

Experts voice concerns over arsenic in rice

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Inorganic arsenic in rice and rice-based foods poses health concerns in infants and young children, and steps should be taken to minimize exposure, according to a commentary in the *Journal of Pediatric Gastroenterology and Nutrition*, official journal of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition.

The [inorganic arsenic](#) levels of dietary products used by children should be regulated, according to the ESPGHAN Committee on Nutrition. The commentary includes the recommendation that "Rice drinks should not be used in infants and [young children](#)."

Health concerns over arsenic in rice—especially for children

"Inorganic arsenic is considered a first level carcinogen and its long-term exposure has negative effects on human health," comments Dr Iva Hojsak of University Children's Hospital Zagreb, Croatia, lead author of the Committee report. But currently, the arsenic content of foods is not regulated in the European Union or the United States. No "safe" level of arsenic can be identified—any exposure may increase health risks.

The level of inorganic arsenic in rice depends on the type of rice and where it was grown. Rice has higher arsenic concentrations than other grains because of the unique physiology of the plant and because of the way it's grown, in flooded [rice paddies](#).

High inorganic arsenic concentrations have been found in rice and rice-based foods—mainly concentrated in the bran layers. "Therefore, the risk from consumption of products made from [rice bran](#) such as rice drinks is much higher than from raw, but polished (white) rice," the Committee on Nutrition points out.

There's special concern about exposure to arsenic in rice in infants and young children. Because of its availability, nutritional, value and relatively low allergenic potential, rice is a widely used carbohydrate source during weaning. In addition, rice and rice products such as starch, flour, and syrup are commonly added to infant foods and drinks.

"That contributes to high exposure of infants and young children to inorganic arsenic which is two to three times higher than in adults," according to the Committee report. Data are available on arsenic levels in infant foods and rice drinks, but data is limited for rice protein-based infants formulas.

Recommendations to limit exposure to arsenic in rice

Because of these concerns, the ESPGHAN Committee on Nutrition urges regulation of the inorganic arsenic content of dietary products used by infants and children. Their recommendations state that rice-based formulas "are an option" for infants allergic to cow's milk, but the arsenic content of these products should be declared and considered by doctors and parents.

Otherwise, the Committee recommends avoiding rice drinks for infants and young children. The authors suggest limiting children's exposure to arsenic rice by including a variety of grains in their diets, such as oats, barley, wheat, and maize (corn), in addition to rice.

In areas of the world where rice consumption is very high, the rice types

(cultivars) with the lowest arsenic content should be identified and used for the preparation of infant foods. The Committee calls for further research on the inorganic arsenic content of [rice](#) and other foods, and its lifelong impact on health. They conclude, "These data will allow the development of evidence-based recommendations regarding the acceptable arsenic content in different foods for [infants](#) and children."

Provided by Wolters Kluwer Health

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