addition of prebiotics to infant formula is not unreasonable but lacks evidences demonstrating short- and long-term benefits at this time. Cost/benefit studies are also necessary to support their addition to infant formulas.

## SP09

### A STEPWISE APPROACH TO CHRONIC DIARRHEA

A Guarino, A Lo Vecchio

*Department of Pediatrics, University of Naples Federico II, Naples, Italy*

Chronic diarrhea (CD) has a broad etiology and often requires an invasive, cumbersome and expensive diagnostic approach. A new multistep diagnostic approach to CD has been proposed in the just published (19th) edition of the Nelson Textbook of Pediatrics recently. Etiology of chronic diarrhea shows an age-related pattern and an early onset may suggest a congenital and severe condition. In later infancy and until 2 years of age, infections and allergies are more common, whereas inflammatory diseases are more frequent in older children and adolescents. Celiac disease on one side and chronic non specific diarrhea on the other, should always be considered independently on age, due to their high frequency. Because of the wide spectrum of the etiologies, the diagnostic approach should be based on stepwise algorithms that start with child age, evaluate the weight pattern, then consider clinical and epidemiological factors, and always take into account the results of microbiological investigations. The first diagnostic STEP includes non-invasive tests for infection, allergies, celiac diseases, and an overall assessment of organ function. Non invasive assessment of digestive-absorptive functions and of intestinal inflammation has key role in the diagnostic approach and may well guide the subsequent diagnostic work up. The second STEP includes imaging, serology for inflammatory bowel diseases, breath tests and upper and/or lower endoscopy that is usually considered a key step for diagnosis. Although this may result in a longer time to reach diagnosis, endoscopy should be driven by non invasive tests in order to limit unnecessary procedures and reduce costs and yield optimal results. The third STEP, when necessary, would include special investigations to identify specific intestinal disease (such as intestinal immunohistochemistry, autoantibodies, <sup>75</sup>SeHCAT measurement, brush border enzymatic activities, motility and electrophysiological studies). A stepwise approach allows to identify the etiology in most of CD patients. In our series of children with CD, <50% underwent endoscopy and diagnosis was often based on combined evaluation of clinical data and specific non invasive tests.

## SP10

### PALLIATIVE CARE IN CHILDREN: WHO NEEDS IT, AND WHY ?

R W Hain

*Lead clinician and Senior Lecturer in Paediatric Palliative Medicine Children's Hospital Cardiff, Wales, UK*

The term 'palliative care' has become increasingly familiar to paediatricians over the last two decades. But behind this apparently simple term lie a number of concepts that are not intuitively clear, and that can become more complex the more one examines them.

The format of this workshop will be to build on participants' existing understanding and experience to develop a systematic approach to development of palliative care services, and of palliative care techniques in an individual patient.

Along the way, we will address a number of specific questions:

- What exactly is palliative care?
- What sort of children need it?
- How many of them are there?
- Where are they?
- Why bother with it ?

This last question begins to address some of the emerging ethical issues in management of children with life-limiting conditions.

The workshop will be mainly aimed at paediatricians whose work brings them into contact with children with complex chronic conditions and life-limiting conditions, but it will also be of interest to a wide range of other professionals.

## SP11

### ADOLESCENT FRIENDLY HEALTH SERVICES: A SYSTEMS APPROACH TO IMPROVING ADOLESCENT PREVENTIVE SERVICES

D M Haller

*Senior lecturer, Primary Care Research and Teaching Unit, Department of Health and Community Medicine, University of Geneva, Switzerland*

*Academic GP, Youth Health Clinic, Department of Pediatrics and Department of Community Medicine and Primary Care, Geneva University Hospital, Switzerland  
Honorary Fellow, Department of General Practice, The University of Melbourne, Australia*

Primary care physicians, including pediatricians, are in a key position to provide preventive care for adolescents. Yet young people identify barriers in accessing services and receiving the care they need. Recommendations to remove these barriers have been proposed under the concept of adolescent friendly health services: services that are available, accessible, acceptable, appropriate and equitable. The objectives of this presentation are to provide an



overview of the adolescent friendly health services framework as proposed by WHO, to understand through examples how this framework applies to services at large, beyond the adolescent-clinician encounter and to discuss evidence that applying this framework can improve adolescent preventive services

The incredible number of adolescent friendly health services development projects throughout the world is witness to the face validity of this framework for clinicians and young people alike. The evidence indicates that adolescent friendly initiatives can improve access to care and provider performance in addressing young people's health concerns. Tailored interventions within this framework appear to be effective in reducing adolescent health compromising behavior, yet more evidence of the benefits of adolescent friendly health services on young people's health is needed. Involving young people in service development and promoting the socio-economic and political conditions in which innovative adolescent friendly services can be implemented should also be a priority.

## SP12

### SELF INJURY

P Hazell

*Conjoint Professor of Child and Adolescent Psychiatry and Director of Infant Child and Adolescent Mental Health Services, Sydney and Sydney South West Local Health Networks, Sydney, Australia*

The occurrence of non-suicidal self injury (NSSI) peaks in mid to late adolescence, but is seen across the lifespan. While suicide attempting is more common in females than males the gender ratio for NSSI is roughly equivalent. Females favour laceration and males favour contusion, but a mix of methods is common. NSSI usually occurs at home, in the evening. Half of those who engage in NSSI never repeat the behaviour, but in some NSSI becomes habitual. Although NSSI can appear 'contagious' in young people, this is most likely an artifact arising from assortive friendships. NSSI is associated with substance misuse, childhood trauma and neglect. Contrary to popular belief that people engage in NSSI to influence the behaviour of others, the more typical motivation in adolescents is self-punishment, and in adults the management of emotions. Many patients report that NSSI provides temporary relief from distress, which is why few ever seek help from the health system. Because of the strong culture of risk aversion present in our clinical systems, NSSI can be given undue emphasis. NSSI may be better thought of as a clinical indicator to explore other clinical and social problems. To date, treatments directed to reducing the repetition of NSSI have been of equivocal benefit. In a study I led, group therapy was associated with greater persistence of NSSI than treatment as usual. A confounding factor may be that most studies do not distinguish suicidal from non-suicidal self-injury. Attenuation of NSSI may be a more valid treatment goal than the prevention of a single recurrence.

## SP13

### CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) INSTEAD OF MECHANICAL VENTILATION

B Jonsson

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CPAP increases transpulmonary pressure resulting in greater thoracic gas volume and functional residual capacity (FRC). The increase in FRC results in an increased gas exchange area and less intrapulmonary shunt. Maintaining an adequate FRC after birth will result in stabilization of air spaces, less atelectasis, and the release of surfactant stores. Avoiding intubation will promote normal airway mucociliary transport, humidification of inspired air, and decrease risk for airway damage and secondary infection. CPAP has been administered to infants using an array of devices. There still remain questions regarding how CPAP should be applied, patient selection and the optimal pressure level. The use of continuous airway pressure (CPAP) in neonates with respiratory distress syndrome (RDS) was introduced in 1971 by Gregory and colleagues. Early studies on the use of CPAP for the treatment of Respiratory distress syndrome (RDS) demonstrated improved infant survival and less need for mechanical ventilation. The use of CPAP for the treatment of RDS was common in the two decades following its introduction. The technique gradually fell into disuse in many centers coinciding with increased availability of respirators for treating infants, and failure of CPAP in more severe cases of RDS. However, a resurgence of CPAP use during the last two decades is partly owed to a large number of observational studies that have consistently shown that nasal CPAP decreases the need for mechanical ventilation. Recent randomized controlled studies (COIN and SUPPORT) evaluated the use of either intubation or nasal CPAP for spontaneously breathing infants <28 weeks gestation soon after delivery. Results from these studies show that CPAP is a safe alternative to mechanical ventilation in the initial respiratory care of preterm infants. Combining CPAP and surfactant therapy for infants with RDS will further decrease the need for intubation and mechanical ventilation. Thus, CPAP is now again a mainstay of respiratory support for newborn infants, safely replacing invasive respiratory support.

## SP14

### EARLY NUTRITION – IMPACT ON LATER HEALTH

**B Koletzko**<sup>1</sup>, B Brands<sup>2</sup>, H Demmelmair<sup>2</sup>, V Grote<sup>2</sup>, P Rzehak<sup>2</sup>, M Weber<sup>2</sup>, for the Early Nutrition Project

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Increasing evidence demonstrates that early metabolic exposures and lifestyle have long-term effects on later health and disease risk (metabolic programming, developmental origins of health). The most convincing body of evidence is for obesity and associated disorders. The exploration of effects and underlying mechanisms offers large opportunities for early prevention during pregnancy and early childhood. An important example is the relation between infant feeding and later obesity. In a large cross sectional survey of >9000 children in Bavaria, Germany, we found a higher obesity prevalence at early school age in children never breast fed than in those previously breast-fed, which was not attributable to differences in social class or lifestyle. Systematic reviews and meta-analyses confirmed that breastfeeding provides a modest but consistent protective effect. We followed the hypothesis that this would at least partly be due to lower growth rates in the first year, and it would be mediated by the lower protein content of breastmilk. We studied this 'Early Protein Hypothesis' in a randomized clinical trial that enrolles >1600 healthy infants and randomized those formula fed infants to formula with higher or lower protein intakes for the first year of life. Weight-for-length and BMI increased significantly more in the higher protein formula group. The reduction in early weight gain achieved with a lower protein intake is predicted to reduce adiposity risk at the age of 14–16 years by as much as 13%, a major and most relevant public health benefit. Given the increasing public health importance and the transgenerational nature of obesity, this is also the research focus of the multidisciplinary consortium *Early Nutrition*, supported by the EC FP7 from 2012 to 2017, with partners in Europe, USA and Australia ([www.early-nutrition.org](http://www.early-nutrition.org)).

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#### SP15

##### **CHILDHOOD DEPRESSION: RESOLVED ISSUES AND ONGOING CHALLENGES**

M Kovacs

*Dr., Distinguished Professor of Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, USA*

Over the past 35 years or so, research has yielded an enormous amount of information about depressive disorders in childhood, including their characteristics, clinical course, and outcome, familiarity, and treatment. It is now well established that childhood depression is not a benign condition; on the contrary, it is associated with a high risk of recurrent episodes even into adulthood. More recently, researchers have come to use tools from the neurosciences to probe physiological correlates of depression in childhood, including aspects of brain structure and selected areas of brain function. There has been particular interest in better understanding the impaired emotion regulation and impaired reward processing that are associated with

clinical depression and may possibly pre-date depressive episodes. Correspondingly, research has extended to the study of children at depression-risk (but not yet depressed). Further, new initiatives have been increasingly focusing on risk factors for and prodromal features of childhood depression in order to strengthen early identification efforts. This presentation will highlight major accomplishments in all of these topical areas and also note salient challenges still to be faced in early identification and intervention for depressed children.

#### SP16

##### **"RESOLVED" CHILDREN WITH VESICoureTERAL REFLUX SHOULD BE THOROUGHLY INVESTIGATED AND RECEIVE PROPHYLAXIS: PRO"**

H Lambert

*Consultant paediatric nephrologist, The Great North Children's Hospital, Newcastle upon Tyne, UK*

Vesicoureteric reflux (VUR) is the back flow of urine from the bladder to the ureter or kidney. It is a congenital condition, which runs in families. VUR can be associated with other abnormalities like bladder outflow obstruction or be part of a multi organ syndrome and in this situation is called secondary. Primary VUR may be a benign condition but there is an association between VUR and congenital dysplasia or hypoplasia of renal parenchyma. VUR is a risk factor for development of acquired renal scarring. However the exact role of VUR in urinary tract infection, pyelonephritis and renal scarring is not fully elucidated. In this presentation the controversies regarding investigation and management, including the use of prophylaxis, will be explored.

#### SP17

##### **THE EFFECTS OF BREASTFEEDING AND COMPLEMENTARY FEEDING ON GROWTH**

K F Michaelsen

*Professor, Dr. Med. Sci., Department of Human Nutrition, Faculty of Life Sciences, University of Copenhagen, Denmark*

Growth during the first one to two years of life is influenced markedly by diet, partly through an effect on the hormonal regulation of growth (e.g. IGF-I and insulin). Breastfeeding has a strong effect on early growth with breastfed infants weighing less, being slightly shorter and thinner in late infancy than non-breastfed infants. This growth pattern is regarded as being healthier which was the reason why WHO developed new growth standards based on breastfed infants; these standards are now used in more than 140 countries. There is convincing evidence that at least part of the effect of breastfeeding on growth is due to the lower protein content in breast milk which stimulates

IGF-I and insulin less. New data have shown that well into the complementary feeding period - at the age of 9 mo - IGF-I and insulin levels are lower in breastfed infants and the levels decrease the more times per day the infant is breastfed. Furthermore, it seems like the IGF-I axis can be programmed early in life which is likely to explain why breastfed infants catch up in linear growth later in childhood.

The composition of complementary feeding also seems to have effects on growth. The content of dairy protein stimulates IGF-I and a high protein intake has in several studies been associated with later obesity. The amount of fat in the complementary feeding diet seems not to have a strong effect on growth, except if the content is so low (< 20–25 energy percent) that it results in a bulky diet with a low energy density, which can have a negative effect on energy intake and thereby growth.

A diet with no animal foods (milk, meat and fish) and with a high content of fibers and anti-nutrients (e.g. phytate) results in a marked reduction in linear growth and weight gain. This was shown clearly in studies from the 1970's from The Netherlands of infants and young children who were given a macrobiotic diet. Such a diet is also a main cause of the high rates of early stunting and wasting in many low income countries. Therefore a vegan diet is strongly discouraged in infants and young children.

Body composition changes significantly during infancy. Body fat increases up to about 6–9 months after which there is a slow decrease which continues to around 5–6 y (adiposity rebound) after which it increases again. The effects of diet on body-composition during infancy are poorly understood, but studies of body composition should be given high priority as changes in body-composition during this sensitive period are likely to influence later risk of disease.

To better understand the mechanisms behind the associations between early diet, growth and later risk of diseases we need more studies on the complex interactions between diet, hormonal regulation of growth, appetite hormones, growth and body composition during the first years of life. This may lead to recommendations on early diet resulting in a reduced risk of disease later in life.

## SP18

### PNEUMOCOCCAL CONJUGATE VACCINE AND PREVENTION OF PNEUMOCOCCAL INFECTIONS

H Nohynek

*Professor, Senior Scientist, Head of Vaccine Safety, National Institute for Health and Welfare, Helsinki, Finland*

The first pneumococcal (Pnc) conjugate vaccine (PCV) with protection against 7 Pnc serotypes (PCV7) was licensed for use in children under 5 years of age in 2000. In clinical trials, PCVs have demonstrated high protective efficacy against invasive Pnc disease, moderate efficacy

against severe pneumonia as well as serotype specific acute otitis media (AOM). In countries where Pnc disease burden and mortality among children is high, such as The Gambia, PCV has resulted in 16% overall mortality reduction in infants vaccinated.

Two fundamental properties of conjugated vaccines (CV) have made their public health impact highly significant. First, CVs induce immunological memory by T-cell activation, and thus are immunogenic already from the neonatal period on. Second, by preventing upper respiratory tract (URT) carriage acquisition, and reducing person to person transmission of Pnc, CVs elicit indirect protection also in those not vaccinated, a phenomenon called herd immunity. As a result of childhood PCV vaccination in the U.S., over 60 percent of the IPD protection in the population as a whole has resulted from the indirect protective effect among adults and elderly.

In recent years concern has grown over the so called replacement phenomenon, i.e. as carriage and disease caused by PCV serotypes have been eradicated, the nonvaccine serotypes have increased in URT. To what degree the replacement will lead to increase of IPD and other Pnc infections caused by nonvaccine types is still a subject of debate, and to large extent dependent on the case to carriage ratio of each emerging serotype.

Today, over half of world's countries have introduced PCV7, PCV10 or PCV13 into their national childhood immunization programme. Recently, FDA of the US made a decision to expand the license of PCV13 also to include adults over 50 years of age.

## SP19

### COOLING TECHNIQUES FOR NEONATAL ENCEPHALOPATHY

N J Robertson

*Reader in Translational Neonatal Medicine and Honorary Consultant Neonatologist, Institute for Women's Health, University College London, London, UK*

Over the past 10 years, several randomized clinical trials of therapeutic hypothermia for perinatal asphyxia have demonstrated both safety and efficacy of therapeutic hypothermia in improving neurological outcome. Today cooling is increasingly used in tertiary level units throughout the developed world. Therapeutic hypothermia (cooling to a core temperature of 33–34°C for 72 h) is easier to achieve in newborn infants than in adults. There is a natural tendency for the core temperature of infants who suffered birth asphyxia to fall and remain lower than non-asphyxiated infants for up to 16 h after birth.

A variety of high- and low-tech surface cooling methods have been used in neonates - newer systems are servo-controlled and provide very stable temperature control. Cheaper cooling methods can cool to a target temperature of 33–34°C and are effective at maintaining target temperature as long as close monitoring of the core temperature occurs. Low tech cooling methods include



the following: (i) a water bottle filled with tepid tap water in an tropical environment of a constant ambient temperature of 25°C, (ii) mattress made of phase changing material; (iii) cold gel packs (used in ICE trial).

It is well accepted that to be most effective, cooling needs to be initiated as soon as possible after birth and, thus, needs to be commenced prior to the transfer of infants to cooling centers. We have developed guidelines for passive cooling before and during the transfer of infants with encephalopathy to cooling centers in a major city in the UK.

Cooling is only safe under intensive care conditions in tertiary centers that carefully control core temperature, maintain blood pressure and metabolic homeostasis. Even in some centers “overcooling” to core temperatures below 33°C can occur, especially during periods without adequate core temperature monitoring (eg during transport). Cooling in low resource settings where resuscitation, intensive care facilities and infrastructure are not adequate has not been shown to be either safe or effective.

## SP20

### ADOLESCENT FRIENDLY HEALTH SERVICES: INDIVIDUAL APPROACHES TO SUCCESSFULLY TREAT ADOLESCENT PATIENTS

C Rutishauser

*Department of Paediatrics, University Children's Hospital Zurich, Zurich, Switzerland*

The concept of adolescent friendly health services as presented by the World Health Organization provides a frame work for health care institutions how to best offer age-appropriate health services to this age group. This frame work also contains recommendations on how to best deal with adolescent patients on an individual basis. One of the core issues of an age-appropriate consultation style is to provide the opportunity for adolescent patients to speak with the physician alone for some time. Assurance of confidentiality even with regard to the adolescent patient's parents is essential, unless the patient is at risk of serious self-harm or homicide. However, many paediatricians feel unsure about how and when to introduce such an adolescent friendly consultation style to their patients and their parents. The purpose of this presentation is to describe key aspects of age-appropriate consultation styles illustrated with examples of daily clinical settings. This includes issues such as how to successfully take a psychosocial history with adolescent patients, strategies to increase the patient's autonomy and self-responsibility, and techniques to increase adherence of adolescent patients. In addition, the process of transition of adolescent patients with chronic disorders from paediatric to adult health care is discussed in the context of developmental aspects. It will be shown that the transition process should not merely focus on working with the adolescent patients themselves in order to increase their self-responsibility. Rather, it is equally important to support parents in their changing role of their youngsters' health care.

## SP21

### BIPOLAR AFFECTIVE DISORDERS IN YOUNG PEOPLE

S Srinath

*Professor & Chief of Child and Adolescent Psychiatry, National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, INDIA*

While the diagnosis of Bipolar disorder during adolescence is not controversial, its existence and prevalence in children has not been uniformly established. The clinical characteristics that make bipolar disorder difficult to diagnose will be briefly reviewed (e.g., possible comorbidity with attention deficit-hyperactivity disorder), along with key features of clinical course (rates of recovery and recurrence), and familiarity. Current treatments include the classical thymoleptic agents and the second-generation antipsychotics, which will be reviewed, along with attendant adverse effects. The need for psychosocial intervention will be touched upon, along with the importance of monitoring, and relapse prevention. Note will be made of possible early detection and potential risk factors (e.g., early temperament) and the intense search for the ideal therapeutic strategy.

## SP22

### COGNITIVE BEHAVIOURAL THERAPY FOR THE TREATMENT OF DEPRESSION IN CHILDREN AND ADOLESCENTS

P Stallard

*Professor, University of Bath, UK*

Depression and low mood in children and young people are unfortunately common with severe episodes effecting up to one in ten young people by the age of 18 <sup>(1)</sup>. Low mood and depression significantly impair everyday functioning, impact on developmental trajectories, interfere with educational attainment and increase the risk of attempted and completed suicide as well as major depressive disorder in adulthood <sup>(2)</sup>.

Of the psychological interventions available Cognitive Behaviour Therapy (CBT) has been the most extensively researched. CBT is a structured form of psychotherapy which focuses upon the relationship between cognitions, emotions and behavior. Programmes typically involve a number of core interventions including emotional recognition, self-monitoring, self-reinforcement, activity scheduling, identification and restructuring of biased and distorted cognitions and the development of problem solving and inter-personal skills. The effectiveness of Cognitive Behaviour Therapy has been demonstrated in a number of randomized controlled trials and has been recommended as a first line treatment for depressive disorders in children and young people <sup>(3, 4)</sup>. However recent better designed studies have failed to find CBT to be superior to medication <sup>(5, 6)</sup>.



This presentation will provide a brief overview of CBT programmes for the treatment of childhood depression. Results from some of the recent randomised controlled trials will be reviewed and limitations and areas for future research will be highlighted.

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## SP23

### SPIROMETRY

J W Stout

*MD MPH, Professor of Pediatrics, Adjunct Professor of Health Services, University of Washington, Seattle Washington, USA*

Spirometry is recommended as a routine component of patient management by most guidelines for asthma (and COPD) worldwide, and most people with these conditions receive their care in a general practice setting. However, diagnostic spirometry is not yet practiced routinely in many countries despite abundant evidence supporting its clinical importance.<sup>iii, iv, v,vi</sup> A lack of time and training for administering and interpreting spirometry are cited as the most common barriers to its use, and two-thirds of general practitioners have reported a desire for such training. There have been increasing calls for large-scale efforts to meet this demand in order to address this deficiency in primary care., v

This visual, interactive and hands-on workshop will be divided into four sections. The only prerequisite for this workshop is a willingness to actively participate.

In the first section, principles of technique for properly administering good quality office spirometry will be reviewed and demonstrated, and examples of acceptable spirograms and common errors in technique will be shown. Interpretation of results, and their influence on treatment decision-making will then be considered in the context of a simple decision tree.

The second section will consist of case-based practice, where a series of patients will be presented, including spirometry results, to solidify these principles of interpretation and decision-making.

During the third section, participants will be divided into small groups for hands-on practice performing the spirometric maneuver and interpreting their results.

The group will then re-convene for the fourth section to review collective results, and for a final discussion focused on how to incorporate office spirometry in a busy general practice setting.

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## SP24

### LIFE COURSE OF ADHD

E Taylor

*Emeritus Professor of Child and Adolescent Psychiatry, Institute of Psychiatry, King's College London, UK*

Clinicians assessing cases of ADHD need to know the influences that lead to better or worse outcomes for their patients; these are, or should be, key targets for interven-

tion and are more immediately relevant than the genetic antecedents. This talk will draw on longitudinal research in the UK with people with ADHD - where medication for ADHD was an unusual event until recently - to illuminate the natural history of the untreated disorder and the mediating influences. Results indicate that outcomes are complex, with emotional changes becoming prominent. Both neurophysiological and psychosocial influences are involved: the apparent paradox that treatments are effective yet long-term outcome is poor can be understood as calling for the use of interventions targeting a wider range of outcomes than the levels of hyperactivity/impulsiveness or inattention. Implications for education and treatment in adolescence and adult life will be described.

## SP25

### CURRENT TREATMENT OF TUBERCULOSIS IN CHILDREN

M N Tsolia

*M.D., PhD, ESPID Secretary, Associate Professor of Paediatrics, Paediatric Infectious Diseases, Second Department of Paediatrics, National and Kapodistrian University of Athens School of Medicine, Athens, Greece*

Treatment of tuberculosis in children is based on the same principles and standard anti-TB regimens as in adults. Treatment for most forms of serious pulmonary and extrapulmonary TB caused by drug susceptible *Mycobacterium tuberculosis* consists of a 6-month short-course chemotherapy regimen with 4 drugs (isoniazid, rifampin, ethambutol and pyrazinamide) in the initial 2-month intensive phase followed by 2 drugs (isoniazid and rifampin) in the continuation phase. Ethambutol may be omitted for uncomplicated pulmonary TB and TB lymphadenitis in children. Doses of primary drugs in children were extrapolated from pharmacokinetic (PK) studies in adults. Recent PK data showed that young children achieve lower peak serum levels than adults for all first line drugs. These findings led to the increase of doses previously recommended by WHO for children. In addition, review of data in children has concluded that ethambutol is safe among young children (<5 years) at the recommended doses. There is a need for further PK studies in children to establish correct doses of first line, second line and newer TB drugs. Making available child-friendly formulations of TB drugs is another challenge in the management of TB in children. The role of a number of several old drugs has been re-evaluated in TB therapy and new drugs are in the pipeline. There are several open questions regarding TB treatment in children with HIV infection including PK data, duration and response to treatment, toxicity, drug interactions and timing of initiation of HAART. Treatment of multi-drug resistant (MDR) TB in children is currently based on the same principles as in adults and is guided by the drug susceptibility testing usually of the index case. Active research is required to answer questions regarding

optimal treatment and chemoprophylactic regimens against MDR TB in children.

Treatment of tuberculosis in children is based on the same principles and standard anti-TB regimens as in adults. Treatment with  $\geq 4$  drugs to which the organism is susceptible is recommended for no less than 12 months. Active research is required to answer questions regarding optimal treatment regimens against MDR TB, duration of treatment as well as the chemoprophylaxis.

Multi-drug resistant (MDR) tuberculosis is an emerging public health threat globally but the burden in children is unknown.

## SP26

### ROUTINE PSYCHOSOCIAL ASSESSMENT: STRUCTURED APPROACHES, OPPORTUNITIES AND CHALLENGES

M Yeo

*Centre for Adolescent Health, Royal Children's Hospital, Victoria, Australia*

Risk behaviours and mental health problems account for a significant morbidity and mortality in young people. Continuity beyond adolescence is common, contributing also to the adult burden of disease. As many of these concerns are preventable, identification is a necessary step towards both clinical and public health approaches to reduce morbidity and mortality. Psychosocial assessment is a powerful method of engaging the young person and plays a central role in the identification of broader adolescent health concerns. Routine psychosocial assessment is also a key element in the provision of adolescent friendly services. This session will provide an overview of the rationale for routine psychosocial assessment in adolescents and review some of the approaches used. The opportunities and challenges facing clinicians using such approaches, both at the individual and systems level, will be discussed.

## SP27

### HPV VACCINATION: GLOBAL PERSPECTIVES ON ACCEPTABILITY AND IMPLEMENTATION

G Zimet

*Professor, Department of Pediatrics, Indiana University School of Medicine, Indianapolis, IN, USA*

The bivalent and quadrivalent HPV vaccines have been approved for use in over 100 countries. However, approval does not necessarily translate into implemented immunization programmes, as both vaccines are quite costly. Earlier this year the GAVI alliance announced that arrangements for deep price reductions in the quadrivalent vaccine would make it possible for many resource-poor countries to access HPV vaccine.

Variability in immunisation rates across countries that currently offer HPV vaccine suggest that attitudes of parents and health care providers (HCPs) may be important to the success of vaccination efforts. In this presentation I will review HPV vaccine acceptability data from countries around the world, address the issue of male vaccination, and suggest approaches to maximize HPV vaccination rates.

Most acceptability studies have been carried out in North America and Western Europe. However, an increasing number of articles have been published from other parts of the world, including Asia and Africa. Views about vaccination are generally positive across these studies, but lack of knowledge about HPV and lack of HCP recommendation remain common identified barriers. One approach to more quickly realizing the benefits of vaccination would be to target both females and males. Although adding male HPV vaccination to a female immunization program is typically found to be less cost-effective than a female-only vaccination strategy, identification of additional indications for use and reduction in vaccine cost may make gender-neutral approaches more attractive.

The contrast between successful HPV vaccination programmes in the U.K. and Australia and the relative lack of success in the U.S. suggests that HPV vaccination policy may be the most important determination of success. Without a strong national policy, efforts must be made to encourage HCP recommendation, to decrease logistical barriers, and to counter unwarranted concerns about vaccine safety.

## SP28

### THE USE OF SCIENCE, INNOVATION AND PARTNERSHIPS TO BEGIN TO CONTROL MICRONUTRIENT DEFICIENCIES IN MILLIONS OF CHILDREN GLOBALLY

S Zlotkin<sup>1,2,3</sup>

<sup>1</sup>VP Medical and Academic Affairs, Hospital for Sick Children, <sup>2</sup>Department of Paediatrics, Nutritional Sciences and Dalla Lana School of Public Health, University of Toronto, <sup>3</sup>Research Institute, Hospital for Sick Children, Toronto, ON, Canada

Control of iron and other micronutrient deficiencies has traditionally been accomplished through a combination of recommendations for a more diversified diet, including foods with bioavailable sources of iron; targeted

fortification of complementary foods and formula; and with mineral and vitamin supplements. There is good evidence that none of these public health approaches have been successful in low-income countries where up to 80% of children may have iron deficiency and anemia. Indeed, rates of anemia have remained stable over the past 20 years. Our research group at the Hospital for Sick Children in Toronto came up with the concept of 'Home-fortification' as an approach to controlling micronutrient deficiencies. Home fortification involves the use of powdered micronutrients at a fixed dose, packaged in a small sachet that is sprinkled on to any complementary food by a caregiver in the home. To take the concept of 'home-fortification' full circle from research to knowledge translation to implementation and national scale-up, took a combination of clinical research in multiple countries, advocacy, and multiple-partners in the private, public and United Nations sectors. Currently, there are three United Nations agencies (UNICEF, World Food Program and UNHCR) involved in the distribution of micronutrient powders (MNPs) as well as multiple government ministries of health and non-governmental organizations. In August, 2011, the WHO recommended: 'Home fortification of foods with micronutrient powders containing at least iron, vitamin A and zinc is recommended to improve iron status and reduce anaemia among infants and children 6–23 months of age (strong recommendation). Ideally, interventions with multiple micronutrient powders should be implemented as part of a national infant and young child feeding programme.'

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## 1ST PNAE ON PAEDIATRIC NURSING

### OP01

#### QUALITY OF LIFE OF CAREGIVERS' OF CHILDREN WITH CONGENITAL HEART DISEASE IN SURGICAL SPECIALTY HOSPITAL – CARDIAC CENTER KURDISTAN REGION/IRAQ

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**Introduction:** The issue Congenital Heart Disease implies all structural abnormalities of the heart since birth. Congenital Heart Diseases it is the most common group of structural malformations in children. The incidence of CHD in children is approximately 5–8 in 1000 live births. And it is accounting for 70–80% of all pediatric heart disease.

**Purpose:** The aim of the study is to assess quality of life of caregivers who have children with congenial heart disease in Surgical Specialty Hospital – Cardiac Center in Erbil city Iraq.

**Material - Methods:** Descriptive correlation design was carried out in Surgical Specialty Hospital – Cardiac Center in Erbil city from first of July 2009 to the end of September 2010. A purposive sample of (200) caregivers of children with congenital heart disease were selected. The questionnaire consists of three parts, (socio-demographic characteristic of caregivers and their children, and standardized QoL questionnaire from WHO 1998. Data were analyzed by Excel and SPSS version 17.

**Results:** The findings of the study indicate that the caregivers had been affected in all domains of quality of life and there is a significant association between socio-demographic characteristics (main caregivers, age, marital status, occupation, residential area, socio-economy and severity of disease) and the quality of life domains, but there were no association between years of education and quality of life domains.

**Conclusion:** The findings indicate that caregivers had been affected in all domains of quality of life.

### OP02

#### PARENTS' EXPERIENCES OF LIVING WITH A CHILD WITH A LONG-TERM CONDITION: A RAPID STRUCTURED REVIEW OF THE LITERATURE

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**Introduction:** Living with a child with a long-term condition can result in challenges above usual parenting

including illness specific demands such as maintaining treatment and care regimes, social and financial constraints and maintaining family relationships. Understanding parents' experiences and perceptions of living with a child with a long-term condition has the potential to foster better understanding about the impact of the child's condition on the family. This may lead to greater parent-professional collaboration in relation to managing the child's condition.

**Purpose:** To critically evaluate and summarise findings from research that has explored parents' experiences of living with a child with a long-term condition.

**Material - Methods:** A rapid structured review was undertaken for the period January 1999–December 2009 in accordance with the United Kingdom Centre for Reviews and Dissemination guidance for undertaking systematic reviews. Key health and social sciences electronic data bases and relevant health journals were searched. English language publications describing parents' experiences and perceptions of living with a child with a long-term condition were included. Thematic analysis underpinned data synthesis. Quality appraisal involved assessing each study against predetermined criteria outlined in the Critical Appraisal Skills Programme.

**Results:** Thirty-four studies met the inclusion criteria. The impact of living with a child with a long-term condition is temporally related; dealing with immediate concerns following the child's diagnosis and responding to the more enduring challenges of integrating the child's needs into family life. Parents' perceived that working in collaboration with health professionals would enhance their ability to effectively manage their child's condition. Collaboration in relation to care decisions was not evident in the studies included in the review.

**Conclusion:** Parents develop considerable expertise in managing their child's long-term condition but they perceive their expertise is not always valued and the quality of parent-professional interactions was variable.

### OP03

#### CONFLICTS BETWEEN PARENTS AND ADOLESCENTS WITH TYPE 1 DIABETES

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**Introduction:** Type 1 diabetes is the most common chronic endocrinopathy of childhood and adolescence. The long lasting of the disease can be a cause of conflict between parents and children.



**Purpose:** The purpose of this review was to investigate the existence and the causes of conflict between parents and adolescents with type 1 diabetes while managing the disease.

**Material - Methods:** A systematic review of published studies over the past 10 years in the databases: Pubmed, Google, Medline, with the keywords: 'conflicts, adherence, parents, adolescents, type 1 diabetes, mellitus' was performed. Among the research results, they were found 87 articles that had relevance to our topic and only eight were fully informed.

**Results:** According to the results of these studies, the main causes of conflict between parents and adolescents with type 1 diabetes were associated with children's age, following the meal and snack schedule as well as food restrictions, the independence and autonomy of teenagers, behavior disturbances due to restrictions and the outsourcing of their feelings. The excessive concern of the parents, the lack of understanding and the different views about the person who is responsible for the decision making were issues that trigger conflicts between parents and adolescents. The involvement of health professionals had been vital to reducing negative behaviors.

**Conclusions:** The results showed that the quality of adolescents relationship with their parents was the key factor in managing and treating type 1 diabetes.

#### OP04

##### **ASSESSMENT OF FAMILY BURDEN AND EMOTION AND THOUGHT OF FAMILY WHO HAS A CHILD WITH CEREBRAL PALSY**

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**Background:** Having a disabled child in the family can make important changes in family structure and process, and can be a source of stress that affect family members' lives, emotion and thought negatively. The families who have children with cerebral palsy have many problems because of the difficulties about care, education, medication and growing of the child.

**Purpose:** This study was performed with the aim of assessing family load and worry about their child who has a child with cerebral palsy.

**Material - Methods:** The study was performed with 79 parents of child with cerebral palsy in a Physical Therapy and Rehabilitation Clinic for out-patients between October 2008 to July 2009. Demographic data form, contains 19 questions, 'The Questionnaire of Understanding Emotion and Thought of Family Members', contains 66 questions

that developed for understanding parents' worry about their child that needs special education and 'The Questionnaire of Assessment of Family Burden Who Has A Mentally Disabled Child', contains 43 questions, were used for collecting data. The researchers filled out each form face to face with the participants.

**Results:** A 70.88% of children that participated our study have mental retardation in addition to cerebral palsy and 87.34% of these children have special education. Whole of the families worry about what would happen to their children after they die or cannot manage to care them. A 88.60% of parents expressed that having a disabled child damage their family structure, they cannot have enough time for their spouse and other children, the feelings of angry and tiredness was experienced very much in the family. According to the points of 'Questionnaire of Assessment of Family Burden Who Has A Mentally Disabled Child', points of emotional burden (distressed by the status of child, giving up hobbies etc.) are more than 25% points of physical burden (clothing, feeding etc.). A 63.29% of families expressed that the illness of their children bring economical load.

**Conclusion:** In our study, it is seen that many problems get together and complicate the life for the child and family and especially emotional dimension such as distress, getting angry easily, boring, feeling a need for psychiatrist is come forward. It is suggested that parents' worry about their child, family burden because of the illness should be discovered, and family support programs should be considered important.

**Keywords:** Cerebral palsy, Disabled child, Family burden.

#### OP05

##### **CHRONICALLY ILL CHILDREN: NURSES' PERSPECTIVE**

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**Introduction:** The nurses are persons who spend most of time with chronically ill children and their families among health teams.

**Purpose:** This study is a descriptive study which is carried out in order to determine the attitudes and behaviors of nurses, who have worked and are still working with chronically ill children, toward to the children.

**Material - methods:** Sampling of the research has been based on 110 volunteer nurses working in Gulhane Military Medical Academy Hospital and Ankara University Faculty of Medicine Cebeci Hospital. Data were obtained from questionnaire consisting of 17 questions. Data were evaluated by using percentage, chi square test and mean analysis on the SPSS 11.0 program package.

Results: According to the nurses, 97% of children with chronic disease face the problem of social adjustment. A 74.5% of nurses stated that the most important condition which facilitates psycho-social integration of children and their family to the chronic disease was talking of parents with other families with chronically ill children like themselves. A 34.8% of nurses claimed that worsening of the patient's prognosis was at the first order among the difficulties during care activities. A 76.4% of nurses expressed that they were trying to be holistic during caring activities of children with chronic disease and 76.4% of nurses stated that they provided to the child to express his/her feelings during communication activities of children with chronic disease.

Conclusions: The artistic nature of nursing is based on skills. The art of nursing, is based on the individual application of necessary knowledge and skills on the child. In our study, the majority of the nurses approached in a positive perspective while providing care to the child and his/her family, and exhibited an attitude which was appropriate to the pediatric nursing philosophy such as understanding the child's individuality and family-centered care.

#### OP06

##### THE OPINION OF GREEK PARENTS ACCORDING TO THE ADVANTAGES AND DISADVANTAGES OF THE OUTPATIENT ONCOLOGY SETTING

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Introduction: The treatment can takes place in the inpatient ward or in the outpatient setting. The treatment of children in the outpatient daycare is strongly related to the concept of family-centered health care model.

Purpose: The aim of this study was to assess parental opinions on the advantages and disadvantages of a pediatric oncology outpatient setting in comparison to the inpatient oncology ward.

Material - Methods: The sample of the study consisted of 104 parents whose children were diagnosed and treated for pediatric cancer. The survey took place at the Pediatric Oncology Wards, as well as their respective outpatient settings of the two General Children's Hospitals in Athens, Greece from May 2010 to August 2010.

A cross sectional study was performed. The questionnaire that was used for the assessment of the parental opinions and satisfaction on the advantages and disadvantages of the pediatric oncology outpatient settings was developed by Oppenheim. It consisted of 14 questions of

which 12 included a "yes/no" or "the same" answer, whereas 2 were open ended.

Results: According to parents' view the outpatient setting was preferable since it promoted the continuation of the daily routine ( $\chi^2 = 75.9$ ,  $P = 0.000$ ) and maintenance of family life ( $\chi^2 = 90.1$ ,  $P = 0.000$ ) and their children's participation in activities ( $\chi^2 = 25.6$ ,  $P = 0.000$ ). Moreover, young patients were more happy, less anxious and less scared when they were attended in the daily clinic ( $\chi^2 = 25.86$ ,  $P = 0.000$ ). All statistical tests were considered to be significant at an alpha level of 0.05 and were performed with the IBM SPSS version 19.0.

Conclusions: According to parents' view, the outpatient setting has many advantages. The judgement of children and parents on the services offered by the Pediatric Oncology Unit at the whole, in both inpatient and outpatient setting, can give the necessary feedback to improve the provided care.

#### OP07

##### AN EFFECT OF RE-MISSION VIDEO GAME ON PERCEIVED STRESS LEVELS OF ADOLESCENTS WITH CANCER

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Introduction: Many strategies are used in order to decrease the perceived stress levels of young patients who suffer from cancer, in an attempt to promote and improve their quality of life.

Purpose: To determine the effects of Re-Mission videogame on perceived stress levels of adolescents with cancer.

Materials - Methods: The sample consisted of all the adolescents between 13 to 18 years of age, who were treated from cancer between December 2009 and May 2011 years at two hospitals in Istanbul. Adolescents were divided into two groups; the control group and the case group. Data were collected by the patient information form, the Perceived Stress Scale and the Re-Mission Assessment Scale. Data were evaluated appropriate statistical analysis such as percentage, mean, standard deviation, t test, variance analyses, Bonferroni analyses were used for the statistical analysis of data. Validity and reliability of Re-Mission video game was 0.72 and 0.79 respectively.

Results: Adolescents participating in the study, were similar to each other in terms of demographic characteristics such as age, gender, family structure, number of children, social security and the number of hospitalizations. It was found that there was no significant difference between groups in mean scores of perceived stress in the first measurement ( $P = 0.250$ ). In the second and third measurements, perceived stress scores (the second measurement =  $25.16 \pm 6.37$ , the third measurement =  $18.23 \pm 6.80$ ) were significantly lower the case group adolescents than the control group adolescents (second

measurement =  $31.20 \pm 2.14$ , the third measurement =  $25.63 \pm 2.97$ ).

Conclusion: Re-Mission video game may expand its use, because the game was found to have a positive effect on the perceived stress of adolescent with cancer.

Keywords: Cancer, Re-Mission video game, Stress, Adolescent, Nursing.

## OP08

### DETERMINANTS OF QUALITY OF LIFE IN GREEK ASTHMATIC CHILDREN

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Introduction: The degree to which asthma influences health-related quality of life (HRQoL) depends on multiple factors, among which asthma control and asthma severity.

Purpose: The evaluation of the HRQoL in children with asthma, the level of agreement between child self-report and parent proxy-reports and the identification of the factors that affect asthmatic children's HRQoL.

Material - Methods: 504 asthmatic children and one of their parents during a regular follow up visit in an outpatient asthma clinic. HRQoL was assessed with DISABKIDS-Smiley measure for children 4–7 year-old and with Disabkids Chronic Generic Measure long form (DISABKIDS DCGM-37) and Asthma Module for children 8–14 year-old.

Results: Three hundred and fifteen children, 4–7 year-old (Group A) and 189 school-age (8–16 years, Group B) participated the study. Group A mean DSM score was 67.74 ( $\pm 18.44$ ), their parents showed a higher one ( $72.54 \pm 11.73$ ,  $P < 0.001$ ). Girls rated HRQoL higher than boys ( $P = 0.048$ ) and mothers lower DSM score than fathers ( $P < 0.001$ ). There was a moderate level of agreement between parents and children in Group B for all subscales. Children with controlled asthma had higher mean score than the other asthma control groups. For all the scores, adolescents with controlled asthma had significantly higher mean scores in all scales compared to the partially controlled and not controlled asthma participants ( $P < 0.001$ ). Lack of asthma control had the major negative effect in the HRQoL in both groups. Age of diagnosis, treatment duration, pet owning, mother's educational level and level of asthma control had a

positive effect on children's HRQoL. Passive smoking, presence of pets or animals, the level of contact with allergens and asthma severity had a negative effect, especially in younger children.

Conclusions: Asthma control and severity are in close relation but they express different clinical dimensions. Major determinant of asthmatic children's QoL is the level of asthma control and initial asthma severity.

## OP09

### CHILDREN'S EXPERIENCES OF ACUTE HOSPITALISATION TO A PAEDIATRIC EMERGENCY AND ASSESSMENT UNIT

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Introduction: Short stay treatment has become a popular form of care for patients internationally as a strategy to cope with increased demands on health care. In paediatrics this has been found to be a useful strategy that allows diagnostic care and early treatment for sick children. There is little research that considers the perspectives of the children and their experiences of acute the hospitalisation to a short stay care facility such as a paediatric emergency and assessment unit (PEAU).

Purpose: The study attempts to present an interpretation of the child's view of the experience and provides useful information for the nursing profession in the acute care for children.

Material - Methods: Semi-structured interviews were carried out to investigate the children's own experiences of being hospitalised in a PEAU. The children were also given the opportunity to draw a picture about their stay at the PEAU which were used as a starting point for explaining their experiences of being hospitalised. Thematic content analyses were used. This study explored the experiences of eight children aged 8–10 years.

Results: Three major themes were identified. (1) The children's understanding of disease, treatment and procedures. (2) The children's experiences of healthcare personnel and the PEAU. (3) Transformation of everyday life into the settings of the hospital. The children identified the hospital stay as an overall positive experience. The children took part in leisure activities as they would at home, and they enjoyed time with their parents whilst in hospital. In their conversations with staff they adapted quickly to professional terms that they did not necessarily understand. They did not differentiate between professionals. Conclusions: This study has provided some limited insight into the child's experiences of acute hospitalisation which should inform nursing care. Further work should be considered to clarify the consequences of this.



## OP10

### GREEK HOSPITALIZED CHILDREN PARENTS' KNOWLEDGE ATTITUDES CONCERNS AND PRACTICES ASSESSMENT ABOUT FEBRILE CONVULSIONS

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**Introduction:** Febrile convulsions (FC) are common during childhood, with good prognosis, although they cause fear and anxiety to parents.

**Purpose:** To assess Greek parents' beliefs knowledge, attitudes, concerns and practices toward FC.

**Material - Methods:** A study employing a descriptive, correlational design was conducted in two children's hospitals of Athens (June–November 2010). Data were obtained from a convenient sample of 275 parents of hospitalized children, by the use of the KACP questionnaire. Translation of the KACP questionnaire from English to Greek language, reverse translation and the assessment of validity by an experts group were performed, during the pilot study, which has been proceeded (Cronbach's  $\alpha = 0.71$ , McNemar test  $P > 0.05$ ). Internal consistency reliability analyses, descriptive statistics and chi-square test, were carried out by the use of SPSS 16.0, in a significance level of  $\alpha = 0.05$ .

**Results:** Response rate was 91.66% (275/300) and Cronbach's  $\alpha$  was estimated as  $\alpha = 0.758$ . The mean value of participants' age was  $36.83 \pm 7.9$  years, 65.1% were female, 86.9% were from a both parents' family structure, 54.4% were high school graduates and 9.1% had previous experience with FC from their child. Greek parents seemed to recognize the fever as a cause of convulsions (63.6%), and they could distinguish them from the 'epilepsy' (66.2%). On the other hand they had the false believe that FC could cause brain damage (68%), that the body temperature should be assessed more frequently (65.43%) and that the lumbar puncture was not an applicable intervention (51.4%). They concern mostly about the outcomes: brain damage (54.2%), further seizure attacks (54.9%), especially during the night (61.8%), and death (45.8%). The inappropriate practices that they use are to pry the convulsing child's clenched teeth apart and put something in his/her mouth (52.7%) and to restrain the child (66.5%). The educational level and the previous FC's experience partly affected the parental knowledge, attitudes and practices ( $P < 0.05$ ).

**Conclusions:** These results have shown that Greek parents may need further information and training for better managing children with FC at home.

## OP10A

### PROMOTING EXCELLENCE IN COMMUNICATING WITH LIFE LIMITED CHILDREN, YOUNG PEOPLE AND FAMILIES

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**Introduction:** It is vital that internationally we draw on sound evidence if we are to promote and provide excellence in communication to meet the needs of children and their families who have life limiting illnesses (Brown & Warr 2005). This begins by listening to children, young people, families and staff. Initially, this paper sets the scene about end of life care/life limiting illnesses in children and young people, and following shares a large scale evaluation funded by the Department of Health (DH), England.

**Purpose:** To understand preferences of children, young people, families and staff for promoting and delivering the best care for life limited children and their families.

**Materials - Method:** The total data set included 55 funded projects in one large regional area in England aiming to change life limiting and end of life children's care and services. Data collation included survey methods and arts-based interviews, focus groups and field visits area over a 9-month time frame from a broad range of stakeholders including children, young people, families and staff ( $n = 106$ ). Participatory framework underpinned by Theory of Change was used (Milligan et al. 2001). Contextual and thematic analysis was conducted to identify commonly reported issues.

**Results:** Main findings included needing to improve communications between healthcare professionals, children and families specifically at diagnosis and the impact of breakdown on continuity of care and transition from the hospital to the home. An improved communication needs-led training approach was subsequently developed as recommendations. There are limited large scale evaluations undertaken of children, young people, families and staff views about communications related to care for children with life limiting illnesses.

**Conclusion:** This evaluation provides an in-depth picture in terms of communication needs and challenges. Recommendations will include international future directions and has resonance for all delegates faced with such challenges.

## OP11

### TEENAGE INTERNET ADDICTION ON THE ISLAND OF CHIOS

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**Introduction:** Internet Addiction is a broadly used general term that covers a wide range of behaviors, the pro-



blematic control of impulses that are characterized by a reduced control of impulses connected with the use of the Internet.

**Purpose:** Assessment of the prevalence of Internet addiction among the teenage population on the island of Chios, and the investigation into the kinds of web related navigational (surfing) activities among teenagers.

**Material:** The sample consisted of 308 students 12–18 years old in Chios. The collection of the data was done by students completing an addiction scale on the Internet YDQ, and the addiction scale of teenagers on the computers (K.E.E.F.Y.) during the first trimester of 2009.

**Material - Methods:** The students were recruited from a random sample in the city and villages of the island. The statistical significance was on the level of  $P < 0.05$ . Statistical analysis of the data was conducted using the Statistical Package for Social Science SPSS 13, and used descriptive statistics, the statistical test chi-square test, while parallel to that, created the linear model and Linear Regression.

**Results:** A 90.2% of the respondents with a median starting age of  $10.77 \pm 2.71$  (min. = 4, max. = 17) stated that they use the computer, while 83.1% of the respondents stated that they had used the Internet during the last 12 months. The place where the students had access to the Internet more frequently was their residence with 72.7%, the school with 32.8%, and the Internet Café with 28.7%. The main reason for which the respondents used the Internet during the last trimester was for Internet games (53.6%), sending and receiving e-mail (43.5%), and acquiring information for educational purposes (35.4%). Mild use of the Internet is apparent in 59.5% of the sample, borderline use in 25.5%, and addictive use in 15% of the sample. Internet addiction is equally likely to be female as male (50%). In this study it is apparent that the use of the computer and of the Internet is widespread on the island of Chios among Junior High School and High School students.

**Conclusion:** This study presents the highest percentage of teenage Internet addiction that has ever been recorded in Greece, a fact that confirms the trend that children living in provinces show a higher percentage of addiction than children living in large urban centers.

## OP12

### OVERWEIGHT AND OBESITY STATUS IN ADOLESCENTS FROM GREECE

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**Introduction:** Obesity is on the rise among adolescents worldwide, including populations living in developing countries. Key health organizations have recommended

research be conducted on the effectiveness of well-designed interventions to combat childhood obesity.

**Purpose:** This study aimed to describe body mass index of adolescents in public schools in Greece. The town of Larissa was chosen for this study.

**Material - Methods:** Questionnaire data, weight, height, waist circumference, body mass index, systolic and diastolic pressure and pulse measurements were collected in adolescents between 12 and 18 years old who were attending public school during the 2009–2010 school year in Greece (Larissa). Four hundred and fifty-one adolescents measured.

EpiInfo used for the statistical analysis. All data which collected examined for every school separately and also all together.

**Results:** At the end of the measurements, data analysis showed that 25% of the adolescents are obese and 5% are overweight. Sixty percentage of the adolescents were obese and 5% were overweight, 60% of the adolescents had.

**Conclusions:** Increasing levels of youth obesity constitute a threat of the nation's health, and identification of the influences during childhood that lead to youth obesity is urgently needed. Schools are a suitable setting for the promotion of healthy lifestyles although more work, particularly focussed on dietary change, is needed in a variety of schools and social settings.

## OP13

### MENARCHE AND FIRST EMOTIONAL REACTIONS OF TURKISH ADOLESCENT

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**Introduction:** Menarche is a physiologic situation that is always memorable and significant in ladies' life. Emotional reactions are different among cultures and countries. They include secrecy, discomfort or a sense of disease and a blush status in some societies as well as in other societies it is faced as a wonderful or a miracle status and a sign of growth. Similarly, menarche is welcomed with celebration in a lot of cultures while in others is faces as a nasty or as a status of shame and the people don't want to speak about it. Menarche is very important for a girl due to physiologic, psychologic and cultural effect. Negative emotions can develop if the girl hasn't got the true knowledge.

**Purpose:** The aim of this study is to determine the emotional reactions and traditional application of 12–25 age Turkish adolescents.

**Material - Methods:** A conversation form is used. The form included; age, education level, menarche age, level of knowledge about menarche, emotional reaction about menarche, traditional application with regard to menarche. A descriptive research was performed. Data was collected

between 1 March – 31 August 2011. The sample consisted of 1465 adolescent from seven differ region of Turkey

Results: The mean age of the sample was  $20.26 \pm 2.34$  and 78.9% of them were university graduates. Mean menarche age was  $13.28 \pm 1.25$  (min:10, max:19). Most sense emotional status at menarche were; 35.2% “I was affaid”, 35.8% “I was surprised”, 10.1% “I’m glad”, 6.8% “I was blush”, 4.5% “I was sorrow”. Before information receive about menarche is 87.8% while this information received 54.8% from mother and 9.7% from health professions. Rates of sanitary pads use are 87.7%. Traditional application rates are 6.4% that as slapping, using old clothes, giving a gift. The relation between negative emotional reactions and education level found statistical significant ( $\chi^2/P = 0.000$ ). The relation between education level and hiding or talking about menarche found statistical significant ( $\chi^2/P = 0.000$ ).

Conclusions: It is of great importance to give adequate information to girls concerning menarche.

#### OP14

#### NURSE-LED TELEPHONE REFERRAL TO A PAEDIATRIC EMERGENCY AND ASSESSMENT UNITS

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Introduction: An increasing number of acute referrals have led to unsatisfactory working conditions and a degradation of the service to the families attending paediatric emergency and assessment units. The usual way of referring for the general practitioner (GP) was by telephone to the resident assistant. This study investigated if a nurse-led telephone referral system would optimize conditions for patients and staff.

Purpose: To create optimal continuity of care, to optimise service to GPs’ and other collaborators, to improve quality of care to the families and to improve working conditions in the PEAU.

Material - Methods: The project period was from October to December 2009. A team of paediatric nurses were in charge of the referral system. Prior to the project the nurses were introduced to a guideline which included a model to ensure efficient and accurate reception and transmission of information – the ISBAR model. The project was evaluated using an electronic questionnaire and focus group interviews.

Findings: Nurse-led telephone referral helped to create:

- Optimal continuity of care as the nurses in charge of referral had a better overview.
- Improved working procedures as information about the children were already documented prior to arrival to the PEAU.

- Better working environment as staff was able to examine the children and talk to the families without interruptions.

- Improved quality of the referral system according to the GPs.

Conclusion: A nurse-led referral system to a PEAU has proven successful and staff reported improved working conditions. Furthermore did the project shed a light on the importance of a validated triage tool to prioritize acutely admitted children. As a result of this the paediatric emergency and assessment unit commenced a project in order to develop a paediatric triage tool.

#### OP15

#### ASSESSMENT OF DEGREE OF COMPLIANCE OF HEALTH PROFESSIONALS IN A PEDIATRIC INTENSIVE CARE UNIT

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Introduction: Hand hygiene of health care professionals, either as a wash or as a disinfection of hands, protects against cross transfer of germs and contributes in reducing the incidence of infections as it is the main measure to prevent hospital infections.

Purpose: Purpose of this survey was to identify the degree of compliance of health personnel with the rules of hand hygiene before and after the educational intervention.

Materials and methods: The survey involved 33 people (19 nurses, 5 assistant nurses, 12 doctors, 2 physiotherapists) in ICU of a pediatric hospital in Athens. The collection and analysis of data was based on the Observation & Calculation Form – World Health Organization: Hand Hygiene Technical Reference Manual of the World Health Organization. The professionals were observed within 1 h five times a week for 8 weeks before and after the implementation of the educational intervention (courses of 1 h to the all personnel). The total number of observations that was studied were 450 before and 409 afterwards.

Results: Out of the 33 individuals who participated, most were women (27 women, 6 men) with an average age 42.7 years and average time of previous experience 16.8 years. The degree of compliance of health professionals in accordance with the international recommendations for hand hygiene, before is 31.71% and afterwards 34.2%. Compliance among doctors, nurses, assistant nurses and physiotherapists who come into contact with the patients is 28.2%, 30.4%, 21% and 44.8% before and 41%, 54.1% and 33.35% after intervention respectively.

Conclusions: According to the results the degree of the compliance staff in the ICU before and after the intervention is sufficient. The training and information of health

professionals contribute to increasing the degree of compliance with the international recommendations for hand hygiene.

# OP16

## INTERVENTIONS FOR NURSES CARING FOR A CHILD WHO HAS AN UNEXPECTED ACUTE LIFE THREATENING EVENT (ALTE) IN HOSPITAL

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**Introduction:** Caring for a child who has an unexpected ALTE in hospital can be stressful. An ALTE may include a cardiac arrest, respiratory arrest or call for immediate assistance. An international survey of practice was conducted to identify any existing interventions to inform a PhD program of work aimed at reducing the stress from these events through preparation and support.

**Purpose:** The purpose of the survey was threefold:

(1) Describe 'normal' practice when it comes to preparing staff or providing psychological support after caring for a child who has had an ALTE.

(2) Determine if there are any interventions to *prepare* clinical staff for potential psychological effects of caring for a child who has an ALTE.

(3) Determine if there are any interventions to provide *support* for clinical staff after caring for a child who has an ALTE.

**Material - Methods:** An 18 item semi structured questionnaire was designed for the study to allow respondent to describe practices within their institution and outline their opinions and professional experiences. Clinicians from selected children's and adult hospitals in Australia, Canada, New Zealand, United Kingdom and the United States of America were contacted by telephone. Following consent they were given the option to complete the survey via the telephone, by post or online.

**Results:** Of the 61 hospitals approached 44 (72%) clinicians responded. Eighteen (41%) respondents identified interventions in place to *prepare* nurses for an ALTE ranging from (but not limited to) *ad hoc* discussions during life support training through to structured simulation training. Thirty-six (82%) respondents identified that they had interventions in place to *support* nurses after an ALTE ranging from (but not limited to) debriefing through to structured case reviews.

**Conclusions:** Interventions varied across institutions, with no outcome or evaluation data for the interventions published to date.

# OP17

## EVALUATION OF THE EFFICACY OF CPR TRAINING FOR PARENTS OF CHILDREN AT HIGH-RISK FOR CARDIOPULMONARY ARREST, PRELIMINARY RESULTS

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**Introduction:** Cardiopulmonary arrest in children is uncommon (2.6–19.7 annual cases per 100 000 pediatric population) but survival rate to hospital discharge is poor (12.1%) and neurologic morbidity is high. Cardio Pulmonary Resuscitation (CPR) can double the survival chance if provided immediately (from 4.7% to 9.4%). Although 60% of the cardiac arrests occurs in the home with family members present, only 17% of them receives bystander CPR.

**Purpose:** To evaluate the efficacy of CPR training for parents of children at high-risk for cardiopulmonary arrest in our hospital to reduce their anxiety and fear, to make them able to perform CPR and to improve survival in children with sudden cardiac arrest.

**Material - Methods:** Take-home educational material (DVD, Handbook and memory card) was created for parents to guarantee the retention of information in the long period. Study design: A pre-post test design without comparison group. Target population: Parents of 0–3 years aged patient at high-risk of cardiac arrest (prematurity, low birthweight, congenital heart disease, pulmonary distress, genetic syndromes at risk of sudden cardiac arrest, congenital gastrointestinal disease). Intervention: A two-session educational intervention: a 60-min class session of prevention and emotional support, and a 6-h CPR course according to the ILCOR 2005 guidelines. Follow-up: Evaluations were planned pre-post CPR course and at 6 and 12 months to monitor the status of CPR knowledge, emotional felling, use of CPR knowledge and skills, and relative outcomes. Statistical analysis: EpiInfo 3.5 was used for statistical analysis. Ethical issues: The study was approved by the Ethics committee of the hospital and participants signed an informed consent.



Results: The first data available are: 87 parents, 55 mothers and 32 fathers, were trained. Only 6.9% of them had basic CPR knowledge, after the course, they reached 75.9%. Until now, only one event occurred and CPR sequence was correctly performed.

Conclusion: The course improved the parental knowledge concerning CPR and their performance.

#### OP17A

### METHODICAL HEALTH CARE APPROACH IN THE CARE AND PROTECTION OF AN ABUSED AND NEGLECTED CHILD

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Introduction: Abuse, neglect and exploitation of a child, based on the active abuse of power of an adult, directly cause physical and psychological injuries and damage, what results in inadequate care, no timely treatment, lack of security and in preventing developmental needs of the child.

Purpose: Recognition of violence and abuse signs and symptoms in hospitalized patients with aim to take adequate care measures and protection procedures of the abused children.

Material and Methods: Special guidelines and protocols for children protection from neglect and abuse and hospital medical records of Pediatrics were used

Results: This methodical approach means taking care of injuries and illness of a child, documenting the situation, further abuse risk measuring, and safehome care.

During the five-year follow-up of patients in our hospital (2006/2010.godine), we got the following data: a total of 6605 hospitalized children. Abuse and neglect signs were diagnosed at 18 children; 11 physically abused children; two children showed symptoms of neglect; 4 children were emotionally abused; there was a suspicion on sexually abuse at one child. Over 80% of children were female. Collected data show evident increased number of children experienced various forms of abuse and neglect, most often by parents. This data are results of more accurate records and documentation of child abuse, the legal obligation of registering and reporting of relevant services, as well as better education of health professionals who take care for children and youth.

Conclusion: The best protection of children from all forms of neglect and abuse is prevention. Legislation to protect children, education of nurses and pediatricianst or ecognize symptoms of abuse and neglect of children and adolescents, adequate careand recordings, are the most important segments in the social care and child protection.

#### OP18

### PHYSICIANS' AND NURSES' OPINIONS ABOUT THE COMMUNICATION AND THE INTERDISCIPLINARY COLLABORATION

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Introduction: Effective communication and collaboration between doctors and nurses are the keystone for providing high quality health care services.

Purpose: The aim of the study is to document the opinions of doctors and nurses about the effective communication and collaboration between them, as well as the factors that affect it.

Material - Methods: Data was collected from 100 doctors and 200 nurses who completed the questionnaire "Communication and collaboration among physicians and nurses". The questionnaire included 28 questions for the assessment of nurses' and doctors' opinions about communication and collaboration between them, as well as doctors' point of view about nurses' participation in the decision-making. A special form with demographic data was also provided. The analysis was performed with SPSS 16.0 (Statistical Package for Social Sciences).

Results: The results of the study show that the majority of doctors respected the nurses' job (95.7%) and they were sensitive about their family status (87.1%) and their personal needs (90.4%). Most doctors reported that the relation between doctors and nurses ensured collaboration (95.7%) even if an average percentage of them (24.7%) mentioned that they did not collaborate with the nurses for patients' treatment and decision making. The majority of doctors declared that they accepted the responsibility of nurses for the patient-care (98.9%) as well as the fact that they were informed by the nurses for patients' health care (89.1%). The doctors of smaller age ( $P = 0.036$ ) and with smaller clinical experience ( $P = 0.029$ ) recognized nurses' skills and they accepted nurses' opinions about the treatment and the decision-making ( $P = 0.094$  and  $P = 0.060$  respectively). The majority of nurses mentioned that their work was respectable by the doctors (80.2%) and the relation of doctor-nurse ensured collaboration (90.3%). Nurses' academic education and postgraduate studies, the size of clinical department and the years of experience were found to be statistically significant factors for the effective communication and collaboration between nurses and doctors according to nurses' opinions ( $P < 0.05$ ).



Conclusions: Modern nurses should communicate successfully and improve their role in the decision-making continuously, providing high quality health care services for the patients. Errors and omissions in the quality of health care are caused by the lack of coordination and cooperation between nurses and doctors. According to doctors' opinions the lack of knowledge about nurses' professional role was the major obstacle for not collaborating with them.

## OP19

### THE INFLUENCE OF LOCAL ANTIMICROBIAL AGENTS IN CHILDHOOD BURNS: A CLINICAL STUDY

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Introduction: Local chemoprophylaxis in burn victims is crucial in preventing infections and enhancing the healing process.

Purpose: The purpose of the study was to compare two local antimicrobial agents, 10% povidone iodine and silver sulfadiazine 1%, in the course of healing and epithelialization of burns as well as prevention of contamination.

Material - Methods: 48 children aged 0-24 months with partial thickness contact or scald burns served as a basis for this study. The healing of the burn wounds was evaluated by two independent observers. The parameters assessed in each group were: the degree of epithelialization, the quality of the granulation tissue, the degree of inflammation, the degree of infection, the aspect of the early scar tissue and blister formation. Every parameter was scored on a 1-5 scale, with score 1 for the worst and score 5 for the best outcome. Long-term follow-up was performed on days 0, 1, 4, 7, 10, 14, 21, 1 month, 3 months and 6 months. Weighted kappa coefficient was used to evaluate inter-observer agreement. 'Random effects' linear regression analysis was used to determine if there were any statistical differences between the two groups.

Results: Twenty-six children participated in the silver sulfadiazine 1% group and 22 the povidone iodine 10% group. Children's mean age was 17.3 months ( $\pm 5.8$  months). The majority of burns were located in the anterior trunk and upper arms (56.3% and 47.9% respectively), mean TBSA% was  $11.3 \pm 5.8$  and 39.6% were deep partial thickness burns. There were no statistical differences found in the healing process or contamination between the two groups indicating that povidone iodine 10% and silver sulfadiazine 1% have equal properties in topical burn treatment.

Conclusions: The type of antimicrobial agent does not affect the healing process or contamination of the burn wound.

## OP20

### EVALUATION OF THE MEDICATION PROCESS IN PEDIATRIC PATIENTS: A META-ANALYSIS OF MEDICATION ERRORS RATE

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Introduction: Children are a particularly challenging group of patients when trying to ensure the safe use of drugs. However, medication errors may occur in all stages of medication process including prescription, dispensing and administration.

Purpose: The aim of this study is to meta-analyze studies that have assessed the medication errors rate (MER) in pediatric patients.

Material - Methods: Sixteen original studies were included in the analysis. The authors conducted a systematic review and random effects meta-analysis of studies related to medication errors in pediatric patients, including publications in Pubmed, Cochrane, Google Scholar and electronic libraries of Athens University from 1 January 2001 to 31 December 2010.

Results: The combined MER for prescribing errors to medication orders – nine out of 16 studies – was equal to 0.301 [with 95% confidence intervals (CI) 0.281–0.292] – five out of 16 studies – for prescribing errors to total medication errors was 0.267 with 95%CI: 0.280–0.316, for dispensing errors to total medication errors was 0.136 with 95%CI: 0.057–0.290 and for administration errors to total medication errors was 0.422 with 95%CI: 0.197–0.684. Furthermore, including five out of sixteen studies the combined MER for administration errors to drug administrations was equal to 0.193 with 95%CI: 0.135–0.270.

Conclusions: Medication errors do constitute a reality in health care services. Medication process is significantly prone to errors, especially in pediatric patients, according to the reported rates. Implementation of medication errors reduction strategies needs to be done in order to increase the safety and quality in pediatric health care delivering.

## OP21

### HEALTH AMONG 6-YEAR-OLD CHILDREN IN A SWEDISH COUNTY: BASED ON THE HEALTH DIALOGUE

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Introduction: Children's health and school progress are strongly connected with future life. The Health Dialogue (HD) is a method used by the school nurses in Sweden in the health promoting work.

**Purpose:** To investigate and explore the health of children in a preschool context, 2006–2009.

**Material - Methods:** Data originated from the HD that took place in pre-school classes during 2006–2009. The total sample consisted of 5259 HD from 6-year-old children. The HD is a structured instrument consisting of 15 questions that covers health from three dimensions according to WHO. The child and parents are invited to a HD with the school nurse. The school nurse registers the HD at EPI-child (an epidemiological database). Logistic regression and odds ratios (OR) were analyzed for the HD.

**Results:** The most significant finding was that most children, regardless of gender, experienced good health (96.5%). Comfort in preschool, sleep, headaches, physical activity, play and bullying were important variables in the experience of health for all children. There were gender differences in experience of sleep, headaches, physical activity and play. More than one-third of all children had experienced bullying. The gender differences in experiences of health among six-year-old children are a surprising finding. Many of the boys were more physically active than the girls; the boys' health experience had a strong connection to headaches, while girls' health experience had a strong connection to sleep. Another finding was that even though 36% of the children had been bullied, their experience of health and comfort in preschool was good.

**Conclusion:** Six-year-old children's health experiences are vital issues that need to be addressed in school health prevention and promotion and the HD can contribute to this work.

## OP22

### MOTHERS' KNOWLEDGE AND PERFORMANCE ABOUT APPLICATION OF SWADDLING

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**Introduction:** Swaddling is a traditional practice of wrapping infants in swaddling clothes so that movement of the legs and foot are tightly restricted. People and mothers commonly believed that this is necessary for the infants to develop proper posture. Application of swaddling lead in decrease restlessness, crying, frequency of insomnia, stress and increase comfort and silence in infants. Despite of these advantages, if swaddling use inappropriately, would result in Dislocation of Hip. In addition swaddling has profound negative effects on the adult emotional health of a swaddled child.

**Purpose:** In this research we assess the Mothers' knowledge and performance about application of swaddling.

**Material - Methods:** This is a descriptive-analytical research. We assess 211 mothers whom have infants 1–24 months with diarrhea. Data gathered through a researcher-administered questionnaire and interview by professional midwife. The validity of questionnaire confirmed through experts (Pediatricians, Faculty members in nursing and midwifery, orthopedist) and its reliability after distributed in a sample of 30 mothers gained 91% through Cronach's alpha. Data analyzed by expert through SPSS version 16.00. During the semi-structured interview, after gaining the data, professionals taught the mothers about advantages and disadvantages of swaddling.

**Results:** Finding showed that the majority of mothers (65%) have not knowledge about benefits and pitfall of swaddling. Eighty-six percentage of them knew that it was good for calming babies, sleeping and warming. Sixteen percentage of them knew that swaddling may lead in dislocation of hip. Educated mothers and housekeepers swaddled their babies less than others. They told that they received information about swaddling from her mothers and relatives and very less from health professionals. Educated mothers told in the interview that they did not receive information about swaddling much from media and doctors (65%). In interviews analysis, found that they were interested in participated in classes about swaddling (78%) to learn the correct swaddling.

**Conclusion:** With regards of weak results about knowledge and performance of mothers on swaddling and its consequences such as adult emotional health and dislocation of hip, promotion of mothers' knowledge suggested through health workshop and practical teaching sessions by professional and governmental official is necessary.

**Keywords:** Mothers, Swaddling, Knowledge, Performance.

## OP23

### ESTONIAN NURSING STUDENTS' READINESS FOR CLIENT-CENTRED NURSING AND THE INFLUENCE OF STUDIES ON IT

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**Introduction:** Learning process must be managed so that students are motivated, learning does not only acquire knowledge and skills, but that the students emerge professional values necessary for future work, and supportive attitude to client.

**Purpose:** The purpose of the study was to describe the Estonian nursing students readiness for client-centred nursing and the influence of studies on it.

**Material - Methods:** The total sample consisted of nursing students in their final year of study at Estonian healthcare colleges (n = 195). The data was collected from 26 August to 16 December 2009, using the structured five

point Likert Scale questionnaire *Client-Centeredness in Nursing Care*. The data was analysed by PASW Statistics 18 using descriptive statistics.

**Results:** The students evaluated their readiness for client-centred nursing as good or very good. The students are ready to consider the clients' expectations and needs and all clients are equally important for the students. However, the readiness to see the clients and their closed ones as an equal partner is lower. The influence of theoretical studies is considered slightly stronger than practical studies for the students' readiness for client-centred nursing. The practical studies have mostly supported the technical skills.

**Conclusion:** The students understand the importance of client-centeredness but accept its basic values partly and within certain limits. The students are ready to guarantee a friendly treatment and secure environment for the client, but they are less ready to cooperate with the clients and their closed ones. The students find that the studies would be more client-centred in the future if the teachers and supervisors of practical studies could have in-training courses concerning client-centeredness.

## OP24

### CHILDREN'S AND PARENTS' OPINIONS ABOUT THE PAIN THEY SUFFERED DURING THE HOSPITALIZATION AND THE IMPACT OF PAIN UPON PARENTS' QUALITY OF LIFE

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**Introduction:** Pain is a major problem during children's and adolescents' hospitalization. It is estimated that almost 15–20% of the pediatric patients suffer from chronic pain during their hospitalization.

**Purpose:** The aim of the study was to report and assess pediatric and parental opinions about the pain the pediatric patients suffer during their hospitalization, as well as the impact of that pain upon parents' quality of life.

**Material - Methods:** The sample of the study consisted of 100 pediatric patients with cancer and orthopedics disorders and one of their parents. The Pediatric Pain Questionnaire (Parent Version) and the PedsQL-Family Impact Module (PedsQL-FIM) were used for the assessment of pain and the quality of life the by parents. Children and adolescents completed the pediatric version of the Pediatric Pain Questionnaire for the evaluation of pediatric pain.

**Results:** The children's mean age was  $7.10 \pm 4.36$  years. The PedsQL-FIM was found to be a reliable tool for as-

sessing parents' quality of life ( $\alpha = 0.94$ ). The mean score for the PedsQL-FIM was  $54.91 \pm 16.80$ , the mean score for Health related Quality of Life was  $56.34 \pm 19.23$  and the mean score for Family Functioning was  $59.56 \pm 21.34$ . No statistically significance was found on the PedsQL-FIM scores between parents whose children suffered from cancer and those whose children had orthopedic disorders ( $t = 1.79$ ,  $P = 0.09$ ). No demographic factor was found to be statistically significant on the PedsQL-FIM scores. Children with orthopedic disorders mentioned more acute pain than children with cancer ( $z = -3.18$ ,  $P = 0.002$ ). Parents tended to overestimate their children's chronic pain ( $z = -2.25$ ,  $P = 0.02$ ). There were also positive high correlations on acute pain reported by children and parents (Spearman's  $\rho = 0.59$ , ICC = 0.72,  $P = 0.000$ ), as well as moderate correlations on chronic pain scores (Spearman's  $\rho = 0.56$ , ICC = 0.51,  $P = 0.000$ ).

**Conclusions:** The PedsQL-FIM appears to be a suitable tool for measuring parental self-reported health related quality of life and family functioning in pediatric chronic pain. Children reported less acute and chronic pain than their parents. Medium and high correlations of the patient/parent responses strongly imply that relevant information might be obtainable through parents when children are unable to assess their pain.

## OP25

### PARENTAL NEEDS AND EXPERIENCES IN COMMUNICATION WITH HEALTH PRACTITIONERS

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**Introduction:** Effective healthcare professional – patient communication is necessary to ensure not only that the patients' problems and concerns are understood but also that relevant information, advice and treatment is received and acted upon by the patients. It has been shown that consultations in which patient expectations are met result in greater satisfaction and an increased willingness to follow advice or treatment.

**Purpose:** To examine the experiences and needs of parents whose children have developmental difficulties, focusing on their communication with health practitioners.

**Methods and participants:** Parents of 53 children with developmental difficulties filled out a questionnaire which was sent to them by mail. In this questionnaire we asked them to state what kind of physicians' and nurses' behavior they find helpful, to describe nurses' and physicians' behavior when their child was in hospital for the first time and to express their satisfaction with it on a scale from 1 to 5.

**Results:** Thirty-six percentage of the parents are satisfied with physician-parent communication and 65% with nurse-parent communication. Physician's behavior in first



consultation is mostly viewed as cold and restrained, while nurses are described as professional, kind and compassionate. In communication with health practitioners parents want empathy and support, professionalism, more devoted time and more detailed information about treatment options and habilitation, child's condition and his/her disease. They also want to be informed about further steps they need to take in treatment of their child's disease.

Conclusion: The level of communication between parents and health care professionals is of critical importance. Nurses can play a significant role in the improvement of the communication between parents and medical staff.

## OP26

### KNOWLEDGE OF 'PAIN ASSESSMENT AND MANAGEMENT' AMONG NURSES CARING FOR CHILDREN IN ERBIL HOSPITALS

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Introduction: Pain is one of the most common adverse stimuli experienced by children. Pediatric nurses have failed to adequately relieve children's pain by failing to recognize pain, failing to optimize pain treatments. The assessment and management of children's pain is a particular challenge for nurses.

Purpose: This study is conducted to assess knowledge of pain assessment and management among nurse's caring for children in Erbil City, Iraq.

Material - Methods: A descriptive study was conducted on Pediatric Raparin Hospital, Hawler teaching hospital and Emergency Hospital, in a period from 2nd of January 2011 to 30th of April 2011. A purposive (non probability) sample of (60) nurses who were caring for children in three hospitals. All the study participant were agreed to be involved in the study. A questionnaire form consist from two parts, derived from a questionnaire developed by Manworren for assessment of Pediatric Nurses' knowledge regarding pain (PNKAS - Shriners revision 2002) was used to collect data after gating permission from the author .The Statistical Package for Social Sciences (SPSS, version 15) was used for statistical analysis.

Results: Researcher found that majority of nurses were females, most of them were from the age groups of (20-29), (30-39) years old, have >5 years of experiences and were graduated from medical institute. Results of the study reveals that highest percentages of nurses have incorrect answers for majority of pain assessment and management items.

Conclusion: Nurses caring for children in Erbil City have insufficient knowledge regarding pain assessment and management. There was non-significant relationship between nurse Knowledge of pain assessment and management in children and nurses demographic characteristics (Unit of working, experience years, Educational prepara-

tion). Researchers recommended improving the nurse's knowledge regarding pain assessment and management in children.

## OP27

### PARENTAL IMPACT ON ENVIRONMENTAL TOBACCO SMOKE EXPOSURE IN PRESCHOOL CHILDREN: A COMPARATIVE STUDY BETWEEN RURAL AND URBAN AREAS IN GREECE

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Introduction: Environmental tobacco smoke (ETS) is associated with worsening respiratory symptoms and decreased pulmonary function. Greece is among the countries that face a serious smoking problem.

Purpose: The aim of this study was to explore the size of the problem and the impact of the parental characteristics on ETS exposure in preschool children in urban and rural environment.

Material - Methods: Preschool children attending nursery schools living in urban (UR) and rural environment (RU) were evaluated. ETS exposure was measured by the child's urine cotinine levels, whereas information on demographics, child's clinical status and house environment, including smoking status of each household member, were selected by parents' interviews.

Results: We studied 234 children, (52.6% boys) with a mean age of  $4.02 \pm 0.61$  yrs, 48.3% in UR environment. Mean urine cotinine levels in the whole sample were  $50.2 \pm 118.7$  ng/mL, which equals to heavy exposure in ETS for non-smokers. The exposure in RU environment was heavy, whereas much less exposure was observed in UR ( $73.8 \pm 144.7$  and  $25.7 \pm 72.7$  ng/mL, respectively,  $P = 0.005$ ). A correlation between the cotinine levels and the educational level of the parents ( $P \leq 0.001$ ), as well as the number of the cigarettes the parents declared to smoke per day ( $P \leq 0.001$ ) was found. Interestingly, analysis revealed a correlation between the cotinine levels and the fathers' smoking status ( $P = 0.005$ ), but not with the mothers' smoking cigarette number ( $P = 0.101$ ), in children living in UR, while in children living in RU the smoker mother affected the cotinine levels ( $P = 0.002$ ) and the smoker father, marginally, did not ( $P = 0.053$ ). However, there was no correlation between the level of exposure and the allergy status, history of respiratory infections, or wheezing illness.



Conclusion: ETS exposure of preschool children is a serious health problem in Greece. It is more pronounced in RU areas where maternal smoking appears to play more important role.

#### OP28

##### THE EFFECTIVENESS OF INTERVENTIONS TO PREVENT HYPOTHERMIA AFTER BIRTH IN PRETERM INFANTS: A RANDOMIZED CONTROLLED EXPERIMENTAL STUDY

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**Introduction:** Hypothermia is a serious health problem that threatening the infant's life in neonatal period. Especially inadequate delivery room environments and inaccurate transport causes hypothermia of infants in developing countries.

**Purpose:** The purpose of this experimental study was to examine the effects of vinyl isolation bag and polyethylene wrap on hypothermia after birth of infants under the age of 32 gestational weeks.

**Material-Methods:** The data were collected through observation form. The form consist of 24 questionnaires. This study was realized at the delivery unit and NICU of the Istanbul University Istanbul Medical Faculty Hospital between December 2009–June 2011. Infants were assigned by randomly as for gender, gestational age, birth weight and apgar scores to either an vinyl isolation bag group and polyethylene wrap group. A total of 59 infants under the age of 32 gestational weeks were included in this study. The 22 infants were placed in the vinyl isolation bag and 37 infants were wrapped with polyethylene film after birth.

**Results:** According to measure times (after birth, 20–40–60 min) vinyl isolation bag groups' body temperatures were found statistically significant higher than polyethylene wrap group at 60 min after birth ( $P < 0.05$ ). When the body temperature measurements difference is compared by two groups between at birth and 60 min were found statistically high significant differences ( $P < 0.001$ ). The body temperature differences were decreased  $1.41 \pm 1.65^{\circ}\text{C}$  in vinyl isolation bag group and  $2.75 \pm 1.68^{\circ}\text{C}$  in polyethylene wrap group. In addition when compared to blood gas and glucose measurements between two groups at birth and 6 h; only bicarbonate ( $\text{HCO}_3$ ) at blood gas were found statistically significant lower level in vinyl isolation bag group ( $P < 0.05$ ).

**Conclusion:** Vinyl bags are an effective intervention that is shown to significantly improve admission temperature in infants. This technique can be adapted in the delivery rooms to improve admission temperatures in extremely premature infants.

**Keywords:** Hypothermia management, Infant, Vinyl isolation bag, Polyethylene wrap, Plastic barriers.

#### OP29

##### EFFECTS TO HEALING PROCESS OF USING TOPICAL BREAST MILK AND RASH CREAM FOR INFANTS WITH DIAPER DERMATITIS IN THE NEWBORN INTENSIVE CARE UNIT (NICU): RANDOMIZED CONTROLLED EXPERIMENTAL STUDY

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**Introduction:** Diaper dermatitis is the skin problem caused by closure, moisture and irritation at perineum and around. Diaper dermatitis is the most common skin disease seen by 7–35% rate and usually effected age of 9–12 months infants.

**Purpose:** The research is planned as randomised controlled experimental study for determine the effect to rash healing process of using topical breast milk and rash cream (include cod liver oil and 40% zinc oxide) for babies with diaper dermatitis in the NICU.

**Material - Methods:** The population of the study was full term and preterm babies hospitalized in the NICU and occurred diaper dermatitis on February 2010–October 2010. Research data obtained by totally 63 babies; 30 of them was in the breast milk care group and 33 was diaper rash cream care group. Diaper rash lesion was observed and evaluated by scored as: light redness is 1 point; large area redness is 2 points; deep and wide area redness is 3 points. Babies are cared for diaper dermatitis maximum 5 days and 1 point decrease of the lesion score was evaluated as healing. Both groups were statistically no difference as randomization for terms of gender, the mean week of gestation, nutrition and using antibiotics ( $P > 0.05$ ).

**Results:** As a result of the survey; diaper rash cream care group's lesion score was statistically advanced level lower than breast milk care group's ( $P = 0.002$ ) and there is no difference by average time to healing between groups ( $P = 0.270$ ) were determined.

**Conclusion:** Diaper dermatitis care for infants is recommended by using breast milk if the lesion is light redness. Especially large redness and serious degree of diaper dermatitis should be cared with cod liver oil and zinc oxide contained cream.

**Keywords:** Diaper dermatitis, Care, Breast milk, Zinc oxide, Cod liver oil, NICU.

#### OP30

##### WITHDRAWN

**OP31**

**HOW WAS IT FOR US? REFLECTIONS FROM A UK E-LEARNING DEVELOPMENT FOR HEALTH PROFESSIONALS IN THE FIELD OF PAEDIATRICS AND CHILD HEALTH**

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In June 2010, the Department of Health (DoH), UK released a call to apply for funding to support projects focused on benefiting the lives of children and young people with palliative and complex health care needs. The Faculty of Health & Life Sciences in Coventry University, England (led by Professor Jane Coad) was awarded £1.4 million to develop and deliver a new and innovative accredited blended e-learning programme in conjunction with Centre for Education and Learning Excellence (CELE) (led by Professor Lynn Clouder and team).

This innovative programme, for nurses, doctors and allied health and social care professionals, has the potential to nationally and internationally impact on learning in this field. The suite of seven new online modules can be taken as stand-alone units of learning or a Post Graduate Certificate. Blended learning includes a combination of new e-learning materials including video films, trigger case studies and second life avatars. Materials were developed and piloted by a new partnership approach of academics, expert clinical staff and Learning Technologists. The modules are contemporary in content focusing on the palliative, complex care needs and end of life care of the neonate through to the child and young person. The impact on the families is of high importance and considered throughout all of the modules.

The presentation will share some of the new materials but will focus on our learning and experiences. We will critically explore our development and delivery of online resources reflecting on the following:

- Overcoming the challenges of enabling access to health professionals who lead busy, complex and time constrained lives wherever they are based. We will share how we developed efficient and flexible access to learning materials, experts and communities to deliver the programme.
- How we developed creative new partnerships of academics, expert clinical staff and Learning Technologists in order to deliver and develop materials. This included management strategies in order to ensure that effective e-learning could take place.
- The potential impact on the field of paediatrics and child health internationally

Lessons can be learnt from the experiences encountered by the team at Coventry University in the areas of consultation, innovation, design, construction and development of an e-learning programme. Delegates may benefit

from the lessons and challenges faced as it may assist in their own developments and use of e-learning.

**OP32**

**ENGAGING CHILDREN AND YOUNG PEOPLE WITH PALLIATIVE AND COMPLEX CARE NEEDS**

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Engaging with children, young people and their families with palliative and complex care needs requires intelligent ethical practice in which the practitioner works therapeutically and sensitively delivering high quality evidence-based care to meet the individual needs of the child and their families. Funding from the Department of Health in 2010 has permitted the design and development of an innovative module of learning aimed at practitioners working in the field of children and families. The module is aimed at all members of the multidisciplinary team which includes Registered Nurses, Advanced Nurse Practitioners, Midwives, Doctors, Physiotherapists, Occupational Therapists, Social Workers, and individuals working in health informatics, and charity workers.

This innovative module is unique in style of delivery and assessment. All elements of teaching and learning are based within a Virtual Learning Environment (VLE). The module has been developed in association with expert clinical practitioners, senior academics and in collaboration with the learning Innovation team. A small town 'Central City' has been created in a virtual world (Second Life) to augment 'real life' situations. Within the virtual world several buildings have been constructed that are considered appropriate to challenge the care management and delivery for children and young people with palliative and complex care needs. Within Central City the following can be explored: a children's hospital, children's hospice, community resource centre, multi-faith centre, school environments and different houses that present challenges to care and accessibility. The module uses Problem Based Learning (PBL) triggers within this safe environment through the assimilation of caseload management. Engagement of the learners and e-facilitators is expected through the interaction within the virtual world. Each participant requires an avatar to explore the virtual world and to immerse into the learning simulation. The module team will provide weekly direction and support.

Image of 'Central City' in Second Life



## OP33

### ASSESSMENT OF AN EDUCATIONAL-BEHAVIORAL INTERVENTION PROGRAM FOR PREMATURE INFANTS' MOTHERS IN NICU

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**Introduction:** Parents of preterms experience a higher incidence of depression and anxiety disorders along with altered parent-infant interactions and overprotective parenting, which negatively impact their children. Intervention programs initiated early in the neonatal intensive care unit (NICU) stay to reduce parental stress and empower parents to develop healthy perceptions and interaction patterns with their premature infants. Some evidence exists to support that mothers who rapidly engage in the care of their infants in the NICU tend to be more sensitive to their infants' cues and have better relationships with them in later years.

**Purpose:** To test a theoretical model examining the processes through which an educational-behavioral intervention program (COPE) influences maternal stress and maternal confidence in caregiving their premature infants during the NICU hospitalization.

**Material - Methods:** A preliminary analysis was conducted using data from a randomized controlled trial with mothers of preterm infants of Gaslini Institute who were randomly assigned to COPE or control conditions. The COPE program is a four-phase educational-behavioral intervention program and was delivered with audiotapes and matching written information that provide mothers with educational information about the appearance and behavioral characteristics of their premature infants and how mothers can participate in their infant's care, meet their infant's needs, enhance the quality of interaction with their

infant, and facilitate their infant's development. The comparison intervention contained information regarding routine education.

**Results:** Preliminary results (5 months) show there was a positive effect for the COPE program on mothers' reports of general stress and maternal confidence in caregiving with the experience of having their infant hospitalized in the NICU.

**Conclusions:** A reproducible educational-behavioral intervention program for parents that commences early in the NICU can reduce maternal stress in the NICU, improve maternal confidence in caregiving and enhance parent-infant interaction.

## OP34

### DOCTOR-NURSE EFFECTIVE COMMUNICATION: SITUATION BACKGROUND ASSESSMENT RECOMMENDATION (SBAR) SURVEY BETWEEN STUDENTS OF AN ITALIAN PAEDIATRIC NURSING DEGREE PROGRAM

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**Introduction:** Joint Commission on Accreditation of Healthcare Organizations (JCAHO) declared that communication is the source of 70% of sentinel events that occur in hospitals. Situation Background Assessment Recommendation (SBAR) enables to clarify what information should be communicated between members of the team. JCAHO recommended the use of SBAR to reduce communication failures. Doctor-nurse communication is a complex process where failure can lead to loss of information, inefficiency and poor patient care.

**Purpose:** To improve communication skills in paediatric nursing students using an active didactic methodology, Role Playing and follow up with the Situation Background Assessment Recommendation (SBAR) checklist.

**Material - Methods:** The Situation Background Assessment Recommendation (SBAR) checklist. Students of the Paediatric Nursing Degree Program (N. 24) of the 'G. Gaslini' Teaching Hospital of Genoa were divided into two groups and invited to participate in a 2-day meeting. The Role Play video was analysed using the SBAR checklist. In both of the simulations we gathered the information and then compared it with the SBAR items. We tested the students before and after administering the SBAR tool.

**Results:** The SBAR checklist gave rise to many reflections and comments during debriefing with students, who recognized the usefulness of this tool in facilitating a more effective organisation of the communication contents. The results of the discussion were processed and used to re-define the contents of the four constituent elements of the SBAR checklist.



Conclusion: These results pave the way towards the development of new approaches educational in the education of paediatric nurses. In particular, they allow to build communication skills that ensure a standard level of safe performance.

### OP35

#### EVOLUTION OF CLINICAL NURSE-SPECIALIST (INCLUDING PEDIATRIC NURSE SPECIALIST) TRAINING IN ESTONIA

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Introduction: For the 1.4 million population of Estonia ca 10 000 nurses have been licensed by the national Health Care Board. Of them currently over 150 are nurse specialists. The Principles of Nurse Specialist Training (2003) stipulate that by 2015 there should be 1550 nurse specialists in Estonia, ca 20–25% of total registered nurses. Nurse specialist training curriculum was prepared within the project for training four different specialists: health-, mental health-, intensive care- and clinical nursing. In 2006 the first specialization training was actually conducted in the full capacity of 40 credit points (60 ECTS). The curriculum was evaluated and revised continuously 2006–2008; submitted for international accreditation in November 2008. By Spring 2011 two classes have finished clinical nurse-specialist studies. In 2011 the third class started with students who are pediatric nurses only.

Purpose: To describe the evolution of clinical nurse specialist training in Estonia.

Material - Methods: Descriptive research method and inductive content analysis was used. Research objects were the outputs of the European Social Fund financed project 'Developing Nurse Specialist Training', renewing curriculum of nurse-specialists and clinical nurse specialist courses syllabuses.

Results: There is one main category (development of clinical nurse-specialist training) which is divided into three subcategories: (1) changes in curriculum, e.g. small similar subjects were merged into bigger subject; (2) administrative changes, e.g. the first nurse specialist course started 2006 within project-based funding, since 2007/2008 State-Commissioned Education Agreement is in effect; (3) other changes, e.g. clinical-nurse specialist training field is too large (surgical-, geriatric-, pediatric nursing, etc). A temporary solution suggested is to have pediatric nurses enrolling in clinical specialist training 1 year and nurses working in a different field the other year.

Conclusions: Clinical-nurse specialist training has been well perceived and further analysis to get to know the weaknesses and strengths is crucial to even better meet the labor market needs.

### OP36

#### IMPROVING TOYS WITH DRAMA METHOD IN CHILDREN'S HEALTH NURSING

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Introduction: Play is the most important tool which improves the child's global language, cognitive, psychomotor and social abilities. Play must include an aim to rehabilitate the child who is in hospital. By using dramatic play techniques, trauma can be decreased by nurses. They can help children to cope with their situation dealing with their misunderstandings and worries.

Purpose: The aim of the project is to make toy out of hospital material and make the student touch them and decrease their stress caused by being in hospital by helping them to use the material.

Material - Methods: 23 different material which is not considered medical waste is used in the project. The type of the search in empirical. Cosmos and sampling is composed of fifty five third class student in pediatric lesson in June-March 2011. Every student has made toy with 0–6 year children and them to play with this toy along this process.

Results: Students have made 19 different toys. If the toys are grouped according to age there are two types for 0–1 age, 17 different toys for 2–6 age. The most stressful parts such as syringe and branuls have been used for five different purposes (buton, leg, arm, cart, wheel, tail). When the toys are grouped by usage, four different toys are grouped by usage four different toys are used as anatomic babies. The processes child in hospital goes through have been showed by dramatic plays. Three types of toys have been used as a role play to deal with misunderstandings of children, their perception and improvement of their coping with their situation. Other toys are used for entertaining and helping to communicate. According the children cognitive, motor development, different colours, softness, hardness, acting features were used.

Conclusion: Toys made by child health care nurses should help to create communication with children and help to decrease their fear from hospital by using drama techniques and they can help to cope with anxiety and improve behaviours to cope with it.

### OP37

#### A RELIABILITY AND VALIDITY STUDY OF TEAMWORK ATTITUDES QUESTIONNAIRE

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Introduction: It is imperative for health professionals to have teamwork skills, which primarily necessitates developing skills of interwork, cooperation and teamwork.



**Purpose:** This study aims to conduct a reliability and validity study of 'The Teamwork Attitudes Questionnaire' in order to investigate the attitudes of nurses and doctors towards teamwork.

**Material - Methods:** The study data were collected with a Personal Information Form and Teamwork Attitudes Questionnaire. The study sample consisted of 150 health professionals including nurses and doctors serving in a hospital. The questionnaire included five subdimensions and 30 items and its Turkish adaptation was made with back translation under the supervision of eight experts who analyzed the language and content validity and consequently omitted two items. The data analysis was carried out with confirmatory factor analysis; validity was tested with item analysis and reliability was measured with Cronbach alpha and split half tests. Confirmatory Factor Analysis affirmed that items were represented by five main factors as presumed in the original questionnaire. Model fit indices were found to be  $\chi^2 = 690.62$ , RMSEA = 0.084, GFI = 0.94, CFI = 1.00. Cronbach alpha interval was between 0.63 and 0.89 for internal consistency. The correlation coefficients of the questionnaire were reported between 0.22 and 0.81. The correlation between the items and the scores was noted to be statistically meaningful.

**Results:** Turkish version of TAQ was approved to be a valid and reliable measurement tool for determining the attitudes of individuals towards certain components fundamentally inquired by the questionnaire such as team structure, leadership, supervision, mutual help and communication.

**Conclusion:** It has been concluded that this study would certainly contribute to further studies on programs focusing on developing teamwork.

**Keywords:** Team work, Validity, Reliability, Attitude, Nurse, Doctor.

### OP38

#### SOURCE OF STRESS AND COPING STYLES OF NEONATAL INTENSIVE CARE UNIT NURSES IN TURKEY

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**Introduction:** Nurses who work in critical care units inherently experience stress. The cause of stress has been attributed to such factors as the hi-tech environment, staffing problems, patient acuity, complex care needs of patients and families, death and decision making for crisis. Because of the nature of this highly specialized, the environment of the NICU is more stressful for nurses. Nurses in NICU must cope with numerous stresses that arise in working a complex medical unit.

**Purpose:** To identify stressors and coping styles in NICU nurses in the Turkey.

**Material - Methods:** The research instrument consisted of demographic data, Ways of Coping Scales and a list of

literature derived stressors. A cross-sectional, descriptive design was used. Six NICU's were randomly chosen from all country by region. One hundred and forty nurses from six hospital participated nationwide. Seventy nurses (50%) responded to the postal survey.

**Results:** The average age of nurses was  $27.12 \pm 3.74$  years, length of professional service  $4.6 \pm 4.04$  years, length of NICU service  $3.7 \pm 3.49$  and the number of patients served by a working day was  $5.4 \pm 2.22$ . In terms of list items, 'excessive workload' was the most stressful item and 'feelings of inadequacy' the least stressful item. It was found that nurses used 'self confident approach' as the most frequent way coping with stress and 'submissive approach' the least. As stressors have been classified as level is high, medium and low stress level, first approach was self-confident, and seconds were optimistic and helpless approach in all level.

**Conclusion:** Nurses in the face of stressful situations, first used approach was self-confident, regardless of the level of stress.

### OP39

#### MOTHERS' KNOWLEDGE AND PERFORMANCE ABOUT DIAPER RASH IN INFANTS WITH DIARRHEA (2011)

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**Introduction:** Diaper rash is one of the most common skin disorders, occurring in 50% of infants, with 5% having severe rash. Diaper rash, is the term used to describe an irritating condition that develops on the skin that is covered by a diaper. The peak incidence is between 9 and 12 months of age. In infants with diarrhea and the infants with diapers disorder have been seen more and more especially when the diaper may not be changed every 4-6 h. Due to its complications on skin and anal area, it need to more attention is needed by mothers and caregivers.

**Purpose:** The aim of this research is to assess the mothers' knowledge and performance about caring diaper rash in infants' with diarrhea.

**Materials - Methods:** A descriptive-analytical research was conducted. We assess 231 mothers of infants between 6-60 months of age with diarrhea. Data gathered through a researcher-administered questionnaire and interview by a professional. The validity of questionnaire confirmed through experts (Pediatricians, Faculty members in nursing, health professionals) and its reliability after distributed in a sample of 30 mothers gained a Chronach's alpha of 93%. Data were analyzed by experts with SPSS version 16.00. During the interview, after gaining the data, professional taught the mothers about diaper rash in diarrhea too.

**Results:** Finding showed that the majority of mothers (90%) have not any knowledge about caring of diaper rash after diarrhea. Their knowledge was weak and they did not know how they should treat or behave with diaper rash.

About gaining information about skin care of diaper said we have not more information and knowledge to care it effectively (76%). Analysis of questions about knowledge and performances highlighted that the mothers' knowledge about care of diaper rash was weak and their performances was weaker. Those mother who had diploma had more knowledge and they noted that they received this information from health professional more than other resources as media and newspapers. The results after teaching through interview, showed that their knowledge was increased and they said that this interview was more than others teaching methods.

Conclusion: Considering the weak result about knowledge and performance of mothers about diaper rash in infants with diarrhea and its complications, promotion of their knowledge suggested through health workshop and others training meeting by professional and governmental official is necessary.

Keywords: Diaper rash, Performance, Knowledge, Mother.

#### OP39A

##### CHILD AND FAMILY-CENTERED HEALTH CARE INITIATIVE IN SERBIA

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Introduction: Medical procedures and interventions in the hospital for the purpose of diagnosis, treatment and care are often the cause of significant pain and discomfort in children. Pain, discomfort, anxiety and fears are exacerbated by the unfamiliar surroundings, with "strange-looking" people and equipment, and the fact that the child's significant others (parents, siblings, friends) are not always present. This situation is changing in hospitals that provide child-friendly and family-centered care.

With support from the Ministry of Health, Partnerstvozazdravlje, a Serbian NGO, is implementing the project "Hospital—a friend to children and families" to introduce this approach to pediatric wards in Serbia.

Purpose: The child and family-centered health care initiative aims to reduce unnecessary stress and pain in hospitalized children by educating healthcare workers and non-medical workers about child rights, development, pain management, hospital play, preparation/coping and communication.

Material-Methods: The implementation of this approach is based on The Child-Centered Health Care Trainer Manual (Schwethelm, Capello, Brylske, & Munn, 2010); In order to measure the current situation in Serbian pediatric wards the hospital assessment questionnaire was developed; 30 questionnaires and indicator lists were sent; 22 hospitals responded. Training for trainers course was conducted for multidisciplinary teams from 6 Serbian and two Macedonian children hospitals to provide them with knowledge, skills and materials to train other in Child-

Family-centered. In Phase II, the trainer teams are assisted in a hospital-by-hospital implementation.

Results: Implementation started 11/2010; 30 courses for nurses/teachers were completed; 100 nurses/teachers passed the trainings; the nursing students from one local Nursing School passed the trainings as part of pre-service education during their final year; training pre- and post-test results are available. Monitoring of the implementation of the gained knowledge and skills shows that child- and family-centered health principles are becoming a part of everyday practice.

#### OP40

##### IS PERCEIVED SOCIAL SUPPORT AND SELF-EFFICACY ON THE PRIMARY SCHOOL STUDENTS RELATED?

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Introduction: Research about perceived social support and self-efficacy especially during adolescence are insufficient in Turkey.

Purpose: This research was carried out on the primary school students for the purpose of investigating the relationship between perceived social support and self-efficacy and the variables affecting them.

Material - Methods: Study sample was composed of 760 students aged between 11 and 15 years studying in 6th, 7th, and 8th grades at seven primary schools with different socio-economic levels in Aydın and İzmir centers during 2010–2011 educational period. The research data collected from the students by employing Student Information Form (included weight, height, body mass index percentile, gender, grade level, status of sport...) Child and Adolescent Social Support Scale which measures perceived social support and Middle School Self-efficacy Scale which measures self-efficacy. In data analysis number and percentage distributions, t test, variance analyses and for further analyses Duncan test have been used. Correlation technique has been employed for the purpose of examining the relationship between the scales.

Results: It has been found that variables such as gender, grade level, economic status of the family, perceived health status by the student and success have affected perceived social support and self-efficacy in primary school students and that there is a positive relationship between perceived social support and self-efficacy. It has also been determined that the perceived social support in adolescents has affected the self-efficacy skills of the adolescents.

Conclusion: It is recommended that nurses dealing with adolescent health should guide the adolescents using social support and health self-efficacy on gaining skills as to health protection and promotion and take over the responsibility of their own health.

Keywords: Primary school children, Social sport, Self-efficacy.

OP41

**REFLECTIONS OF TRACES OF THE PAST NOW (PROBLEMS IN ADULTHOOD OF CHILDHOOD SCARS)**

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**Introduction:** The traces of what happened in childhood affects the lives of adults in everyday life. Especially, in childhood who stay away from family support and used to care in child protection system. They lived some difficulties in child protection system and this past living experience negatively affect adult women and men future life. Social awareness and to solve the problems of children and families who are in need of protection to be addressed in publications and examples of solutions to the problems important to the revival.

**Purpose:** To determine what is published in Turkey in the past lived experiences of children in need of protection and within how related issues will impact their lives.

**Material - Methods:** Protection of need for life that the characters appearing on the radio and television (TV) publications histories reflected the characteristics of the characters that contain traces of solutions to the problems in their publications. For the purpose of research publications in the years 2004–2011 which screened in publications related to children in need of protection 12 Television (TV) series children who need protection from childhood to adulthood in the past and are still in need of protection as well as family, work, military service duties and responsibilities given to individuals (29 characters) on the observations were made. These motherless-father (12) single-parent (7), on the street working children (5) living again the legal parents after divorced parents (4) living child protection institution's and parent cared protection system (1) the effects of taking care institution in the life style approach to the problems of individuals living on the tracks, was investigated.

**Result:** First of all lack of attachment problems of three children's and parents, and the feeling of being unwanted and unloved children beginning of the life. They are getting the person is not satisfied, fulfilling the responsibilities of either the environment or himself forced to 'feel helpless' experiencing problems such as not to fulfill responsibilities. The solution of problems in the past could not get near the mother father about support, instead of a people with any individual to show support these (come from child protection system) adults. It is a place/behavior support that feeling of belonging to the family/group were shown.

**Conclusion:** Nurses working with children in need of protection, these solutions can be reflected through publications reminded initiatives.

**Keywords:** Child protection, Family supports publications, Past problems, Solutions.

OP42

**ASSESSING PEDIATRIC MOOD DYSREGULATION: AN ESSENTIAL SKILL FOR PEDIATRIC NURSES**

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**Introduction:** Approximately 1 in 5 children and adolescents are affected by a behavioral, emotional or psychiatric disorder at some time before they reach adulthood with many experiencing symptoms for up to 4 years before they are adequately diagnosed. The financial, relational and poor quality of life costs to young people during their formative years is significant.

**Purpose:** This presentation will provide the pediatric nurse with information on how to effectively assess mood dysregulation in the pediatric population and understand the relationship between the clinical presentation and the psychiatric or behavioral diagnosis.

**Materials - Methods:** Clinical data, a comprehensive review of the literature on mood dysregulation in the pediatric population and treatment best practices will be presented.

**Results:** Mood dysregulation refers to behavioral, psychological and physiological impairment in the normal regulatory mechanisms associated with mood or affective states resulting in a clinical picture of depression, dysthymia, hypomania or mania. Untreated mood dysregulation can progress to a psychiatric diagnosis, self medication, risk taking behaviors, substance use and poor self-esteem. While epidemiological data on the prevalence rates of mood disorders in children and adolescents varies, what is known is that onset in childhood has a poorer prognosis. The World Health Organization estimates that by 2030, mood disorders will become the leading cause of Global Burden of Disease among the non-communicable diseases. The presentation of mood dysregulation in the child and adolescent population can be confusing, variable and frustrating making accurate diagnosis problematic and effective treatment challenging. With the anticipated release in 2013 of the Diagnostic and Statistical Manual of Mental Disorders V (DSM-V), additional evidence-based criteria specific to the pediatric population have emerged to assist with our understanding of this complex cluster of symptoms.

**Conclusion:** Evidence-based treatment options can assist nurses in their role as advocates for children and adolescents in inpatient settings, schools and communities.

## OP42A

### POST-TRAUMATIC STRESS DISORDER IN ADOLESCENTS AFTER A MOTOR VEHICLE ACCIDENT IN GREECE

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**Introduction:** Although post-traumatic stress disorder (PTSD) in children has been widely studied after a traumatic event, little is known of its appearance in adolescents after motor vehicle accidents.

**Purpose:** To study PTSD symptoms in adolescents after a motor vehicle accident, the identification of these symptoms by parents and factors associated with it and the coherence between parent and adolescent description of the above symptoms.

**Material - Methods:** Participants were 47 adolescents, 11–21 years of age who were hospitalized in Intensive Care Units in Hospitals of Athens after a motor vehicle accident. The data was collected with the Child Posttraumatic Stress Reaction Index (CPTS-RI), 6 weeks after the traumatic event.

**Results:** The majority of adolescents was boys (68.1%), while 66% was 11–17 years old. Approximately 83% was of Greek origin while 42 adolescents resided in Athens. The fathers' age ranged 35–56 years while the mothers' age ranged 31–52 years. The majority of the participants were car passengers, 27.7% were motorcycle drivers and 6.4% were bicycle drivers or on foot. Approximately 59.6% of the adolescents had mild or moderate symptoms of increased arousal, 44.7% moderate revival symptoms and 46.8% moderate avoidance symptoms. The parents identified the above symptoms 55.4%, 39.8% and 19.1% respectively. Statistically significant correlations were found between age of the adolescents and intensity of the PTSD symptoms ( $P = 0.002$ ) as well as between gender and increased arousal symptoms described ( $P < 0.0001$ ). Occupation and educational level of the father were statistically significantly correlated with the description of symptoms by adolescents ( $P = 0.01$  and  $P = 0.01$  respectively), as were the occupation and educational level of the mother ( $P = 0.002$  and  $P < 0.0001$  respectively).

**Conclusion:** Adolescents had significant levels of PTSD symptoms after a road accident that were also identified by their parents.

## OP43

### DEALING WITH MEDICATIONS IN HOSPITAL WARDS: WHAT IS THE REALITY?

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**Introduction:** Contributory factors to nursing medication errors are manifold, and include both individual and systems issues.

**Purpose:** Aim of this study was to record nurses' routine regarding medication administration in everyday clinical practice.

**Materials - Methods:** A self-answered, anonymous questionnaire was distributed to nurses working in randomly selected clinical settings around the country. The questionnaire consisted of two sections: (1) socio-demographics data and (2) yes/no questions regarding the basic principles on drug administration (total = 30 questions). We performed  $\chi^2$  test to identify associations between qualitative variables.

**Results:** Four hundred and thirty-four nurses completed the questionnaire (response rate 86.8%). The sample consisted of pediatric nurses (19.4%), cardiovascular nurses (12.6%), intensive and emergency nurses (26.5%) and internal medicine nurses (21.9%). Mean time of clinical experience was  $14 \pm 9.6$  years, and the current position experience was calculated at  $7 \pm 6.6$  years. Almost all nurses (97.9%) stated that they follow the protocols and the policy of their hospital, irrespectively of their department ( $P > 0.05$ ), and in the half of the wards medications were administrated by one nurse at a time. A 78.2% of nurses claimed that they don't implement medical order without signature, while 44.7% administered drugs without a written order, but this finding had a significant association with their working department ( $P < 0.001$ ). The 5.9% nurses who stated that they delivered drugs through unreadable prescriptions had also an association with the department ( $P < 0.001$ ). In case of incomplete medical order, 60.6% stopped the therapy, 97.4% communicated with the doctor and only 6.1% completed the order according to clinical experience. A 50.7% of the nurses reported that they may use different regiment than the prescribed one.

**Conclusions:** Although clinical nurses follow the basic steps and strategies for drug safety, in everyday clinical practice they seem to have habits potentially harmful. Identifying the deficits and improving practice must be constant goals in all nursing settings.



## PP01

# AN ASSESSMENT OF THE QUALITY OF LIFE OF CHILDREN AGED 4 TO 7 WITH A CORROSIVE ESOPHAGEAL BURN AND AN ANALYSIS OF THE CONSISTENCY BETWEEN THE ASSESSMENTS BY PARENTS AND CHILDREN

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**Introduction:** Although corrosive esophageal burns affect the life quality of children and families, the literature in our country as well as elsewhere lacks studies to determine the life quality of children who previously experience such burns.

**Purpose:** This study is of a descriptive character and attempts to evaluate the life qualities of children aged 4–7 with a corrosive esophageal burn and to analyze the consistency between the assessments by parents and children.

**Material-Methods:** The research was conducted from 1 May to 30 November 2010. The sample of the study was made up of 100 children aged 4–7 with a corrosive esophageal burn, who were under follow-up at the Polyclinic of Pediatric Surgery at three hospitals. A ‘child description form’, a ‘parent description form’, and the Kid-KINDL which aims for a child and his parents to assess the life quality of the child, were employed as the tools for data collection in the study.

**Results:** When compared by means of the Wilcoxon test in order to assess the consistency between the child’s and the parents’ evaluations of the child’s life quality,  $Z: 0.131$  and  $P: 0.896$  were seen not to be significantly different. The KINDL life quality point averages as assessed by the KINDL child and the KINDL parent were identified, respectively, as 34.55 and 34.11 out of 100. When the relation between the points obtained from the KINDL life quality point averages of children with a corrosive esophageal burn were found to be low. When the relation between the points obtained from the KINDL life quality child assessment form and the KINDL life quality parent assessment form were examined by means of the Spearman correlation test for a confidence analysis of the child’s and the parents’ evaluations of the child’s life quality, the two measurement points of  $r: 86$  and  $P: 0.000$  were identified to be in a positive, strong and statistically highly significant relationship.

**Conclusion:** The life quality point averages of children with a corrosive esophageal burn were found to be low.

## PP02

# USING CORTICOIDS FOR PEDIATRIC ONCOLOGY PATIENTS – THE ROLE OF THE NURSE

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**Introduction:** The use of corticosteroids in paediatric oncology patients is very frequent and diverse, being a key medicine in the treatment of neoplasms mainly of lymphatic origin, such as lymphoblastic leukemia, Hodgkin’s and non-Hodgkin lymphoma. The sensitivity of to the corticosteroid appears to be not only prognostic for the outcome of leukemia, but is also associated with serious complications during treatment, such as the Cushing syndrome, obesity and decreased bone mass.

**Purpose:** The purpose of this paper is to describe the role of the pediatric nurse in order to prevent and deal with the complications caused from the use of corticoids.

**Material-Methods:** A literature review of articles published during the last decade was conducted using appropriate keywords.

**Results:** The implementation of appropriate measures, the immediate assessment and early treatment of any complications caused by the use of corticosteroids have been proved to be decisive steps for the entire course of the treatment of children with cancer, combined with best quality nursing.

**Conclusions:** The prevention, avoidance or reduction of any proven short term complications of corticosteroids in children with cancer makes chemotherapy more tolerable, which is crucial for the entire course of child’s treatment and the subsequent quality of its life.

## PP03

# THE IMPORTANCE OF QUALITY OF LIFE FOR CHILDREN WITH CYSTIC FIBROSIS

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**Introduction:** Cystic fibrosis (CF) is a life-shortening and multisystemic autosomal recessive disorder in the Caucasian population. It is characterized by lung disease, pancreatic insufficiency, malnutrition and high concentrations of sweat electrolytes. Approximately one out of 2500 newborns in Greece suffers from this disorder. The life

expectancy is estimated to be 35–40 years, and no curative treatment has yet been found. Considerable progress has been made in defining and measuring health-related quality of life (QOL) to children with CF.

**Purpose:** The aim of this study is to examine the importance of adopting multiple health-related behaviours of children with CF and their families, in order to gain a good quality of life.

**Material-Methods:** A search in electronic databases and libraries for articles published between 2000 and 2011 was made using the terms 'quality of life', 'children' and 'cystic fibrosis'. The studies that were included measured QOL and focused on young people's experiences with CF. A total of 39 studies were identified. These articles were written in the English language and cited in MEDLINE PubMed and Libraries of Medical Science.

**Results:** Most studies suggest that self-management of the disease has a considerable impact on meaningful health outcomes in this population. Moreover, 18 researches imply that exercise, family cohesiveness and supervised health programs may improve the ability of the patient to cope with the physical demands of everyday life, and may improve prognosis. On the other hand, 21 studies suggest that disease severity, pain, anxiety, cachexia, abnormal FEV1, low socioeconomic and minority status, family malfunction, and hospitalization mainly have a negative impact on the quality of children's life.

**Conclusion:** The QOL and psychological well-being of children with CF are now recognised as significant factors. Therefore, a good QOL is necessary to establish balance among the social, psychological and physical domains adjusting the patients' expectations to their living conditions.

#### PP04

#### WITHDRAWN

#### PP05

#### SUMMER CAMP FOR CHILDREN AND TEENS WITH EPILEPSY – NEW EXPERIENCES IN THE WORK OF NURSES

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**Introduction:** Professional team working together with children on mutual exchange of experience and expanding knowledge about epilepsy for general population.

**Purpose:** Emphasize the importance of organization summer camp for children with epilepsy.

**Material-Methods:** There were 10 girls and 10 boys from 8 to 18 years, with good control of epilepsy, taking AEDs, without associated handicap. The children were integrated into regular camping program and participated in all camp

activities. Camp staff included paediatric neurologist, psychologist, paediatricians, registered nurses, trained volunteers and camp personnel. Nurses participated in planning schedule of work, collecting data on the habits of children, nutrition, and social adjustment. Nurses were actively involved in all educational and creative activities and programs. The goal was to improve children's knowledge of seizures, importance of medication, discussing with teenage girls and boys about problems in groups or in one-on-one time.

**Results:** Eight educational lessons provided by neuroepidemiologists, psychologist and neurologist, evaluated at the beginning and at the end by questionnaires. The analyses of questionnaires showed that 15/20 children knew they had epilepsy, none knew what epilepsy is. One child had grand and one petit mal seizure during the camp. Results of nurse's work was visible in children's independence, self-esteem and self-confidence.

**Conclusion:** All campers discovered they were not alone in having epilepsy and were encouraged to reach their full potential, to live an active life with epilepsy. Nurses had a new challenge and a new form of administering health care which is beyond the scope of hospitals and other institutions.

#### PP06

#### SYMPTOMATOLOGY OF CYSTIC FIBROSIS IN CHILDREN

**P Zaloumi**, I Gougoulis, S Gyltidou

**Introduction:** Cystic fibrosis is the most common hereditary disease of the white tribe that strikes more than 30 000 children and youngsters in 30 European countries. More specifically, in Greece there are more than 700 suffering children while each year 70–90 new cases are diagnosed. Main characteristic of the disease is the gradual destruction of many organs' tissue. Lungs and pancreas are the main bludgeoned organs.

**Purpose:** The present paper aims to the briefing of the public and more specifically the parents as long as the symptoms of the disease are concerned, so that they receive the needed information.

**Material-Methods:** The material of the study consists of chosen publications in the Greek and English language, relevant to the issue. A review and a study of the electronic data bases| Medline, PubMed and Cinahl took place. As index words, we used the words cystic fibrosis, hereditary diseases and pediatrics nursing.

**Results:** The seriousness of the symptoms can vary while the most common of them are the following:

(1) Symptoms of the respiratory system: (i) persistent coughing; (ii) breathlessness; (iii) repeating chest infections that damage the lungs.

(2) Symptoms of the digestive system: (i) Malnutrition that leads to small physical growth and weight; (ii) swollen belly; (iii) constipation; (iv) big sized oily stool with very bad smell.

(3) General symptoms: (i) repeating infections of the sinuses; (ii) osteoporosis that shows up because of the bad absorption of vitamin D; (iii) liver damage that can lead to cirrhosis, diabetes, pancreatitis.

Conclusion: The disease can be traced in time with a screening test, while in babies a control for cystic fibrosis takes place when they present with nursery ileum from meconium or with the sweat test. But if the symptoms are mild, they might delay.

#### PP07

##### **NURSING DIAGNOSIS IN THE CHILD WITH DIABETES MELLITUS: A CASE STUDY**

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Introduction: The development of clinical skills in the nursing care and management of children with diabetes families is of great importance. Nurses have the ability to assess, plan, implement and evaluate appropriate evidence based care in the nursing management of children with diabetes in the healthcare setting and in the community. It is also very important to evaluate the role of the pediatric nurse in meeting the health promotion and education needs of the child with childhood diabetes along the life continuum

Purpose: The purpose of this study was to discuss the caring and nursing interventions according to North American Nursing Diagnosis Association (NANDA) nursing diagnosis of children with diabetes.

Material-Methods: A case study design was used. The obtained dates were evaluated according to nursing diagnosis accepted by NANDA which is widely used internationally.

Results: The male patient was 7 years old. The patient was admitted with signs of ketoacidosis to the hospital. Patient was diagnosed with diabetes mellitus. There was a variety of nursing diagnoses according to the patient's clinical condition.

Nursing diagnosis: Ineffective breathing pattern, nausea, deficit fluid volume, change nutrition pattern, altered oral mucous, anxiety, ineffective family coping, ineffective management of the therapeutic regimen, caregiver role strain, risk for infection.

Conclusions: The patient and his family were able to express their feelings and concerns about disease. The patient and his family are given information related to diabetes management by the nursing staff.

#### PP08

##### **WHY SEXUALITY EDUCATION IS IMPORTANT FOR PARENTS OF ADOLESCENTS WITH INTELLECTUAL DISABILITIES?**

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Introduction: In general, sexuality is still a taboo subject, and up to the present time, the sexuality of individuals with intellectual disabilities has been a matter of both fear and denial.

Purpose: to describe the role of health care professionals that provide the parents of adolescents with intellectual disability the professional education on sexual issues, and reduces the chance for misinformation.

Material-Methods: review of recent literature using the next keywords: Sexuality Education, Adolescents with Intellectual Disabilities, Parents.

Results: Sexuality and adolescent with developmental disabilities has been identified as a problem, because it is not an issue, or is an issue, because it is seen as a problem. Individuals with developmental disabilities, intellectual disability, face barriers to expressing their sexuality. Barriers contain social myths, insufficient knowledge, personal discomfort, and limited access to available and appropriate educational resources. Such barriers may result in a lack of guidance, opportunity, emotional support, education, or acknowledgment of sexuality by caregivers. Although positive sexuality education is important for any population, it should be a priority for people with disabilities. Unfortunately, wrong attitudes regarding sexuality and people with developmental disabilities may interfere with sexuality education for this population. Parents are their children's primary sex educators, but many parents avoided talking about sexuality with their children with intellectual disabilities. Parents and health care professionals must understand these issues and offer help. They can help prepare these individuals to develop healthy relationships and protect themselves from unhealthy situations. Further, most current sexuality education programs focus on isolated aspects of sexuality, and these are generally areas which are seen to present potential problems in people's lives.

Conclusion: Sexuality education comprehensible to children and youths with disabilities sets the stage for a healthier, safer, socially acceptable and more fulfilling sexual life in adulthood.

#### PP09

##### **EDUCATIONAL PROGRAMMES FOR CHILDREN WITH AUTISM**

**S Gyltidou, P Zaloumi, I Gougoulis**

Introduction: In the Europe the educational programs for children with autism vary from country to country. Despite

that fact, a series of recognized programs have been developed and have showed a certain amount of success for the improvement of the functionality of children with autism.

**Purpose:** In the present paper the contribution of the educational programs to the therapeutical treatment of children with autism is being analyzed.

**Material-Methods:** The material of the study consists of chosen publications in Greek and English language, relevant to the issue. A review and a study of the electronic data bases of Medline, Pubmed and Cinahl took place. The words: autism, child, educational programs and mental illness were used as index words.

**Results:** Although there are different approaches to the treatment of autism, they all share a common goal: to improve the function and the integration of the child as a whole.

The effective behavioral management programs include: Integration of autistic children in normal care environments or school classes so that the other children may function as role models. Education of all the people in touch with the autistic child to ensure a cohesive approach to the behavioral project that takes place along with the child. If the parents aren't sure about the proper educational program for their child, the doctor should be able to give information for the specialists, the schools and the educational and care- providing facilities

**Conclusions:** Behavioral education and the use of educational programs for the management of a child with autism are important for their therapeutical treatment. Specialists believe that the management of their behavior must be supplemented with the structural teaching of skills, so that the conquest of linguistic, communicational, social and skills will be made easier.

## PP10

### ASSESSING THE QUALITY OF LIFE IN CHILDREN AND ADOLESCENTS WITH CANCER AT ANY STAGE OF TREATMENT AND UPON COMPLETION OF TREATMENT

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**Introduction:** Children suffering from cancer are a particularly vulnerable group of patients showing a higher risk of psycho emotional disorders resulting in low quality of life.

**Purpose:** The purpose of the review was to examine the available data concerning the assessment of quality of life

of children and adolescents with any form of cancer in each phase of treatment.

**Material-Methods:** A bibliographic review of articles and reviews published during the period 2000–2011 was conducted using the databases Pub Med, Cinahl and Medline 65 studies, with the following keywords: children, adolescents, cancer, quality of life.

**Results:** The study of published material shows that children and adolescents with any form of cancer presented at the time of the diagnosis decreased physical activity, autonomy, self-esteem and depression, emotions that affect negatively their quality of life. The course of disease and treatment has an enormous impact on children, creating intense anxiety symptoms and anger. Children and adolescents who experience complications or unresponsiveness to treatment have low quality of life compared to children who respond well to treatment protocols. Those who successfully complete treatment have good quality of life and positive perception about the state of health, although other studies indicate that survivors often suffer disorders concerning their interpersonal relationships and behaviour.

**Conclusions:** The researchers stress that it is necessary to implement psychosocial interventions individualized for each patient and suggest the involvement of the family in care in order to improve the quality of life for their children.

## PP11

### THE CYSTIC FIBROSIS PAEDIATRIC NURSE SPECIALIST

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**Introduction:** The cystic fibrosis (CF) is a complex disease that requires a holistic approach by Paediatrics Nurses Specialists who participate actively in the decision making regarding the coordination of care of these children and their families, their support and their education not only inside the hospital but also in the community.

**Purpose:** The purpose of the review was to examine the current literature on the role of the Paediatric Nurse Specialized in children with CF.

**Material-Methods:** A bibliographic review of articles published during the period 2000–2011 was conducted using the databases PubMed, Cinahl, Medline and National Institute for Health and Clinical Excellence (NHS).

**Results:** The study of published material reveals that the cystic fibrosis Paediatric Nurse Specialist has a five-fold responsibility to patients and their families as well as to the



staff involved in the care of those children. These areas include: advocacy, clinical management, advice and support, education, research and management. Each patient will be cared or supported by specialist nurses who have knowledge and experience of the CF disease process along with the clinical and psychological outcomes, and are especially aware of: psychological issues – living with a life limiting disorder, issues surrounding diagnosis, nutritional requirements, enteral feeding, CF related diabetes, intravenous therapy, respiratory complications and support, nebulizer therapy, care of indwelling venous devices, infection control, liver disease, terminal care and symptom. The Paediatric Nurse Specialist will keep on supporting the patient in the community to ensure that the high standard care provided in the hospital is continued. The Paediatric Nurse Specialist will be responsible for promoting self care and responsibility in the young adult and offering support and advice to the parents.

Conclusions: The cystic fibrosis Paediatric Nurse Specialist coordinates the care provision between patient and family, community services and hospital, both practically and psychologically. This is achieved through the practice of their role as an educator, a consistent caregiver, a counselor and a confidant.

## PP12

### WITHDRAWN

## PP13

### THE PREVALENCE OF OVERWEIGHT AND OBESITY AMONG 7–15 YEARS OF AGE IN AYDIN

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Introduction: Obesity among children is a problem in both developed and less developed countries around the world. Obesity in childhood might lead to life threatening chronic diseases and to negative psychological consequence.

Purpose: The study aims to determine the prevalence of overweight and obesity among the school age children in Aydın.

Material-Methods: Study sample was composed of 2331 students (1101 female and 1230 male) aged between 7 and 15 years studying at five randomly selected public primary schools with different socio-economic levels in Aydın center. Physical measures (i.e. weight, height) were obtained for all children, all of which were measured using widely utilized procedures. Each student's weight was measured using a calibrated medical scale (max 200 kg, 450 lbs, 32 sts, d = 0.1 kg/0.2 lbs) and his/her height was measured using a millimetric height scale. All adolescents were asked to remove their shoes for these measurements.

BMI and BMI percentile were calculated for each student participant using a Auxology program. BMI values higher than 95 percentile were accepted as being obese and those in between 85 and 94 percentile are accepted as overweight.

Results: It was found that the prevalence of overweight among girls and boys was 12.9% and 13.6% while the prevalence of obesity among girls and boys 13.7% and 21.5%. There was no significant differences in the prevalence of overweight and obesity between ages ( $P > 0.05$ ). While it was found that prevalence of overweight and obesity significantly higher at boys ( $P < 0.05$ ).

Conclusion: The prevalence of obesity is higher in boys independently of their age.

## PP14

### RISK FACTORS THAT AFFECT THE DEVELOPMENT OF OBESITY IN ELEMENTARY SCHOOL STUDENTS

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Introduction-Purpose: This research study determines the risk factors affecting obesity in students in the 6–15 years old age group.

Materials and methods: There were 868 students registered at an elementary school in Zonguldak city and were present at school on the days data was collected for research purposes. Data was collected using demographic questionnaire forms and weight-length measurements from March to April in 2010. The data was analysed by using percentage, average, standard deviation and chi-square tests of the SPSS 13.0 package program.

Results: Statistically significant differences were found with respect to the relationship between obesity of children and their age, gender, number of siblings, fathers' jobs, education level of their mothers, fast food consumption and family history of obesity ( $p < 0.05$ ).

Conclusions: The study concludes certain criteria to be related to the development of obesity in a specific period of childhood and that taking certain precautions are effective in preventing the development of obesity.

## PP15

### THE HISTORY OF VACCINE AGAINST DIPHTHERIA

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Introduction: Diphtheria is a serious childhood disease which is still endemic in poor and underdeveloped countries, although the mass vaccinations after 1940 nearly annihilated this problem in developed countries.

**Purpose:** This historical review describes the journey of the history of diphtheria vaccine and use thereof.

**Material-Method:** The material of the study was selected published articles and studies on the subject in English and Greek language. Took place review, study and analysis of electronic databases Medline and Cinahl. Were used as index words: vaccines, diphtheria vaccinations, vaccine against diphtheria.

**Results:** Diphtheria got its name from the Greek word for skin 'diphtheria', in 1885 by French physician Armand (1801–1867). Often cause epidemics with high mortality, especially in the paediatric population that's why it was called 'strangler' of children. In 1884, Friedrich Loeffler discovered the bacterium that causes diphtheria. In the 1890's Emile Roux and Auguste Chancellou from the Pasteur Institute and the Americans Williams H. Park and Ann Wessels Williams developed a diphtheria antitoxin. In the 1890 also, the German physician Emil Von Behring developed an effective anti-toxins for diphtheria. He also discovered that animal blood contains anti-toxins so he took their blood, removed the coagulating factors and gave it to the people, who were well. Furthermore, in 1913 launched the first successful vaccine against diphtheria. According to Magnus, Behring comforted waiting for death to read letters from children around the world whose had saved their life because of vaccine against diphtheria.

**Conclusions:** Diphtheria which in 1930 was a leading cause of child mortality worldwide, through the mass vaccination programs after 1940, almost annihilated at least in developed countries.

## PP16

### ITINERARY IN THE HISTORY OF VACCINES

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**Introduction:** The use of vaccines is one of the major interventions in the field of Public Health which has managed to reduce child and infant mortality in modern societies.

**Purpose:** This historical review presents the history of vaccines.

**Material:** The materials were relevant to the subject studies in English and Greek language.

**Material-Methods:** Investigated the databases Medline and Cinahl, were used as index words: vaccines, history of vaccines, preventive medicine.

**Results:** The first types of vaccines were discovered in China before 200 BC and India in 1000 AD. The first sample of vaccines derived from China (17th century) and contained eschar healing smallpox powder. The Ottoman Turks also knew (17th cent.) methods of vaccination against smallpox using the vaccinia virus isolated from the bovine udder and then vaccinate their children. Revolution

finally came from a leading English physician E. Jenner who discovered the vaccine against smallpox (1796). L. Pasteur (19th century) invented vaccinations against anthrax and rabies. Pasteur adopted the term vaccine, in honour of the discovery of Jenner. At the same time (1889), the German microbiologist E. Behring discovered the vaccine against diphtheria and tetanus. In the early 20th century important was the discovery of the TB vaccine (BCG) by the French A. Calmette and C. Guérin. In the middle of the same century Americans J. A. Salk and Sabin, discovered the polio vaccine. Other important vaccines such as tetanus, whooping cough, measles, mumps and rubella were discovered in 1914, 1957, 1964, 1967 and 1970, respectively. The 20th century had also the vaccine of pneumococcal pneumonia by Austrian and hepatitis B by Hillman and a large group of vaccines with the method of recombinant DNA were added to the armory of human beings.

**Conclusions:** Looking back to the past we find that the therapeutic advances in vaccines from 1880 and then were very large and quite successful in the area of defending health.

## PP17

### HANDICAPPED CHILDREN IN ANCIENT GREECE

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**Introduction:** The handicapped children in the ancient Greece were supposed to be creatures that had lost their human nature and they were responsible for their disabilities, while the others were seized with fright when they looked at them.

**Purpose:** In this review, based on historical data, are underlined the ancient Greeks' views on disability, handicapped children and also on how these children should be treated.

**Material-Methods:** Select published articles, in Greek and in English, that refer to ancient Greeks' opinion and attitude towards the handicapped children and disability, formed the material for this research. Search in the electronic databases IATPOTek, Medline, Pubmed & Cinahl was conducted, using the terms "Ancient times, Ancient Greece, Disability, Handicapped children".

**Results:** In ancient Greece, as in other cultures, handicapped children have been usually treated with cruelty (beatings, abandonment and infanticide) and their life did not exceed its infancy. In ancient Sparta, disabled children were considered needless and were thrown at Kaiadas gulch. In Thebes although there was a law prohibiting the killing of infants, it was rarely implemented. Unlike in Athens, there was a specific law in favour of the weak protecting the handicapped. Philosophers of this era had

similar perspectives concerning the disabled children. Aristotle and Plato demanded by law the fire exposure of all infants having multiple congenital abnormalities. Lycurgus also imposed by law the examination of the newborn by the Sparta's elders. The ones that had multiple abnormalities were thrown in a steep ravine of mount Taygetos, called 'the Depositors'. Solely Hippocrates tried to address disabled people in a scientific way and his conclusions had significant importance for the time.

Conclusions: Disabled children in ancient Greece were vulnerable and particularly at risk both from the humans and the institutions of each state, too.

## PP18

### DIETARY PATTERNS OF PRE SCHOOL CHILDREN IN GREECE

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Introduction: Preschoolers' feeding is a challenging and complex process. Ongoing experience of foods, environmental and cultural factors along with the feeding practices parents use can influence their children's eating habits.

Aim: To examine the food preferences and dietary habits of Greek pre-school children and the most important factors that influence them.

Methods: Two hundred and nine parents of preschool children (0–6 years old) from public and private day nursery schools in the Northern Greece were recruited. An anonymous structured questionnaire was used.

Results: A 40.2% of parents report an obese family member and 4.3% with anorexia symptoms. They were informed about their child's nutrition by a paediatrician ( $n = 138$ , 66%) or a paediatric nurse ( $n = 45$ , 21.5%). The majority of mothers ( $n = 175$ , 88.3%) stated that they breast fed their child for a mean period of 2.94 months. A 98.1% of parents feed children aged 1–2 years with whole milk, while the 93.6% includes in their child's diet and other foods rich in calcium. A 56.9% of parents consider breakfast as the most important meal of the day. Consumption of fruits (84.2%), vegetables (73.7%) and red meat (86.1%) was consistent. Intakes of vitamins and minerals were satisfactory. Unfortunately, the consumption of sweets (93.8%) and ready meals (25.8%) was also frequent and 72.8% of children do not participate in physical sports regularly. The children that were participating in sports or those that had a food diary, had a more balanced diet ( $P < 0.001$ ) and their somatometrics were between the normal growth curves ( $P < 0.001$ ).

Conclusions: The dietary habits of Greek pre-school children even if differ from the traditional Greek diet they preserve the main core of the Mediterranean diet, mainly due to the consumption of olive oil and the high con-

sumption of fruits, pulses, grains and vegetables. Strategies should be developed to encourage healthier eating habits and adequate physical activity in preschoolers.

## PP19

### COMPARISON OF DIETARY HABITS AND HYPERLIPIDEMIA BETWEEN YOUNG ADULT IN GREECE AND FINLAND

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Introduction: Dietary habits of each individual are influenced by economic, religion, civilized and psychosocial factors.

Purpose: Purpose of the present study was to explore dietary habits of young Greek and Finland adults and to compare Body Mass Index (BMI), Waist to Hip ratio (W.H.R) and hyperlipidemia between the two groups.

Material-Methods: The sample-studied consisted of 125 Finland and 300 Greek students of Nursing. Data were collected by the completion of a specially designed questionnaire, the measurements of cholesterol and triglycerides of capillary vessel and recording of BMI and WHR. For the analysis of data was used statistical package SPSS 15 and the statistical methods  $\chi^2$  test, ANOVA and t-test.

Results: From the 425 participants, 82.6% of Greek and 79.2% of Finland were girls, while boys were 17.4% and 20.8%, respectively. Overweight was 31.2% of Finland and 21.8% of Greek. Measurement of WHR showed that of median risk was 41.6% of the Finland participants and 23.3% of the Greek. Normal values of cholesterol had the 98.4% of the Finland and 85.5% of the Greek participants, while to triglycerides 97.6% and 85.7%, respectively. Statistical analysis of data showed that, the Greek had higher values of cholesterol and triglycerides with statistical significant difference,  $P \leq 0.001$ , respectively. Regarding measurements of BMI, more overweight were the Finland students and a higher percentage of them belonged to the group with median risk,  $P < 0.001$ , respectively. It was also found that the Finland participants, consumed more vegetables, dairy produce, chicken, fishes, grains, fruits, snacks and alcohol compared to the Greeks,  $P < 0.001$ , respectively whereas Greek participants smoked more,  $P < 0.001$ . It was also found that the Finland had more exercise or walked more time during the day compared to the Greek participants,  $P < 0.001$  respectively. Higher percentage of Finland participants had family cholesterol history with statistical significant difference to the Greek,  $P < 0.001$ .

Conclusions: Dietary habits differ between the Greek and the Finland students. Healthy dietary followed more frequently the Finland students, they consumed more alcohol and were in higher percentage overweight, while the Greek smoked more and had in higher percentage hyperlipidemia.

## PP20

### DIETARY HABITS DURING CHILDHOOD

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**Introduction:** Adequate and correct dietary is considered essential for mental and physical growth and maintenance of good health of children. During recent years, rapid changes were remarked in understanding both the significance of proper diet during childhood and the prevention of disease in childhood and adult life. However, some inter-family or out-family factors exert negative influence on children's diet.

**Purpose:** The purpose of the present study was to explore dietary habits during childhood and the factors affecting them.

**Material-Methods:** The sample-studied consisted of 213 parents whose children were hospitalized in paediatrics hospitals. Data were collected by the completion of a specially designed questionnaire. For the statistical analysis of data was used statistical package SPSS-15 and the statistical method  $\chi^2$ -test.

**Results:** Of 213 parents 14.1% were fathers and 85.9% mothers. A 89.2% of the participants were married, 3.3% unmarried and 7.5% divorced or widow. A 75.1% lived within area of Attica, and 24.9% out of Attica. A 29.6% of parents reported that their children had no breakfast and 19.7% reported that some of the main meal is fast-food. Statistical analysis of data showed that the divorced participants reported more frequently that their children drank no milk in morning,  $P = 0.017$ , didn't accompany their meal with salad,  $P = 0.009$  and perceived that their children followed no proper diet,  $P = 0.003$ . Parents of tertiary education reported more frequently that their children consumed preservative foods,  $P = 0.016$  and soft drinks,  $P = 0.002$ . Children whose parents were of low-income took exercise less frequently, drank more soft-drinks, rarely drank milk, consumed fry food,  $P = 0.007$ ,  $P = 0.003$ ,  $P = 0.032$ ,  $P = 0.020$ , respectively. Private employees reported that their children consumed more frequently fast-food,  $P = 0.007$ . Children of parents living in country-side, consumed more frequently whole meal bread, more fishes, more vegetables and dried fruits,  $P = 0.045$ ,  $P = 0.002$ ,  $P = 0.018$ ,  $P = 0.020$ , respectively.

**Conclusions:** The most common factors affecting dietary habits of children are the income, marital status, place of residence, education level and occupation of their parents.

## PP20A

### VIOLENCE AND MALTREATMENT OF CHILDREN WITHIN THE FAMILY

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**Intoduction:** Violence is a significant risk factor for children's health disorders and is observed in all social levels.

**Purpose:** The aim of the present study was to explore the extent of violence in young adults, in the way the experienced domestic violence during childish and adolescence.

**Material-Methods:** The sample-studied consisted of 365 students of Nursing. Data were collected by the completion of ICAST-CH questionnaire. For the analysis of data was used statistical package SPSS 17 and the statistical methods ANOVA and t-test.

**Results:** Of the 365 participants 87% were girls and 13% boys. Seven percentage of the sample-studied reported that in its family were individuals who consumed alcohol and use of drugs and their behavior brings fear, while 37.6% had seen within family individuals to shout in a way that horrified them, the 12% experienced corporal violence within the family, 7% had experienced use of pointed instrument in order to horrify and injure them and 7.7% had experienced case of war and revolt. Statistical analysis of the data showed that boys experienced violence more frequently whereas the girls reported sexual abuse, more frequently,  $P = 0.021$  and  $P = 0.030$ , respectively. Regarding family status, it was found that individuals of single families consume more frequently alcohol and drugs,  $P = 0.027$ , dispute more frequently,  $P = 0.043$ , as well as assault and injure,  $P = 0.029$ . As for the number of children, it was found that the more children in family, the less cases of corporal punishment,  $P = 0.013$ . In terms to educational status of parents, it was found that the parent of primary education, consumes alcohol and uses drugs more frequently,  $P = 0.001$  as well as they apply corporal abuse,  $P = 0.050$ . Participants that a member of their family had some corporal or mental disorder, experienced more frequently situations that provoked horror,  $P = 0.009$ , while they didn't take whatever was necessary for their breeding,  $P = 0.007$ . Same results where found when a parent used alcohol or drugs,  $P = 0.013$ ,  $P < 0.001$  respectively and they reported that they had experienced more frequently corporal violence,  $P = 0.045$ .

**Conclusions:** Socio-economic factors, such as low educational status, alcohol and drugs, psychiatric diseases and family structure are the main risk factors for domestic violence.



## PP21

**INTEGRATING ELEMENTS OF UNDERGRADUATE CURRICULUM IN TRANSCULTURAL LEARNING**D Corkin<sup>1</sup>, P Morrow<sup>1</sup>, I Fu<sup>2</sup><sup>1</sup>Child Branch, School of Nursing & Midwifery, Queen's University, Belfast, UK, <sup>2</sup>School of Nursing, University of Hong Kong, Hong Kong, China

**Introduction:** Rapidly advancing technology, increasing ethnic diversity and the emerging recognition of nursing as a vital international resource, implies a need for a variety of curricula opportunities.

**Purpose:** To provide opportunities for transcultural learning and enable students to advance their cultural awareness, knowledge and nursing care practices in line with international trends.

**Material-Methods:** The applicants were delighted to meet their international partner during April 2010. Within the timetable for this visit there were planned meetings to discuss the opportunities for shared learning for nursing students across both universities, whilst developing international links. Since July 2010, it is against this background that this new initiative has been developed between fifteen of our year 2 Child branch nursing students and fifteen year 3 students undertaking a 'Nursing Care of Children' module at other university.

**Results:** Students from both universities were invited to engage in a care intervention (e.g. passing a feeding tube) based on a specific scenario involving three activities. At the end of this online learning experience students were able to:

- Recognise how cultural factors influence health and healthcare provision:
- Understand how principles of nursing practice are applied in each country.
- Discuss the importance of increasing their sensitivity towards another cultural group.

**Activity 1.** Care intervention was visually recorded (over 20 minutes) and each participating student has been encouraged to reflect on performance using Carper's, Fundamental Patterns of Knowing (1978) as a framework for reflection.

**Activity 2.** Both student groups had access to their specific recorded activity and under the direction of nurse lecturers forwarded to assigned student in each university using an online platform.

- **Activity 3:** Students continued to exchange dialogue with each other within a timeframe to identify areas for future professional learning. Experiences evaluated by nurse lecturers (July 2011) in perspective universities and significant outcomes are to be utilized for planning the advancement of this shared learning model.

**Conclusions:** Evaluation and verbal feedback from students has been very positive, attracting further engagement in this exciting initiative.

## PP22

**HOW THE ROLE OF A PAEDIATRIC HIGH DEPENDENCY FACILITATOR CAN MAKE AN IMPACT IN A DISTRICT GENERAL HOSPITAL**

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**Introduction and purpose:** The Princess Alexandra Hospital, Harlow in the UK consists of a 16 bedded paediatric ward, 4 ambulatory beds and a paediatric emergency department open between 8 AM and 12 AM. There is no on site Paediatric Intensive care. Children that require high dependency care but do not fit into the category of intensive care need to be cared for at PAH where no designated high dependency area is available.

**Purpose:** My role as a Paediatric High Dependency Facilitator is to highlight the areas within the hospital that require attention. Through classroom and on the job training, audits and implementation of policy's and guidelines, skills and environment can be set up to ensure patients are assessed and treated early before deterioration. If children require intensive care then this stabilisation of care can be carried out smoothly and in a safe manner.

**Materials - methods:**

- Clinical support
- Paediatric specific training to all areas treating paediatric patients
- On site Resuscitation Scenario training
- In house Paediatric Study days
- Networking
- Procedure tools for staff to use such as drug infusion guides, algorithms
- Training/implementation of new treatment, protocols and guidelines
- Audits

**Results:** • Scenario training

- Training on the early recognition of acutely ill children
- Established CPAP on the ward with guidelines and training
- Neurosurgical Emergency Guidelines and training
- Working clinically to improve high dependency skills
- Training through study days and teaching sessions on the ward

- Networking between paediatrics, adult and transport services

- Completion of audits

Staff are more confident nursing high dependency paediatric patients. They receive regular scenario training. Implementation of the paediatric early warning scores has resulted in earlier detection and escalation of treatment. Communication with other areas of the multidisciplinary teams has improved overall relationships in different clinical areas.

**Conclusion:** Training in all the areas caring for paediatric patients has shown an improvement in the management of

patients care resulting in early recognition and a reduction in intensive care referrals.

## PP23

### PARENTS' INTERVENTION FOR FEVER IN CHILDREN WITH FEBRILE CONVULSION

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**Introduction:** In order to prevent recurrence of febrile convulsion, which is frequently seen in children of 6 months to 5 years, it is essential that parents adopt the appropriate approach to fever.

**Purpose:** The present study aims to identify parents' attitudes towards fever with regard to children with febrile convulsion.

**Material-Methods:** The present study was carried out in Akdeniz University Hospital Children's Emergency Unit with the participation of 100 parents having children diagnosed with febrile convulsion. Data collected via the 24-item questionnaire were assessed in SPSS 16.0 in terms of frequency, percentile and chi-square analysis. The consent of the parents and the institution was obtained before conducting the research.

**Results:** Among the children, 53% were female and 3 months to 11 years-old. Eighty-two percent of the children were monitored due to febrile convulsion diagnosis and in 39% of these children febrile convulsion recurred within at least 2 years. Forty-four percent of the children had febrile convulsion history in the family. Among the parents, 65% stated that they knew what febrile convulsion was and 63% thought that febrile convulsion was not of genetic origin. In addition, 88% of the parents believed that febrile convulsion would not lead to any other health problems. Sixty-six percent of the parents stated that measured their children's body temperature at home, 40% gave anti-febrile syrup to the child without consulting the doctor, 25% applied warm wet cloth, 33% had their children have a warm shower and 35% had their children take off their clothes.

**Conclusions:** Regarding intervention of fever, there were wrong applications as well as right applications. Especially those parents who had febrile convulsion before and those who have febrile convulsion history in the family should be informed by the health professionals and trained on how to decrease high fever and prevent recurrences.

**Keywords:** Febrile convulsion, Parents, Child, Fever.

## PP24

### WITHDRAWN

## PP25

### NURSING CARE OF CHILDREN WITH DELAYED STERNAL CLOSURE AFTER OPEN HEART OPERATION

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**Introduction:** Even though cardiac surgeons become more familiar with the technique and its use, only a few nursing publications describe or address the care of children undergoing delayed sternal closure.

**Material-Methods:** Critical literature review of published articles after 2000 in PubMed, Scopus and Cinahl.

**Aim:** Main aim was a critical evaluation of literature in order to outline a systematic approach to meet the care needs, to prevent or predict complications and to monitor accurately the children undergoing delayed sternal closure.

**Results:** The use of delayed sternal closure in children was first described in 1978. The most common complications that may occur include late sternal instability, bleeding, and sepsis. Continuous monitoring and clinical assessment of these patients is essential and is the core of the nursing care. These patients commonly have a low cardiac output and they require inotropic support in the form of continuous intravenous infusions. Therefore, nurses must be familiar with hemodynamic assessment of patients and the infusion of inotropic agents and their management. Moreover, all patients with an open chest require endotracheal intubation and mechanical ventilatory support. Monitoring of oxygenation and ventilation through arterial blood gas measurements and pulse oximetry must be an ongoing practice. Fluid intake and output should be closely monitored and predictors for bleeding must be evaluated. Electrolytes' levels must be evaluated and replaced (e.g. sodium, potassium, calcium, or magnesium) according to ICU protocols. An important parameter of the nursing care is the provision of adequate pain control and sedation. Support and information of parents is also important.

**Conclusions:** The nursing care of children with delayed sterna closure must be planned and standardized with the use of updated guidelines and protocols and without underestimating the needs of parents. Provision of care in these patients may be challenging and stressful but it pays back nurses with satisfaction and professional fulfilment.

## PP26

**EXTRA-CORPOREAL LIFE SUPPORT FOLLOWING CARDIAC SURGERY IN CHILDREN: INTENSIVE NURSING CARE IMPLICATIONS****E Vasileiou<sup>1</sup>, A Manatou<sup>1</sup>, I Voutoufianaki<sup>2</sup>, K Petsios<sup>3,4</sup>**<sup>1</sup>*Pediatric Cardiosurgical Intensive Care Unit, "Onassis" Cardiac Center,* <sup>2</sup>*"Onassis" Cardiac Center,* <sup>3</sup>*Pediatric Cardiosurgical Intensive Care Unit, "Onassis" Cardiac Center, Pediatric Nursing,* <sup>4</sup>*Faculty of Nursing, National & Kapodistrian University of Athens, Athens, Greece*

**Introduction:** The use of extracorporeal membrane oxygenation (ECMO) following paediatric cardiac surgery varies between different institutions. It is used in congenital heart surgery for several indications including failure to separate from cardiopulmonary bypass, postoperative low cardiac output, pulmonary hypertension, bridge to transplantation, etc.

**Purpose:** To describe the nursing care implications concerning Extra-corporeal life support

**Material-Methods:** Critical literature review of articles published after 2000 in Pubmed, Scopus, Cinahl and ISI Web of Science.

**Results:** Nursing care of children in ECMO remains challenging even though it is a well-established method of providing care to critically ill patients. Its use is expanded and includes the support for low cardiac output due to congenital heart disease. Nurses should provide their care following well established protocols in order to prevent and/or manage possible complications. These complications commonly include ineffective thermoregulation, haemorrhage (intracranial or/and intrathoracic), renal failure and infections. Haemorrhage is the most common complication and is related to the duration of ECMO. However, patients with congenital heart diseases are more likely to have thrombotic complications and intracranial complications (haemorrhage, infraction. An additional complication of ECMO is renal insufficiency, leading to accumulation of fluid and volume overload. Infection is another risk of the prolonged use of ECMO. Multiple cannulas and intravascular catheters, along with mediastinal drainage, are predisposal factors to infections. As bedside caregivers, nurses are responsible for the continuous clinical assessment of the patient, the planning and the implementation of the nursing care, the documentation of the course of treatment and the support of patient's family.

**Conclusions:** Since caring for an ECMO patient is an intensive ongoing process, collaboration and cooperation among all members of the team are essential in order to prevent, predict or manage possible complications. The need for standardization of the nursing care of children in ECMO remains high.

## PP27

**NURSING CONSIDERATIONS FOR INFANTS ADMINISTERED WITH PROSTAGLANDIN FOR POTENCY OF THE DUCTUS ARTERIOSUS****V-M Nikolaidou<sup>1</sup>, A-M Sait<sup>1</sup>, F Mitropoulos<sup>2</sup>, M Azariades<sup>3</sup>, A Manatou<sup>1</sup>, K Petsios<sup>4</sup>**<sup>1</sup>*Pediatric Cardiosurgical Intensive Care Unit,* <sup>2</sup>*Deputy Department of Pediatric Cardiac Surgery and Congenital Heart Surgery,* <sup>3</sup>*Department of Pediatric and Congenital Heart Surgery,* <sup>4</sup>*Faculty of Nursing, National & Kapodistrian University of Athens, Athens, Greece*

**Introduction:** Prostaglandin is a hormone which can affect smooth muscle action. There are many different types of prostaglandins for administration to patients, with different clinical uses. Even though nurses are familiar with the administration of prostaglandins there is a limited number of publications concerning nursing care.

**Aim:** Main aim was the critical review of the literature in order to meet the care needs of both infants and parents.

**Material - Methods:** A systemic review of international studies was conducted in international scientific databases (PUBMED, SCIENCE DIRECT, CINAHL, WEB OF SCIENCE, SCOPUS), related to nursing considerations, intravenous infusion of prostaglandin, monitoring and administration complications to the newborn child with congenital heart disease.

**Results:** Prostaglandin E1 and E2 (PGE) are commonly used in neonatal and paediatric ICUs to maintain patency of the ductus arteriosus in those cardiac lesions that depend on the ductus for either systemic or pulmonary blood flow. The main role of their administration is to stabilize and bridge infant to palliative or corrective surgery or other intervention (e.g. transplantation). PGE is excreted by the kidneys and is rapidly metabolized. Therefore, a continuous infusion and adequate intravenous access are necessary. Nurses must be experienced in the preparation and continuous administration of PGE and be alert for all its potential side effects (cutaneous vasodilation, bradycardia, tachycardia, hypotension, seizure-like activity, hyperthermia, apnea) and complications during infusion (swelling, infection, etc). Respiratory and hemodynamic monitoring is essential. Children going into transit whilst under continuous iv PGE1 infusion, are safer if they are intubated and mechanically ventilated. Any side effects of prostaglandin infusion are reversed with the suspension of treatment.

**Conclusions:** Early recognition of hemodynamic instability and administration of PGE1 is vital to survival in neonates with ductal-dependent cardiac lesions. Nursing care of these patients is demanding and requires specific clinical skills and theoretical knowledge.

**PP28**

**FAMILY PRESENCE DURING CARDIOPULMONARY RESUSCITATION (CPR) IN THE PAEDIATRIC INTENSIVE CARE UNIT (PICU): A LITERATURE REVIEW**

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**Introduction:** Whether the presence of beloved ones of critically ill children should be allowed during CPR is an issue that has gained increasing interest among healthcare providers in several countries during the past two decades. The present literature review addresses this question and the conditions to ensure the effective co-operation of healthcare professionals with the the young patient's parents.

**Purpose:** A) To identify the positive and negative effects of family presence during CPR in the PICU on children, their families and the healthcare team and to review attitudes and experiences of the last two sides, B) to discuss guidelines and hospital policy measures and c) to provide recommendations for further research.

**Material-Methods:** A total of 38 articles published in the last decade were reviewed including research studies, reviews and guidelines in English, German, Spanish and Italian.

A search in scientific electronic databases and journals for worldwide published articles in the last decade was conducted using the terms 'family presence during CPR', 'parental presence during CPR', 'nurses' attitudes', 'family witnessed resuscitation' and 'PICU'.

**Results:** At present, there are very few PICUs worldwide where family are allowed in the room during CPR. Most hospitals maintain a negative attitude, partially because they are unprepared and uninformed on this idea and its possible benefits. Nevertheless, evidence indicate that parents would rather decide on their presence, which is beneficial to their children, the healthcare team and themselves. Right hospital policy and preparedness is the key to best results for family-centred care and elimination of the healthcare team's hindrance during resuscitation in the PICU.

**Conclusions:** Several organizations formally support family presence policies. Nevertheless, family witnessed CPR in the PICU remains controversial. Further research as well as willingness are necessary to change traditionally held practices.

**PP29**

**NURSING INTERVENTIONS FOR ABUSED CHILDREN**

**Koufoudaki P<sup>1</sup>, Ligda A<sup>2</sup>, Roufou A<sup>3</sup>**

**Introduction:** In recent years the phenomenon of child abuse has reached alarming levels. This is an issue, the

consequences of which endure and affect the subsequent life of the child as well, by turning him into a troubled adult. Children can be assisted so that the abuse's negative impact of abuse on them, as adults, will be minimized.

**Purpose:** To describe the nursing role concerning the care and protection of the abused children.

**Material-Methods:** A thorough literature review of the electronic databases and the bibliographic databases of Medline, ScienceDirect, Cinahl, HEAL-Link, was conducted, during the time period 2000-2011, using the following terms: "abused child", "marginalized child".

**Results:** When abuse is suspected, health care professionals such as the nurses must provide assistance to the child and the family, in cooperation with the relevant scientific team of specialists and inform the competent authorities (prosecutor, police).

Data analysis has shown that the main forms of child abuse are the following: (1) Physical abuse: including any injuries of different level of severity, at various ages, not due to accidents.

(2) Emotional abuse: including acts and behaviours that include rejection, isolation and exploitation as well as socially deviating acts.

(3) Neglect: the nutrition, the medical care and the carelessness that the child receives are so inappropriate that his/her health and development are in serious danger.

(4) Child sexual abuse – incest: the exhibition of children in sexually explicit content acts motivated by an adult. Child pornography and prostitution are also included as 'sexual exploitation'.

**Conclusions:** Nurses can play a significant role in the early recognition of children who are in serious danger of abuse, resulting in the provision of special assistance to the child and the family.

**PP30**

**NURSING MANAGEMENT OF POSTOPERATIVE PAIN IN CHILDREN AFTER CARDIAC SURGERY**

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**Introduction:** Postoperative pain management in children is a complex, multidimensional and subjective phenomenon. During last decades, many protocols and significant tools have been developed for the management of pain and a significant number of studies have been published. However, there are only a limited number of studies for the management of pain in children after cardiac surgery.

**Purpose:** A systematic review of the literature concerning the postoperative pain assessment and nursing management in children after cardiac surgery was performed.



**Material-Methods:** A systemic review was conducted in international scientific databases (PUBMED, CINAHL, WEB OF SCIENCE), related to the management of pain in children after cardiac surgery which were published after 2000. One hundred and thirty-eight articles were primarily identified and 38 matched the review criteria and were further analyzed (19 reviews and 18 studies).

**Results:** Intra and post-operative anaesthesia and analgesia for children undergoing cardiac surgery are an important determinant of postoperative recovery. However, limited studies were focused on postoperative sedation and analgesia within the paediatric intensive care unit. The postoperative pain management in paediatric cardiac patients depends from various factors such as the type of surgery, the incision, the duration of the surgery, the analgesic therapy (type, dose and frequency) along with the nursing experience and skills. For example, children with sternal incisions reported significantly more pain than subjects with submammary incisions and greater amounts of analgesia were used in children under 3 years of age. Many protocols have been developed for the administration of systemic and continuous intravenous analgesic therapy using appropriate pain assessment tools. Morphine and ketamine are most used for effective and safe analgesia.

**Conclusions:** There is a clear need for the development of a nursing standard to assess and manage pain and sedation in this population. The development of appropriate pain tools can lead to a reliable assessment of postoperative pain in sedated and intubated children after cardiac surgery.

### PP31

#### CARE OF THE DYING NEONATE AND GRIEVING FAMILY: USE OF A CRITICAL EVENT TO CHANGE PRACTICE

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**Introduction:** Commissioning of neonatal services should include the provision of high quality palliative and end of life care for babies and their families (Department of Health, 2009). Meeting physical, psychological and social needs of families should be at the centre of end of life care. Evidence suggests the experience of babies and families is not always optimum, which can impact on their grief (Robertson et al. 2011).

**Purpose:** To outline, using a critical event, changes in practice in the context of care of the dying neonate and grieving family.

**Material -Methods:** A critical incident took place during end of life care where nursing care and communication occurred in an insensitive way. Parents raised their concerns and distress after the time of their baby's death during a visit from the Bereavement Support Nurse. The nurses

caring at the time of death were disappointed with the quality of care given and wanted to discuss the experience and develop their practice. Although other parents expressed positive experiences regarding end of life care, this was not an isolated incident.

**Results:** The 'Neonatal Bereavement Review' was introduced to provide an opportunity for nurses to discuss the death of a baby and care of the family. The primary aim was to evaluate care, identifying practice that was not optimum or evidence-based. The outcome was to implement changes to practice and policy as appropriate. The Neonatal Bereavement Review also had a secondary aim, to provide a safe environment for practitioners to debrief their caring experience for the baby and family.

**Conclusion:** If the care of the dying neonate and the grieving family is not right, the impact on parent's grief is ongoing and significant. Using parental and nursing feedback to improve practice in neonatal end of life care is vital.

### PP32

#### EFFECTS OF USING SICK AND/OR CONVALESCENCE-CHILD CARE CENTERS ON THE QUALITY OF CHILDREN'S HEALTH CARE IN DUAL-INCOME NUCLEAR FAMILIES

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**Introduction:** Sick and/or convalescence-child care centers are used in accordance with their children's health condition by parents from dual-income nuclear families to continue working.

**Purpose:** The purpose of this research is to clarify the effects of using sick and/or convalescence-child care centres on the quality of children's health care in dual-income nuclear families.

**Material-Methods:** From April 2011 to May 2011, parents (n = 29) with children of 9 years old or less from the dual-income families, who have used sick and/or con-

valescence-child care centres and agreed on participating in this research, were collected. We conducted a semi-structured interview, and the data was analyzed in qualitative inductive method. A private room was used for the interview to protect the participants' privacy.

Results: Parents used sick and/or convalescence-child care centres for the following reasons:

- (1) Not to put a strain on their children in poor health.
- (2) The parent uses sick and/or convalescence-child care centres to be not absent from work, although it costs money.
- (3) More appropriate medical care is felt to have been offered to their children, rather than nursing at home.
- (4) By receiving instruction on how to manage their children's disease at the centres, parents felt at ease taking care of their sick children at home.
- (5) Children are having fun playing with childcare workers at the centres while being taken care of their disease at the same time.

Conclusion: Sick and/or convalescence-child care centres are used in accordance with their children's health condition by parents from dual-income nuclear families to continue working. They provide children in poor health the place to rest for the more effective curative treatment, and heal children of their disease through playing. They also have the role of consultation and the education for parents with sick children, and bear the responsibility of developing parents' coping ability with their children's disease.

### PP33

#### SINGLE MOTHERS' NEEDS ASSOCIATED WITH CHILD-CARE FOR SICK AND CONVALESCENT CHILDREN

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Introduction: The child-care system for sick and convalescent children in Japan adopts a co-payment principle, whereby users must pay a fee regardless of their income.

Purpose: This study clarified single mothers' needs associated with child-care for sick and convalescent children to secure the QOL of single mothers and their children.

Material-Methods: A semi-structured interview was conducted involving 10 single mothers (31.8 years old on average; SD: 2.94 years old) using child-care for sick and convalescent children after obtaining written informed consent from April to May 2011. The results were analyzed qualitatively.

Results: The subjects had 1.8 children on average (SD: 1.03), and the average age of their children was 4.78 (SD: 2.88) years old. Four mothers were engaged in an irregular job, and four worked on Saturday, Sunday, and national holidays. The subjects considered expenses as 'reasonable because receiving good care'; thus, they extracted the categories of 'High cost' (low income, siblings also use the care simultaneously, and continuous use), and 'Hope for assistance (insurance, partial refund, and support by company)'. They experienced late arrival at work and leaving early because of using child-care for sick and convalescent children; thus, they deeply appreciated being able to consult physicians in the early morning to avoid being late for work. They sought solutions to the problems concerning work absence and decrease in income owing to user restriction of the facility and waiting for use, as well as to be able to arrive at work late and leave early owing to using a distant facility, and desired facility numbers to increase. They desired overtime, holidays (national holidays), and night child-care which could address their irregular work.

Conclusions: The results revealed that single mothers' needs associated with child-care for sick and convalescent children are derived from the vulnerability of their employment and income.

### PP34

#### BENEFITS OF CHILD-CARE FOR SICK AND CONVALESCENT CHILDREN ASSOCIATED WITH THE QOL OF SINGLE MOTHERS' CHILDREN

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Introduction: Child-care for sick and convalescent children is called a safety net for working mothers. How-

ever, the benefits of child-care for sick and convalescent children associated with children's health do not seem to be sufficiently discussed.

**Purpose:** This study examined the benefits of child-care for sick and convalescent children associated with the QOL of single mothers' children.

**Material - Methods:** A semi-structured interview was conducted involving 10 single mothers (31.8 years old) using child-care for sick and convalescent children after obtaining informed consent from April to May 2011. The results were analyzed qualitatively.

**Results:** The subjects had 1.8 children, and the age of their children was 4.78 years old. The categories of care (medical/nursing/child care) and outcome (children's/ mothers' response) were extracted. As medical/nursing care, physicians' consultation and drug administration, isolation from infectious diseases, inhalation and aspiration by nurses, and drug administration were extracted. As child-care, enjoyable playing, a warm and delicious diet/meals, and one-on-one care were extracted. The record and report of the detailed disease condition and life, and instruction to parents were extracted. Children showed a positive response to child-care for sick and convalescent children (pleasure, delight, and relief). The subjects evaluated that the use of child-care for sick and convalescent children enabled children to avoid pushing themselves too hard, recover rapidly, and avoid a relapse of symptoms. They also considered that the child-care obviated the need for restricting children's lives for fear of infectious diseases, and were greatly relieved and satisfied with professional care and the children's response. Child-care for sick and convalescent children ensured the health and development of single mothers' children, and contributed to single mothers' mental health.

## PP35

### THE ROLE OF EMOTIONAL INTELLIGENCE IN THE WORKING PLACE

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**Introduction:** Emotional intelligence constitutes a outlandish field of research which occupies the scientific community for the last, at least, 15 years. The definitions for EQ vary depending on the placement of each theorist and the integration of his theory in the category of model of dexterities or mixed model for EQ. EQ is referred in the ability of processing data derived from the sentiments and their utilisation for the guidance of action in circumstances that require activation of cognitive system. It constitutes competence which provides the individual with the possibility of recognizing, comprehending and using informations of sentimental nature (that are reported in himself or

in the others) with a way that leads him to effective or even exceptional output.

**Purpose:** To indicate the value of EQ and the way that it affects work but also in any other area of a person's life. EQ is essential for the long-term success, prosperity and for the creation of healthy functioning relation, personal as well as professional.

**Material-Methods:** A literature search was made through electronic data bases and journal articles from where were isolated articles published in the last 20 years.

**Results:** Data on the importance and value of EQ come from multiple sources. Findings on the importance of EQ fall into a general pattern that emerged from many empirical studies. Generally is shown that emotional skills play a more prominent role in the distinguished performance of an individual in the working place in relation to cognitive abilities and expertise.

**Conclusion:** As it comes to EQ, its finally an acquired faculty that must be cultivated in the name of a successful professional course and collaboration.

## PP36

### TRANSITION TO ADULT FOR ADOLESCENT WITH CHRONIC CONDITION AND STRATEGIES OF NURSING

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**Introduction:** Medical and scientific breakthroughs have extended life expectancies. 90% of those born with a disability or sick children survive into adulthood age.

**Purpose:** The purpose of this study was to describe the transition experience, expectations, and concerns of chronically ill youth who have transitioned to adult health care.

**Material-Methods:** Literature review was conducted in "Medline, Pubmed, Wiley-Blackwell, Science-Direct" databases, in Turkey on-line and published journals. In this review is presented results of studies transitional care in pediatric nursing.

**Results:** As a result, adult patients whose chronic conditions began in childhood are an increasingly common sight in the world health care system. Therefore, the development of transitional care from pediatric to adult is one of the major challenges for the twenty first century. Many teenagers have a chronic condition from infant period or dependent on the pediatric team. At the same time, many teenagers are reluctant to transfer to adult services. Transition has been defined as "a multi-faceted, active process that attends to the medical psychosocial and educational needs of adolescents as they move from child to adult centered care. The aims of transitional care are provided in health care to high quality, co-ordinated, which is patient-centered, developmentally appropriate responsive and comprehensive, to promote skills in com-

munication, decision-making, assertiveness, self-care and self-advocacy, to maximize life-long functioning, to enhance sense of control and interdependence.

Conclusion: When a child grows up with a chronic illness, that condition becomes an integral part of his identity. Therefore, the concept of transition care should be incorporated into nursing practices. Models of care should be improved and implemented to facilitate the child's compliance.

### PP37

#### RESULTS OF UMBILICAL CORD CARE IN THE LAST 10 YEARS: SYSTEMATIC REVIEW

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Introduction: Umbilical cord infection causes to increase neonatal mortality and morbidity risk in developing countries. There is an increasing emphasis on quality care of the umbilical cord for newborn but still need to guide appropriately recommendations for optimal umbilical cord-care practices for newborns.

Purpose: The study is planned to determine the methods was used for umbilical cord care and the evaluate researches was designed to effectiveness of these methods.

Material-Methods: The data were selected from articles published in Turkish and English, to be placed in MEDLINE (PubMed), Turkish Medline and Scholar Google between January 2001 and April 2010 years. The keywords such as 'cord', 'umbilical cord care', and 'newborn umbilical cord care' used in literature screening. Evaluated the answer of these three questions: (i) which methods are used for umbilical cord care?; (ii) what are the effects of umbilical cord care methods?; (iii) which is the most effective method for umbilical cord care?

Result: Researches included in the study was determined; chlorhexidine, alcohol, salicylic sugar powder, triple dye, as well as applications of the dry retention, traditional/alternative applications such as breast milk and olive oil used for umbilical cord care.

Conclusion: According to the results of study; keep dry method for umbilical care was qualified for area of adequate hygiene conditions but in developing countries and if there is not enough hygiene conditions, chlorhexidine is recommended for umbilical cord care.

Keywords: Cord, Cord care, Umbilical cord care, Using methods for umbilical cord care.

### PP38

#### THE NATIONAL VACCINATION PROGRAM FOR CHILDREN IN GREECE

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Introduction: Every country sets a national vaccination schedule which includes vaccines that the state considers as mandatory to vaccinate children and toddlers.

Purpose: This paper presents a retrospective national children vaccination program in Greece.

Material-Methods: The survey was based on selected English and Greek articles concerning the issue of children vaccination program. An overview and study of electronic data bases were performed: Medline, PubMed and CINAHL. Words such as "children" and "vaccination programs" were used as key words to complete the study.

Results: The vaccination schedule in Greece ensures the protection of a person since its birth. The vaccines included in this schedule are the following:

- Flu vaccine (Vaxigrix, every year)
- Diphtheria, tetanus, pertusis and poliomyelitis (Tetra-vac).
- Diphtheria, tetanus, pertusis, poliomyelitis and influenza type B (Infarix IPV Hib, Pentavac)
- Diphtheria, tetanus, pertusis, poliomyelitis, influenza B and hepatitis B (Infarix Hexa, Hexavac)
- Diphtheria, tetanus, pertusis and hepatitis B (Infarix Heppo)
- Measles, rubella and mumps (M.M.R. II, Priorix, 2 doses)
- Measles, rubella, mumps and varicella (Priorix Tetra)
- Hib Influenza type B (Hiberix, 4 doses)
- Hib Influenza B and Hepatitis B (Recombivax)
- Hepatitis A (Havrix, 2 doses)
- Hepatitis B (Engerix, 3 doses)
- Meningococcal type C (Meningitec, Meningigate Kid, 2 doses)
- Pneumococcal (Prevenal 13, 4 doses)
- Tuberculosis B.C.G. (3 doses)
- Varicella (Varivax)
- Human Papilloma Virus (Garolasil)

Conclusions: Vaccination programmes are mandatory in every country, resulting in the decrease for many life-threatening diseases.



## PP39

**A RANDOMIZED CONTROLLED TRIAL OF STERILE DISTILLED WATER AND/OR PACIFIER AS ANALGESIC FOR INFANTS UNDERGOING VENEPUNCTURE**

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**Introduction:** The management of pain in neonates is an important issue.

**Purpose:** The purpose of this study was to examine whether sterile distilled water and/or pacifier interventions have marked analgesic effects on venipuncture sampling involving newborns who cannot receive sucrose.

**Material-Methods:** This study involved 126 healthy newborns (gestational age  $\geq 36$  weeks) in the neonatal unit of Takamatsu Red Cross Hospital. This study was conducted after approval was obtained from the ethics committees of Takamatsu Red Cross Hospital and Kagawa University Faculty of Medicine. Written, informed consent was obtained from the mothers. One of five interventions [2 mL of 24% sucrose solution followed by pacifier, 2 mL of sterile distilled water followed by pacifier, pacifier alone, 2 mL of 24% sucrose solution, or no intervention (control)] was conducted 2 minutes before dorsal hand vein sampling for the Guthrie test as a randomized control trial (partially double-blinded test). The duration of crying and Premature Infant Pain Profile (PIPP) were measured 11 times at 30-second intervals from sampling initiation.

**Results:** During the 30 s after puncture, both cry time and PIPP were significantly less in the groups with 24% sucrose solution followed by pacifier, sterile distilled water followed by pacifier, and pacifier alone compared with those in the no intervention group (cry:  $P < 0.0001$ ,  $P = 0.0001$ ,  $P = 0.004$ ; PIPP:  $P < 0.0001$ ,  $P < 0.0001$ ,  $P = 0.001$ , respectively). Duration of first cry after venipuncture was significantly shorter in the groups with 24% sucrose solution followed by pacifier, sterile distilled water followed by pacifier, and pacifier alone than that in the control group ( $P < 0.0001$ ,  $P < 0.0001$ ,  $P = 0.0011$ , respectively).

**Conclusions:** Interventions using sterile distilled water followed by pacifier and pacifier alone have analgesic effects equal to that with 24% sucrose solution followed by pacifier, suggesting that they are effective for relieving the pain of venipuncture in newborns who cannot receive sucrose.

## PP39A

**PROTECTING THE LIFE OF THE UNBORN CHILD: PROACTIVE, PRAGMATIC, PARTICIPATORY NURSING STRATEGIES**

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**Introduction:** Provision of education, research and practice opportunities that contribute to nurses' understanding of maternal-child global health issues is an imperative for academic and service organizations given current globalization and migration trends and the continuing challenge to overcome child health disparities.

**Purpose:** The aim was to generate an evidence-based algorithm in stillbirth prevention for use by formal or informal providers serving high risk populations in developing and developed countries.

**Material-Methods:** This research was structured around a combined theory-based, collaborative partnership model. Collaborating partners included local pediatric leaders and global health child experts. Students attended bi-monthly global health seminars co-facilitated by faculty and collaborating partners. Concurrently, they immersed in guided systematic literature review and policy/document analysis. A final optional international experience provided opportunity for students to present literature findings to nurses in a low income, developing country and to engage them in dialogue about a community-based participatory action project to reduce stillbirth rates.

**Results:** A study undertaken in a School of Nursing in the Middle East engaged undergraduate students in an education-research project designed to equip them with knowledge, skills and strategies to address a global health issue; namely, stillbirth. This population target was justified in view of limited research, programmatic or policy attention related to the topic, despite the large number of stillbirths worldwide (3.2 million/year)<sup>1</sup>. Further stimulus reinforcing the relevance of the issue to the Middle East was the alarming rate of stillbirths reported in the Eastern Mediterranean Region in 2009 (27/1000 total births)<sup>2</sup>. This represents the second highest rate in the world, surpassed only by the African region (28/1000 total births) and closely paralleling the rate in the South East Asian Region (22/1000 total births).

**Conclusion:** Process and outcome data emerging from this study highlight the value of providing nurses with hands-on experiences that promote research scholarship, nursing leadership and global citizenship.

**References:**

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2. World Health Organization. *World health statistics, 2011*. Geneva, Switzerland: WHO Press, 2011.

#### PP40

##### **PREMATURE BABY CARE: A CASE STUDY FROM NURSING PERSPECTIVES**

**F T Arslan<sup>1</sup>, E Yeniterzi<sup>2</sup>**

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**Introduction:** Complications that are caused by hospitalization are the most important reason of mortality and morbidity in premature newborn in neonatal intensive care units (NICU). As a specific area, neonatal intensive care nurses have an important role and responsibility in planning the needs, as well as in the assessment of the complications.

**Purpose:** The purpose of this study was to discuss the complications and the nursing interventions according to North American Nursing Diagnosis Association (NANDA) nursing diagnosis in a premature infant in NICU.

**Materials-Methods:** A case study design was used. Demographic and clinical data were collected by a patient who was hospitalized in the neonatal intensive care unit. The obtained dates were evaluated according to nursing diagnosis accepted by NANDA which is widely used internationally.

**Results:** The infant was born in the 28th week of gestation. The infant was followed up for 9 days while he was two weeks. Nursing diagnosis: Ineffective gas exchange, ineffective breathing pattern, ineffective breast feeding pattern, ineffective family coping, ineffective management of the therapeutic regimen, risk for infant behavior, risk for infection, risk for impaired skin integrity.

**Conclusions:** The nursing diagnoses in this case were evaluated during the infant's hospitalization in the intensive care unit. The effective nursing care which implemented for premature infants in NICU can reduce mortality and morbidity.

#### PP41

##### **NEW EDUCATIONAL PROJECT FOR MEDICAL NURSES IN THE RUSSIAN FEDERATION**

**Biryukova Elena, Modestov Arseny, Fedorovskaya Natalya**

*Scientific Center of Children's Health RAMS, Moscow, Russia*

**Introduction:** The world experience shows that many healthcare reforms start from reforming nurse business and cannot be founded on the old ancient model which gave a medical nurse just a role of a doctor's assistant. Traditionally, among the issues that negatively affect the development of the nursing activity in Russia are the low status

of the profession, small wage, almost no social security and low motivation for good quality labour. Medical nurses in scientific centre of children's health RAMS, innovation centre of paediatrics and practice shall have special skills as they are members of the team of doctors and scientists of the highest qualification. The administration of the centre has initiated the Project for the development of nursing employees of the centre aimed at training and improvement of qualification of medical nurses, their preparation for becoming leaders among nursing staff. A company, a company with big experience in educational work with nursing staff, became a partner of the Scientific Center of Children's Health.

**Purpose:** General and professional development aimed at training and improvement of qualification of medical nurses participating in the Project, their preparation for becoming leaders in the development of the nursing staff of Russian medical institutions.

**Materials-Method:** Five medical nurses from different Center's Departments Participate in the Project. The representatives were delegated from the department of neonatology and surgery in Center's Scientific Research Institute for Pediatrics, as well as the department of medical rehabilitation of children with cardiovascular systems, digestive system diseases and physiotherapeutic department in Center's Scientific Research Institute of Preventive Pediatrics and medical rehabilitation.

**Results:** Regular educational and trading events for the nurses are stipulated in the frameworks of the project for the development of medical nursing staff. The members of the project had training teaching the basic software (Word, Excel, PowerPoint), passed exams and obtained Fundamentals of MS Office 2007 certificates. Also training in regard to preparation of posters and presentations for participating in scientific conferences, preparation of reviews and writing articles, working in Internet and international exchange of experience will take place. In order to achieve wide public recognition of the profession, we need, first of all, to increase its status within nursing staff itself. They should have more self-confidence and appreciate the profession within their community. Nursing staff development project of the Scientific Center of Children's Health RAMS is aimed thereat.

**Conclusion:** The nurse's role in clinical studies of medicinal products is also important. It is planned to have a GSP cycle jointly with independent ethics committee for head nurses and clinical nurses where new pediatrics medicinal products are evaluated.

## PP42

**QUALITY REGISTRATION OF PAEDIATRIC NURSES IN THE NETHERLANDS****C van Velden***Dutch Association of Paediatric Nurses*

**Introduction:** Since 2007 nurses in the Netherlands can register a quality register of nurses. This register has as goal to demonstrate, the level of expertise of nurses is more than sufficient to contribute to the quality of care. In this survey is searched for scientific support of the goal and assumptions.

**Purpose:** To describe the added value of quality registration of nurses. How can registration make a contribution to improvement of quality of care. There has been a search to scientific outcomes of advantages en disadvantages of quality registration in general and particularly of nurses. By answering four sub questions: What is scientifically known about the arrangement of quality registration of nurses in relation with quality of care? What is the methodological quality of the scientific outcomes? What are the differences or agreements between the current Dutch quality registration of nurses and the scientific outcomes? Which positions are taken by experts and stakeholders in case of quality registration of nurses in the Netherlands.

**Material-Methods:** Enlarged research of literature and a Delphi survey.

**Results:** The subject has not been fully researched before. So none scientific supported criteria for quality registration of nurses were found. The literature shows that continue education the quality of care promotes. Continue education is supported and stimulated by registration and accreditation.

**Conclusion:** The outcomes shows that continue education of nurses contributes to quality of care. Continue education must be stimulated. It is clear that the registration system of the Dutch law works insufficient at the moment. The Dutch quality register of nurses is a first and good step on the way. One of the main advantages of this register are the criteria for continue education. There are also some shortcomings, like the number of mandatory hours of continue education, which are not enough and the inadequate accreditation of the training institutes.

## PP43

**A STUDY OF THE MALPRACTICE TRENDS IN PEDIATRIC NURSES****A Ersun, Z Başbakkal, F Yardimci, G Muslu, D Beytut***Ege University School of Nursing, İzmir, Turkey*

**Introduction:** Patient safety refers to all measures taken by health institutions and medical crew in order to prevent damage occurred during medical services. Patient safety measures comprise a vital component of nursing care.

**Purpose:** This study aims to investigate the malpractice trends in paediatric nurses.

**Material-Methods:** The study universe consisted of nurses in Pediatric Surgery Clinic at Ege University Children's Hospital and Tulay Aktas Oncology Hospital. While all the nurses were targeted for participation, the study sample included only 123 nurses (80%) consented to participate. The study was designed as a cross sectional descriptive study and the study data were collected between 15 March 2011 and 15 July 2011 with a questionnaire form and 'Malpractice Trend Scale in Nursing' which contains five subdimensions (medication and transfusion malpractices, fall injuries, hospital infections, patient monitoring, communication and material safety) and 49 items. The lowest score was noted to be 45 and the highest was reported to be 245. The data evaluation was carried out with prevalence scales, Student t-test in binary variables and variance analysis in multiple variables.

**Results:** About 61% of the paediatric nurses participated in the study were found to experience medical malpractices. It was further stated that 51.5% of the nurses witnessed malpractices of doctors while 48.5% of the participants reported malpractices committed by their colleagues. The most common malpractice was noted to be medication errors (57.8%). The study results illustrated that 27.7% of the nurses committed medication errors and the most common medication error was reported to be administration of the wrong dose (67.8%). The average score of the scale was  $227.12 \pm 15.06$  (min. 171, max. 245).

**Conclusion:** The study results suggested a statistically meaningful relation between the units of paediatric nurses and total scores of malpractice trends.

## PP44

**EDUCATION OF CHILDREN WITH MENTAL ILLNESS****I Gougoulis, S Gyltidou, P Zaloumi**

**Introduction:** Mental deficiency is usually defined by the intelligence quotient of the child and its functional capabilities. The children with mental deficiency cannot be educated or take care of themselves and a special therapeutic intervention is necessary, for their social adaptation to a controlled environment.

**Purpose:** In the present review study, the role of education is called to attention along with the respective therapeutic programs in the development of those skills necessary for everyday life of the children.

**Material-Methods:** Selected articles in the Greek and English language, relative to the subject, constituted the material of the study. A review and study of the electronic data bases took place such as Medline, PubMed and Cinahl. As index words were used the following: mental deficiency, children's psychological diseases, paediatric nursing.

**Results:** Mental deficiency can coexist with other problems, medical or emotional, such as difficulties in sight, hearing, distraction, stress, depression. All these problems decrease the capabilities of the child. A criterion for the

education of the child must be how it will be integrated in the best way and what it can do itself, and less to measure the intelligence quotient.

Conclusion: The children with mental deficiency must: Be encouraged to develop independent skills, be assigned with small chores or responsibilities, always evaluating the age, the capabilities and their attention, be shown first the action and then be asked to execution it, to praise and reward their correct behavior, to offer opportunities for play with their siblings, relatives and friends, as well as the opportunity for wider social contact.

#### PP45

##### CHILDREN'S PAIN MANAGEMENT AND EMOTIONAL STRESS IN HEALTH SERVICES

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*Nursing School of the Alexander Technological Educational Institute of Thessaloniki, Thessaloniki, Greece*

Introduction: Children with severe cognitive impairments are believed to suffer pain frequently as we specify the psychosocial correlates of pediatric pain and relationship to health service use and medical presentations for "unexplained" symptoms in nursing care.

Purpose: To examine children's descriptions for pain and the comfort measures used to relieve. Our research focused on children who suffer from pain as they use health services. Moreover, we examined, the offer of pediatric nurse in ensuring the right of the pediatric patient for holistic pain management during children's care.

Material-Methods: The international scientific data base of pubmed, the journal of pediatrics, the American journal of psychiatry (from 2007 until 2011) were used. We used as key index the words: "pain management", "analgesia", "stress" "and pediatric nursing". Medical books for holistic pediatric nursing were also studied.

Results: Children who complained often for pain used health services more often too, they had more psychosocial problems, they missed more schooldays, and they had worse academic performance. After controlling for health service use and demographics, pain was significantly associated with negative parental perceptions of child health and the presence of internalizing psychosocial problems. Higher levels of community health service use were associated with negative perceptions of child health, pain, visits for "unexplained" symptoms, and internalizing psychiatric symptoms.

Conclusions: Pediatric pain challenges traditional service delivery models characterized by segregated systems of care for physical and mental disorders. Longitudinal and psychobiological studies of the relationship between pain, internalizing psychopathology, and pediatric nurses are warranted to direct future treatment efforts.

#### PP46

##### CHILDRENS' ACCIDENTS IN HOSPITAL: A LITERATURE REVIEW

R Da Rin Della Mora<sup>1</sup>, A M Bagnasco<sup>1</sup>, L Sasso<sup>2</sup>

<sup>1</sup>*Department of Methodology of Nursing Research,*

<sup>2</sup>*Department of Nursing, University of Genoa, Genoa, Italy*

Introduction: Paediatric hospital is characterized as a place to solve health problems; so it may be seen by children, parents, and professionals as a "safe" place with regard to child's accidents.

Purpose: To explore the hystorical path of publications about children's accidents in hospital to show the state of the science.

Material-Methods: Electronic databases (PubMed, Cinahl, Cochrane Library). Review of international scientific papers published until 2010. Definition of area of interest, aim of the review, inclusion criteria of papers and search string following systematic reviews methodology. Search through databases with keywords, and search among the references of paper obtained. We included 13 studies.

Results: Of 13 studies conducted from 1963 to 2010, 10 were carried out in the past 5 years; 10 mainly concerned prevention and contextualisation of the phenomenon "accident" or "fall", and 3 the fall risk assessment. The most frequent design was the observational exploratory/descriptive one. Investigated aspects were: factors potentially favoring accidents and characteristics of children subject to accidents/falls, of accidents/falls, of outcomes; fall risk factors, paediatric fall risk assessment tools, fall prevention programs, parents' perception of accident/fall risk; risks and potential errors in the admission process with regard to the prevention of accidents/falls.

Conclusions: Contextualisation and prevention of issue appear uneven; proposed fall risk assessment tools are not evaluated for reliability and validity. It is necessary to build consensus on definitions of fall, fall related injury and their taxonomy, and on calculation methods of their frequencies and rates, as well as on fall risk assessment tools and preventing practices. The knowledge of the state of the art on this issue may help to better understand and then to monitor and prevent it. Further collaboration should fill the lack of uniformity in the contextualisation and prevention of the phenomenon to obtain comparable/shareable data.



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# 1<sup>ST</sup> PNAE ON PAEDIATRIC NURSING

## SPEAKERS ABSTRACTS

### PLENARY LECTURE

PL1

**PLENARY LECTURE: TURKISH CHILDREN'S HEALTH AND PEDIATRIC NURSING IN TURKEY**

PL1.1.

**TURKISH CHILDREN'S HEALTH AND PEDIATRIC NURSING IN TURKEY**

**A F. Ocağç**

*Nursing division of Health Sciences Faculty, Marmara University, Istanbul, Turkey*

Turkey had a population of 72 561 312 at the end of 2009. People aged 0–14 make up 26% of the population, compared to approximately 16% within the EU population. Approximately 22.6 million people – or 31.1% of the population – are children by the UN definition, i.e. under the age of 18. The majority of children in Turkey live in households with two adults. Approximately 70% of children live in a nuclear family with a couple as parents. The number of babies and young children losing their lives has fallen rapidly in recent years. According to SOWC 2011 Report the infant mortality rate decreased from 29 per 1000 live births in 2003 to 19 in 2009. The under-five mortality rate, meanwhile, decreased from 37 per 1000 to 20. Among children aged 12–23 months, 74% have been fully immunised, according to the DHS compared to only 54% in 2003. The elimination of Maternal Neonatal Tetanus was verified in 2009. 2.58% of the Turkish population were disabled. Children growing up in Turkey are surrounded by violence. Decisions about children's schooling are taken for them, not with them. A child's religion is decided for him or her at birth and inscribed in his or her identity card. Girls and boys in Turkey are very lucky as they have a day dedicated to them since 1923. Much has changed in the lives of children in Turkey since then. Bachelor's degree education in nursing is being offered by thirteen nursing colleges – nine in public universities and four in foundation universities – and by 89 health colleges, on over high school education. Four faculties of medical sciences have been introduced in Turkey in 2007, one of which was the Faculty of Medical Sciences, formed within Marmara University. Nurses can be a paediatric nurse only if they have Bsc and Phd Degrees in Turkey.

## KEY NOTE LECTURE

KL1

**KEY NOTE LECTURE: THE PAEDIATRIC NURSE IN EUROPE**

KL1.1.

**THE PAEDIATRIC NURSE IN EUROPE**

**F Smith**

*Children and Young People's Nursing, Royal College of Nursing, London, UK*

The role of the paediatric nurse today has expanded in response to the changing health care needs of children and young people. Nursing roles have developed to maximise the use of nursing knowledge and skills in the delivery of health care services. Paediatric nurses provide care across many settings and not just in traditional paediatric wards. Today paediatric nurses in many countries work in a variety of ways to enable children with complex health care needs to be cared for at home, support parents in the early years of a child's life and provide palliative care, symptom management and end of life care to enable a child to live as near a normal life as possible and to die at home. Paediatric nurses working in advanced roles assess, diagnose, treat, prescribe and discharge patients independently. Specialist paediatric nurses may undertake surgical pre-assessment and provide complete follow-up care to children with long term conditions such as asthma and eczema. Other senior and experienced practitioners spend some of their working week as part of medical rotas in highly technical and specialist areas such as neonatal and paediatric intensive care, while others in Nurse Consultant roles may lead entire teams in the provision of a service for children on long term ventilation.

## LECTURES

LE1

**LECTURE: MORAL AND ETHICAL DILEMMAS IN NEONATAL AND PAEDIATRIC NURSING**

**LE 1.1.****MORAL AND ETHICAL DILEMMAS IN NEONATAL AND PAEDIATRIC NURSING****N Marlow***Neonatal Medicine, Institute for Women's Health, UCL, UK***LE2****LE2.1.****REFLECTIVE PRACTICE IN PAEDIATRIC NURSING: A VALUABLE TOOL FOR PROFESSIONAL DEVELOPMENT****M Giannakopoulou***Faculty of Nursing, University of Athens, Greece*

Reflection is a cognitive process, initially introduced by the philosopher John Dewey at the beginning of 20<sup>th</sup> century. It entails a process through which one may examine one's lived experience, learn through it, modify one's professional practice and achieve improvement as practitioner.

The purpose of the lecture is to examine a model of reflection and to demonstrate how it can be used in clinical paediatric nursing practice, in order to critically analyze different clinical situations and gain deeper understanding of personal lived experience.

Paediatric Nurses are able to handle dubious clinical situations, which often are complex and multifactorial problems, that may admit more than a single "correct" course of action. By the process of reflection, nurses are able to re-examine their knowledge, attitudes, and practices and to plan for future actions.

Conclusively, reflection contributes to nurses' empowerment and can be used as a valuable tool for professional development in nursing.

**LE3****LECTURE: OBSTIPATION IN CHILDREN, THE BELGIUM WAY****LE3.1.****OBSTIPATION IN CHILDREN, THE BELGIUM WAY****A M Bangels***Paediatric Nursing, University Hospital Leuven/President of the Paediatric Nurse Association, Belgium*

A newborn makes stool within the first 48 h after birth, and almost four times a day. When the baby becomes 4 month, it is decreased to two times a day. At the age of 4 years, the stool pattern is similar with that of an adult.

Nothing is as variable as the stool incidence. The average is once a day.

We speak of a disorder when the child has less than three times a weak stool or when the stool is hard and painful; obstipation. When the problem is still going on after 6 months, we speak of chronic obstipation or constipation. Children can have soling or encopresis. We will look at the most common signals of obstipation.

The therapeutic treatment is in four steps: the medical care, the advice and coaching of dietetics, the training with the physiotherapist and the support of a child psychologist.

The medical support includes a totally cleaning of the large intestines and the start of a maintenance therapy.

The dietetic will advise parents and child about healthy and high fibre food, and liquid intake.

The therapeutic techniques of the physiotherapist are the teaching of a correct position on the toilet, information about the toilet visit and the training of the correct use of pelvis and abdominal.

We offer biofeedback training after the anorectic manometric investigation, the pull through, the RAIRT, the locomotive coordination, the balloon retention and, the balloon evacuation tests.

The child psychologist will help the parents to see the meaning of the behaviour of their child and give them some positive steps the restart the parents child relation.

Hopefully, we can help or children to have regular bowels and a happy live.

**LE4****LE4.1.****LECTURE: RESEARCHING MEDICINES FOR CHILDREN - MAKING A DIFFERENCE AND PROVIDING BETTER CARE****M Fletcher***University of Bristol, UK***INTERACTIVE LECTURE****IL1****IL1.1.****WRITING FOR PUBLICATION****C Walker***Nursing Children and young People, RCN Publishing Company, UK*

This session aims to improve your knowledge of how to write for publication, encourage you to submit articles to journals and develop confidence in the publication process.

Writing for publication is quite different from writing an essay or dissertation. It is not as easy as some think but neither should it be such a daunting process that it puts people off.

Evidence-based practice is important in nursing and nurses generate a good deal of evidence about their work. Sharing this evidence to improve clinical practice is crucial and getting an article published about your work is a convenient and useful method of communicating with others nationally and internationally.

This session will cover the reasons why you should publish and where and what to publish. There are tips on how to present an article and how to successfully navigate the peer review process. Many different types of article will be discussed including letters, opinion pieces – aimed at generating debate among colleagues – clinical and literature reviews, research and audit. Guidance will be offered on how to structure these to conform to commonly accepted journal standards.

It will also cover good practice in referencing, developing a fluid writing style and there is a guide to the publication process. How to adapt academic work into a journal article is covered, along with tips on how to avoid common pitfalls that can lead to rejection.

This session is aimed at the novice but it is hoped that those who have already published will benefit from it to.

## ROUND TABLES

### RT1

#### ROUND TABLE: FAMILY CENTERED CARE

##### RT1.1.

#### FAMILY CENTERED CARE: OPPORTUNITIES AND CONSTRAINTS

**I Dall'Oglio<sup>1</sup>**, O Gawronski<sup>1</sup>, M Di Furia<sup>2</sup>, M Grisoni<sup>3</sup>, S Paoletti<sup>4</sup>, E Tiozzo<sup>1</sup>

<sup>1</sup>Unit for Professional Development, Continuous Education and Nursing Research-Medical Direction,

<sup>2</sup>Department of Emergency and Anesthesiology, <sup>3</sup>Surgical and Transplantation Department, <sup>4</sup>Department of Nephro Urology, IRCCS Bambino Gesù Children's Hospital, Italy

Is Family Centered Care (FCC) an opportunity for pediatric nursing care? We can answer to this question looking at FCC from different points of view: the child, the parent, the provider, the organization and the health system:

1 FCC promotes continuity of care, allowing the child to be cared for by his parent, with nursing support as required.

2 FCC allows parents to keep their parental role. It facilitates the awareness of their competences and the development of adequate empowerment to face different

situations and network with other families with similar needs.

3 FCC makes nurse's horizon wider focusing on relations and communication, stimulating a process of empowerment on the provider.

4 FCC is an element of innovation in the organization, especially when families are considered as resources.

5 FCC is an important component for a health system that strategically aims at strengthening primary care and can be an input to overcome disparities.

At the same time many constraints could be an obstacle to the implementation of FCC, which require several prerequisites, such as:

1 Specific institutional policies for the family

2 Adequate living conditions for families

3 Continuing education for health provider to guarantee high level of competences and knowledge (including relational competences)

4 Support programs for families, health providers and the promotion of peer support

5 Personalized care

6 Effective resource planning to guarantee enough time for family education and support within nursing care

7 Requiring documentation of patient information and education provided

Conclusions:FCC may be difficult to apply because of conflicts, different expectations of parents and providers regarding family participation in their child's care, lack of communication and role negotiation. However different guidelines support the importance of family presence and involvement in care. We need to look at the opportunities within FCC to find a way to overcome the constraints.

##### RT1.2.

#### THE NEGOTIATION OF CARE AND THE INVOLVEMENT OF PARENTS

##### S Calza

*Giannina Gaslini Children's Hospital – Genoa, Italy*

This talk will pose topics for discussion around family-centred care as a model of care delivery to children and families in health services.

It is important to involve parents and negotiate the whole process of care with the child and the family.

Family-centred care developed over three decades following awakening awareness that excluding parents during a child's hospital admission was detrimental to the child's mental health. Using resources from both past and current literature and existing research, It is argue that it is time for a revision of practices and policies that espouse family-centred care as the optimum model of care in paediatrics. Questions will be discussed: is family-centred care relevant now? what does it mean to implement family-centred care?, is negotiation and decision making implemented effectively? does it make a difference in involvement and decision making?



**RT1.3.****FAMILY CENTERED CARE IN PRACTICE****F Mavridi***P. & A. Kyriakou Children's Hospital, Athens, Greece*

Hospitalization can be eventually a very traumatic experience for a child; separation from friends and family members and anxiety concerning the illness as well as the painful medical procedures constitute highly stressful events. On the other hand, child's admission impacts on family's everyday life and increases parents' distress compromising their role in protecting and caring for the child.

Patient family-centered care is an approach to health care that focuses on the family as a child's primary source of strength, support and well being. At the heart of patient family-centered care is the belief that health care staff and the family are partners, working together to best meet the needs of the child; a continual effort to be responsive to the needs and choices of each family. In order for the health care team to collaborate with the patient's family, they have to respect parents' cultural background, beliefs and educational level, so as to inform them in an accurate, sincere and appropriate way. Open and honest communication can clarify misunderstandings, expand knowledge, empower emotional bonds both between the family and the health care team and encourage patients and families to participate in decision making. In this way, health professionals can incorporate best care practices and policies and develop care plans that are unique for each family and truly reflect their needs. From parents' perspective, once they understand their options, they can be involved in their child's care which can reinforce their self-esteem and sense of control.

Consequently, family centered care's goal is to improve quality of care by including the whole family within the health care system. Acknowledging that families are valuable allies in our effort to provide quality and safety of care can result in the highest quality of care, enhancing patient's and family's health care experience.

**RT1.4.****FAMILY CENTRED CARE IN CRITICAL CARE UNITS****J M Latour***Erasmus MC – Sophia Children's Hospital, Department of Pediatrics, Neonatal Intensive Care Unit & Pediatric Intensive Care Unit, Rotterdam, The Netherlands*

Background: Children and parents are important partners to collaborate with the multidisciplinary team to improve quality of care. Nurses recognize the importance of family-centred care (FCC) in daily practice. However, they do not consistently implement these elements into practice.<sup>1</sup>

Aim: To discuss a framework for action to improve family-centered care practices and to provide methods to evaluate current practices.

Family-Centered Care: FCC is related to the professional support of the family members through a process of involvement, participation and partnership, underpinned by empowerment and negotiation. Basically, FCC is an approach to the planning, delivery, and evaluation of health-care grounded in beneficial partnerships among patients, families, and healthcare providers. Nurses need to listen and respect parental needs and their cultural/spiritual backgrounds. Information given to parents should be understandable and honest. Parents need to be encouraged to participate in the care, including their presence during resuscitation.

Assessment methods: The EMPATHIC and EMPATHIC-N questionnaires are comprehensive tools to evaluate PCC.<sup>2-3</sup> They provide not only quantitative measures to identify best practices, but also qualitative data. Stories of parents often present in-depth information on certain episodes during the admission of their child. These episodes become valuable in defining interventions for quality improvement.

Conclusion: Measuring parent's experiences and satisfaction is one way to evaluate the care delivery. The next step should be developing interventions based on the outcomes of satisfaction measures to improve FCC.

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**RT2****ROUND TABLE: CARE OF CHILDREN WITH CANCER****RT2.1.****TOOLS FOR THE EVALUATION OF MUCOSITIS AND GUIDELINES FOR THE PREVENTION AND TREATMENT OF MUCOSITIS IN CHILDREN AND ADOLESCENTS WITH CANCER****P Perdikaris***General Children's Hospital "P. & A. KYRIAKOU", Athens, Greece*

Oral complications can occur during and after cancer treatment and can cause pain, difficulty in swallowing and phonation and poor nutrition, resulting in a negative impact on patients' quality of life. Oral mucositis is an important and common side effect of both chemotherapy

and radiotherapy in children and adolescents with cancer, affecting their quality of life negatively.

Reliable, valid and sensitive instruments that are easy to implement are required to conduct clinical trials of mucositis prevention and treatment. The Oral Assessment Guide (OAG) is a validated tool which has been used extensively with adults who suffer from cancer. OAG is found to be a reliable and validated instrument to ensure accurate appraisal of young patients' oral status. Furthermore, the Children's International Mucositis Evaluation Scale (ChIMES) is another tool for evaluating oral mucositis in children and adolescents with cancer and is considered easy to understand, acceptable and have content validity.

Evidence-based guidelines on oral care for young patients who receive anti-cancer treatment should be developed, through high quality meta-analyses/systematic reviews of randomized controlled trials or randomized controlled trials with low risk of bias. In many cases, the strategies for prevention and treatment of oral mucositis are useless and ineffective. The potential benefits of such guidelines include effective patient care, consistency of care and decrease in use of useless or of limited effect and harmful practices.

## RT2.2.

### RESTRICTION OF VRE IN CHILDREN WITH CANCER

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**Introduction:** The last decades exists an increase of infections in children patients with cancer mainly because resistant to antibiotics pathogenic organisms. The confrontation of problem is reduced in strategies of control of infections that propose good hygiene via basic and intensive precautions.

**Aim:** To present the modern dimensions of this problem through systematic examination of bibliography.

**Method:** Systematic review of the literature of the electronic databases (Medline/Pubmed, Cinahl, Scopus, HEAL Link) & critical analysis of the relevant articles that were retrieved for the years 1996–2011. The initial number of the retrieved articles was 5.988 from which 15 fulfilled the eligibility criteria: (i) the studies were written in English language and published in peer reviewed journals, (ii) the sample of the studies consisted of children in-patients, and (iii) the studies had explicit methodology and results. A scale for quality estimation of was used in order to evaluate the quality of studies.

**Results:** Twenty percent of the studies were not-randomized studies with control group and rated  $\geq 60\%$ . The results of these studies show an important reduction or elimination of VRE with the implementation of bundled nursing interventions. Behavioral interventions described in these studies included education and the use of a multidisciplinary team. 66.7% of the studies were applied five

nursing interventions for the reduction of colonization of VRE, while in the 33.3% $>5$ . The 80% of studies concerned not-randomized in which became simultaneous implementation of all interventions for the reduction of colonization of VRE with only after measurements. 41.6% of these report elimination of VRE, the 41.6% important reduction and the 16.8% reduction.

**Conclusions:** There is strong evidence about the use of bundled nursing interventions for the reduction of colonization of VRE in children in-patient but is strongly recommended to test further the application of these interventions with the use of powerful methodology.

## RT2.3.

### SYMPTOM MANAGEMENT OF CHILDREN WITH CANCER

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## RT2.4.

### PSYCHO-SOCIAL NURSING CARE OF PAEDIATRIC ONCOLOGY PATIENTS

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The children under 15 years old cancer frequency is 110-150 per million. In Turkey cancer is the 4<sup>th</sup> cause of death. But as the level of population development of Turkey, cancer tends to higher level of the cause of death list. Cancer is the chronic disease effects children, adolescents & their families' psychosocial status. Reacting to cancer is influenced by developmental, environmental & individual factors of child and family. Psychosocial evaluation & support of child & family may facilitates compliance coping with disease.

The diagnosis of cancer is not just physical disease, also emotional and psychosocial trauma for families. Stress is the most common psychosocial problem for children with cancer & their families. The literatures are shown the child and their families experience fear, anxiety and depression when they diagnosed with cancer. The children have invasive painful approaches, leave from social life and school, feel and fear threat to body wholeness, have side effect to body and hair related to chemotherapy and other treatments of cancer. Cancer is the same mean with death, pain and sorrow for cancer patients. Disease causes hard coping period which requires a rapid intervention.

The goal of psychosocial care is the achievement of the best quality of psychosocial status for paediatric oncology patients & their families. Psychosocial nursing care of patients has seen separate from medical treatment & care.

Every health care staff must work together toward the goal for psychosocial care to minimizing side effects of cancer and cancer treatment of children.

The presentation will draw upon example to demonstrate the changing role of paediatric nurses, as well as to highlight differences across Europe. The work of the Paediatric Nursing Associations of Europe in determining a common definition of a paediatric nurse, drawing upon the views of children and young people and influencing the development of core education preparation and competences for roles across Europe will also be highlighted.

### RT3

#### ROUND TABLE: CHRONIC PAEDIATRIC NURSING CARE

##### RT3.1.

#### NURSING MODEL FOR TYPE 1 DIABETES MANAGEMENT

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Models and theories create a framework to systematize nursing practices, provide individual questioning, observation and focusing on the problems, improve systematic thinking and conduct education and research. Also models and theories complete each other provide an approach more meaningful, clear and generating solution, guide to activity and be noticed the impact of some variables on nursing care.

Diabetes education is an integral part of diabetes and it is accepted that better glycemic control, decreased hospitalizations and delayed or prevented from complications with diabetes education in world. It has been proved that education has an effect on diabetes management and improves metabolic control by researches. Diabetes nurse approaches as whole to patient in terms of physically and psychosocially by applying holistic nursing care process; helps patient and family for learning not only psychomotor skills but also methods and techniques which provide to transfer knowledge to practice. Applying interventions which teach diabetes management skills to adolescents have an important role in decreasing or life-long health problems. The main targets of this education should be providing health promotion and teaching effective diabetes management. Diabetes educators such as pediatric nurse, endocrinologist, dietician, and psychologist use different teaching methods and techniques in diabetes education. Behavior based approaches are recommended in diabetes management for improving individual management skills of people with diabetes. Teaching methods and techniques which will be used in this context should be specific to child/adolescent for preventing diabetes management from negative effects.

It will be given an example about type 1 diabetes education based on Health Promotion Model and Mastery-Learning Theory in this presentation.

### RT3.2.

#### ROLE OF PLAY THERAPY IN CHILD HEALTH PROMOTION

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As the game is a process with its own difficulties and particularly aims to help children whose reactions aren't clear during the communication; the game kind, the statements during the game and the pictures the child drew is important to show child's mood status. The game is an active learning process and a part of real life which aims a particular reason or not, happens in a regular or irregular way but in every situation, the child take place longing and craving for it and is fundamental of physical, cognitive, oral, affective and social development (Bilir, 1995).

The game lets the child to communicate with the others and his/her own personality, to learn, to gain new roles and to deal with traumatic situations (Gill & Drewes, 2005). It is known that the interaction of the children hospitalized in hospitals with their environment has been prevented for physical and physiological reasons and in case of they couldn't play games, these children have had problems like depression, inadequate growth, developmental and learning disorders, stress and orientation disorders. As Barnes stated (1992), the involuntary physical and social isolation that the child has because of the restrictions in the hospital could be reduced.

When the nurse creates a theoretical and methodological notional framework using the child centered games, the nurse may have an opportunity to take place in a multi-professional team to protect the child's health. Child centered games aim to create a free environment that will support child's growth and integration of his/her own self conception (Rocha & friends, 2005). A humanistic and undirected environment provides admission and confidence environment to the child. In a child centered game, the child is the director of the game. The game makes easy to develop the child's self conception and supports to order the child's attitude way. The game can be applied to the all situations in which the child has depressions, obsessions and attitude, attention and chronic disorders (Gill, Drewes, 2005; Pehrsson, Aguleria, 2007).

Pediatric nursing aims to develop the children at the highest level in the society and the family in respect of physical, intellectual, affective and social ways. Nurses' knowing the game which is one of the basic elements in the child's healthy development with all aspects and using it in every practice related to children will contribute significant contributions to pediatric nursing for reaching its goal.



### RT3.3.

#### DISCHARGE PLANNING PROGRAM FOR ASTHMATIC CHILDREN

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Discharge planning is requiring a multifaced an intervention patient's current and potantial needs adequate and comprehensive diagnostic, to make appropriate decision and coordinate to follow-up services. The goal of discharge plan is to help patients and their families and to facilitate the transition process to from a maintenance level of transition to another or a environment to another. Discharge planning is important improving the quality of patient care, determining the needs of home care, providing continuity of care and reducing health care cost.

Today in world, asthma is most common chronic disease among children and is shown the most important cause of hospital admission in children under age 5 years. The goal of discharge plan for children with asthma is to teach the management of disease to children and their families. The structure of this discharge planning is consisting of an interview during which information was provided on the nature of asthma, the recognition of risk factors and how to avoid them, on drugs and devices.

Discharge planning can be a long and complex process that begins at admission and this process includes four consecutive phases: Diagnostic, planning, implementations and evaluation. Asthmatic child's discharge plan includes the determine of priority needs of child and family, nursing care planning for determined needs, implementation and evaluation. There are many outcome indicators in evaluation asthma discharge planing. These indicators are rate of unplanned readmisson, emergency room visits, length of hospital stay, the satisfaction level of patient and caregiver and nursing home placement.

Nurses play an important role in preparation of discharge process of child and family and providing the necessary coordination after discharge. Discharge plan includes nursing process and this process is be performed meeting the needs of patient and family with an interdisciplinary approach.

### RT3.4.

#### NURSING MANAGEMENT OF DISABLED CHILDREN

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Disabled children's dependence in performing activities of daily living brings about emotional, social problems. Disabled children who cannot do many activities of healthy children make them combative, withdrawn and

isolated. Disabled children who become increasingly isolated and live dependent feel themselves useless. Feeling themselves inadequate, being far from their peer's expectations, their unhealthy status, prevention of social acceptance and having different problems in their relationships cause development of negative self-concept. Disability affects not only children but also their relatives as physically, emotionally and socially, and prepares the way for living multi-faceted problems such as family conflict and divorce problems. Care of disabled children which is increasingly hard and emotional depression causes chronic fatigue.

Home care is a kind of care which performed by health and social services at professional level or family members for preventing, promoting or regaining health in individual's own home or living environment. The purposes of home care contain continues and effective performance of preventive, curative and rehabilitative health care services for the families and individual who need physical, social and emotional care. Interdisciplinary cooperation is needed to achieve for these multidimensional objectives. Nurses have great responsibility to train families who live with disabled children every day about rehabilitation of disability. The main concern area of nurses are caring of the individuals who are dependent on others because of their physical, social and emotional disability, training of the child and family to continue their own care, and supporting family members in this process. The parents need information about increasing interventions of child's adequacy, limitation level, child's disability, and what can be done to maintain own life by himself/herself. Home care nurse should provide information for child and family about this issue.

It will be discussed interventions about home-care system in Turkey at the end of the presentation.

## INTERACTIVE WORKSHOP

### W01

#### INTERACTIVE WORKSHOP: HOW TO EVALUATE THE QUALITY OF A PUBLISHED ARTICLE

### W01.1.

#### HOW TO EVALUATE THE QUALITY OF A PUBLISHED ARTICLE

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