

Consuming non-alcoholic beer and other beverages during pregnancy and breastfeeding

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Abstract

Question An increasing number of my patients are asking about the safety of consuming non-alcoholic beer and other alcohol-free versions of alcoholic beverages during pregnancy and breastfeeding, as they believe that these drinks might be a “safer” alternative to regular alcoholic beverages. What are Motherisk’s recommendations regarding these products?

Answer Such drinks might contain higher ethanol levels than what is indicated on their labels. As there is no known safe level of alcohol intake in pregnancy, abstinence from non-alcoholic beverages would eliminate any risk of fetal alcohol spectrum disorder. Although it is likely that moderate intake of non-alcoholic beverages would pose no harm to breastfed infants, briefly delaying breastfeeding after consumption of such drinks would ensure that the infant is not exposed to alcohol.

Boire de la bière et d’autres boissons sans alcool durant la grossesse et l’allaitement

Résumé

Question Un nombre croissant de mes patientes me questionnent sur la sécurité de consommer de la bière sans alcool et des versions sans alcool d’autres boissons alcoolisées durant la grossesse et l’allaitement, parce qu’elles croient que ces boissons peuvent être une option plus «sécuritaire» que les boissons alcoolisées habituelles. Quelles sont les recommandations de Motherisk concernant ces produits?

Réponse De telles boissons pourraient contenir des taux plus élevés d’éthanol qu’il n’est indiqué sur leurs étiquettes. Étant donné qu’on ne sait pas quel serait un taux sécuritaire de consommation d’alcool durant la grossesse, l’abstinence des boissons non alcoolisées éliminerait tout risque possible de troubles causés par l’alcoolisation fœtale. Même s’il est probable qu’une consommation modérée de boissons sans alcool ne poserait pas de préjudices aux nourrissons allaités, pour assurer que le nourrisson ne soit pas exposé à de l’alcool, il vaudrait mieux retarder l’allaitement pendant un petit moment après en avoir bu.

Although there are no studies evaluating the safety of consuming non-alcoholic beverages during pregnancy, these drinks might contain higher ethanol levels than what is indicated on their labels. The effects of alcohol in breastfed infants are less certain than the effects during pregnancy, but it has been shown that ethanol can be detected in breast milk after consumption of non-alcoholic beer.¹

Pregnancy

Alcohol consumption during pregnancy might cause physical, cognitive, and behavioural complications, referred to as *fetal alcohol spectrum disorder*, in exposed neonates. The most severe form at the end of this spectrum is fetal alcohol syndrome, which includes dysmorphic facial features (flat midface with short palpebral fissures, flat philtrum, and a narrow vermilion border of the upper lip),² in addition to growth retardation

and serious neurodevelopmental disorders.³ To date, there is no known safe threshold for alcohol intake in pregnancy, and it is for this reason that most clinicians recommend complete abstinence from alcohol during gestation. Unfortunately, this practice might be difficult to follow for those who abuse alcohol, or social drinkers who crave the taste of alcohol when they become pregnant. Consequently, some of these women might resort to drinking beverages labeled “non-alcoholic” or “alcohol-free” as substitutes for regular alcoholic beverages, expecting to satisfy their cravings without harming their unborn children.


There are currently no studies directly evaluating the safety of non-alcoholic beverages in pregnancy. However, there are data indicating that such beverages might contain higher-than-expected amounts of ethanol. In a study by Motherisk, 13 of the 45 analyzed beverages (29%) contained ethanol levels that were higher than what

was declared on the label. In particular, certain brands claiming to have alcohol concentrations of 0.0% had levels of up to 1.8%.⁴ The extent of maternal and subsequent fetal exposures owing to the ingestion of such levels has not been determined, and thus, the clinical relevance of such findings has not been fully ascertained. Nevertheless, these results suggest that women consuming non-alcoholic or low-alcohol beverages might still be exposed to considerable amounts of alcohol, as some might consume several drinks in one sitting owing to the belief they are safe during pregnancy. Therefore, complete abstinence from these products is recommended to eliminate any risk of fetal alcohol spectrum disorder.

Breastfeeding

Infant adverse effects due to alcohol exposure during breastfeeding have not been well established; however, there have been cases of impaired motor development, changes in sleep patterns, decreased milk consumption, and hypoglycemia.⁵ As discussed in a previous Motherisk Update, it is recommended that mothers who drink alcohol should wait a certain amount of time based on our proposed algorithm before breastfeeding their infants.⁵

A recent study has shown that ethanol is detectable in breast milk after consuming a large amount (up to 1.5 L) of non-alcoholic beer (0.41% to 0.42% by volume).¹ Milk samples were collected from 15 women immediately after intake, and after 1 and 3 hours. Two women were found to have ethanol concentrations up to 0.0021 g/L (limit of detection is 0.0006 g/L) immediately after intake; however, ethanol was undetectable 1 hour later. The authors concluded that such levels

are likely harmless to the breastfed infant, so moderate drinking of non-alcoholic beverages would not be expected to cause adverse effects when breastfeeding. Therefore, it would not be necessary to avoid breastfeeding for the full amount of time recommended in the aforementioned algorithm. However, owing to the lack of safety information and the variation in alcohol concentrations in non-alcoholic beverages, it would be prudent to briefly delay breastfeeding after consumption of these beverages. 

Competing interests

None declared

References

1. Schneider C, Thierauf A, Kempf J, Auwärter V. Ethanol concentration in breastmilk after the consumption of non-alcoholic beer. *Breastfeed Med* 2013;8(3):291-3. Epub 2013 Mar 13.
2. Lemoine P, Harousseau H, Borteyru JP, Menuet JC. Children of alcoholic parents—observed anomalies: discussion of 127 cases. *Ther Drug Monit* 2003;25(2):132-6.
3. Koren G, Nulman I, Chudley AE, Looke C. Fetal alcohol spectrum disorder. *CMAJ* 2003;169(11):1181-5.
4. Goh YI, Verjee Z, Koren G. Alcohol content in declared non- to low alcoholic beverages: implications to pregnancy. *Can J Clin Pharmacol* 2010;17(1):e47-50. Epub 2010 Jan 4.
5. Koren G. Drinking alcohol while breastfeeding. Will it harm my baby? *Can Fam Physician* 2002;48:39-41.

MOTHERISK Motherisk questions are prepared by the Motherisk Team at the Hospital for Sick Children in Toronto, Ont. Mr Adiong is a pharmacy student at the University of Manitoba in Winnipeg. Ms Kim is a member, Ms Bozzo is Assistant Director, and Dr Koren is Director of the Motherisk Program. Dr Koren is supported by the Research Leadership for Better Pharmacotherapy during Pregnancy and Lactation.

Do you have questions about the effects 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. Published Motherisk Updates are available on the *Canadian Family Physician* website (www.cfp.ca) and also on the Motherisk website (www.motherisk.org).

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