



WHAT'S NEW ...

FOR MILK AND DAIRY FOODS?



Therese O'Sullivan, PhD APD

The Milky Way Study: which are the best dairy foods for children, whole or reduced-fat?





- Semi-skimmed milk is the most popular type of milk in Northern Ireland
- Compared with whole milk - fewer calories, less fat, and less vitamin A
- Similar levels of other nutrients (including protein, calcium, and B vitamins)





Kids and dairy



55%

OF PRIMARY SCHOOLS IN
NI HAVE MILK AVAILABLE

Dairy and alternatives

Milk and dairy foods (and alternatives) are important during childhood as they are a good source of calcium, vitamins A and D, protein and fat.

Calcium is needed to help children build strong bones and for nerve and muscle function. Vitamin D is needed to help absorb calcium and therefore plays an important part in strengthening bones.

Whole milk should be given to children up until the age of two. If a child is eating a varied diet from two years, semi-skimmed milk may be given.

Home > Food Essentials > The Five Food Groups > Milk, yoghurt, cheese and/or their alternatives (mostly reduced fat)

MILK, YOGHURT, CHEESE AND/OR THEIR ALTERNATIVES (MOSTLY REDUCED FAT)

IN THIS SECTION

The Five Food Groups

Fruit

Grain (cereal) foods, mostly
wholegrain and / or high cereal

Low or reduced fat milk, yoghurt and cheese choices are recommended for most people two years and over. Most Australians consume only about half the recommended quantity of milk products or alternatives, but eat too many full fat varieties, which can increase the kilojoules and the saturated fat content of the diet.


Reduced fat varieties of milks are not suitable as a milk drink for children under the age of two due to their high energy needs required for growth. For nearly everyone else (over the age of two) this is the best choice.

Assumption 1



Assumption 2





Key
Systematic
Reviews

JOURNAL ARTICLE

Whole milk compared with reduced-fat milk and childhood overweight: a systematic review and meta-analysis ^{FREE}

Shelley M Vanderhout, Mary Aglipay, Nazi Torabi, Peter Jüni, Bruno R da Costa, Catherine S Birken, Deborah L O'Connor, Kevin E Thorpe, Jonathon L Maguire ✉

The American Journal of Clinical Nutrition, Volume 111, Issue 2, February 2020, Pages 266–279, <https://doi.org/10.1093/ajcn/nqz276>

JOURNAL ARTICLE

Whole-Fat or Reduced-Fat Dairy Product Intake, Adiposity, and Cardiometabolic Health in Children: A Systematic Review

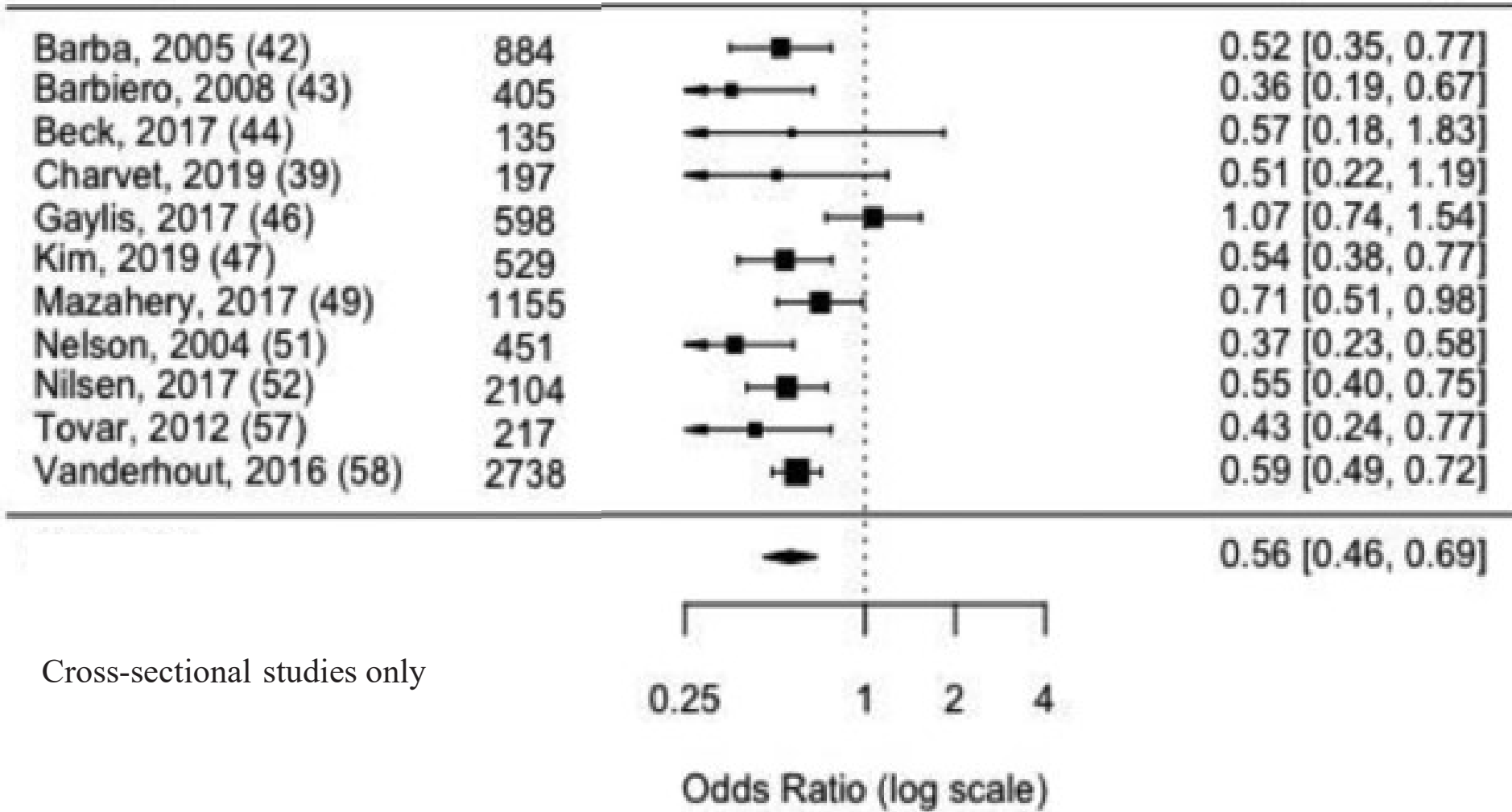
Therese A O'Sullivan ✉, Kelsey A Schmidt, Mario Kratz

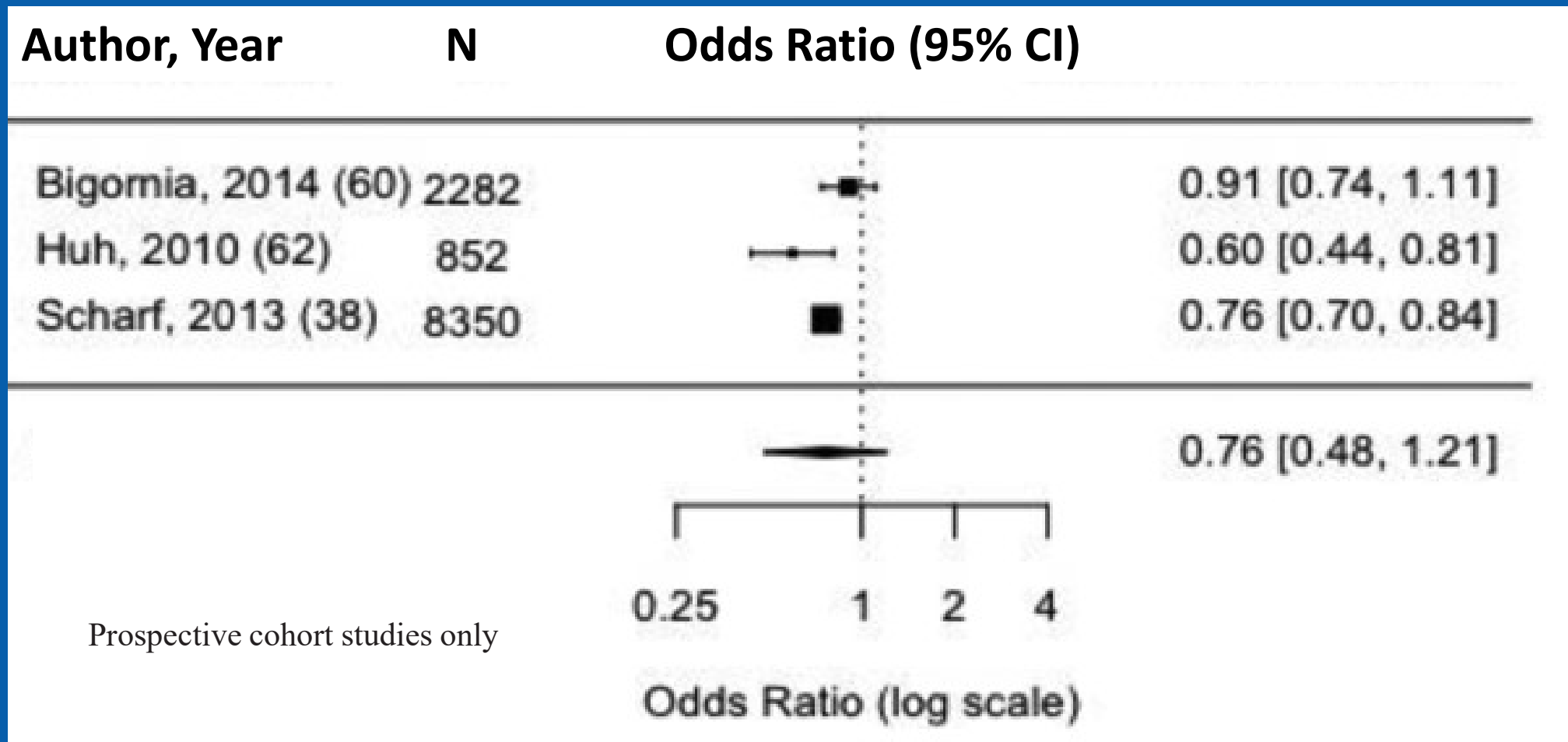
Advances in Nutrition, Volume 11, Issue 4, July 2020, Pages 928–950, <https://doi.org/10.1093/advances/nmaa011>

Author, Year

N

Odds Ratio (95% CI)





Whole-fat and reduced-fat dairy and adiposity

- No studies reported a positive association between adiposity measures and whole fat dairy consumption
- 6 studies reported an inverse association with whole-fat

Whole-fat and reduced-fat dairy and cardiometabolic biomarkers

- The vast majority of evidence suggested that consumption of whole-fat dairy was not associated with increased risk
- Lipids – some noted drop in LDL but few investigated TC:HDL-C -> those that did suggest minimal change to CVD risk based on blood lipids
- BP – both reduce similarly
- Glucose metabolism – positive (1), neutral (1) and inverse results (2) seen

Only one RCT

- Families not blinded (sedentary activity control), BMI and WC used
- Total and saturated fat intakes from dairy significantly lower BUT no group differences were observed in total dairy or energy intake
- No significant change in blood lipids over the 12 week trial

“High-quality randomized controlled trials in children that directly compare the effects of whole-fat compared with reduced-fat dairy intake are needed to provide better quality evidence in this area.”

The Milky Way Study

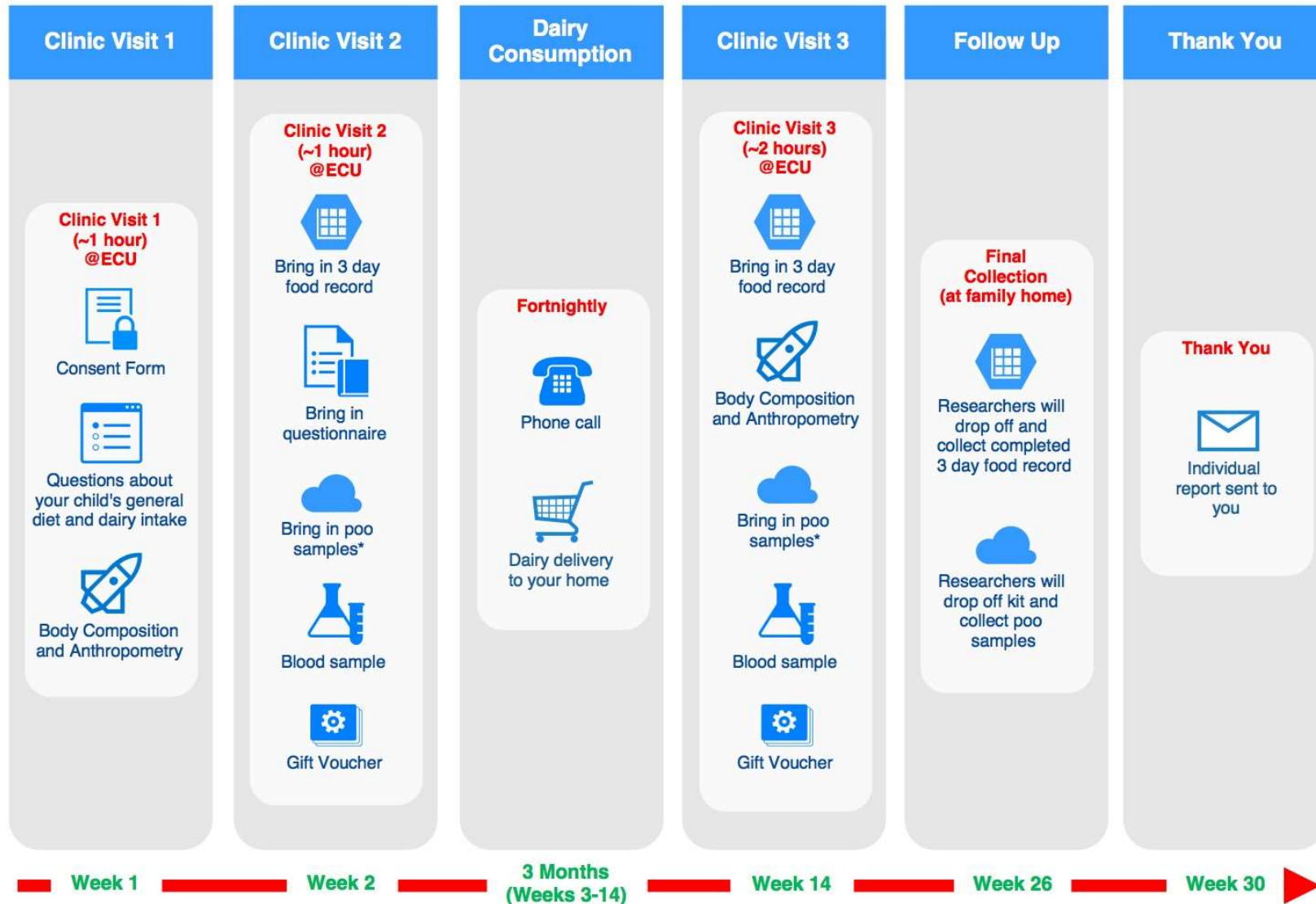


Should our kids be switching to reduced fat dairy?

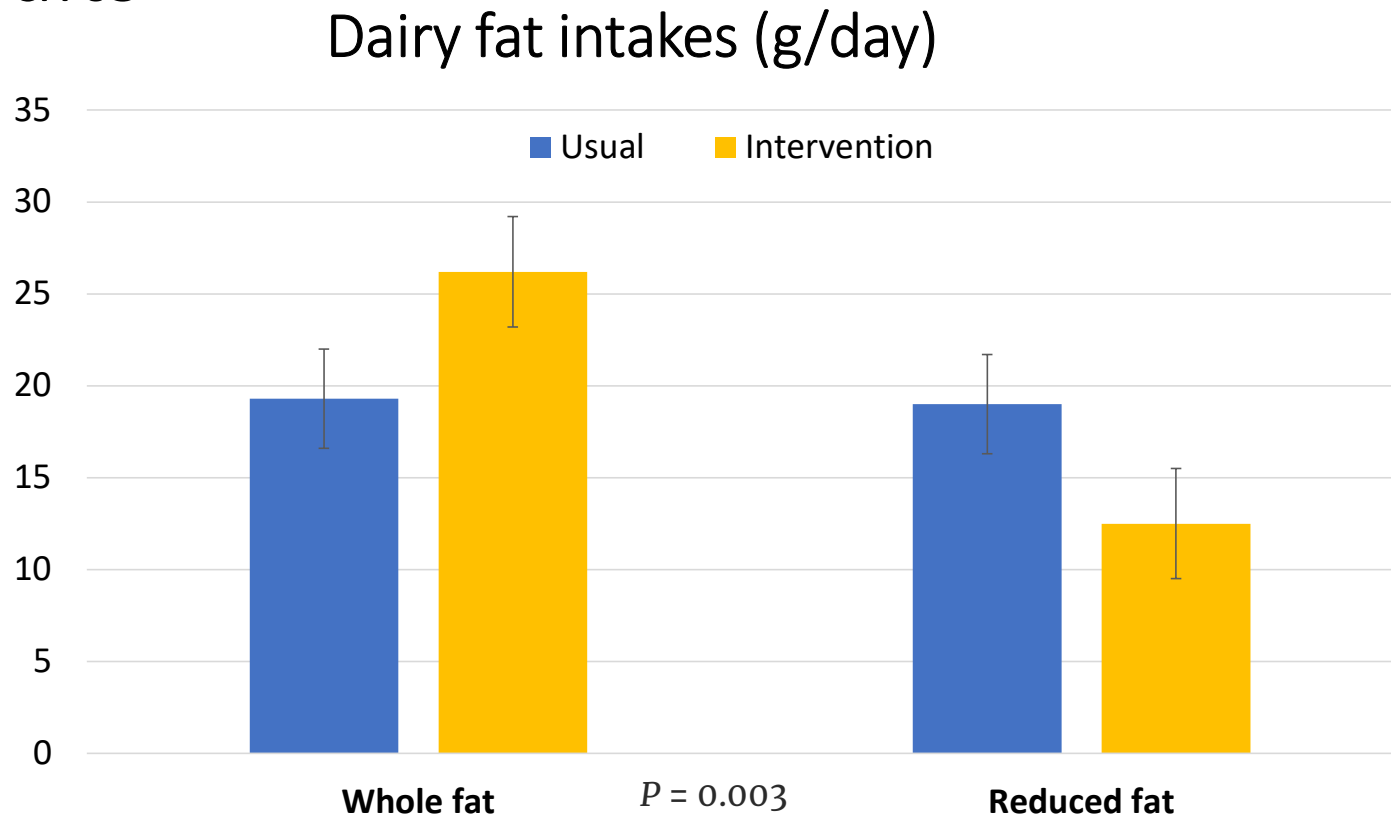


- 3-mth RCT of whole fat vs. reduced fat dairy products in 4-6 year-olds
- Double blind
- Diet, adiposity including body composition, heart health & gut health

The Milky Way Study Journey



Key Results



Energy intakes similar
(5.8 to 6.0 MJ and 5.7 to 5.9 MJ respectively, $P = 0.936$)

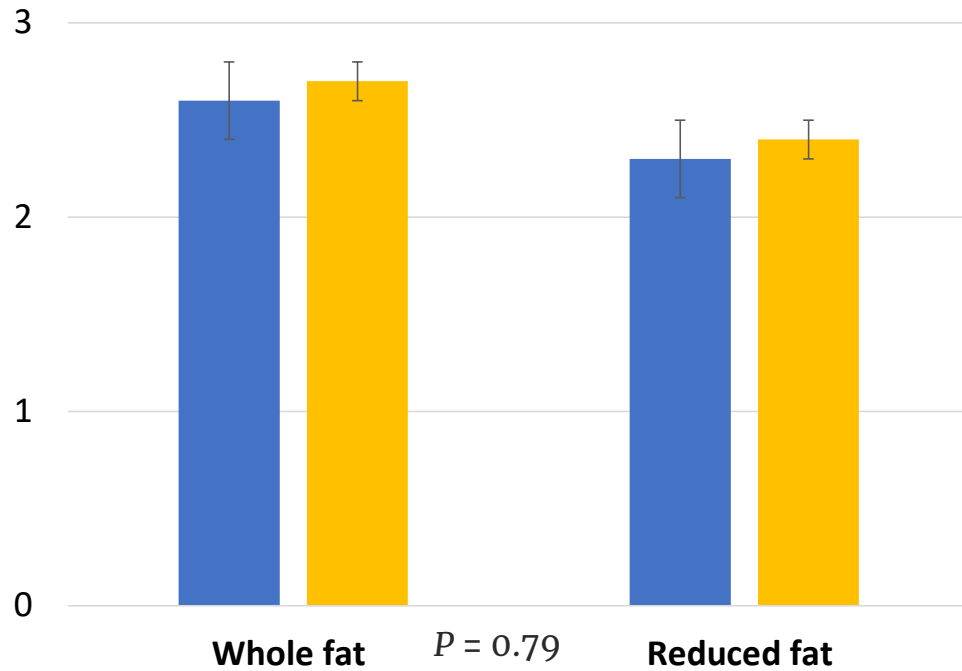
Anthropometrics and body composition

- Our children grew!
- No significant between-group changes over the intervention after adjustment for growth, sex, age, and group baseline differences
- Only trend - BMI percentile, with a reduction in the whole-fat compared with the reduced fat group ($P = 0.054$).



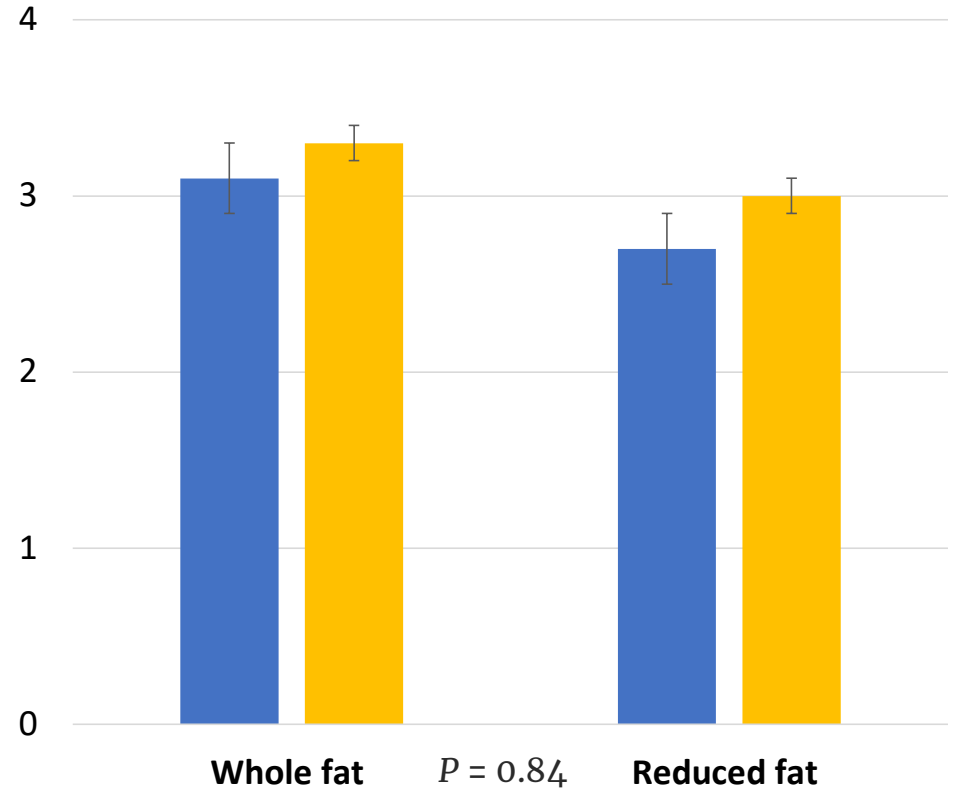
Key Results

LDL-C



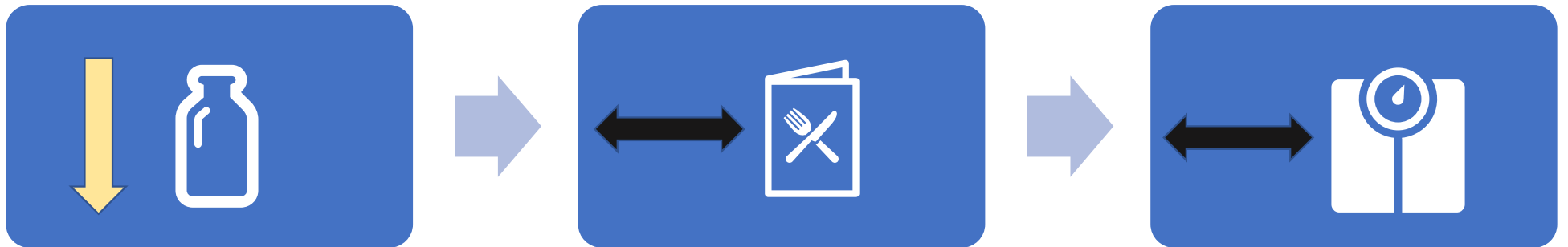
TC:HDL

■ Usual ■ Intervention

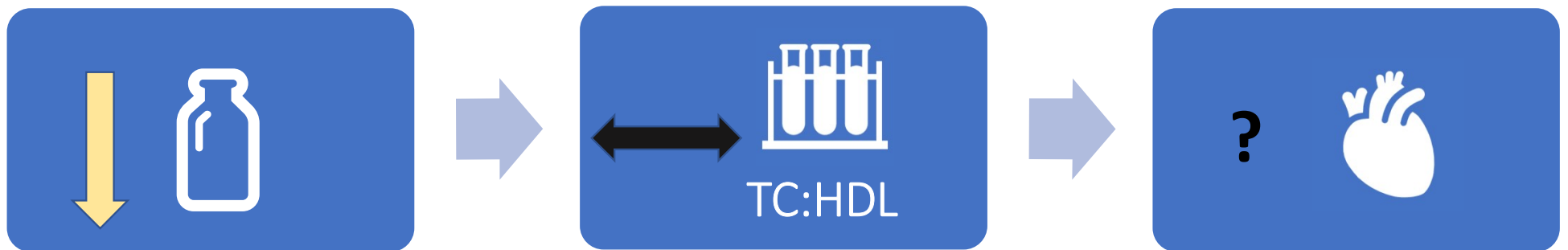


We found no significant changes between dairy groups in blood pressure, or fasting serum lipids, glucose, HbA1c.

Assumption 1 - nope



Assumption 2 - unlikely

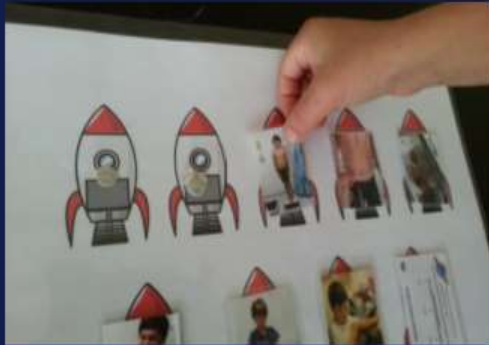


"Let the child be the scriptwriter, the director
and the actor in his own play."

- Magda Gerber



'Respectful Approach to Child-centred Healthcare'
(ReACH)



AUTHENTICITY

- Video to watch beforehand
- Pictorial assessment schedule
- Honest about potential discomfort



SENSITIVE OBSERVATION

- 'Child liaison' focused on the child (not running assessments)
- Relationship development



CONFIDENT MOMENTUM

- Time to settle in with play
- Building confidence with easy, fun tasks first



TRUST

- Trust in child's competence
- No bribes or distractions
- Choices when appropriate

87-95%

compliance rates in assessments including body composition and blood draws

P=0.009

Adherence to **ReACH** principles was positively associated with child compliance for blood draw

100%

of parents were satisfied with their child's experience at study completion

For more information



- ❏ Nicholl A, Deering KE, Evelegh K, Lyons-Wall P, Lawrence D, Mori TA, Krats M & O'Sullivan TA. **Whole-fat dairy products do not adversely affect adiposity or cardiometabolic risk factors in children in the Milky Way Study: a double-blind randomized controlled pilot study.** *Am J Clin Nutr.* 2021 Dec 1;114(6):2025-2042. <https://doi:10.1093/ajcn/nqab288>
- ❏ Nicholl A, Evelegh K, Deering KE, Russell K, Lawrence D, Lyons-Wall P, & O'Sullivan TA (2020). **Using a Respectful Approach to Child-centred Healthcare (ReACH) in a paediatric clinical trial: A feasibility study.** *Plos one*, 15(11), e0241764. <https://doi.org/10.1371/journal.pone.0241764>
- ❏ Nicholl A, O'Sullivan TA. **Keep calm and carry on: Parental opinions on improving clinical dietary trials for young children.** *Nutrients.* 2018 Aug 25;10(9):1166. <https://doi:10.3390/nu10091166>

Future Research

- Food group analysis and gut microbiome
- Time frame
- Numbers
- Cost considerations
- Use of child-centred protocols

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PhD Students: Analise Nicholl, Kane Deering



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