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Whole fat or reduced fat dairy– which is best for kids? Results of the Milky Way Study

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Dietary guidelines in Australia currently recommend that adults and children consume predominantly reduced-fat, rather than whole-fat (also known as full-fat or regular-fat) dairy products.[1] Reduced fat dairy products have lower energy and saturated fat content, which is thought to limit the risk of excessive energy intake, weight gain, and cardiometabolic disease. Interestingly, observational evidence suggests that reduced-fat products do not have health advantages over whole-fat dairy products, but there is a lack of good quality randomised controlled trials directly comparing the impact of consuming diets rich in whole-fat compared with reduced-fat dairy foods. We aimed to develop and use a child centred research protocol to investigate the effects of whole-fat compared with reduced-fat dairy intake on measures of adiposity and biomarkers of cardiometabolic risk in healthy 4- to 6-y-old children. Our Milky Way Study was a double blind, randomised control trial that enrolled 49 children (mean ± SD age: 5.2 ± 0.9 y; 47% girls) who were habitual consumers of whole-fat dairy. Children were randomised to either to remain on whole-fat dairy or change to reduced-fat products for three months. We investigated changes in cardiometabolic risk factors and measures of adiposity including body composition via BodPod assessment. Pre- and postintervention results were compared using linear mixed models, adjusted for growth, age, and sex. We also developed and refined our 'Respectful Approach to Child-centred Healthcare' (ReACH) protocol,[2] to underpin respectful participant interactions. Children and their parents provided an independent evaluation of this child centred protocol using customised 5-point Likert scales and qualitative feedback. Dairy fat intake was reduced by 12.9 ± 4.1 g/d in the reduced-fat compared with the whole-fat dairy group (95% CI: –21.2, –4.6 g/d; $p = 0.003$), although dietary energy intakes remained similar ($p = 0.936$). We found no significant differential changes between dairy groups in any measure of adiposity, body composition, blood pressure, or fasting serum lipids, glucose, HbA1c, or CRP. Adherence to ReACH principles during clinic visits was positively associated with child compliance, significantly for baseline BodPod ($p = 0.002$) and blood test ($p = 0.009$) clinics. Parents rated the study highly, with 91.7% satisfied at baseline and 100% postintervention. Qualitative feedback reflected an enjoyable study experience for both parents and children. Our results suggest that although changing from whole-fat to reduced-fat dairy products does reduce dairy fat intake, it does not result in changes to energy intake or markers of adiposity or cardiometabolic disease risk in healthy children. What children consume in place of the dairy fat may have longer term health implications.

References

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2. Nicholl A, Evelegh K, Deering KE, Russell K, Lawrence D, *et al.* (2020) *PLOS ONE* **15** (11), e0241764.