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A qualitative study to understand parent and physician perspectives about cow's milk fat for children

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Abstract

Objective: Consensus guidelines recommend that children consume reduced-fat (0·1–2 %) cow's milk at age 2 years to reduce the risk of obesity. Behaviours and perspectives of parents and physicians about cow's milk fat for children are unknown. Objectives were to: (i) understand what cow's milk fat recommendations physicians provide to 2-year-old children; (ii) assess the acceptability of reduced-fat *v.* whole cow's milk in children's diets by parents and physicians; and (iii) explore attitudes and perceptions about cow's milk fat for children.

Design: Online questionnaires and individual interviews were conducted. Questionnaire data were analysed using descriptive statistics. Interview transcripts were analysed using a general inductive approach and thematic analysis.

Setting: The TARGet Kids! practice-based research network in Toronto, Canada.

Participants: Questionnaire respondents included fifty parents and fifteen physicians; individual interviews were conducted with with fourteen parents and twelve physicians.

Results: Physicians provided various milk fat recommendations for 2-year-old children. Parents also provided different cow's milks: eighteen (36 %) provided whole milk and twenty-nine (58 %) provided reduced-fat milk. Analysis of qualitative interviews revealed three themes: (i) healthy eating behaviours, (ii) trustworthy nutrition information and (iii) importance of dietary fat for children.

Conclusions: Parents provide, and physicians recommend, a variety of cow's milks for children and hold mixed interpretations of the role of cow's milk fat in children's diets. Clarity about its effect on child adiposity is needed to help make informed decisions about cow's milk fat for children.

Keywords
Milk fat
Children
Parents
Physicians

Parental choices about children's nutrition can be complex and involve a multitude of dynamic factors[1]. Parents utilise a range of resources (Internet, family, friends, books) to provide knowledge and inform food choices[2] but they often seek physician guidance to provide unbiased information about healthy choices for their children[3]. For over a century, professional guidelines have recommended that parents provide cow's milk for children[4,5]. Cow's milk is a source of carbohydrates, fat, protein, vitamins and minerals, all of which are important for supporting child growth and development. For many children, cow's milk is a dietary staple and helps the transition from liquid to solid diets[6,7].

Since 1992, the National Health Service[8] and the Canadian Paediatric Society[9] have recommended that children switch from whole-fat (3·25 %) to reduced-fat (1 %) cow's milk at age 2 years to limit dietary fat intake and minimise risk of childhood obesity. This guideline was based on expert opinion and supported by a low GRADE level of evidence[10,11]. Two studies provided the scientific basis for this guideline. One was a randomised controlled trial that compared dietary counselling for

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increased unsaturated fat and decreased saturated fat and cholesterol intake (to a total of 30–35 % of energy from fat) to a free-diet in Finland, and included 848 children aged 7–36 months[12]. The other was a 3-year longitudinal analysis of 8–10-year-old children (*n* 663) who participated in a randomised controlled trial in the USA, which compared dietary counselling for reduction of dietary fat (28 % of energy) to standard of care[13]. Results from these studies supported that consuming a fat-reduced diet during childhood was safe, but provided little evidence to support a reduction in childhood obesity risk. Recent research has cast doubt on whether switching from whole milk to reduced-fat milk at age 2 years is achieving its stated aim of reducing childhood obesity[11,14–19].

The perspectives of parents and physicians about cow's milk fat for children are unknown, as are the factors which contribute to parent and physician decision making about milk fat. Given that cow's milk is consumed by the majority of British and North American children[6,20], understanding how parents and physicians make decisions about which fat content of cow's milk to provide to children is important in informing future research, practice guidelines and public nutrition policy.

Therefore, the objectives of the present study were to: (i) understand what fat content of cow's milk parents provide to children and what recommendations primary-care physicians provide to parents; (ii) assess the acceptability of physician recommendation for reduced-fat *v.* whole milk by parents and physicians; and (iii) explore parents' and physicians' attitudes and perceptions about cow's milk fat.

Methods

Study design

A mixed-methods study was conducted. A questionnaire was first used to understand current practices and perceptions about cow's milk fat among parents and physicians. Then, individual interviews were conducted through a purposive sample of parents and physicians to understand decision making and attitudes and perceptions around cow's milk fat.

Participants

All parents and physicians were recruited through the TARGet Kids! (The Applied Research Group for Kids) practice-based research network[21], which is a collaboration of researchers and clinicians at the University of Toronto, St. Michael's Hospital, The Hospital for Sick Children and McGill University. Interviews took place at two TARGet Kids! practice sites in Toronto, Canada.

Quantitative component

The purpose of the online questionnaire was to generate preliminary data to inform the qualitative interview guide, enabling further exploration of preliminary data. Participants were contacted by TARGet Kids! via email and invited to participate in an online questionnaire. A convenience sample of fifteen parents (with 2–5-year-old children) and fifteen primary-care paediatricians or family physicians were sought using Survey Monkey (surveymonkey.com)[22]. The identity of respondents was not captured for confidentiality reasons. Information about what fat content of cow's milk parents provided to children older than 2 years of age and what milk fat recommendations physicians provided to parents was collected, in addition to parent and physician perceptions about milk fat (see the online supplementary material: 'Questionnaire Script'). Responses to each question were quantified and descriptive statistics performed including means and proportions.

Qualitative component

The purpose of the individual interviews was to understand the rationale and attitudes behind questionnaire responses. This included exploring the elements that were meaningful for parents and physicians when providing or recommending different fat contents of cow's milk, parent and physician interactions during these encounters, and parent and physician attitudes towards cow's milk fat. A semi-structured interview guide was developed by an experienced qualitative researcher (C.J.P.) to improve the validity of data collection (see online supplementary material: 'Interview Script') and allowed the interviewer flexibility to pursue follow-up questions based on participant responses. The analysis of the transcripts occurred concomitantly with data collection according to the cyclic process of qualitative inquiry. Recruitment occurred through an iterative process until data saturation was reached, involving a minimum of twelve parents of children aged 2–5 years who drink milk and twelve physicians[22]. Interviews were 5–20 min in length and were conducted using an iterative approach. A convenience sample of parents was recruited in the waiting room of TARGet Kids!-affiliated paediatric and family practices, and physicians were recruited in their practice offices. The researcher conducting the interviews (S.M.V.) was a female PhD student with prior training in conducting interviews and did not have pre-existing relationships with interviewees. Participants provided their age range (under 29, 30–39 or over 40 years), the number of children they had and their children's ages.

Interviews were transcribed and de-identified (names and identifiable information removed). Participants did not review study transcripts or analysis results. Textual data were analysed by one researcher (S.M.V.). Thematic analysis and general inductive approach were used to analyse and interpret the data. Text was coded and organised in categories, and themes were identified across the interviews guided by the research questions[23]. The researcher first familiarised herself with the data by reading and transcribing the interview transcripts. Then the data

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were coded, creating categories, building a coding scheme, identifying initial themes, reviewing and refining themes, and finally naming and describing themes, including orienting each theme within the study context. Constant comparison analysis was conducted to analyse responses from parents and physicians in the main identified themes. Themes relevant to the research questions and objectives were identified and interpreted to understand core messages from both parents and physicians. After the themes were identified and described, physician and parent experiences and views were reviewed by the study team. Quotes that articulated repeated or recurring messages were chosen for inclusion in the study manuscript. Triangulation of researchers was employed (C.J.-P. and S.M.V.) to evaluate and improve reliability of the interpretation of results. The qualitative data analysis software NVivo 11 was used for data organisation and analysis.

Results

Quantitative component

Online questionnaires were completed by fifty parents and fifteen physicians. Milk fat recommendations were routinely provided by nine of the fifteen physicians (60 %) at the 2-year well-child visit. Of these, four physicians recommended 2 % milk (27 %) and five physicians recommended whole milk (33 %). Five physicians provided no milk fat recommendations (33 %) and one physician did not provide an answer. Twenty-four of the fifty parents (48 %) reported providing 2 % milk to their children regularly, while eighteen parents (36 %) provided whole (3·25 % fat) milk, three parents (6 %) gave 1 % milk and two parents (4 %) gave skimmed (0·1 % fat) milk. Reasons for milk fat choice among parents included physician recommendation by thirty-two parents (64 %), guideline recommendation by nineteen parents (38 %) and friend/family recommendation by ten parents (20 %). A few parents provided other reasons including 'personal preference', 'we buy one milk for the whole family', 'my child needs extra fat' and 'my child does not need extra fat'.

Many parents and physicians believed that whole milk provided benefits to children over 2 years of age, which included healthier growth (36 % of parents, 33 % of physicians), brain development (30 % of parents, 33 % of physicians) and better nutrition (40 % of parents, 33 % of physicians). However, 38 % of parents and 40 % of physicians believed that whole milk did not provide any benefit, and 26 % of parents and 60 % of physicians believed that reduced-fat milk did not provide any benefit. Forty-two per cent of parents reported that reduced-fat milk helped to reduce childhood obesity while few (13 %) physicians held this view. All questionnaire results are shown in Table 1.

Qualitative component

Individual interviews were conducted with fourteen parents and twelve physicians. Most (*n* 9) parents were 30–39 years old, while one parent was less than 29 years old and four were over 40 years old. Ten parents had two children and four parents had one child. The mean age of parents' children was 3·6 (SD 1·2) years. All parents who were approached to participate did so. Three approached physicians refused to participate, stating that they did not have time. Through the thematic analysis, three main themes were identified as being integral to views about cow's milk fat among parents and physicians: (i) healthy eating behaviours; (ii) trustworthy nutrition information; and (iii) importance of dietary fat for children. These themes were chosen based on their frequency in discussion with both parents and physicians, relevance to the context and objectives of the study, and emphasis observed by the researcher when interviewing participants.

Theme 1: Healthy eating behaviours

This theme was defined by the meaning of healthy food, who it is provided by, and what it means to eat, provide or recommend healthy food. Parents and physicians wanted children to develop healthy dietary habits from an early age. The term 'healthy' was constructed differently by participants according to different information from trusted sources. Interview participants described healthy food as natural, unprocessed, containing vitamins and minerals, and recommended by a trusted source. A healthy diet was described as having a variety or a balance of foods in moderation, with appropriate amounts of carbohydrates, fat and protein. A healthy diet included the four food groups and contained foods for healthy growth and development. Foods containing 'healthy fat' were considered healthy, but foods very high in fat or sugar were considered unhealthy. Some parents and physicians recognised that 'low-fat' foods can be higher in sugar.

Some parents and physicians described their habits or behaviours as 'healthy', such as knowledge of healthy diets, providing or recommending nutritious foods for children, and encouraging healthy eating habits at home. Many parents mentioned limiting 'unhealthy' foods such as red meat or sugar, but placed importance on foods viewed as 'healthy' for children, such as 'healthy fats', nuts, fruits and vegetables. It was evident that parents identified with their parenthood, but also in providing healthy food for their children:

> 'First off, [fat is important because] we want to make sure they grow up healthy and strong, so that's one. And also I believe you should foster a healthy eating habit early on, and it also has to do with body image, and identity.' (Parent)

> 'I feel like whatever we give him is pretty healthy anyway, as long as it's balanced.' (Parent)

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Table 1 Questionnaire responses about cow's milk fat of parents of children aged 2–5 years who drink cow's milk (*n* 50) and physicians (*n* 15) participating in the TARGet Kids! research network, Toronto, Canada, in July 2018

	Parents		Physicians	
Question	*n*	%	*n*	%
What cow's milk fat recommendation do you typically make during the 2-year well-child visit?				
Skimmed	–	–	0	0
1 %	–	–	0	0
2 %	–	–	4	27
Whole	–	–	5	33
None	–	–	5	33
What cow's milk fat recommendation did your child's physician make during their 2-year well-child visit, if any?				
Skimmed	0	0	–	–
1 %	1	2	–	–
2 %	18	36	–	–
Whole	11	22	–	–
None	11	22	–	–
Don't know	8	16	–	–
What fat content of cow's milk do you usually provide to your child?				
Skimmed	2	4	–	–
1 %	3	6	–	–
2 %	24	48	–	–
Whole	18	36	–	–
Why do you choose this fat content of cow's milk for your child?				
Recommended by physician	19	38	–	–
Recommended by guideline	11	22	–	–
Recommended by friend/family	6	12	–	–
Other	17	34	–	–
What dietary recommendations do you usually provide to parents of ~2-year-old children whom you or the parent suspects is at risk of overweight/obesity?				
Reduce sugar-sweetened beverages	–	–	13	87
Reduce bottle use	–	–	14	93
Reduce fat intake	–	–	1	7
Reduce % fat of milk	–	–	3	20
Increase % fat of milk	–	–	1	7
Reduce energy intake	–	–	2	13
Increase fruit/vegetables	–	–	14	93
Structure meals/snacks	–	–	12	80
What dietary recommendations do you usually provide to parents of ~2-year-old children whom you or the parent suspects is at risk of underweight?				
Increase energy intake	–	–	12	80
Reduce % fat of milk	–	–	0	0
Increase % fat of milk	–	–	8	53
Increase meals/snacks	–	–	4	9
Food fortification	–	–	3	20
What do you think is the ideal fat content of cow's milk for children over age 2 years?				
Skimmed	–	–	0	0
1 %	–	–	1	7
2 %	–	–	7	47
Whole	–	–	7	47
What do you think are the benefits of providing children older than 2 years of age whole (3·25 % fat) milk (select all that apply)?				
Better body composition	6	12	2	13
Healthier growth	18	36	5	33
Brain development	15	30	5	33
Obesity prevention	5	10	2	13
Better nutrition	20	40	5	33
None	19	38	6	40
What do you think are the harms of providing children older than 2 years of age whole (3·25 % fat) milk (select all that apply)?				
May cause weight gain	19	38	5	33
Higher fat intake	21	42	4	9
None	17	34	10	67
What do you think are the benefits of providing children older than 2 years of age reduced-fat (1 or 2 % fat) milk (select all that apply)?				
Better body composition	12	24	2	13
Healthier growth	11	22	1	7
Brain development	1	2	1	7
Obesity prevention	21	42	2	13
Better nutrition	7	14	1	7
None	13	26	9	60
What do you think are the harms of providing children older than 2 years of age reduced-fat (1 or 2% fat) milk (select all that apply)?				
May cause weight gain	4	8	1	7
May cause weight loss	6	12	0	0
Lower fat intake	29	58	3	20
None	12	24	11	73

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Physicians were aware that their recommendations and interactions with parents and children were meaningful and had tangible effects. To be a 'healthy' physician was to be reliable, reasonable and flexible – to adapt to patients' needs and concerns while providing authoritative advice about behaviours and foods that would positively influence the health of their patients:

'My job is to keep them healthy.' (Physician)

Theme 2: Trustworthy nutrition information

This theme was defined by the trusted resources parents and physicians rely on to make decisions that affect the health of their children or patients. The leading trusted source of information among parents was physician guidance, and among physicians was clinical guidelines based on high-quality scientific evidence presented in peer-reviewed journal articles and clinical practice guidelines from reputable organisations (such as the Canadian Paediatric Society). Participants explained that their decisions about cow's milk fat were based on information they trusted.

Among physicians, trust in guidelines based on high-quality scientific evidence was an important factor in providing nutritional recommendations to patients. Physicians trusted guidelines to be based on robust evidence, defined as research published in well-respected medical journals, from relevant populations and using rigorous scientific methods. While physicians incorporated other relevant information (child weight and perceived risk of overweight or obesity, family socio-economic status, other dietary factors such as volume of milk consumed) into their decision-making process, convincing scientific evidence was influential in decision making. Physicians were sceptical about research or publications with industry influence:

'Yes [I would like to be shown the evidence]. People will ask why … There needs to be some reason for having the full fat. A benefit, rather than safe. There needs to be a benefit.' (Physician)

'I would have no problem recommending whole milk beyond 2 years of age if that was supported by the evidence'. (Physician)

Some physicians felt that the current guideline to transition from whole to reduced-fat milk at age 2 years was reasonable while others questioned its utility and evidence base:

'I think [the current guideline] makes it easy to give advice. But I question whether it's actually factual.' (Physician)

'[The current guideline] sounds reasonable to me, but I wonder with some patients whether that is the right thing to do – I don't know when to break that rule.' (Physician)

Physicians who questioned the guideline tended not to make any cow's milk fat recommendation, allowing parents to decide if and when to reduce milk fat content for their children. When asked if physicians would recommend whole milk beyond age 2 years, eleven of twelve interviewed physicians were willing to do so provided they were able to access, understand and communicate trusted evidence that whole milk was better for children than reduced-fat milk. One physician expressed discomfort in recommending whole milk after age 2 years, as the physician was cautious about recommending too much dietary fat.

All physicians felt strongly that parents should know the volume of milk guideline (500 ml, or 2 servings/d), regardless of fat content of milk provided. Several voiced concerns about children consuming a large quantity of milk daily:

'I think it's a low-hanging fruit to come down on the cow's milk [fat], because they're already drinking a lot of it, it's an easy way to reduce calories in the diet.' (Physician)

Parents viewed their children's physician as the most trustworthy source of information when making decisions concerning the health of their children. Although parents received information from peers, the Internet and books, they were aware that this was subject to inaccuracy and inapplicability to their own children. Physicians established trusting relationships with parents by demonstrating knowledge, critical thinking and skilled expertise in their practice, ultimately providing the best possible care and recommendations unique to each child. Parents frequently said that their child's physician had the best interest of their child in mind, used current, robust research to make recommendations appropriate for their child, and would provide recommendations specific to their child's individual needs. Physicians were described as knowledgeable, well-educated, trustworthy, and held in high esteem:

'If someone told me to do something in the best interest of my daughter, definitely I'd investigate further, but I wholeheartedly trust the paediatrician. I have not gone to medical school, I don't have the expertise. So that's a trusted source for me. If he's saying something, it's probably sound.' (Parent)

'[Physicians who make recommendations] have research to support it.' (Parent)

When asked about providing whole milk to children older than age 2 years, twelve of fourteen parents were willing to do so at the recommendation of their children's physician. Some parents would require further explanation, rationale or support from the physician; others would accept a physician recommendation without additional details. Two parents stated that they would not feel comfortable providing whole milk beyond age 2 years because of concerns about excess dietary fat.

Theme 3: Importance of dietary fat for children

This theme was defined by the perception of dietary fat in children's diets and what it means to provide fat to children.

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Parents and physicians were aware that children need a higher proportion of dietary fat than adults because of its role in growth and development. They recognised the importance of fat for brain development, physical activity levels in children and overall growth. However, too much dietary fat was concerning for both parents and physicians, as they believed excess dietary fat would lead to excess adipose tissue. Parents and physicians were concerned about too much fat in children's diets and were cautious not to provide too much fat to reduce their children's risk of overweight or obesity. Too much fat was viewed with negative implications but not well defined. Parents and physicians placed importance on preventing childhood overweight and obesity. They sought simple, actionable and effective ways to reduce the risk of obesity early in life, including dietary strategies:

> 'I think fat is good, as long as you don't have too much.' (Parent)

> 'He needs it to grow – he's growing lots of cells, he needs fat, so I don't have a problem with giving him fat, I just don't want to give him too much.' (Parent)

Despite concern about too much dietary fat among parents and physicians, parents repeatedly referred to cow's milk fat as 'healthy', 'essential', 'unprocessed' and 'natural'. Parents viewed cow's milk as an appropriate food for their children, including the fat it provides. This perspective allowed parents to feel comfortable providing it to their children and seemed to bring parents a sense of assuredness that their children were receiving proper nutrition:

> 'I do believe milk is a source of healthy fat so I wouldn't really question it, and I actually do think it's probably healthy, nutritious for kids.' (Parent)

Physicians acknowledged cow's milk as a suitable food for children, especially young children transitioning from fluid to solid diets. However, physicians commented on the proportion of children who are served too much milk, due in part to convenience, likeability on behalf of children and parents' positive views of milk. Physicians felt that some parents perceived milk as such a nutritious food, they seemed not to limit their child's consumption, leading children to consume excess energy and fat:

> 'You just give a couple cups of milk a day and that helps to give the essential fat.' (Physician)

Physicians also wondered about the appropriate amount of fat for children, including effects on future well-being:

> 'I wonder about the impact longitudinally on cardiac health or diabetes. What have [the current milk fat] guidelines done on the long-term effects?' (Physician)

Discussion

In the present mixed-methods study, questionnaires and individual semi-structured interviews were used to understand how parents and physicians make milk fat recommendations for children. Parents and physicians were similarly divided about providing or recommending whole milk, reduced-fat milk or no milk fat for children 2 years of age or older. Through a thematic analysis of parent and physician interview transcripts, three themes were identified: (i) healthy eating behaviours; (ii) trustworthy nutrition information; and (iii) importance of dietary fat for children. These themes were helpful in understanding how parents and physicians use trusted resources to develop healthy habits and behaviours which informed perceptions about foods viewed as best for children's nutrition and development.

Within the 'healthy food' theme, an identity phenomenon emerged among both parents and physicians. Parents and physicians who identified as being 'healthy' felt it important to act according to their beliefs, identity and knowledge by providing or recommending what they determined to be 'healthy' for children. Beyond objective classification of foods based on nutritional content, parents classified foods as being healthy based on their preferences, beliefs or identity. It has been described that an individual's determination of a 'healthy food' is highly variable and dependent on beliefs[24], experiences[25], perceptions[26] and likes or dislikes[27]. Results of the present study suggest that if parents believe they are providing a healthy diet to children, many foods can be described as healthy because the parent had chosen to provide it, or a trusted resource described it as such. For example, some parents felt justified in providing whole milk to children because extra fat was needed for growth, while parents who provided reduced-fat milk believed that providing less fat was needed. Moderation and balance about fat consumption were frequently mentioned by both parents and physicians, which is consistent with other studies that asked participants to define 'healthy diets'[26,28]. As Lupton and Chapman point out, 'by using the concept of moderation, people could justify any food choice'[29].

The themes of trust and healthy food intersected where some parents regarded physician opinion and guidance as superior to other information sources. Similarly, physician trust in guidelines that were perceived to be based on high-quality evidence helped maintain their duty to keep children healthy. However, parents who had more knowledge or experience in nutrition and physicians who were more versed in current literature deviated from guideline-based recommendations. This knowledge and experience may have resulted in heightened confidence and autonomy. Further, well-established 'healthy' identities may have allowed for personal judgement to override commonly held beliefs. Knowledge about nutrition has been shown to be a determinant of dietary behaviour, where interest and importance placed on nutrition often vary with nutrition knowledge[30]. Less educated or less experienced parents or physicians may have felt more reliant on experts and not as free to deviate from guidelines or advice. This has been noted in other literature. Hart *et al.* described that

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individuals of higher socio-economic status or higher educational attainment had less reliance on nutrition guidelines and more reliance on an innate knowledge about food[31]. According to Bisogni *et al.*, a person's diet is a manifestation of a variety of factors, such as knowledge, attitudes towards food and socio-economic status[1].

An overwhelming number of parents identified cow's milk fat as 'natural', 'unprocessed' and 'healthy'. This finding was remarkable because the term 'healthy fat' is commonly linked to unsaturated fat, whereas 'unhealthy fat' is another term for saturated fat, which are most of the fatty acids in cow's milk. This discrepancy may have occurred because parents are told by trusted sources that cow's milk is healthy for children; therefore, cow's milk fat must be the 'healthy' variety. However, many parents voiced that they tried not to provide their child 'too much fat'. While no amount of fat was defined as 'too much', parents and physicians recognised that a high proportion of dietary fat would likely cause weight gain. This ambiguity may have contributed to the varied recommendations physicians reported providing at 2-year well-child visits, and differing fat contents of cow's milk parents served to children over age 2 years. Although some opinions held by participants were strong (cow's milk is healthy, children need dietary fat), ambiguity in terms such as 'healthy food', 'too much fat' and 'healthy fat' may have caused parents difficulty in discerning how much dietary fat to provide their children. Parents tended to rely on physicians, who used guidelines based on research to direct their practice. The strength of evidence on which these guidelines are based was acknowledged by only a few physicians, who also tended not to provide cow's milk fat recommendations. Overall, the varied regular practice of parents and physicians indicated by the quantitative component of the study reflects the uncertainty of evidence, varied confidence in current guidelines and mixed messages parents receive as a result.

The present study has a number of strengths. Recruitment took place in a primary-care setting, which allowed us to obtain a sample of participants highly relevant to our research questions. Semi-structured interviews were informed by a quantitative questionnaire which provided focus and facilitated the identification of perspectives and ideas which may not easily be captured by other research methods. The semi-structured interviews allowed the interviewer to respond flexibly to participant responses, obtaining further details when appropriate, contributing to data richness. Data saturation was also considered to be reached by the interviewer, indicating a wide variety of viewpoints had been richly captured. Thematic analysis provided understanding of participant views and ideas which were directly related to our research questions and overarching concepts.

The present study also had a number of limitations. Interviewer views and perspectives are implicit in qualitative methods involving interviews. The interviewer was aware of some biases she may have introduced to participant discussion, such as knowledge of clinical nutrition guidelines and current literature on the topic of children's nutrition. However, interview questions were reviewed by other researchers (J.L.M., C.J.-P.) to mitigate risk of a biased script and a reflexive journal was kept by the analysts during the whole analysis, interpretation and writing stages to minimise the projection of their individual views and thoughts. Online questionnaires did not capture the social identity of participants, or their views and behaviours related to their social role, which may have allowed persons other than participating TARGet Kids! physicians or parents to complete them. Although all parents who were approached to participate did so, participant views may be different from those of individuals who declined to participate in research activities, received or provided health care outside the TARGet Kids! practice-based research network or did not have access to primary health care. Responses obtained by the present study may also not be generalisable to other populations. However, data saturation was considered to be reached in the interviews, suggesting that many ideas were shared among participants in the study, which may be generalisable to populations outside the study sample.

Significance

Most parents and physicians strive for their children and patients to be healthy. Parents trust physicians to make recommendations in their best interest, and physicians trust high-quality evidence. But lack of clarity about the effect of cow's milk fat on childhood weight status resulted in ambiguity about what amount of cow's milk fat is perceived as 'healthy' for both parents and physicians. A better understanding of the effect of cow's milk fat on childhood adiposity would help parents and physicians make informed decisions. Understanding how parents and physicians place trust in information sources, use existing knowledge and use their identity to shape decisions may be helpful for future research and policy recommendations about milk fat for children.

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drafted the questionnaire, interview questions and manuscript, approved the final manuscript as submitted, had full access to all the data in the study, and take responsibility for the integrity of the data and the accuracy of the data analysis. S.M.V. recruited participants, conducted the online questionnaires and interviews, recorded and transcribed interviews, and performed the quantitative and initial thematic analyses. C.J.-P. directed and assisted with coding and thematic analysis. C.S.B. and K.E.T. assisted in refining the study design, reviewed and revised the manuscript, and approved the final manuscript as submitted. *Ethics of human subject participation:* This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving research study participants were approved by the Unity Health Toronto Research Ethics Board. Written informed consent was obtained from all subjects. Verbal consent was witnessed and formally recorded.

Supplementary material

To view supplementary material for this article, please visit https://doi.org/10.1017/S136898001900243X.

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