PLANT-BASED BEVERAGES – ARE THEY REALLY HEALTHIER FOR YOUNG CHILDREN?

Plant-based beverages/drinks (e.g. rice, coconut, almond, hemp, potato) seem to have a health-halo, which is a belief that a food or drink is healthier than other choices.

Plant-based drinks may not be able to support good health for young children (aged one to eight years) when used as the main beverage. Infants and young children have become malnourished and one died after they were fed plant-based drinks as their main beverage (1-7). A Canadian study reported that the consumption of these drinks was associated with lower childhood height (8); other studies have shown that consuming more dairy products promoted increased height (9).

Nutrient Composition

While some plant-based drinks may be fortified with added calcium, vitamin D and other vitamins, they are low in protein; fortified-soy beverage is the only exception (10). Only cow’s milk and fortified soy beverage are considered nutritious enough to be included in the Milk and Milk Alternatives food group of Canada’s Food Guide (11).

*Grain-based drinks include oat, quinoa, spelt and teff
Young children (aged two to eight years) require 13 to 19 grams of protein per day (12). Two cups of cow’s milk (16 grams of protein) or two cups of fortified soy beverage (13 grams of protein) (13) pretty well meet their protein needs. If they drink low protein almond, coconut or rice drinks, to meet their protein needs they need either two child-sized servings of meat (30-45 grams (14,15)) or two servings (one half cup each) of lentils (13). Drinking too much low-nutrient beverages (other than water) could displace hunger and cause them to eat less food.

Since one almond has 1/4 gram of protein (13), almond drinks only contain about four almonds per cup. Other ‘nut-based’ drinks are also low in protein, even though nuts and nut butters themselves are good sources of protein (13). If protein is lacking, children’s growth may slow (16).

Also of concern, some of these drinks are very low in fat and calories (10), which could also limit growth of young children if they drink these drinks as their main beverage. In addition to protein concerns, plant-based drinks often have sugar as the main ingredient after water, thus meeting the definition of a sugar-sweetened beverage.

Given the low protein content of plant-based beverages, other than soy, it can be difficult for young children to obtain enough dietary protein to support their growth and health when their main beverage is a plant-based drink. A guideline for choosing a plant-based beverage with suitable protein content is to select one with 6 or more grams of protein per cup (2.5 grams per 100 mL) (17).

Current recommendations for children two to eight years who are not breastfed are to give 2 cups of cow’s milk or fortified soy beverage each day to support protein, calcium and vitamin D requirements (11). In Canada, full fat homogenized (3.25% M.F.) cow’s milk is recommended until age two years (18), then 2%, 1% or skim are recommended thereafter (11).

This information highlights the importance of reading the labels and nutrient profile on drink containers. Health Canada requires manufacturers of plant-based drinks to add the statement "Not a source of protein" directly on drink containers due to their low protein content (17). Of concern, this warning message often has a very small letter size.

Safety of Fortified Plant-based Beverages

While some plant-based drinks are fortified with minerals and vitamins, like calcium, vitamin D and vitamin B12, these drinks may not be fortified with other nutrients that are naturally present in cow’s milk. The vitamins and minerals to be most likely compromised in fortified versions of these drinks include magnesium, zinc, vitamin A, riboflavin, vitamin B6 and iodine (10). Some plant-based drinks are not fortified with any minerals or vitamins; these drinks are low in all nutrients except carbohydrates.

Soy and rice drinks are high in manganese. It is not clear whether these heavy metals, present in these higher quantities, pose a health risk. Because of the high manganese content, some researchers recommend that these drinks not be used as the main beverage for young children (19).

The Bottom Line

Other than soy-fortified beverages, plant-based drinks, whether available in the dairy section of the store refrigerator or in shelf-stable containers, are not appropriate choices for young children as their main beverage since they are not nutritionally adequate if the child has only small servings of high protein foods. For allergies or any other concerns, a dietitian should be consulted to ensure all nutrient...
needs (including protein, fat and calories) are being met with an age-appropriate diet. For older children who consume low protein plant-based drinks as a main beverage, it may be advisable to consult with a dietitian to ensure appropriate nutrient intakes.

Additional Content

What are recommendations for the use of plant-based beverages (e.g. soy, rice, almond, coconut and oat milk/beverage) during the complementary feeding period in infants?

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References


