

“We should eat it wisely, in a good way”: Knowledge, perceptions and understanding of childhood obesity and overweight among Sudanese refugee parents in South Australia

William Mude
Country Health SA and Relationships Australia
Teresa Burgess
The University of Adelaide
Lillian Mwanri
Flinders University

Abstract

Childhood obesity is a significant global problem, acknowledged to be a determinant of multiple chronic conditions including diabetes, cardiovascular disease and psychosocial problems. International evidence points to the children of migrant populations as being at high risk, with socio-economic, environmental and cultural factors all implicated as determinants of obesity. A significant number of young Sudanese families have settled in Australia but, to date, there has been minimal research into this problem in the Australian context. From within the community there are growing concerns about how to stop obesity and chronic disease from becoming issues. This research was aimed at exploring understandings of childhood obesity and overweight among Sudanese refugee parents resettled in Adelaide, South Australia. A qualitative approach was used, with data collected through face-to-face interviews. Interview data were transcribed, coded and analysed thematically. Participants demonstrated their understanding that there are multiple and complex determinants of childhood obesity. They identified issues such as food access, the quality of available food, the role of parents, physical inactivity and features of local environments as specific issues for the Sudanese community in South Australia.

Introduction

Globally, childhood obesity and overweight are increasingly being recognised as major public health problems.¹ The World Health

¹ Youfa Wang and Tim Lobstein. “Worldwide trends in childhood overweight and obesity.” *International Journal of Pediatric Obesity* 1:1 (2006): 11-25.

Organisation (WHO) estimated that in 2010 there were almost 45 million overweight children aged under five-years worldwide.² In Australia, it has been reported that one out of four children is either overweight or obese,³ and obesity contributes significantly to the national burden of disease due to its association with a wide variety of chronic diseases and related mortality.⁴ Whilst a significant amount of research has been undertaken in the more general area of childhood obesity,⁵ some sub-populations remain under-researched in Australia, including migrant and refugee populations. Some studies have reported on sub-Saharan African refugees' experiences with food and obesity in Australia,⁶ and anecdotal evidence from the Sudanese community is

² World Health Organization (WHO). *Overweight and Obesity. Fact Sheet No 311*. (Geneva: WHO, 2011). <http://www.who.int/mediacentre/factsheets/fs311/en/index.html> (accessed 15 May 2011).

³ Australian Bureau of Statistics (ABS). *2007-2008: National Health Survey Summary of Results*. (Canberra: Australian Bureau of Statistics, 2009). [http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/9FD6625F3294CA36CA25761C0019DDC5/\\$File/43640_2007-2008%20\(reissue\).pdf](http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/9FD6625F3294CA36CA25761C0019DDC5/$File/43640_2007-2008%20(reissue).pdf) (Accessed 15 April 2012).

⁴ David W. Haslam and W. Philip T. James, "Obesity," *Lancet* 366:9492 (2005): 1197-1209.

⁵ Steven Cummins and Sally Macintyre, "Food environments and obesity—neighbourhood or nation?" *International Journal of Epidemiology* 35:1 (2006): 100-104; Julie Green et al., "Social, cultural and environmental influences on child activity and eating in Australian migrant communities," *Child: Care, Health & Development* 29:6 (2003): 441-448; Mai Stafford et al. "Pathways to obesity: Identifying local, modifiable determinants of physical activity and diet," *Social Science and Medicine* 65:9 (2007): 1882-1897; Jennifer A. O'Dea, "Gender, ethnicity, culture, and social class influences on childhood obesity among Australian schoolchildren: Implications for treatment, prevention and community education," *Health and Social Care in the Community* 16:3 (2008): 282-290.

⁶ Andre M.N. Renzaho et al., "Obesity and undernutrition in Sub-Saharan African immigrant and refugee children in Victoria, Australia," *Asia Pacific Journal of Clinical Nutrition* 15:4 (2006): 482-490; Andre M.N. Renzaho and David Mellor, "Applying socio-cultural lenses to childhood obesity prevention among African migrants to high-income western countries: The role of acculturation, parenting, and family functioning," *International journal of Migration, Health and Social Care* 6:1 (2010): 35-42; Andre M.N. Renzaho, Marita McCabe and Boyd Swinburn. "Intergenerational differences in food, physical activity, and body size perceptions among African Migrants," *Qualitative Health Research* 22:6 (2012): 740-754; Andre M.N. Renzaho, Boyd Swinburn and Cate Burns, "Maintenance of traditional cultural orientation is associated with lower rates of obesity and sedentary behaviours among African migrant children in Australia," *International journal of Obesity* 32:4 (2008): 594-600; Andre M.N. Renzaho, "Fat, rich, and beautiful:

pointing to growing concern about the increasing prevalence of chronic disease. However, to date there have been few studies specifically examining Sudanese parents' understandings of obesity and how they deal with this issue in their communities.

In the past ten years, Australia has settled more than 20,000 Sudanese people under the Australian Humanitarian Programme, with the majority (approximately 98 per cent) coming from refugee camps.⁷ Widespread malnutrition due to deficiencies in food quality and supply has been reported in refugee camps, with an acute malnutrition rate of approximately 24 per cent reported amongst Sudanese refugees in Daadab camp, Kenya (where many Sudanese now in Australia lived before resettlement).⁸ In addition, little is known about Sudanese refugees in terms of lifestyle, diet and physical activity, all of which are known to influence obesity. It is important to explore how these cultural and lifestyle factors influence childhood obesity and overweight from the perspectives of the Sudanese refugee parents settled in Australia. This is not of significant concern only because of the high prevalence of obesity in Australia,⁹ but also because of the intricately intertwined social and environmental risk factors, such as poor neighbourhoods, unemployment, and inadequate physical activity, that influence obesity and overweight,¹⁰ and which many Sudanese refugees may experience once settled in Australia.

Changing socio-cultural paradigms associated with obesity risk, nutritional status, and refugee children from sub-Saharan Africa," *Health and Place* 10:1 (2004): 105-113.

⁷ Commonwealth Government of Australia. *Community Information Summary Canberra: Multicultural Affairs Branch and the programme Statistics and Monitoring section of DIAC* Canberra: DIAC, 2011. <http://www.immi.gov.au/media/publications/statistics/comm-summ/pdf/sudan.pdf> (accessed 15 November 2011).

⁸ UN ACC/SCN, *Refugee Nutrition Information System (RNIS), No. 43 – Report on the Nutrition Situation of Refugees and Displaced Populations* (Geneva: UN ACC/SCN, 2003).

⁹ Adrian J. Cameron et al., "Overweight and obesity in Australia: the 1999-2000 Australian Diabetes, Obesity and Lifestyle Study," *Medical Journal of Australia* 178:9 (2003): 427-432.

¹⁰ James F. Sallis and Karen Glanz, "The role of built environments in physical activity, eating, and obesity in childhood," *Future Child* 16:1 (2006): 89-108; Shiriki K. Kumanyika, "Environmental influences on childhood obesity: Ethnic and cultural influences in context," *Physiology and Behaviour* 94:1 (2008): 61-70; Lillian Mwanri, Kiros Hiruy and Joseph Masika. "Empowerment as a tool for a healthy resettlement: a case of new African settlers in South Australia," *International Journal of Migration, Health and Social Care*, 8:2 (2012): 86-97.

Migrant populations have been identified as more likely to experience obesity and overweight following migration.¹¹ A study conducted in The Netherlands reported that overweight and obesity among immigrant children increased from 15 per cent at the time of arrival to 21 per cent, approximately three years later.¹² According to another study, a lack of awareness about obesity and its connection to lifestyle and living conditions explains the increased prevalence of childhood obesity and overweight among immigrant children in Sweden.¹³ Approximately 27 per cent of the current population of Sudanese refugees resettled in Australia is under fourteen years of age;¹⁴ and so may be at risk of developing levels of childhood obesity at least commensurate with the non-migrant population, given their increased likelihood of exposure to environmental risk factors.

The aim of our research was three-fold: (a) to explore Sudanese refugee parents' understandings of childhood obesity and overweight; (b) to investigate how Sudanese refugee parents view and describe childhood obesity and overweight as a health phenomenon; and (c) to provide an interpretation of childhood obesity and overweight from the understanding of the Sudanese refugee parents. We achieved these aims by exploring the question "What is the understanding of childhood obesity and overweight among Sudanese refugee parents settled in South Australia?" We believe that the information derived from this study provides knowledge that can inform both policy formulation and the development of effective strategies to prevent childhood obesity and overweight among Sudanese refugee populations.

¹¹ Annette A.M. Stellinga-Boelen et al., "Obesity in asylum seekers' children in The Netherlands—the use of national reference charts," *European Journal of Public Health* 17:6 (2007): 555-559; Maria B. Magnusson, Lena Hulthen and Karen I. Kjellgren, "Obesity, dietary pattern and physical activity among children in a suburb with a high proportion of immigrants," *Journal of Human Nutrition and Dietetics* 18:3 (2005): 187-194.

¹² Stellinga-Boelen et al., "Obesity in asylum seekers," 559.

¹³ Magnusson, Hulthen and Kjellgren, "Obesity, dietary pattern and physical activity," 194.

¹⁴ Commonwealth Government of Australia. *Sudanese Community Profile*. Canberra: DIAC, 2007. <http://www.immi.gov.au/media/publications/statistics/comm-summ/pdf/sudan.pdf> (accessed 15 November 2011).

Methods - *Study Design*

This study employed a qualitative methodology, using in-depth interviews to assist the researchers to understand the cultural influences and the standpoints of the participants, as well as their individual knowledge and experience.¹⁵ The flexibility of the interview process allowed for the development of a more detailed understanding of beliefs and awareness of Sudanese refugee parents with regard to childhood obesity and overweight (p.66).¹⁶ One of the researchers (WM) is from a Sudanese background, and fluent in both English and Juba Arabic, and so brought his knowledge of the culture to the research as well as his ability to undertake the interviews in either language according to participant preference. This study was approved by the Human Research Ethics Committee at The University of Adelaide

Study site and recruitment strategy

Adelaide is the capital city of South Australia and has a population of about one million people, including approximately 2,000 Sudanese refugees.¹⁷ It is likely that there are more Sudanese in Adelaide than the reported 2,000, as we know anecdotally that this figure excludes people of Sudanese background born in refugee camps in other countries such as Kenya, Egypt and Uganda.¹⁸

A purposeful sampling technique was used to recruit participants in this study.¹⁹ Criteria were developed to ensure that participants were able to inform the researchers about the experience of moving from Sudan to refugee camps and thence to Australia, and how this impacted on beliefs about and attitudes towards food for young children. Recruitment criteria were developed following consultation with key

¹⁵ Pranee Liamputtong. *Qualitative Research Methods*. 3rd ed. (Oxford University Press, USA, 2009).

¹⁶ Max Van Manen. *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy* (London, ON: The State University of New York Press, 1990; p.66).

¹⁷ ABS. "Demography." (Canberra: Australian Bureau of Statistics, 2011). <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/1345.4Main%20Features4May%202011?opendocument&tabname=Summary&prodno=1345.4&issue=May%202011&num=&view=>. (accessed 14 November 2011)

¹⁸ Julie Robinson. "Sudanese heritage and living in Australia: Implications of demography for individual and community resilience," *Australasian Review of African Studies* 32:2 (2011): 25-56.

¹⁹ Hellen J. Streubert and Dona R. Carpenter. *Qualitative Research in Nursing: Advancing the Humanistic Imperative* (Philadelphia: J.B. Lippincott Company, 1995).

stakeholders, including a senior doctor in the African community and community workers. The selection criteria for inclusion were Sudanese parents who: (i) identified themselves as of Sudanese background; (ii) had lived in refugee camps; (iii) had at least one child whilst in a refugee camp; (iv) had children under the age of ten; (v) came to Australia under the Humanitarian Program; (vi) spoke English or Arabic; (vii) were over 18-years old; (viii) were willing to take part in the study; and (viii) had lived in Australia for a period of one to ten years.

Participant information sheets written in both English and Juba Arabic were distributed to those who expressed interest in the study. Informants were screened to meet the inclusion criteria before being formally asked to participate and sign consent forms. WM translated the information and consent forms, ensuring that the translated information did not change in meaning. As WM is actively involved in the community, he was able to publicise the research in a variety of settings, liaising with Sudanese community and sub-community leaders within Adelaide to inform community members about the study. None of the final project participants were known to the researchers prior to the project.

Data collection

Data were collected through semi-structured interviews undertaken with parents in their home setting. The semi-structured interview questions were formulated based on the research questions and consultation with other stakeholders in the African community. Participants were asked open-ended questions about childhood obesity and overweight, exploring: differences between food in Sudan, refugee camps, and Australia; cultural understandings of food and childhood obesity; culture around food while in Sudan, refugee camps, and Australia; and issues around physical activity and leisure time for children while in Sudan, refugee camps, and Australia.

Interviews were conducted at the homes of the participants with the safety of the researcher being appropriately considered. Both English and Juba Arabic (where required) were used to conduct interviews. The length of the interviews ranged from about 60 to 90 minutes and, in most cases, only one parent was interviewed. The interviews were digitally recorded (with consent) and the data were transcribed verbatim. Juba Arabic transcripts were translated into English by WM.

Analysis

Data were analysed thematically, following the framework described by Braun and Clarke.²⁰ Transcribed texts were read several times to identify interesting features, with relevant data collated and coded. Related codes were collected into potential themes that illuminated the understanding of childhood obesity. Themes were checked and cross-checked with the coded data, both extracts and in its entirety. Themes were refined and further analysis performed by moving back and forth between ‘the parts and the whole’ of the transcribed texts in order to identify the structures of the main themes. All themes were reviewed, analysed and related to the research question to determine the final results. Figure 1 (below) demonstrates emerging themes as well as the six steps followed during the data analysis.

Results

Eight participants were recruited according to the criteria identified. While it appears that the construct of obesity as a problem differed over time as a result of migration, generally Sudanese parents had a good understanding of the issue of obesity, its determinants and its consequences. Many factors were identified as causing obesity, as illustrated in Figure 1. However, three broad themes underpinning this understanding on the part of Sudanese parents were identified: culture, knowledge and traditional values; access to food in Australia; and the importance of physical activity. Each of these key themes had a number of illustrative sub-themes.

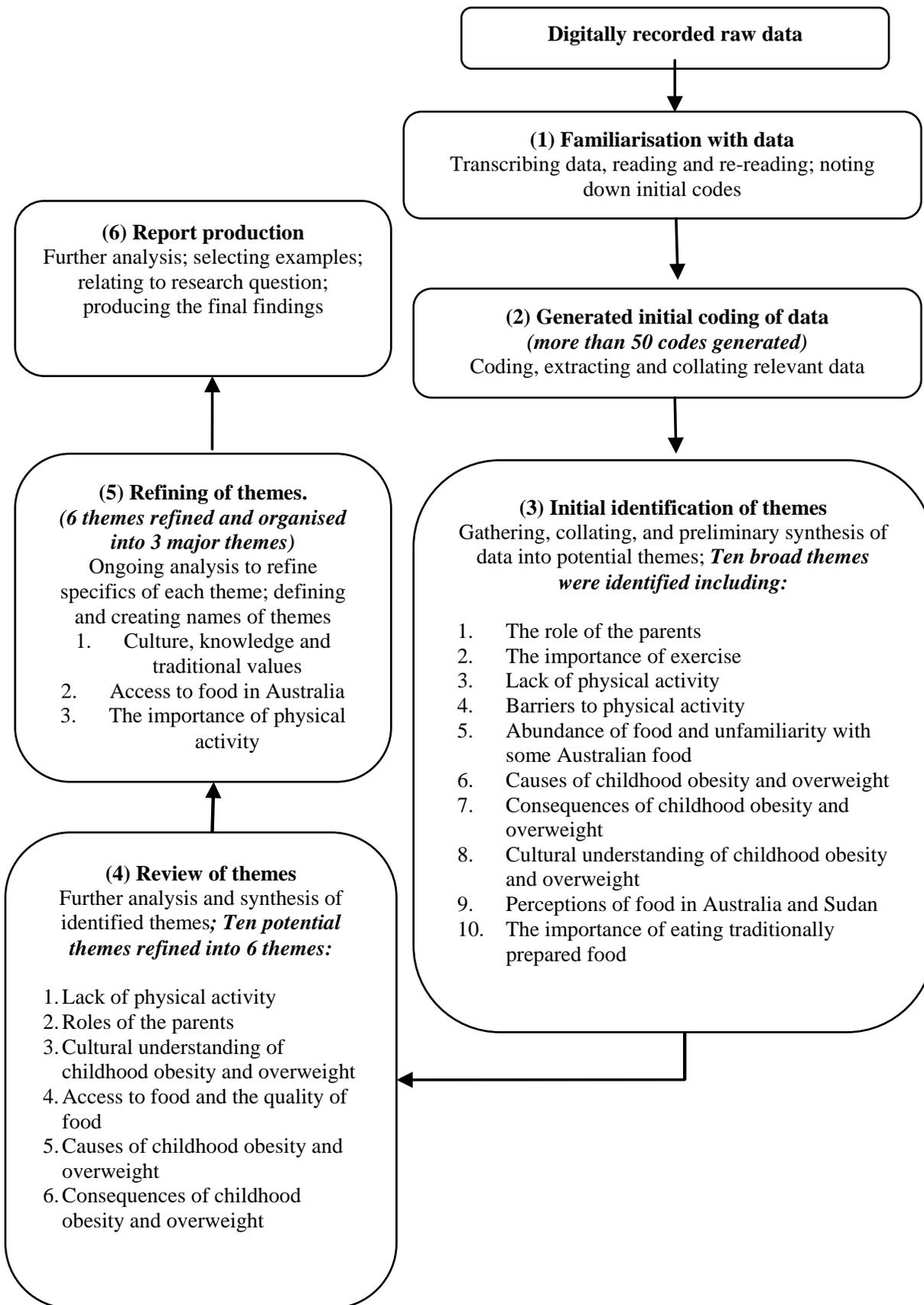
Culture, knowledge and traditional values

Changing Perceptions of Obesity and Overweight

In Sudan, childhood obesity and overweight were not viewed as a problem but rather were associated with living a good life, being responsible, being a good cook, and being a gentleman (used by both male and female participants to imply the ability of a father to provide and afford ‘good’ food that the family needs). In the context of the target population, that means being able to afford to buy meat and other nutrient-rich food. Whilst in Sudan, participants did not see childhood obesity and overweight as resulting from individual behaviours, but rather attributed them to family or parental genes or living a good life. Interestingly, living a good life was one view most of the participants

²⁰ Virginia Braun and Victoria Clarke, “Using thematic analysis in psychology,” *Qualitative Research in Psychology* 3:2 (2006): 77-101.

Figure 1: Data analysis and theme identification process



held whilst in Sudan. Contrastingly, in Australia, participants associated childhood obesity and overweight with sickness, disease, and poor choice of diet.

Back like home [Sudan]; those who are fat are considered to be wealthier or the rich people; those who live better life.” (Participant 4, father)

...is genetic, you know, so is something inherited from one generation to another.... You inherit from your grandparents, your parents and to you as well.

(Participant 6, father)

However, these views changed after settling in Australia. Many participants noted that a high rate of childhood obesity and overweight in Australia could not be explained by family or parental genes alone. Therefore, participants described the causes of childhood obesity and overweight in Australia as a multi-factorial and complex phenomenon. For example, participants mentioned eating chemically-produced food and not doing exercise as causes of childhood obesity and overweight in Australia.

[In Australia]; I think of sickness or disease. Like somebody is sick; having problem in health; ...people see it like a sickness or you don't know how to select your food.

(Participant 8, father)

For me, no exercise; ...people admire getting fat [in Sudan] but they will never be big like here [in Australia] because they are walking and they do a lot of work and exercise.

(Participant 1, mother)

Things that make people fat here [in Australia] is because there is a lot of chemical in the foods. But there in Sudan, you drink milk and eat fish you become fat but you don't have any disease or anything disturbing you. (Participant 2, mother)

Participants associated the main consequences of childhood obesity and overweight with poor health, for example, having problems with breathing, increased inactivity, impacting on laziness, early death, and causing sicknesses such as high blood pressure, diabetes and heart problems.

...fatness here [in Australia] brings a lot of sicknesses; it gets a person to come ill. A lot of the people get [high

blood] pressure; even the kids can have high blood pressure. (Participant 7, mother)

One participant noted that childhood obesity and overweight is not prevalent in the community because they usually eat traditionally prepared food. Others noted that they cooked their traditionally known foods and they know what they cook as parents. However, they were worried that when they change their feeding style their children may be at increased risk of childhood obesity and overweight commensurate with the Australian context.

But when we really taking the life that we find here, I think we will be the same. But the difference of us now we have different kind of food that belonging to us in our traditional. (Participant 1, mother)

The role of parents

Parents identified that they have a number of roles which impact the food they prepare and provide and how they teach their children about food and health.

Parent as a role model: Being a ‘role model’ was perceived to be important for the prevention of risk behaviours that influence childhood obesity and overweight. Many participants noted that parents are culturally supposed to lead by example. In the context of childhood obesity, parents were supposed to practice healthy eating and cook instead of buying food from outside. One participant noted that, culturally, even if they go to the market they are not supposed to buy and eat food on the road as eating together was an important family aspect culturally.

*... If you introduce unhealthy food to a child, it becomes hard for the child to stop it because it taste good in his mouth and mouth likes good things very much. **We should eat it wisely in a good way.** (emphasis added. Participant 5, mother)*

... “In Sudan, we eat together as a family in the same dish at the same time. But since we came here ...children don’t want to eat as a family” (Participant 3, mother).

Parent as an educator: Some participants attributed their children’s demands for unhealthy food to lack of knowledge about the effects of food. They said it was important to educate children about food and its consequences so that they understand the bad and the good elements of the food they demand. In instances where children were not educated

about the effects of food, one father suggested that they may be tempted to choose unhealthy food for themselves.

...to allow your child to eat something, first of all, you have to give them orientation. Tell him the goodness of the food he eats... Give him an orientation, give her an orientation, tell her about the food that she is eating... if that happens, there will be no drama... give them orientations, educate them. Educate the kids. (Participant 6, father)

Parent as an authority: Some participants attributed childhood obesity and overweight to how parents responded to their children's demands—either refusing to buy unhealthy food or giving in to their children's demands for fast food. Participants noted that, as parents, they had the authority to decide what their children should eat given the high appetite of children for junk foods.

We never buy the things that the child [want] I will buy something that I know is good ... Others say 'my child doesn't want to eat this and he wants KFC or McDonalds or hamburger and whatever and just all the time they give the child whatever the child [wants]. (Participant 1, mother)

Access to food in Australia

Participants described food in Australia as:

abundant but not natural, not fresh, not healthy sometimes
(Participant 7, mother)

full of chemicals (Participant 3, mother)

the trees are injected with drugs (Participant 2, mother)

Participants noted that eating traditionally prepared food is important for the health of their children. They believed the way food is prepared influences childhood obesity and overweight:

We usually eat fully cooked food but here [in Australia] ...the way food are prepared is a bit different whereby things are a bit raw, you eat half-cooked sort of food so that is another issue. (Participant 6, father)

They noted that back in Sudan they planted whatever food they consumed; they knew how it grew; but it is...

... quite different in Australia as some of the food in the media we can see cause some sort of diseases.
(Participant 4, father)

Although participants noted problems associated with accessing traditionally known foods, they still ‘chase’ after them in Indian and Chinese stores, while some even order their food from other larger Australian cities. Participants said that some Australian foods are not traditionally known and they are not familiar with the Australian food their children demand. One participant said that when her children started to demand Australian food to take to school, she decided to take them with her to do the shopping so that they could choose the types of food they wanted. Parents were concerned about their children demanding more ‘Australian food’ than traditionally known or prepared food, which they felt could pose problems in the future. They felt it was important to cook for your children because:

when we cook, we know what we are cooking. (Participant 8, father)

Some participants noted that food is abundant in Australia and that this was a problem.

The knowledge we have got is that if we have too much food, you don't know your limitations of it, and will end up causing you disease. (Participant 4, father)

You just can't buy and eat and eat and eat; you will just get the consequences of that food. (Participant 1, mother)

The importance of physical activity

Many participants attributed the rise in childhood obesity and overweight to lack of exercise, and noted the importance of physical activity and maintaining healthy weight for the health of their children.

The fat that you have inside your body, you are not burning it out. (Participant 6, father)

[children with a healthy weight] have low probability of getting sick. (Participant 8, father)

Participants noted that children could not play freely in Australia, as they used to do in Sudan or refugee camps. According to the participants, this encouraged children to adopt sedentary and anti-social behaviours. They questioned why children were not allowed to play freely in a beautiful and peaceful country like Australia, which has all the modern facilities in place. Participants also reported that the attitudes of neighbours towards children were a problem, with some neighbours complaining about hearing children shouting while playing. Some participants said that some neighbours did not want to see children

playing outside without an adult, whilst other participants noted that this meant that children stay inside and watch television instead of going out to play.

For this country's security or laws, you don't have to leave your child alone...; if you leave them [children] outside, if these white people see them outside, they will call police for you especially those who remove children from their parents like Family SA. (Participant 3, mother)

This is the problem putting children to sit just near the TV and then their eyes getting exhausted, looking at the TV instead of going to play. (Participant 8, father)

Whenever the child is indoor... he or she does not have much to do so the only thing is to engage him or herself in eating, sitting in front of the TV and eating. Eating is an alternative of getting outside and playing around with other kids. (Participant 6, father)

Although participants recognised the importance of physical activity for the health of their children, a number cited a lack of enough room for children to play that prevented children from keeping active. Some noted that accessing gyms for exercise was very expensive and so not a practical solution for their children. Participants also noted that their own changed lifestyles, particularly having to work, meant that they had no time to support their children's exercise:

With the lifestyles we have back in Sudan or in refugee camps, first of all, we have got plenty of playing rooms. (Participant 6, father)

...sometimes also you are busy; you wanna go to work or you wanna go to your school or courses; you have no time to take these children. They want to be fit. We have no time to take children very far like to the beach sometimes or to take them very far. (Participant 8, father)

Discussion

This study aimed to explore the understanding of childhood obesity and overweight by Sudanese refugee parents. Recent research indicates that many refugees and immigrants have a general understanding and awareness of childhood obesity and overweight problems in their host

countries; however, they are unsure of how to overcome some of the social, economic, and environmental factors that influence this health phenomenon in their populations.²¹ In South Australia, the broader African community is becoming concerned about the growing incidence of chronic disease and has been participating in programs to improve nutrition and prevent childhood obesity—a known determinant of adult chronic disease.²²

Findings from this study suggest that Sudanese refugee parents have a good understanding and awareness of the cultural, social, economic and environmental factors that influence childhood obesity and overweight in their community. Cultural issues play a key role in the perceptions of Sudanese parents around obesity and overweight and impact a number of areas. A surprising finding from this study was that the preference for ‘bigger body size’ had changed among Sudanese refugee parents. Participants reported that, in Sudan, they saw stout children as a sign of success, prosperity and wealth but in Australia they recognised that childhood obesity and overweight is associated with cardiovascular and chronic disease. This contrasts with a previous Australian study among refugee children from sub-Saharan Africa which reported that stout children are still seen as a sign of ‘living good life.’²³ Other participants in this study observed that in Sudan a ‘bigger body size’ in children was not viewed as resulting from individual behaviour but rather inherited from family or parental genes. However, in Australia, participants see childhood obesity and overweight as resulting from individual behaviours. This suggests that cultural perceptions are not static but constantly evolving, and that they can be influenced by environments (for example, through the portrayal of obesity and overweight on television and in Australian media).²⁴

Participants noted cultural dilemmas around food in Australia and worried about the influence of ‘Australian’ food on the weight of their children. There was evidence that participants had a strong sense of the value of traditional cooking styles, eating habits, and food, which they

²¹ Martina R. Gallagher, “Maternal Perspectives on Lifestyle Habits That Put Children of Mexican Descent at Risk for Obesity,” *Journal for Specialists in Pediatric Nursing* 15:1 (2010): 16-25.

²² Judy Siemelink and Danielle Proud, “Chronic Conditions in African Communities,” Presentation given at SARHN Seminar 21/5/2009. http://www.sarhn.org.au/SARHN_Seminars (accessed 13 December 2011)

²³ Renzaho, Marita and Boyd, “Intergenerational Differences in Food,” 754.

²⁴ Catriona M.F. Bonfiglioli et al., “Choice and voice: Obesity debates in television news,” *The Medical Journal of Australia* 187:8 (2007): 442-445.

believed were good for the health of their children. This view is supported by quantitative research demonstrating that the maintenance of a traditional cultural orientation is associated with lower rates of obesity and sedentary behaviours among African migrant children.²⁵ However, it has also been reported that many immigrant women experience challenges when it comes to striking the right balance between diet, beliefs about food and weight from their native countries, and those in their adopted country.²⁶

One of the major themes arising from the data was the perceived importance of the parent in influencing childhood behaviours associated with nutrition and physical activity. The three parental roles—as role model, educator and authority figure—were seen to impact on children through aspects such as teaching children about traditional foods, informing children about unhealthy foods and their consequences, eating together at the table, accessing and preparing traditional foods, and ensuring children are safe (either by supervising them or not allowing them to play outside). This study also found that constant negotiation is required between parents and children in relation to food choices (for example the mother who took her children with her when shopping so that they could choose the kinds of food they would like to take to school). The role model and educator roles identified in this study support previous research which reports that introducing children to foods at an early age influences “their preference and intake.”²⁷ The role of parents as a key factor influencing the risk of childhood obesity is consistent with a number of other studies.²⁸ Some parents identified their authority role in deciding what foods a child must eat, although it is not clear what kind of disciplinary reinforcement they used to minimise unhealthy eating habits in their children. There is some evidence that parents who use appropriate disciplining styles (e.g.,

²⁵ Renzaho, Swinburn and Burns, “Maintenance of traditional cultural orientation,” 600.

²⁶ Katarina M. Sussner et al., “The influence of immigrants status and acculturation on the development of overweight in Latino families: A qualitative study,” *Journal of Immigrant Minority Health* 10:6 (2008): 497-505.

²⁷ Lucy Cooke. “The importance of exposure for healthy eating in childhood: a review,” *Journal of Human Nutrition and Dietetics* 20:4 (2007):294-301.

²⁸ Elva M. Arredondo et al., “Is parenting style related to children’s healthy eating and physical activity in Latino families?” *Health Education Research* 26:6 (2006): 862-871; David Mellor et al., “Aspects of parenting and family functioning associated with obesity in adolescent refugees and migrants from African backgrounds living in Australia,” *Aust NZ J Public Health*. 36:4 (2012): 317-24.

putting suitable limits on food intake and offering positive compliments) increase healthy eating habits, while those who use strict rules and controls on their children increase the risk of unhealthy eating habits.²⁹ Mellor et al. found that inconsistent discipline and parental supervision may be related to a higher adolescent body mass index (BMI).³⁰ Socio-economic and environmental issues were also reported as impacting both access to food and children's access to physical activity. Participants recognised the importance of physical activity for the health of their children while also identifying significant barriers to their children's participation in outdoor play and other physical activities. Finding time to take children to parks or beaches to play was an issue, and parents felt they often had no time to do this because of commitments around work, learning English, etc. Participants were reluctant to let their children go out alone to play, as they felt that they were being scrutinised by their neighbours and would be reported to police if they allowed their children to play outside unsupervised. Lewig et al. have reported that the third most common reason for notifications to the statutory child protection agency in South Australia for children from refugee families was their being left unsupervised.³¹ Clearly, this indicates that the concerns of Sudanese parents are legitimate, and this clearly promotes children's sedentary lifestyles and indoor living.

A number of participants identified a lack of places for children to play, and this may be associated with refugees often being settled in lower socio-economic areas with fewer available outdoor play facilities.³² These areas are often in the outer suburbs, with poor public transport. Relative remoteness also impacted parents' abilities to access traditional and healthier foods, and this problem was compounded by parents' lack of familiarity with Australian foods and knowledge as to which foods are healthy.

One limitation of this study was the small number of Sudanese parents who participated in the final study. Although a purposive sample was used, the results do not necessarily reflect the experience of all

²⁹ Arredondo et al., "Is parenting style related," 871.

³⁰ Mellor et al., "Aspects of parenting," 24.

³¹ Kerry Lewig, Fiona Arney and Mary Salveron, *The Working with Refugee Families Project* (Adelaide: Australian Centre for Child Protection, University of South Australia, 2009) http://w3.unisa.edu.au/childprotection/documents/124112%20accp_refugee%20report.pdf. (accessed 15 Aug 2012).

³² Paul Atem and Lou Wilson, *Housing pathways for African refugees in Australia: towards an understanding of African refugee housing issues*. 2011. www.tasa.org.au/uploads/2011/05/Atem-Paul-Housing-pathways.pdf. (accessed September 2012).

Sudanese refugees in Australia. However, there was concurrence between participants on a number of issues, particularly around the importance of healthy food in preventing childhood obesity and overweight and the existence of barriers to physical activity. Many of the results reflect the findings of similar research undertaken among migrant and refugee groups.

Implications for practice

When working with Sudanese refugees, introducing weight-related health interventions around food alone is not enough. Interventions need to be multi-faceted, with socio-cultural, environmental, and economic factors considered in the design of programs. Support for both nutrition and physical activity is required. If food-based interventions are to be used in this community, there is a need to understand the culture around traditional foods and to establish a middle ground between the cultures. Also, traditional food habits need to be reinforced so that children can understand the importance of traditionally prepared food for their health. Given the knowledge of healthy foods and food behaviours exhibited by the parents in this study, the use of community members as peer educators for newly arriving Sudanese parents may be a useful strategy. The promotion of physical activity is more complex, as many of the barriers to physical activity are outside the control of individual families, for example, lack of areas to play, irate neighbours, etc. The design of any physical activity interventions will require awareness of these barriers.

Conclusion

The large number of Sudanese refugees settling in Adelaide, South Australia means that specific research on their needs and issues is required. The Sudanese refugee parents who participated in this study were aware of issues related to childhood obesity and overweight and were knowledgeable about the social, economic, and environmental factors that influence weight-related problems. However, they often lacked the resources necessary to help keep their children healthy and this impeded their ability to put their knowledge into practice. Whilst many parents were aware of the importance of healthy food and were keen to keep providing traditional foods, accessing healthy foods was often difficult, and pressure was added when children demanded 'Australian' junk foods. Participants were also aware of the importance of physical activity for the health of their children and clearly described the barriers that hindered their children keeping active. Understanding

these barriers should enable the design of effective preventive strategies and the implementation of successful intervention programs. Overall, there is a need to better understand and recognise the factors influencing childhood obesity and overweight in the Sudanese community. Finally, further research is required to inform program design for the successful implementation of interventions that can support the maintenance of healthy weight in Sudanese children and families.

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