DOUGLAS COUNTY HEALTH DEPARTMENT COLORADO

Drugs and Poisons in Mothers and Babies: A Primer

Definitions

Drug: Any substance which, when taken into the body, causes a change in some bodily function. Some substances are "pro-drugs" – the active drug is made when the pro-drug is broken down into another substance that changes a bodily function. Drug compounds may come from nature, be derived from natural sources, or be created by chemists.

Poison: Any substance which, when taken into the body, causes a harmful change in some bodily function. Some substances are poisonous at very small doses. Some substances are drugs in small doses, but act as poisons in large doses. Some non-drug substances can be poisons in large doses.

Exposure to Drugs and Poisons

Substances can be taken into the body in various ways. The most common way people are exposed to drugs and poisons is through eating or drinking. Drugs can also enter the body through injection into muscle, veins, or under the skin; breathing into the lungs; absorption through the skin in creams, ointments, or patches; and on mucus membranes of the mouth, rectum, or vagina. After a chemical enters the body, it is carried by the blood throughout the body. The chemical characteristics of a drug or poison determine how and what parts of the body are impacted by the drug or poison.

Drugs and poisons must also exit the body. Drugs and poisons are metabolized, or processed, by the liver, kidneys, or other organs. These chemicals or their by-products may leave the body in urine, or stool, or they may be exhaled through the lungs. Some chemicals can be held in fat tissue, so they exit the body very slowly. Some chemicals exit the body of a breastfeeding mother in breastmilk.

The impact of a drug or poison on a person is affected by many factors. The person's sex, weight, body composition, and other genetic or environmental factors can affect the drug's impact. The effect of drugs on pregnant women and unborn babies may be unknown because women, and especially pregnant women, are often not included in drug research trials.

Drugs and poisons also impact the health of unborn babies through exposure prior to birth. After birth, babies can be exposed to chemicals in breastmilk.

Benefits and Risks of Drugs

Drugs are taken at the recommendation of health care providers to provide a benefit to their patients, such as treatment of symptoms or improvement of health. However, drugs may have negative side-effects, even when taken in correct doses. When a drug is taken in a large dose, the chance of a negative side-effect is greater.

Before taking any drug, check with a health care provider. This is especially important for a woman who is pregnant or breastfeeding or who may become pregnant. The benefit of a drug should outweigh any risks to both the mother and baby.

Example 1. Aspirin

Aspirin, chemical name "acetylsalicylic acid" is a **drug**. It affects bodily functions such as reducing inflammation, pain, and fever primarily by the action of salicylic acid, an active metabolite of Aspirin. Natural sources of salicylic acid include willow bark. When taken in large doses, Aspirin can be a **poison**. In pregnant women, Aspirin taken past 20 weeks of pregnancy can reduce the kidney function of the unborn baby, and in this way, it acts as a **poison** for the baby. Aspirin is rapidly absorbed after being eaten in pill form. It is converted into salicylic acid, which is then also metabolized and passed out of the body in urine. Salicylic acid can pass from pregnant women into their unborn baby.

Example 2. Cannabis

Cannabis, also referred to as marijuana, is a **drug containing plant**. It is used recreationally and medicinally. Cannabis contains several drugs, including THC, a mind-altering chemical, and other substances that can alter a user's senses and mood. Cannabis is sold as dried leaves, flowers, stems, and seeds. These can be eaten in various forms or smoked. The drugs in cannabis can be **poisons** when they cause impaired brain health, mental health, coordination, and movement. The THC in cannabis can be addicting. Its use can result in hallucinations, breathing problems, and possible harm to an unborn child in pregnancy as the THC and other substances pass to the baby. Breast milk also can contain THC which can be passed to a breastfed baby. To learn more about the effects of cannabis in pregnancy, see the Cannabis and Pregnancy Brief [add link].

Example 3. Alcohol

Alcohol is a chemical that slows the central nervous system. It is a **drug** that slows down brain activity and can raise your blood pressure and heart rate. Alcohol can change a person's mood, behavior, and self-control, cause problems with memory and clear thinking, and affect coordination and physical control. When consumed in large amounts, alcohol is a **poison** that can cause vomiting, coma, or death. Alcohol is quickly absorbed into the bloodstream and broken down into other chemicals in the liver. Alcohol can pass in the womb to an unborn baby. Because alcohol can harm both a pregnant woman and her unborn child, no amount of alcohol can be safely consumed during pregnancy. Alcohol passes into breastmilk, so breastfeeding mothers should not drink alcohol or plan carefully to avoid breastfeeding until the alcohol has cleared from breast milk (2-3 hours).

Resources

American Academy of Pediatrics (aap.org) https://publications.aap.org/pediatrics/article/142/
Cannabis (Marijuana) DrugFacts | National Institute on Drug Abuse (https://nida.nih.gov/publications/drugfacts/cannabis-marijuana)
How does marijuana produce its effects? | National Institute on Drug Abuse (https://nida.nih.gov/publications/research-reports/marijuana/how-does-marijuana-produce-its-effects)
Marijuana During Pregnancy - Know the Risks | SAMHSA (https://www.samhsa.gov/marijuana/marijuana-pregnancy)
Marijuana Use During Pregnancy and Breastfeeding: Implications for Neonatal and Childhood Outcomes | Pediatrics | Medicine and Pregnancy | CDC (https://www.cdc.gov/pregnancy/meds/treatingfortwo/index.html)
Polysubstance Use During Pregnancy | CDC (https://www.cdc.gov/pregnancy/polysubstance-use-in-pregnancy.html)