Current Drug Trends

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Nurses – to receive continuing education hours for this presentation, you must sign in, attend the entire program and complete an evaluation.

Social workers – to receive continuing education hours for this presentation, you must sign in, provide your license number, complete an evaluation and sign out.
Describe the effects of secondhand and third hand smoke on pregnancy and children

Define current drugs of use and abuse

Identify health risks of using substances

Discuss current laws and pending legislature
Secondhand or Passive Smoke

- A mixture of side stream smoke from the end of a burning cigarette or tobacco product
- A mixture of side stream smoke from the end of a burning cigarette or tobacco product
- A mixture of gases and fine particles
- Fresh side stream smoke is almost 4 times more toxic than exhaled smoke
- Classified by the US EPA as a class A carcinogen

CDC & NIH
More than 7,000 chemicals are in cigarette smoke
50-70 can cause cancer
Estimated 22% of children under the age of 18 live with someone who smokes and are exposed to involuntary SHS
40% of children under the age of 5 live with a smoker and are exposed to SHS
Medical costs for US children exposed to SHS is about 4.6 billion annually

CDC & NIH
Non-Hispanic black children are more likely than white children to live with a smoker

68% of families with an income less than $10,000 have regular SHS in the home

36% of families with incomes over $40,000 have SHS in the home

Children of less educated mothers are more likely to be exposed to SHS than children of mothers with more education
Pregnancy and Secondhand Smoke

- Miscarriage
- Premature birth
- Low birth weight
- Higher risk of Sudden Infant Death Syndrome
- Higher risk of Learning Disabilities
- Higher risk of ADHD

American Academy of Pediatrics
Effects of SHS are more intense for infants and children because their organs, such as lungs are still immature and continuing to develop.

Infants and children spend more of their time in the home.
Secondhand Smoke and Children

Places they can be exposed to SHS

- Car
- Bus
- Childcare
- School
- Babysitter’s home
- Friend’s house
- Relative’s house

- Restaurant
- The mall/store
- Sporting event
- Concerts
- Parks/playgrounds

American Academy of Pediatrics
Health Risks for Children

- Ear infections
- More severe and frequent asthma attacks
- Respiratory infections – bronchitis/pneumonia
- Respiratory symptoms – coughing, sneezing, shortness of breath
- Stuffy nose
- Headache
- Sore throat
- Hoarseness
- Eye irritation
- Tooth decay
- Increased risk of SIDS

NIH; American Academy of Pediatrics
Miss 40% more days of school

Under age of 18:

- Estimated 150,000-300,000 new cases of bronchitis and pneumonia each year in US
- Approximately 7,500 – 15,000 hospitalizations annually in the US
- 200,000 cases of asthma in children directly linked to SHS

CDC & NIH
Long Term Health Risks for Children

- Poor lung development
- Lung cancer
- Heart disease
- Cataracts/eye disease
- Respiratory problems/asthma

American Academy of Pediatrics
Health Risks for Adults

- Harmful effects on cardio vascular system
- COPD
- Increased risk of heart attack
- Increase risk of heart attack by 25-30%
- Estimated 46,000 heart disease deaths annually due to expose to SHS
- 3,000 Lung cancer deaths each year among non smokers

American Academy of Pediatrics
- **COPD (Chronic Obstructive Pulmonary Disease)**
  - 47.5% in active smokers
  - 48.3% in ex smokers
  - 44.7% in non smokers (passive smoke)
- 90% of non smokers have inhaled SHS in the home environment

**NIH**
- Separating smokers and non smokers
- Cleaning the air
- Opening windows
- Ventilating buildings

CDC
Smoke can travel from room to room and apartment to apartment by:

- Ventilation systems
- Pipes
- Walls
- Open windows
- Electrical sockets
- Tiny cracks in plaster/drywall
- Using fans/air conditioners

Tobacco free.com
The residual nicotine and other chemicals left on a variety of surfaces by tobacco products

- Hair
- Skin
- Clothes
- Furniture
- Drapes
- Walls

- Toys
- Bedding
- Carpets
- Dust
- Vehicles

Mayo Clinic
Tobacco smoke is absorbed into surfaces within minutes to hours after it is exhaled.
Chemicals can be recycled into the air for hours, days or even months.
Non-smokers are at risk if they inhale, ingest or touch objects containing third hand smoke.
Smoke free public places helps reduce SHS exposure

By 1999 all 50 states had some public smoking restrictions

Ethical/controversial issues are involved in discussions about restrictions on smoking in homes and cars
Introduced in 2007

“Vaping”

Battery Operated Devices designed to deliver nicotine with flavors and other chemicals in vapor instead of smoke

Consists of 3 components:
- Cartridge – holds liquid solutions
- Heating devise (vaporizer)
- Power source (usually battery)
- Sales have doubled since 2008
- Use among high school and middle schoolers doubled from 2011-2012
- Health experts have questions about possible side effects of inhaling nicotine vapor for users and non-users

Medical News; Discovery Health; The Partnership at Drug Free
Microprocessor activates the LED

Activation module regulates the power to the heating element

E-Tip with integral heating element, wrapped in a nicotine gauge

LED illuminates as you inhale

E-Lites GP Lithium-Ion Battery
E-Cigarettes

- Since they do not contain tobacco, they are not regulated by tobacco laws
- Can be sold to minors
- Increase in the number of people using marijuana in liquid form in e-cigarettes – no odor
- September 2012 – New York passed a law that made it illegal to sell e-cigarettes to minors
- NJ Law – 100% smoke free venues – restaurants, bars, non-hospitality workplaces – also include e-cigarettes

National Institute on Drug Abuse
Adverse Effects Voluntarily reported to the FDA:

- Pneumonia
- Congestive heart Failure
- Disorientation
- Seizure
- Hypotension
- Other health problems

** It is unknown whether the e-cigarettes alone caused these effects or if the users had pre-existing medical conditions

National Institute on Drug Abuse
Hookahs

- Head
- Body
- Hose
- Water bowl
- Mouthpiece
Water pipes used to smoke special tobacco products

- Flavors such as apple, mint, cherry, chocolate, coconut
- Also called narghile, argileh, shisha, hubble-bubble, goza
- Began centuries ago in ancient Persia and India
- Hookahs vary in size and shape
- Typically smoked in groups, with the mouthpiece passed around
- Hookah Lounges gaining in popularity

National Institute on Drug Abuse
Charcoal used to heat the tobacco produces high levels of carbon monoxide, and cancer causing chemicals

Contain toxic chemicals known to cause lung, bladder, stomach, esophagus and oral cancers

Toxic chemicals can cause clogged arteries and heart disease

Pregnant women who use hookahs have babies born with lower birth weight and increases risk of respiratory diseases in the infant

National Institute on Drug Abuse
Health Risks

- Hour long session involves 200 puffs as opposed to 20 puffs from an average cigarette.
- Person in a typical hookah session inhales about 90,000 ml of smoke as compared to 500-600 ml from a cigarette.
- Even herbal shisha smoke contains carbon monoxide and other toxins.
- Hookah pens, similar to e-cigarettes, are also harmful in the same way.

National Institute on Drug Abuse
PALCOHOL®

Powdered Alcohol

COSMOPOLITAN
Vodka with Natural Flavors, Sucralose and Artificially Colored

Just add water for an instant cocktail

55% Alcohol by Weight
10% Alcohol by Volume when added to water

200 ml with water added

Net contents: 29g
Dehydrated ethyl alcohol molecularly encapsulated into sugars (Palcohol)

When combined with 5-6 oz of water, juice or other liquid it becomes a standard mixed drink

Small packets are easy to conceal

Federally approved for sale by March 2015 by the Alcohol Tax and Trade Bureau

FDA hasn’t approved it or done any testing
NJ pending legislature:
Assembly bill A-3580 and Senate bill S-2846

"no person shall sell, offer sale, or deliver, receive or purchase for resale, in this state, any product consisting of or containing powdered alcohol"

Many other states have pending legislature

Manufacturers insist it is safe, more expensive than liquid alcohol so youth would not abuse it
Current Users

ANY ILLEGAL DRUG: 22.6 million
(8.7% of population)

MARIJUANA: 17.4 million

Rx Drugs: 7 million

COCAINE: 1.5 million

METHAMPHETAMINE: 353,000

HEROIN: 239,000

SOURCE: 2010 National Survey on Drug Use and Health (NSDUH) published Sept 2011 by the Dept of HHS / Substance Abuse and Mental Health Services Administration (SAMHSA)
In the 1980’s THC concentrations were less than 4%
Today those concentrations are 10-20% and some even as high as 30%
Contain greater amounts of carcinogens than tobacco smoke
Inhale deeper and hold breathe longer further increasing lung exposure to carcinogens
Today’s marijuana has up to 500 chemicals, 70 of which are known as cannabinoids, with THC being the psychoactive one

Reefer Insanity by Kevin Sabet, PhD
4.5 million people in the US meet the criteria for abuse and dependence

Impairs intelligence, reasoning, judgement and clarity of thought

Can cause anxiety, panic attacks, paranoia, psychotic symptoms, respiratory and cardiovascular distress

Can lower IQ by 6-8 points if begin using before age 18

Drivers under the influence are twice as likely to be involved in a motor vehicle accident

Reefer Insanity by Kevin Sabet, PhD
Legalization versus decriminalization
Legalization leads to increased use
In California, from 1992 to 2008, the number of admissions to treatment due to marijuana use quintupled
There are medical uses for marijuana, however it was meant to be in pill form

Reefer Insanity by Kevin Sabet, PhD
Butane Hash Oil

- Also known as hashish oil, butane honey, BHO, wax, shatter, honey oil, dabs, liquid cannabis, amber, ear wax
- Highly concentrated form of THC
- Made from the resin from the dried female hemp flowers
- Can be ingested by smoking, ingestion or vaporization (dabbing)
Dabbing – small drops of hash oil are dropped onto a hot, metal surface - typically to close to 800m degrees C and then inhaled

THC concentration can range from 10-30%

Can also use devices similar to e-cigarettes called vapor pen, wax pen or dabbing pen
Designer drugs are synthesized chemical analogues of known, dangerous drugs.

Our Biggest Trends are:
- Synthetic Marijuana
- Synthetic Cathinones and Phenethylamines
- (Bath Salts, Molly)
- Vaporized Substances
- (Blue Blossom, BHO etc.)

All are classified as designer drugs and connected in many ways.
## Synthetic Marijuana

<table>
<thead>
<tr>
<th>Most closely mimics:</th>
<th>Marijuana</th>
</tr>
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<tbody>
<tr>
<td>Showed up:</td>
<td>Early 2009</td>
</tr>
<tr>
<td>Active chemical:</td>
<td>Cannabinoids</td>
</tr>
<tr>
<td>Effects/symptoms:</td>
<td>Agitation, paranoia, seizures, vomiting, hallucinations, increased heart rate</td>
</tr>
<tr>
<td>Sold as:</td>
<td>K2, spice</td>
</tr>
</tbody>
</table>

Source: NJ.com
Synthetic Marijuana
Wide Variety of herbal mixtures that produce effects similar to marijuana.

Some products are sold as “incense” but more like potpourri.

Sold under many names:
- Spice
- K2
- Fake weed
- Bombay Blue
- Moon Rocks
- Black Mamba
- Bliss
- Skunk
- Genie

National Institute on Drug Abuse
- Usually smoked in joints or pipes
- Can be mixed with marijuana
- Can be prepared as herbal infusion for drinking
- Five chemicals most frequently found in Spice is designated as Schedule I controlled substances making it illegal to sell, buy or possess them
- Manufacturers get around this by substituting different chemicals
- No studies of Spice’s effect on the brain but it does act on the same cell receptors as THC, but more strongly
Health Effects

- Rapid heart rate
- Vomiting
- Agitation
- Confusion
- Hallucinations
- Anxiety
- Paranoia
- Elevated mood
- Altered perception
- Relaxation
Synthetic Cathinones

ällt Salts” – family of drugs containing one or more synthetic chemicals related to cathinone, an amphetamine-like stimulant found in the Khat plant

- Usually white or brown crystalline powder
- Sold in small plastic or foil packages
- Labeled “not for human consumption”
- Usually taken orally, inhaled or injected
- Worse outcomes if snorted or injected
Bath Salts
Marketeted as plant food, jewelry cleaner, phone screen cleaner

Sold under a variety of names:
- Ivory wave
- Lunar wave
- Bloom
- Vanilla Sky
- Cloud Nine
- White Lightening
- Scareface
Users can feel euphoria, increased sociability and sex drive.

But can also experience paranoia, agitation, hallucinatory delirium, panic attacks, hallucinations.

Some can display psychotic or violent behavior.

Cardiac symptoms such as racing heart.

High blood pressure.

Chest pains.

Death.

National Institute on Drug Abuse
Alpha-PVP

Chemical composition similar to bath salts

Usually white or pink crystals, foul smelling

Can be ordered on-line- mostly from China

Can be eaten, snorted, injected, vaporized

Spreading from Florida, Tennessee, Kentucky, Ohio

Causing increase in emergency room visits and overdose deaths

MSN news.com
Especially potent when vaporized in e-cigarette
Can cause excited delirium – including hyper-stimulation, paranoia and hallucinations
Can lead to violent aggression and self-injury
Can raise body temperature to dangerous levels and cause kidney damage
Deaths also linked to suicide and heart attacks
Some individuals have experienced the excited delirium up to 5 months after using the drug.

- Can cause drastic weight loss
- It is illegal in the USA
- Broward County, Florida reported 29 deaths in the last year attributed to Flakka.

Flakka is popular among the 18 to 30 year old crowd.
3,4 -methylenedioxy-methamphetamine
Also known as Ecstasy or Molly
Synthetic drug that mimics both amphetamine (stimulant) and mescaline (hallucinogen)
Initially popular in “raves” but now goes beyond that
Effects last 3-6 hours
Usually in tablet or capsule
Interferes with the body’s ability to regulate temperature
Molly (molecular) – pure crystalline form of MDNA usually in a capsule

- Usually a higher level of purity
- Biggest risks are dehydration and over-hydration to the point the brain swells and can be fatal
- Users report intense feelings of pleasure but it is followed by a serious crash with serious levels of depression

National Institute on Drug Abuse
MDNA was first used in the 1970’s as an aid in psychotherapy - without FDA approval

1985 DEA labeled MDNA a Schedule I substance – a drug with high abuse potential

MDNA can increase heart rate and blood pressure

May experience muscle tension, involuntary teeth clenching, nausea, blurred vision, faintness, chills or sweating

Can often contain other drugs such as ephedrine, dextromethorphan, ketamine, caffeine, cocaine, methamphetamine
An herb in the mint family native to southern Mexico
Used to have hallucinogenic experiences
Usually ingested by chewing fresh leaves or drinking extracted juices
May be smoked in cigarettes, pipes or vaporized and inhaled
Intense effects appear in less than a minute and lasts less than 30 minutes
Currently not regulated by Controlled Substance Act

National Institute on Drug Abuse; Salvia.net
- Psychedelic-like effects on visual perception, mood and body sensations, emotional swings, feelings of detachment,
- Highly modified perception of external reality, which causes concern about driving under the influence of salvia
May Experience:
- Loss of physical coordination
- Uncontrollable laughter
- Alternate realities
- Contemplative sense of peace
- Altered visions
- Sense of profound understanding

- Sense of total confusion/madness
- Sense of flying, floating, twisting, turning
- Feeling of being underground or underwater
- Appear to travel to other places and/or times
- Feeling of being connected to a larger “whole”
- Desomorphine
- Began in Russia over 10 years ago
- Street names: krokodil, Russian Magic, Cheomaya, Himiya
- Start with codeine, cook it, then add solvents such as gasoline, paint thinner, lighter fluid, iodine, hydrochloric acid, and red phosphorus (from matches) which may not be fully “cooked” out
8-10 times more powerful than morphine
- Effects last less than 2 hours so potential for repeated use
- Causes extreme skin ulcerations, infections and gangrene
- Patches of skin turn dark green or black and scaly, like a crocodile
- Chunks of skin fall off
Blood vessel damage
Limb amputations
Pneumonia
Blood poisoning
Meningitis
Rotting gums/tooth loss
Bone infections
Speech and motor skills impairment
Memory loss and impaired concentration
Liver and kidney damage
Blood borne viruses (HIV, HCV)
Overdose
Death
Also called purple drink, syrup, lean

Consists of

- Promethazine with codeine syrup (cough medicine)
- Fruit flavored soda
- Jolly Rancher
Motor skill impairment, lethargy, extreme drowsiness
Can cause seizures, loss of breathing
Very addictive
Sweetness causes user not to realize how much they are ingesting
Glamorized in songs and social media
Medications to relieve pain
- Hydrocodone / Vicodin
- Oxycodone – OxyContin, Percocet
- Morphine – Kadian, Avinza

Although these medications, taken as prescribed can manage pain safely and effectively.

However, they are currently among the most commonly abused drugs in the US.

In 2013, 6.5 million Americans aged 12 or older had used prescription drugs non-medically in the past month.

National Institute on Drug Abuse
Synthesized from morphine

White or brown powder or black sticky substance known as “black tar heroin”

In 2011, 4.2 million Americans aged 12 or older used heroin at least once in their lives

About 23% of heroin users become dependent on it

Can be injected, snorted, or smoked

All routes of administration take the drug to the brain rapidly, which contributes to high risk of addiction

National Institute on Drug Abuse
“Plugging” – heroin is dissolved and withdrawn into an oral syringe which is lubricated and inserted into the anus or the vagina and the plunger is pushed.

The drug is absorbed into the membranes.
Short term effects include rush of euphoria, flushing of skin, dry mouth, heavy extremities, slow CNS

Following the initial feelings, the user goes “on the nod”

Long term effects include risk of HIV or Hep C, collapsed veins, abscesses, infection of heart lining and valves, constipation, gastrointestinal cramping, liver or kidney disease, pulmonary complications
Illicit drug use in US has been increasing. In 2013, about 24.6 million Americans used in the past month.

Marijuana is the most commonly used illicit drug.

Marijuana use has increased since 2007, 19.8 million up from 14.5 million.

Drug use is higher among people in late teens and twenties.

Underage drinking has declined.

Tobacco use has decreased.

Cocaine use has decreased (2.0 million down to 1.5 million).

National Institute on Drug Abuse; SAMSHA 2013 survey
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The End