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# Early childhood nutrition concerns, resources and services for Aboriginal families in Victoria

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Establishing and maintaining healthy eating and physical activity patterns among young children is important to support learning and development, maintain health, and prevent obesity and chronic disease later in life.<sup>1,2</sup> Inequity between nutrition-related outcomes for Aboriginal and non-Aboriginal children has been observed for many decades across Australia.<sup>3,4</sup> Early cessation of breastfeeding, prolonged bottle-feeding and untimely introduction of solid foods in infancy have been identified as issues for Victorian Aboriginal children.<sup>5,6</sup> Furthermore, over-reliance on sweet drinks, low intake of fruit and vegetables, excessive reliance on 'junk' or takeaway foods are concerns for most children living in Australia, despite national guidelines for families promoted via early childhood services.<sup>7-9</sup> Health promotion and illness prevention in Aboriginal and Torres Strait Islander communities are central to closing the gap between Aboriginal and non-Aboriginal health outcomes.<sup>10</sup> Access to mainstream services has historically been a barrier for Aboriginal communities.<sup>11,12</sup> In Victoria, the Maternal and Child Health Service (MCH) is the major provider of universal primary health care services for families of children from birth to school age. Aspects of the service include provision of nutrition and physical activity information and anticipatory guidance about child development. Access to MCH services by Aboriginal families is known to be lower than for non-Aboriginal families.<sup>13</sup>

A nutrition needs assessment conducted in Victoria, Australia, in 2010 identified child

## Abstract

**Objective:** To investigate the child nutrition concerns of Aboriginal families with young children attending Aboriginal health and early childhood services in Victoria; training needs of early childhood practitioners; and sources of nutrition and child health information and advice for Aboriginal families with young children.

**Method:** Qualitative needs assessment involving consultation with Aboriginal parents of young children aged 0-8 years attending Aboriginal health and early childhood services, and early childhood practitioners from Aboriginal health and early childhood services in urban and regional Victoria. Focus groups were conducted with 35 Aboriginal parents and interviews conducted with 45 health and early childhood practitioners. Thematic analysis was used to generate and then refine distinct, internally consistent common themes from the data.

**Results:** The most frequent issues identified were low levels of breastfeeding, inappropriate introduction of solids, reliance on bottles, sweet drinks, and energy-dense foods, poor oral health and overweight. Concerns about staff training and capacity, and access to maternal and child health services were also common.

**Conclusion and implication:** This study identifies major gaps in service delivery for Aboriginal families with young children and points to the need for a coordinated, culturally responsive systems approach to providing support for breastfeeding and child nutrition advice and support for Aboriginal families, including capacity building for staff, and supportive systems and policy.

**Key words:** Child nutrition, Indigenous health, Aboriginal health, child health

nutrition concerns and difficulties accessing health services among families living in highly socially disadvantaged areas.<sup>14</sup> Researchers identified that consultation with Aboriginal communities required a more sensitive understanding of appropriate approach, delivery and research methodology.<sup>15,16</sup> The number of participants was also too small to provide reliable information about Aboriginal families. The current study was developed to address this gap. First steps in designing the study were taken by practitioners and researchers at the Murdoch

Childrens Research Institute (MCRI) and the Royal Children's Hospital (RCH), who initiated discussions with the nutrition team at the Victorian Aboriginal Community Controlled Health Organisation (VACCHO). The aim of this study was to investigate child nutrition concerns of Aboriginal families with young children aged 0-8 years attending Aboriginal health and early childhood services in Victoria; training needs of early childhood practitioners; and sources of nutrition and child health information and advice for Aboriginal families with young children.

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This paper reports on these findings along with the development of the partnership approach.

## Methods

### Study design

The study was a qualitative needs assessment involving consultation with Aboriginal parents of young children and early childhood practitioners from Aboriginal health and early childhood services. The research was informed by the socio-ecological model of health encompassing the social determinants of health,<sup>17</sup> values and ethics for Aboriginal health research<sup>15</sup> and a community-based participatory approach.<sup>18,19</sup> A reference committee comprising representatives from each organisation, along with Aboriginal community members, provided oversight to all phases of the study.

### Setting and participants

One rural and one urban Aboriginal Community Controlled Health Organisation (ACCHO) with an existing working relationship with the VACCHO nutrition team were invited to facilitate parents' focus groups. Men's groups and women's groups functioning both independently and within ACCHOs were approached separately. In the rural area, men's and women's groups were organised by Aboriginal Health Workers within the ACCHO. In the urban community, a men's group and a women's group were identified through personal contacts and the community knowledge of the Aboriginal VACCHO researcher (ST). In addition, a purposive sample of ACCHOs and Aboriginal children's services from four additional urban and four regional locations were selected for practitioner interviews.

Parent participants (aged 18 years and over) of Aboriginal children aged 0-8 years attending local Aboriginal men's or women's groups were invited to participate by the group facilitators. Researchers then explained the study and gained consent from the parents wishing to participate. Practitioners participating were staff members working in ACCHOs or Aboriginal children's services in the targeted locations. Parent focus groups and practitioner interviews were recorded by a portable voice-recording device.

### Data collection

Focus groups were conducted with parents in two locations of Victoria. Separate groups

were held with men and women and were facilitated by VACCHO researchers experienced in these methods.<sup>20</sup> This method was supported by community representatives and participants themselves, as an appropriate approach for data collection. Group interviews were conducted with Aboriginal Health Workers, early childhood practitioners and managers of service providers for Aboriginal families in four urban and four regional locations. The purpose of practitioner interviews was to explore the themes from parent focus groups, identify training needs of practitioners and health service gaps. A semi-structured focus group 'guide' was modified from a previous child nutrition survey instrument across main sections: nutrition, active play/children's screen time, child health and parent perceptions.<sup>21</sup> The modified instrument was piloted with eight Aboriginal VACCHO staff members to assess content validity and ensure cultural applicability. Aboriginal community members of the same gender as the group conducted the focus group together with the VACCHO researchers (JB and ST) to provide consistency of approach.

A 23-item interview 'guide' was developed for early childhood practitioners across four domains: nutrition and active play issues for families, resource needs, staff training needs and service delivery issues. Local facilitators recruited staff from ACCHOs and children's services in each location and jointly conducted the interviews with VACCHO researchers (JB and ST).

The researchers (ST and JB) conducting the focus groups and interviews were well known and respected within the respective communities. This fostered a culturally safe participatory research approach.

### Analysis

Focus group and interview questions asked about child nutrition, active play, child health, parental concerns and sources of information and advice. Interview transcripts were transcribed by ST and JB. A third researcher (JM) listened to recordings of all focus groups and interviews and considered the themes independently to minimise bias. Researchers then met to consider and agree on the themes identified in the data. As one aim of this research was to gain a deeper understanding of the issues at hand for parents, practitioners and early childhood services, it was pragmatic to combine the data produced from the parent focus groups

and practitioner interviews. Transcripts were analysed using Thematic Analysis<sup>22</sup> and proceeded through the following steps: immersion (familiarisation with the data), generating initial codes, generation and refinement of themes, and the selection of extracts to highlight specific themes.<sup>22</sup> Researchers used a process of inductive analysis to glean themes directly from the data themselves (e.g. sweet drinks, sweet foods, takeaway foods). In consideration of the broader socio-cultural context, latent thematic analysis was employed to generate and then refine distinct, internally consistent common themes (e.g. 'nutrition concerns'). Findings were discussed with the reference committee who contributed to interpretation of key themes identified in data analysis.

Finally, researchers facilitated community feedback meetings to validate the findings and to allow opportunity to progress the issues identified by families and practitioners. Narrative scripts have been selected as indicative quotes to illustrate themes.

Ethics approval to conduct the study was granted by the Human Research and Ethics Committee, Royal Children's Hospital.

## Results

Thirty-five parents/carers (34 Aboriginal, one Torres Strait Islander) participated in two men's and two women's focus groups in one regional and one urban area of Victoria (Table 1). Focus groups ranged from 60 to 120 minutes duration, depending on size of the group. The term 'Aboriginal' is used throughout this paper to describe participants inclusive of Aboriginal and Torres Strait Islander background.

Forty-five health and children's services practitioners from 14 sites (Table 2) participated in interviews. Most practitioners

**Table 1: Parent focus groups.**

	Men's groups	Women's groups	Total
<b>Regional</b>			
Mildura	7	4	11
<b>Urban</b>			
Banyule	15	0	15
Darebin	0	9	9
<b>Total</b>			
Groups	2	2	
Participants	22	13	35

consulted were female, themselves mothers and community members. Seventy-five per cent (n=34) of practitioner participants were Aboriginal. Three overarching themes emerged after parent focus groups and practitioner interviews. These are categorised broadly into nutrition concerns, breastfeeding issues and sources of nutrition and child health information and advice. Three community meetings were held to feedback results to each community. All findings were discussed and subsequently endorsed.

### Nutrition concerns

Reliance on sweet drinks and bottles was the most frequently-reported nutrition concern raised by both parents and early childhood practitioners alike. As noted by parents:

*"I try and buy heaps of fruit but it's just that Coke always ends up at home. I'll get a can and it's... drunk by everyone else. It's the Coke that's a killer in our black kids."*

*"Especially with the bottle, cordial in the bottle, that's rotting teeth, my kids have got em."*

*"The pacifying thing with the drink bottle. Another milk drink, another milk bottle. They're just giving them more bottle, the kids' screaming more so they think more bottle, screams again, more bottle."*

Similar concerns were expressed by practitioners:

*"We have a bit of trouble with coke, cordial and juice in bottles."*

*"People don't realise the sugar content of juice. They think they're giving their child a healthy drink by giving it juice."*

Parents expressed concerns about their young children's eating, children's preferences

for 'junk' food and takeaway foods. Parents also identified the impact these foods have on children's appetites and preferences for less healthy foods. Several parents reflected on the role food plays as a link between children's demands, tantrums and their responses to children's demands.

*"Grandmother feeds (them) to keep (them) quiet."*

*"Sugary foods – gives the mother peace."*

*"If there's something worrying me and she won't eat, I'll go get something else, something that she does like."*

Similarly, practitioners expressed concern about young children's eating development, including processed foods given to babies, frequent takeaway foods and snack foods, and minimal fruits and vegetables for children at all ages.

*"I think the problem's around misconceptions of food ... I know a lot of them first start off with Maccas, potato and gravy, take-away."*

*"Some kids haven't seen vegetables or let alone eaten them."*

*"It's easier for a mum to hand them a packet or something that they can eat on a stick or whatever, rather than actually feed them."*

Another theme related to eating behaviours such as fussy eating and overeating. Parents requested advice about how to address these eating patterns among their children.

*"Fussy ... grazers ... sometimes it's hard to get 'em to sit down at tea time and eat a meal if they've been grazing all day."*

*"My little one at the moment, she's really picky and choosy. There's some days when she doesn't eat at all ... so yeah, I'd like to know how to work around that."*

*"Her main foods that she likes eating is pasta and rice. Yeah but she won't eat the meat that comes with it or the vegies that come with it."*

*"I reckon my boy doesn't know when he's full. He eats like an adult."*

Parents described a sense of powerlessness to change children's behaviour or eating patterns.

*"I love cooking but my kids play up at tea time and then it makes me feel like crap because I've spent all that time making a nice healthy meal ... But then it's like they crave the Maccas and that but ... they don't eat it all and you've wasted your money and ... I dunno ... sometimes it feels like you can't win with kids."*

*"I don't have the time to cook tea so then there's take-away ... yeah, I wanna eat healthy ... a real big issue for me is how do you prepare a nutritious meal, what is a nutritious meal?"*

*"Healthy food ... It's generally just boring. You know it's not appealing. Kids don't find it appealing, like it hasn't got the marketing behind it."*

Child weight issues were identified by some but not all parents. Of parents expressing concern about childhood overweight, some were not aware of steps to take to manage the issue.

*"I think it's in most of our families."*

*"What can you do for kids that are obese?"*

Practitioners also expressed concerns about childhood obesity and dental issues.

*"A bit of obesity too within our toddlers. There's a few that are, you know, overweight."*

*"One of our children who is overweight, quite severely I would say. She is fed biscuits and Milo and sat in front of the TV or computer."*

*"Yeah ... that's one of my biggest things, the dental ... I've had about 10 kids to up to have teeth surgically removed and this is, like, little kids not adults."*

*"I know someone that's got a three-year-old girl. She's got four teeth left in her head."*

When discussing children's weight, all practitioners agreed it a highly sensitive issue. Many felt uncomfortable discussing weight issues with parents, particularly those overweight themselves. Maintaining trust of parents was paramount for most practitioners.

*"Parents are ashamed to tell us the truth sometimes. They think they're not doing the right job so I have a lot of troubles with that."*

*"When you live in a community and you're related to a lot of the people as well, you just don't go there. You know, you lose one girl, we could lose them all."*

### Breastfeeding

Breastfeeding emerged as a major issue in both men's and women's groups, in all locations, and within practitioners' interviews. Mothers reported positive and negative experiences of breastfeeding.

*"I think it's great. You can bond with your baby."*

Table 2: Practitioner interviews.	
	Number
Aboriginal Best Start worker	1
Aboriginal health worker	20
Dietitian	3
Healthy Lifestyle worker	1
In home support worker	3
Manager	3
Maternal and Child Health Nurse	1
Midwife	4
Multifunctional Aboriginal Children's Services staff	5
Playgroup coordinator	2
Registered nurse	2
<b>Total</b>	<b>45</b>



*"I did it when I had my first I was 19 and living from pay day to pay day fortnightly and thought 'holy crap what if I run out of formula and have got no money?' That's the only reason why I breastfed, I was scared into it and you know, I'm glad I did it in the end but that was my sole reason for doing it at that age."*

*"I did it 'cos I heard it's the best thing for the baby. I didn't last long though. My milk dried up and I got mastitis ... she wasn't getting enough."*

Additionally, the role of fathers to support breastfeeding was highlighted although women noted that men were not always supportive.

*(Women's comments) "Nup, they've got no idea."*

*"They don't get that support and if baby's a bit sooky they're very quick to say 'oh, it's your milk, put it on the bottle.'"*

Comments from men affirmed their appreciation of the importance of breastfeeding:

*"As long as the mother is able to breastfeed."*

*"We always promote that breast is best but at the end of the day if the female can't do it well we keep supporting along the way."*

*"They've got to understand, if that kid needs feeding, well there'll be a bottle or on the mimi."*

Some comments were less about nutritional concerns, but reflected broader cultural and social issues related to perceptions of women's bodies as sexual and as 'women's business':

*(Men's comments) "A lot of young fellas think it's just that public nudity and not right, like. My missus she's ... still breastfeeding, now my son's turned one the other month and she does it anywhere. I don't care, it's not anything wrong."*

*"I've got a young cousin, he's very jealous of his women ... caught her breastfeeding and went to get stuck into her."*

*(Women's comments) "It's women's business, not (an) easy subject for men."*

*"They still look at boobs as sexual thing full stop."*

Practitioners were concerned that many women do not breastfeed their babies and observed that younger mothers appeared less inclined to breastfeed than the previous generation.

*"There's not a lot of our mums doing a lot of breastfeeding."*

*"It's a whole generational think ... the whole watching your mother and your grand-mother feeding ... that generation stopped."*

Shame and embarrassment, particularly among younger mothers was identified by practitioners. There was a perception that broader society was not supportive of breastfeeding, and that breasts were seen by men more as sexual objects than a source of nutrition.

*"We've got a lot of younger dads as well and they see them as a sexual thing and there's a little bit of jealousy."*

*"She had a little girl and she was not comfortable breastfeeding at all. Just not comfortable doing breastfeeding ... she was very, very shamed."*

### Sources of nutrition information and advice

Parents described a range of experiences accessing child nutrition advice, health information and child health services. Some parents felt confident accessing child nutrition, health information and services from their local ACCHO. Other parents were unaware of these supports.

*"Go to the Aboriginal health service."*

*"I've got no idea."*

Parents raised the importance of employing Aboriginal staff with the appropriate cultural background:

*"Trained (Aboriginal) nutrition workers. That'd be awesome ... really good."*

*"With someone like you to help with nutrition, you can understand all them kinds of foods and you know what's in it ... different stuff like that triangle, food group stuff."*

Gender of workers was noted, particularly in light of issues such as breastfeeding:

*"A health worker or some other type of male nutrition worker could talk to the young men about the benefits of breastfeeding."*

*Parents also highlighted credentials and professionalism of workers as paramount.*

*"Well the two things I look at as a parent is 1) that the information that they're trying to give me is current and that they do appear to know what they're on about, so being educated. And 2) knowing whatever I go to them is held in confidence. That's probably my biggest thing. I've gotta know that I can trust them, that whatever I go to them with, that I know that it's not going to be spread around the community."*

Issues associated with child nutrition training for Aboriginal Health Workers was raised by practitioners. ACCHO staff reported basic nutrition training as part of Aboriginal Health Worker, Nursing or Midwifery qualifications. Early childhood education staff were less likely to have nutrition training apart from food handling certificates. Practitioners requested strategies to empower parents more effectively, particularly around sensitive issues such as breastfeeding, child feeding and overweight.

*"I'm just new within all this ... I know about iron and all that ... but with babies, children, I really don't know so I would like to go to training."*

*"Over the last few years there's been that whole thing that you should delay introduction of solids.....the jury's out again.... so an update on all that kind of stuff for us would be really, really good because out in the big wide world mothers are confused and I can't blame them."*

*"(If I had training) I'd be able to get up and stand up and be confident that I'm giving out the right information. I've got a little bit of an understanding about it but it'd be nice to have clarification."*

Parents suggested improvements for child health services, or specific examples of role models or 'mentors' trained in child nutrition. Others suggested pairing mainstream and Aboriginal workers (e.g. Maternal and Child Health nurse with Aboriginal health worker).

*"Best place is the Aboriginal co-op and health service."*

*"...talk to someone in the health service."*

*"I like the idea (of having trained mentors) that it shifts from 'my friend said' to people with a bit more education."*

Practitioners reported concerns about continuity of care in early childhood services, especially access to a Maternal and Child Health nurse or equivalent early childhood health services.

*"Their growth and development aren't being checked now at all."*

*"We occasionally get families to play group that have fallen through the cracks a bit so then we're able to refer them on and have Maternal and Child Health come and pick them up."*

*"The children that I have concerns about, there are scales in my car and I will weigh them but it's not part of the program. Especially the girls who don't engage very*

*well with maternal and child health, at least it's better that I weigh them than they're not weighed but it isn't my role."*

Practitioners offered suggestions for service-delivery and system improvements.

*"Maternal child health nurse within the co-op. That would be excellent. Just once a month isn't enough. Some of these kids are really high risk so once a month is not going to sort that out."*

*"I think a lot of the ACCHOs really needs to be looking at having our own maternal and child health nurses 'cos there's just so much conflict with the mainstream ones."*

*"I can't say often enough or long enough, loud enough the ideal for children 0-8 is to have access to maternal and child health. You might say 'oh yes, they've got access to mainstream and they're culturally going to put up a few Indigenous prints in their rooms' It's not the same. Our families are telling us with their feet it's not the same."*

*"That's the vision that our maternal and child health nurse actually said when she left, that just like the midwife and the health worker work in KMS, to have a ... health worker that has nutrition training and stuff like that working alongside a maternal and child health nurse."*

Practitioners noted the role of nutrition and play policies within their organisations.

*"We have a physical activity policy. Probably the nutrition and the physical activity policies need to be looked at ... more closely and revised a little bit."*

*"We don't really have a policy but like I said, most areas try to provide a healthy meal."*

*"I think it would be good to have a policy for the catering side because I know that they do have the fried food as well as the sandwiches and the fruit."*

*"The first thing I'd do, I'd implement protocols in all Aboriginal organisations implementing healthy catering food only. No deep-fried crap."*

*"They put sugar in everything! Sugar in the bottles, sugar when they cook...cook the vegetables, sugar in everything."*

## Discussion

In this Aboriginal child nutrition needs assessment, participants openly shared their insights and personal experiences of raising children. Three main findings arising from consultations were: 1) children's nutrition is a concern for Aboriginal families in Victoria,

2) breastfeeding is a whole community issue, and 3) there are gaps in early childhood nutrition and health services for Aboriginal families.

### *Children's nutrition is a concern for families*

Our findings show that major concerns of Aboriginal families related to children's nutrition centred on reliance on sweet drinks and bottles in infancy, fussy eating, and consumption of takeaway foods at the expense of fruit and vegetables. Such practices are consistent with data from national surveys<sup>7,8,23</sup> and have been reported previously in Aboriginal communities.<sup>5,6,24,25</sup> Although fussy eating is a normal developmental stage for young children, parents frequently express concern about this phase,<sup>26</sup> which sets the scene for lifelong eating habits. If unchecked, future eating problems – including obesity – may result.<sup>27,28</sup> With timely and culturally applicable anticipatory guidance, parents may be better equipped to respond to their children's eating demands through the normal developmental phase of fussy eating. Parents also described powerlessness to change their children's eating which may reflect gaps in knowledge, confidence and self-efficacy in parenting.<sup>29-31</sup> Parents identified inconsistencies in the advice they received, or were unaware of where to access information. They requested more culturally relevant and applicable information as supported by others' findings.<sup>32-34</sup> There was consistency in the issues identified by urban and regional families, with confirmation by practitioners.

The described nutrition practices are linked to future eating patterns,<sup>35</sup> dental issues<sup>36</sup> and obesity,<sup>35,37</sup> which are over-represented in children living in socially disadvantaged areas<sup>38,39</sup> and among Aboriginal children.<sup>40,41</sup> Childhood obesity increases risk of adult obesity,<sup>42,43</sup> which, after smoking, is the most important risk factor contributing to the burden of disease experienced by Aboriginal and Torres Strait Islander people.<sup>44</sup> Early childhood presents a critical opportunity for shaping future taste preferences, appetite regulation and healthy eating patterns.<sup>45</sup>

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### *Breastfeeding is a whole community issue*

Our findings identified concerns, difficulties, and barriers to breastfeeding

in Victorian Aboriginal communities.

Shame, embarrassment, lack of modelling and inconsistent support from staff were described. These factors contributed to an overall lack of 'culture' to support breastfeeding. Women, men and practitioners alike expressed their concerns which extended beyond the role of breastfeeding solely as a source of infant nutrition.

Feedback from men confirmed that fathers want to participate more in child rearing and supporting breastfeeding, but traditionally have not had a role in 'women's business'.<sup>46</sup> Women requested more support from men, but believed broader societal views of breasts as sexual prevented men from getting involved.

Closing the gap in breastfeeding initiation and continuation rates among Aboriginal mothers and infants is a national and local priority.<sup>2,47</sup> The context of future strategies to address this gap is important to progress these issues within Aboriginal communities. Framing discussions about breastfeeding as 'good for baby's nutrition' may be more culturally appropriate for men to discuss (and support), but otherwise discussions about 'breasts' may not be acceptable. This approach may facilitate a shift in thinking towards the view that breastfeeding is good for baby's health which is everyone's business.

### *Gaps in child nutrition information and health services*

We have identified gaps in staff capacity and services for Aboriginal families with young children.

Families and practitioners report that mainstream services such as Maternal and Child Health are not well accessed. Conversely ACCHOs may not have staff capacity to deliver child nutrition services. For example, some practitioners in Aboriginal services had general nutrition training, but very few had child nutrition training and none in childhood overweight. Practitioners' own perceptions and experiences also influence their approach broaching difficult topics (such as obesity or breastfeeding) with families.<sup>48,49</sup>

The Victorian Maternal and Child Health service is a universal primary health care service offering child nutrition support and advice for families with children from birth to school age. A small number of Maternal and Child Health nurses are located in ACCHOs, but most are in mainstream services provided by local government. Overall access to

Maternal and Child Health services by non-Aboriginal families is high (95% at 8 weeks of age; 70% at 2 years). Fewer Aboriginal families engage with the service and experience higher drop-off rates (85% of Aboriginal children at 8 weeks; 45% by 2 years).<sup>13</sup> Consequently, more Aboriginal children fall through service gaps.

These findings suggest a need to trial targeted child nutrition training and capacity building opportunities for health workers working with Aboriginal families with young children.<sup>50,51</sup>

## Implications

Based on the findings of this study we believe there is an urgent need to understand more about child nutrition messages and services delivered by ACCHOs and to investigate culturally applicable service delivery options for Aboriginal families engaging with maternal and child health services.<sup>52</sup>

Twenty-five percent of Victoria's Aboriginal population is aged 0-8 years, yet Aboriginal families encounter many barriers accessing child health services including: cost, transport, lack of awareness of the services available, cultural irrelevance of programs, and mistrust of mainstream service providers.<sup>53</sup> Racism, discrimination and marginalisation also influence service utilisation and Aboriginal health outcomes.<sup>54</sup> Child nutrition is a key determinant of children's health and well-being<sup>55</sup> but responsibility and coordination of effort directed towards Aboriginal children's nutrition is poorly coordinated. Nutrition has been described as 'everybody's business but nobody's business' perhaps due to its multi-sectorial nature.<sup>56</sup> Long-established child nutrition programs for Aboriginal children in Australia include growth monitoring, child health checks, iron and folate supplementation, breastfeeding and mother/baby programs providing variable success in remote communities.<sup>57</sup> There are no overarching strategies or policy encompassing child nutrition and services for Aboriginal families. The current Aboriginal health policy refers to 'breastfeeding' and 'child nutrition' just once.<sup>10</sup>

## Strengths and limitations

A major strength of this project was strong engagement with Aboriginal organisations and families living in urban and regional

areas. Understanding of nutrition issues for Aboriginal children has also typically centred on remote communities in northern parts of Australia.<sup>25,57</sup> Most participants in our study were both Aboriginal community members and parents. They shared personal and professional experiences of raising children.

Strong cross-disciplinary partnerships between researchers, children's health and education practitioners and Aboriginal parents of young children drove the project. Despite raising typically sensitive issues such as breastfeeding and overweight, parents and practitioners openly discussed their concerns which greatly enriched the findings. Given the participatory nature of our research, we are confident our findings reflect community views which will foster future commitment to addressing the issues identified.<sup>58</sup>

One limitation was the small number of parents involved, and limited number of locations. However, emergent themes were consistent across all discussion groups (by location and gender) and confirmed by practitioners.

## Conclusion

Child nutrition is a key determinant of child health, with long-standing inequity in child health outcomes for Aboriginal children in Australia evident.<sup>3,4,6,10</sup> Addressing this is a key priority locally, nationally and internationally.<sup>55,59,60</sup> This study highlights that children's nutrition is also a concern for Aboriginal families in Victoria. Health and children's services practitioners share parents' concerns but capacity, systems approaches and overarching policy to address the issues are lacking. These findings confirm the need to understand more about child nutrition messages and services delivered by ACCHOs and to investigate culturally applicable service delivery options for Aboriginal families engaging with maternal and child health services. We advocate for planning and evaluation of a coordinated, culturally responsive systems approach providing support for breastfeeding, evidence-based child nutrition advice and culturally appropriate delivery to Aboriginal families, capacity building for staff, and supportive systems and policy.

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## References

1. Birch LL, Fisher JO. Development of eating behaviours among children and adolescents. *Pediatrics*. 1998;101(Supplement 2):539-49.
2. National Health and Medical Research Council. *Infant Feeding Guidelines*. Canberra (AUST): NHMRC; 2012.
3. Australian Institute of Health and Welfare. *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*. Canberra (AUST): AIHW; 2005.
4. Australian Institute of Health and Welfare. *Aboriginal and Torres Strait Islander Wellbeing: A Focus on Children and Youth*. Canberra (AUST): AIHW; 2011.
5. Holmes W, Phillips J, Thorpe L. Initiation rate and duration of breast-feeding in the Melbourne Aboriginal community. *Aust N Z J Public Health*. 1997;21(5):500-3.
6. Australian Health Ministers' Advisory Council. *Aboriginal and Torres Strait Islander Health Performance Framework 2012 Report*. Canberra (AUST): AHMAC; 2012.
7. Australian Institute of Health and Welfare. *2010 Australian National Infant Feeding Survey: Indicator Results*. Canberra (AUST): AIHW; 2011.
8. Commonwealth Scientific Industrial Research Organisation, PHNRF and the University of South Australia. *2007 Australian National Children's Nutrition and Physical Activity Survey*. Canberra (AUST): Commonwealth Department of Health and Ageing; 2008.
9. National Health and Medical Research Council. *Dietary Guidelines for Australians*. Canberra (AUST): NHMRC; 2013.
10. Department of Health. *National Aboriginal and Torres Strait Islander Health Plan 2013-2023*. Canberra (AUST): Commonwealth of Australia; 2013.
11. Kowal EE, Paradies YC. Enduring dilemmas of Indigenous health. *Med J Aust*. 2010;192(10):599-600.
12. Taylor KP, Smith JS, Dimer L, Ali M, Wilson N, Thomas TR, et al. "You're always hearing about the stats... death happens so often": new perspectives on barriers to Aboriginal participation in cardiac rehabilitation. *Med J Aust*. 2010;192(10):602.
13. Department of Education and Early Childhood Development. *Maternal and Child Health Services Annual Report 2011-2012*. Melbourne (AUST): DEECD; 2012.
14. Myers J, Gibbons K, Hampson N, Naughton G, Volders E. *Filling the Gaps Early Childhood Nutrition and Physical Activity Needs Assessment 2010 Summary Report*. Melbourne (AUST): Victorian Department of Health; 2012.
15. National Health and Medical Research Council. *Values and Ethics: Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research*. Canberra (AUST): NHMRC; 2003.
16. National Health and Medical Research Council. *Review of the NHMRC Road Map. A Strategic Framework for Improving Aboriginal and Torres Strait Islander Health through Research*. Canberra (AUST): NHMRC; 2009.



17. Bronfenbrenner U. Toward an experimental ecology of human development. *Am Psychol*. 1977;32(7):513-31.
18. Schulz AJ, Krieger J, Galea S. Addressing social determinants of health: Community-based participatory approaches to research and practice. *Health Educ Behav*. 2002;29(3):287-95.
19. Shalowitz MU, Isacco A, Barquin N, Clark-Kauffman E, Delger P, Nelson D, et al. Community-based participatory research: a review of the literature with strategies for community engagement. *J Dev Behav Pediatr*. 2009;30(4):350-61.
20. Thorpe S, Browne J. *Closing the Nutrition and Physical Activity Gap in Victoria: Victorian Aboriginal Nutrition and Physical Activity Strategy*. Melbourne (AUST): Victorian Aboriginal Community Controlled Health Organisation; 2009.
21. Gibbons K, Graham V, Marraffa C, Henry L. 'Filling the Gap' – children aged between two and four years: sources of nutrition information used by families, and childcare staff. *Nutr Diet*. 2000;57:208-14.
22. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77-101.
23. Hardy LL, King L, Espinel P, Cosgrove C, Bauma A. *NSW Schools Physical Activity and Nutrition Survey (SPANs) 2010: Full Report*. Sydney (AUST): New South Wales Ministry of Health; 2010.
24. Adams K. *Koori Kids and Ear Health*. Melbourne (AUST): University of Melbourne VicHealth Koori Health Unit, Centre for Health and Society, School of Population Health; 2006.
25. Cromie EA, Shepherd CC, Zubrick SR, Oddy WH. Breastfeeding duration and residential isolation amid Aboriginal children in Western Australia. *Nutrients*. 2012;4(12):2020-34.
26. Leung AKC, Marchand V, Sauve RS. The 'picky eater': The toddler or preschooler who does not eat. *Paediatr Child Health*. 2012;17(8):455-7.
27. Ventura A, Birch L. Does parenting affect children's eating and weight status? *Int J Behav Nutr Phys Act*. 2008;5(1):15.
28. Savage JS, Fisher JO, Birch LL. Parental influence on eating behavior: Conception to adolescence. *J Law Med Ethics*. 2007;35(1):22-34.
29. Pocock M, Trivedi D, Wills W, Bunn F, Magnusson J. Parental perceptions regarding healthy behaviours for preventing overweight and obesity in young children: a systematic review of qualitative studies. *Obes Rev*. 2010;11(5):338-53.
30. Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychol Rev*. 1977;84(2):191-215.
31. Campbell K, Hesketh K, Silverii A, Abbott G. Maternal self-efficacy regarding children's eating and sedentary behaviours in the early years: associations with children's food intake and sedentary behaviours. *International journal of pediatric obesity*. *Int J Pediatr Obes*. 2010;5(6):501-8.
32. Nutbeam D. Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promot Int*. 2000;15(3):259-67.
33. Riggs E, Davis E, Gibbs L, Block K, Szwarc J, Casey S, et al. Accessing maternal and child health services in Melbourne, Australia: Reflections from refugee families and service providers. *BMC Health Serv Res*. 2012;12:117.
34. Sanders LM, Shaw JS, Guez G, Baur C, Rudd R. Health literacy and child health promotion: implications for research, clinical care, and public policy. *Pediatrics*. 2009;124 Suppl 3:S306-14.
35. Fiorito LM, Marini M, Mitchell DC, Smiciklas-Wright H, Birch LL. Girls' early sweetened carbonated beverage intake predicts different patterns of beverage and nutrient intake across childhood and adolescence. *J Am Diet Assoc*. 2010;110:543-50.
36. Gussy MG, Waters EG, Walsh O, Kilpatrick NM. Early childhood caries: Current evidence for aetiology and prevention. *J Paediatr Child Health*. 2006;42:37-43.
37. Huh SY, Rifas-Shiman SL, Taveras EM, Oken E, Gillman MW. Timing of solid food introduction and risk of obesity in preschool-aged children. *Pediatrics*. 2011;127(3):e544-e51.
38. Shrewsbury V, Wardle J. Socioeconomic status and adiposity in childhood: A systematic review of cross-sectional studies 1990-2005. *Obesity*. 2008;16(2): 275-84.
39. Jansen PW, Mensah FK, Nicholson JM, Wake M. Family and neighbourhood socioeconomic inequalities in childhood trajectories of BMI and overweight: Longitudinal study of Australian children. *PLoS One*. 2013;8(7):e69676.
40. Spurrier NJ, Volkmer RE, Abdallah CA, Chong A. South Australian four-year-old Aboriginal children: residence and socioeconomic status influence weight. *Aust N Z J Public Health*. 2012;36(3):285-90.
41. Department of Health. *Koori Health Counts! Victorian Aboriginal Hospital Data 2007-08 to 2009-10*. Melbourne (AUST): State Government of Victoria; 2011.
42. Monasta L, Batty GD, Cattaneo A, Lutje V, Ronfani L, Van Lenthe FJ, et al. Early-life determinants of overweight and obesity: A review of systematic reviews. *Obes Rev*. 2010;11(10):695-708.
43. Magarey AM, Daniels LA, Boulton TJ, Cockington RA. Predicting obesity in early adulthood from childhood and parental obesity. *Int J Obes Relat Metab Disord*. 2003;27(4):505-13.
44. Vos T, Barker B, Stanley L, Lopez AD. *The Burden of Disease and Injury in Aboriginal and Torres Strait Islander Peoples*. The University of Queensland School of Population Health Centre for Burden of Disease and Cost-Effectiveness; 2007.
45. Birch LL, Davison KK. Family environmental factors influencing the developing behavioral controls of food intake and childhood overweight. *Pediatr Clin North Am*. 2001;48(4):893-907.
46. Eades S. *Maternal and Child Health Care Services: Actions in the Primary Health Care Setting to Improve the Health of Aboriginal and Torres Strait Islander Women of Childbearing Age, Infants and Young Children*. Canberra (AUST): Commonwealth Department of Health and Ageing; 2004.
47. Amir LH, Forster D, McLachlan H, Moorhead A, Chamberlain C, McKay H. *Breastfeeding in Victoria: Report*. Melbourne (AUST): Victorian Department of Education and Early Childhood Development; 2010.
48. Meshefedjian GA, Gervais A, Tremblay M, Villeneuve D, O'Loughlin J. Physician smoking status may influence cessation counseling practices. *Can J Public Health*. 2010;101(4):290-3.
49. Straus SE, Tetroe JM, Graham ID. Knowledge translation is the use of knowledge in health care decision making. *J Clin Epidemiol*. 2011;64(1):6-10.
50. Hughes RA. A socioecological analysis of the determinants of national public health nutrition workforce capacity. *Fam Community Health*. 2006;29(1):55-67.
51. Browne J, Thorpe S, Tunny N, Adams K, Palermo C. A qualitative evaluation of a mentoring program for Aboriginal health workers and allied health professionals. *Aust N Z J Public Health*. 2013;37(5): 457-62.
52. Campbell S. *From Her to Maternity*. Melbourne (AUST): Victorian Aboriginal Community Controlled Health Organisation and Victorian Department of Human Services; 2000.
53. Department of Human Services. *Aboriginal Best Start Status Report*. Melbourne (AUST): State Government of Victoria; 2004.
54. Paradies Y, Cunningham J. Experiences of racism among urban Indigenous Australians: Findings from the DRUID study. *Ethn Racial Stud*. 2009;32(3):548-73.
55. Bhutta ZA. Early nutrition and adult outcomes: Pieces of the puzzle. *Lancet*. 2013;382(9891):486-7.
56. Torheim LE, dePaoli MM, Bezerra RD. *Nutrition – Everybody's Business and Nobody's Business: Nutrition with in Norwegian Development Policy*. Oslo (NOR): Fafo; 2012.
57. McDonald EL, Bailie RS, Rumbold AR, Morris PS, Paterson BA. Preventing growth faltering among Australian Indigenous children: Implications for policy and practice. *Med J Aust*. 2008;188(8 Suppl):S84-6.
58. Onemda VicHealth Koori Health Unit. *We Can Like Research...in Koori Hands*. Melbourne (AUST): University of Melbourne Centre for Health and Society, Melbourne School of Population Health; 2008.
59. Department of Health. *Koolin Balit: Victorian Government Strategic Directions for Aboriginal Health 2012-2022*. Melbourne (AUST): State Government of Victoria; 2012.
60. Department of Education and Early Childhood Development. *Balart Boorron: The Victorian Plan for Aboriginal Children and Young People (2010-2020)*. Melbourne (AUST): State Government of Victoria; 2010.