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A comparison of nutritional contents and price differential between dairy and plant-based milk in Fijian supermarkets

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Plant-based milk import has been increasing in the Fijis supermarkets. While this milk may cater for vegans[(1)] and people with allergies from dairy milk, the question always remains that if the plant-based milk are equally nutritious and available at reasonable price in comparison to the dairy milk. Dairy milk is commonly consumed by the Fijian population while the plant-based milk is positioning itself into the market as alternatives. Therefore, this paper is aimed at comparing the nutrient content and price of milk from dairy cows and plant milk sources available in the supermarkets in Fiji. This study examines different brands of dairy and plant-based milk in 6 major supermarket chains in the central part of Fiji. There was 22 dairy milk, 6 soya milk, 5 almond milk and 4 oat milk sampled from these supermarkets. The median value of milk nutrient composition and price for dairy milks and different plant-based milks were calculated as the data was not normally distributed. The Kruskal- Wallis test was conducted to further analyse the difference between the nutrient composition and price of dairy milks and plant-based milk. The energy composition in the dairy milk was significantly higher ($p < 0.01$) when compared with plant-based milks soya almond milk and oat. There was a significant difference ($p < 0.01$) in dairy milk protein, fat and saturated fat when compared to plant-based milks. The result indicated that the protein, fat, and saturated fat are both significantly higher in cow's milk. Milk carbohydrate analysis indicate higher composition in dairy milk therefore a significant difference ($p < 0.01$) was noted when compared to almond milk(except soya and oat milk). There is a significant difference ($p < 0.01$) in sugar indicating cow's milk having higher sugar when compared to plant-based milk (except soya milk The sodium composition in the dairy milk and all the plant- based milk showed no significance difference ($p > 0.05$) in the composition. There was also significant difference ($p < 0.05$) in comparison of calcium composition of dairy milk and plant-based milk indicating almond milk with lower calcium. The phosphorus composition in dairy milk and plant-based milk indicates that there is a strong significant difference ($p < 0.01$) (except soya and oat milk). The riboflavin composition was significantly higher ($p < 0.01$) in dairy milk compared to soya and oat milk. Lastly, there was significant difference ($p < 0.01$) between price of dairy milk when compared to plant-based milk. The study concludes that there is more nutrient in dairy milk and the price is significantly lower than plant-based milk at which these nutrients are available in dairy milk.

Keywords: dairy milk; nutrient; nutrition; plant-based milk

Ethics Declaration

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