

Impact of Dairy Polysaccharides on Caloric Intake and Postprandial Metabolic Responses in Young Adults

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Abstract : Different polysaccharides contribute towards the management of glycemic and satiety and consequently manage the metabolic syndrome. In the present study, we compared the postprandial glycemic and satiety responses of different dietary polysaccharides when added to milk (2% Milk Fat). The objective of this study was to evaluate different polysaccharides against postprandial glucose, appetite responses, and food intake at subsequent meals. In a repeated measures crossover design, 30 females (18-30 years) consumed 250 ml milk with 2% M.F. (control), or milk with carrageenan (2.5 g), guar gum (2.5 g) and alginate (2.5 g), followed by an ad libitum pizza meal after 120 min. Alginate and guar gum addition resulted in lower caloric intake at subsequent pizza meal. The post-treatment (0-120 min) glucose and average appetite were suppressed by alginate and guar gum ($p < 0.0001$), with a more pronounced effect of guar gum. However, alginate resulted in lower blood glucose ($p < 0.0001$) compared with control and carrageenan during post-treatment. Alginate and guar gum, added milk, and other beverages would be beneficial in the short-term regulation of postprandial glycemia and satiety.

Keywords : satiety, glycemic control, milk polysaccharides, food intake

Conference Title : ICO 2023 : International Conference on Obesity

Conference Location : Montreal, Canada

Conference Dates : August 03-04, 2023