



# Motherisk Update

## Marijuana use and breastfeeding

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### ABSTRACT

**QUESTION** One of my breastfeeding patients is using marijuana to combat chronic pain. Is it safe for her to breastfeed?

**ANSWER** Lactating mothers should refrain from consuming cannabinoids. Advising mothers to discontinue breastfeeding if they cannot stop using cannabinoids must incorporate the known risks of formula feeding. Cannabinoid exposure through milk has not been shown to increase neonatal risk, but there are no appropriate studies of this. In every case, nursing babies should be closely monitored.

### RÉSUMÉ

**QUESTION** L'une de mes patientes allaite et consomme de la marijuana pour atténuer ses douleurs chroniques. Est-ce sans danger qu'elle allaite?

**RÉPONSE** Les mères qui allaitent devraient s'abstenir de consommer des cannabinoïdes. En conseillant aux femmes de cesser d'allaiter si elles ne peuvent pas arrêter de consommer des cannabinoïdes, il faut aussi les aviser des risques connus du recours à l'allaitement artificiel. Il n'a pas été démontré que l'exposition aux cannabinoïdes dans le lait maternel augmentait les risques chez les nouveau-nés mais il n'existe aucune étude adéquate sur le sujet. Dans tous les cas, les nourrissons devraient faire l'objet d'une étroite surveillance.

Despite abundant recreational use of cannabinoids by women of reproductive age, very little is known about marijuana use and lactation. The Motherisk Program's Alcohol and Substance Use Helpline receives about three calls a week regarding use of marijuana by nursing mothers for recreational purposes or for health issues, such as depression, anxiety, or pain. Questions come from nursing mothers themselves, friends, relatives, and health care providers concerned about exposure of breastfed babies.

Marijuana is a crude preparation of the leaves and flowering tops of *Cannabis sativa*. It is most commonly smoked and inhaled, but it can also be ingested orally. The psychological effects of marijuana include euphoria, relaxation, slowed thinking

and reaction time, altered perception, impaired coordination and motor performance, poor short-term memory, impaired attention and judgment, panic attacks, anxiety, dizziness, and general difficulty expressing even simple thoughts in words. Other effects include increased heart rate, red-dened eyes, dizziness, dry mouth, increased appetite, nausea, respiratory disorder, and immune system dysfunction.<sup>1-6</sup>

Delta-9-tetrahydrocannabinol (THC) is the principal psychoactive compound in marijuana. In addition to THC, marijuana smoke contains more than 150 other compounds.<sup>6</sup> The THC is absorbed from the gastrointestinal tract and lungs and, being highly lipophilic, is rapidly distributed to the brain and fat tissue and extensively bound to plasma proteins

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(97%). The THC is metabolized in the liver and has an elimination half-life of 20 to 36 hours.<sup>7</sup> In chronic users, its half-life could be as long as 4 days because it is stored in body fat; it can be detected for up to a month after last use. It is excreted in urine and feces over a prolonged period.

The passage of THC into breast milk has not been extensively studied. A study by Perez-Reyes and Wall in 1982 suggested that THC is excreted into human breast milk in moderate amounts.<sup>8</sup> Based on their findings, 0.8% of the weight-adjusted maternal intake of one joint would be ingested by an infant in one feeding<sup>7</sup> (ie, the baby would receive 0.8% of its mother's dose/kg). In heavy users, the milk-to-plasma ratio (ie, levels in milk vs levels in maternal blood) was as high as 8:1.<sup>8</sup> Animal studies suggest that marijuana can decrease the amount of milk produced by suppressing prolactin production and possibly through a direct effect on the mammary glands. There are no human data to corroborate these observations.

In 1990, a study by Astley and Little suggested that exposure to THC through breast milk in the first month of life could result in decreased motor development at 1 year old.<sup>9</sup> No studies have adequately addressed the effects on long-term neurodevelopment. Lethargy, less frequent feeding, and shorter feeding times are other observations reported after babies' exposure to THC through breast milk.<sup>10</sup> A mother's ability to nurse and care for her child might be compromised because marijuana can affect mood and judgment.

Breast milk is the best food for babies. It contains appropriate amounts of carbohydrates, proteins, fats, minerals, vitamins, and hormones as well as maternal antibodies. Psychologically, breastfeeding facilitates bonding between mother and child.

With chronic use, THC can accumulate in human breast milk to high concentrations.<sup>8</sup> Because a baby's brain is still forming, THC could theoretically affect brain development. It is also important to avoid environmental exposure to maternal marijuana smoke. Nursing mothers should be referred to appropriate services for counseling. ❁

### References

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## MOTHERISK

Motherisk questions are prepared by the Motherisk Team at the Hospital for Sick Children in Toronto, Ont. Drs Djulus and Moretti are members and Dr Koren is Director of the Motherisk Program. Dr Koren, a Senior Scientist at the Canadian Institutes of Health Research, is supported by the Ivey Chair in Molecular Toxicology at the University of Western Ontario and, in part, by a grant from the Canadian Institutes of Health Research, and by the Brewers' Association of Canada.

Do you have questions about the safety of drugs, chemicals, radiation, or infections in women who are pregnant or breastfeeding? We invite you to submit them to the Motherisk Program by fax at (416) 813-7562; they will be addressed in future Motherisk Updates.

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