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ARTICLE

Factors affecting the choices made by primary caregivers during the complementary feeding transition period, KwaZulu-Natal, South Africa

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Background: Complementary foods are required to be given timeously, in adequate amounts, prepared safely and must be nutritious. Caregivers play a vital role in ensuring that the complementary feeding transition and beyond happens optimally to achieve normal growth and development in their children.
Objective: The aim was to explore what factors influenced the primary caregivers' choices during the complementary feeding transition period.
Methods: A cross-sectional qualitative study was conducted using focus-group discussions and interviews with caregivers of children enrolled in the Optimal Child Growth and Development (OrCHID) study, which included participants from the Mother and Child in Environment (MACE) cohort and SONKE mother and child cohort.
Results: During the analysis of the focus-group discussions (FGDs) and interviews, nine themes were identified including: (i) starting complementary feeding; (ii) food choices; (iii) family meals; (iv) food preparation methods; (v) meal composition; (vi) texture; (vii) education source; (viii) food source; and (ix) nutrition knowledge. These themes and the key concepts associated with them were categorised into timing and transition, meal preparation, and knowledge and choices.
Conclusion: The caregivers relied largely on advice from family members who advised on their customs and cultural belief systems, which then impacted when the caregivers started complementary foods, food choices, texture, meal composition and transition to family meals. The caregivers sourced complementary foods based on accessibility, convenience and affordability. The caregivers described having a responsive feeding style, where their decisions were influenced by their sensitivity to how their child was responding emotionally and/or physically to the foods they were receiving.

Keywords: focus group discussion, complementary feeding practices, caregivers

Introduction

The transition at six months of age from a predominant milk-based diet to complementary foods is when children are found to be the most vulnerable to malnutrition, nutritional deficiencies, illness and failure to thrive.[1] Complementary foods are required to be given timeously, in adequate amounts, prepared safely and must be nutritious.[2] During this complementary feeding period, the responsibility lies with the child's caregiver(s).[2] Caregivers are the person(s) involved in the daily support of a child's well-being.[2] In terms of complementary feeding, they are responsible for the sourcing of food, preparing the meals and feeding the child.[2] However, their choices are influenced by various aspects as summarised in Figure 1, including: (i) socioeconomic climate; (ii) environmental factors; (iii) nutrition education; (iv) social media and advertising; (v) cultural-belief systems; and (vi) relationship.[3–8]

The socioeconomic climate influences the access to financial resources to make food purchases to feed the household. This ability is negatively influenced by larger household numbers, increased unemployment rate, income inequality, consumer price inflation and difficulties in gaining access to social grants.[3–4] It is estimated that 1.7 million South African households have experienced hunger, with 13.1% of these households having children aged five years or younger, and at least 20% having inadequate access to food.[5]

Environmental factors refer to climate and living conditions associated with these households. Climate changes such as famine and drought affect the ability to grow as well as purchase fresh produce and staples.[4] Also, the geographic location and where caregivers live in proximity to supermarkets/food markets compared with the distance from their homes will affect the overall access to foods (food security) as well as variety of foods eaten.[3] Meeting the basic needs for safe and appropriate living conditions is essential for ensuring the safe preparation of meals, hence, access to clean safe running water, electricity, sanitation and housing.[4]

Nutrition education refers to the information that a caregiver receives about how to feed their child. The source of this information needs to be credible, scientifically backed and up to date with the aim of achieving optimal growth and development in children.[6] One of the big players in information dissemination is the social media platforms.[6] This influential industry is responsible for changes in buying behaviour and choices, which can be either positive or negative depending on what is being promoted. For example, in Mexico bans have been put in place to prevent the promotion and sale of sugar-containing drinks and junk food to children.[7] Policies such as these help caregivers make more informed decisions on what to feed their children.

Cultural-belief systems are rooted in the indigenous knowledge and religious practices and traditions within a society.[8] These practices are generally passed down from generation to generation, where in countries like South Africa this can have an influence on the choices the caregiver makes in tending to the

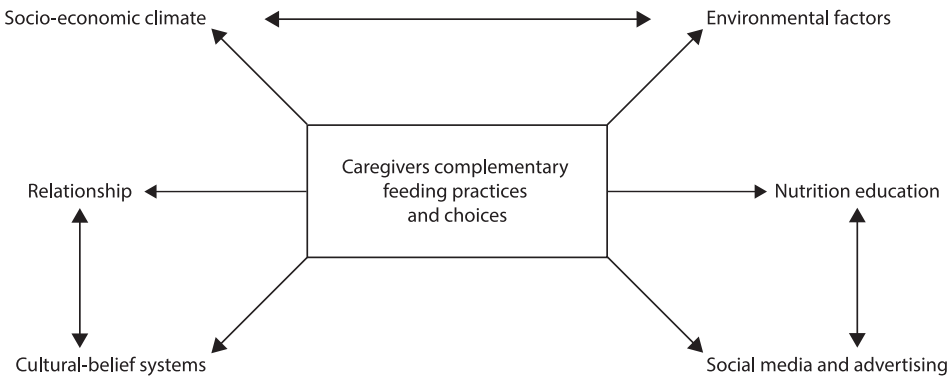

Figure 1: Factors affecting the caregivers' complementary feeding choices and practices.[3–8]

children.[8] These cultural aspects also impact the relationship the caregiver develops with the child and how responsive they are to their needs.[8]

Hence, with these factors in mind, it is important to identify where further research can be targeted at caregivers to help achieve optimum growth and development in their children during this transition phase. Therefore, the aim of this study was to explore what factors influenced the primary caregivers' choices during the complementary feeding transition period.

Methods

A cross-sectional qualitative study design was performed using FGDs and interviews, among primary caregivers living in KwaZulu-Natal, South Africa.

Study population and setting

Twenty-five (25) primary caregivers (with children aged between 24 and 36 months) participated in this study, recruited from May to September 2019. These participants were from the eThekwini Metro and uMkhanyakude districts within KZN, South Africa and they were part of the Optimal Child Growth and Development (OrCHID) study.[9] This study includes participants from the Mother and Child in Environment (MACE) cohort and SONKE mother and child cohort.[9]

Focus-group discussions

Caregivers participated in FGDs, which is a qualitative method when a small group of sampled participants comes together with a facilitator/facilitators for an interactive group discussion.[10,11] Typically, FGDs enable participants to clarify their opinions or views, providing an opportunity for new and unexpected information to emerge.[11] The FGDs were conducted by a trained dietitian, together with the assistance of a trained interpreter. Each FGD was audio recorded as well as transcribed. An FGD guide was used to lead the participants through the session and included various questions on complementary feeding practices.[11] These FGD questions were validated for use via a pilot study as well as using expert opinion through a review analysis process. During the FGD, where required, the questions were interpreted from English into isiZulu by a trained interpreter. To ensure responses were accurately recorded and interpreted, all FGDs were audio recorded and then transcribed verbatim. In this study, a total of five FGDs and two one-on-one interviews were conducted. Each FGD was held with 4–8 participants, and each session lasted 45–60 minutes. Where FGDs could not be done due to poor attendance, a one-on-one interview was conducted with the caregiver using the same discussion guide that was used for the FGDs. The participants were given incentives in the form of travel money and snacks. The response rate was largely influenced by the caregiver's availability and access to transport.

Data analysis

A verbatim transcript of the FGDs was translated into English by a trained translator. Another isiZulu-speaking person checked the accuracy of the English translation, by comparing it with the isiZulu recordings and the notes of the scribe. The study themes and key concepts were identified using decontextualization, recontextualization, categorisation and development of verbatim quotations for each theme using the NVivo software version 11 (https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home).

Ethical considerations

The study was approved by the Biomedical Research Ethics Committee (BREC) of the University of KwaZulu-Natal (UKZN) (BF263/12). All participants completed an informed consent form, which confirmed their consent to participate in the study and acknowledged that all their data would be kept confidential via participant codes.

Results

Participants

The study included a total of 25 caregivers from urban (n = 17; 68.0%) and rural (n = 8; 32.0%) areas. Of the 25 caregivers, all were females including mothers (n = 23; 92.0%), an aunt (n = 1; 4.0%) and a grandmother (n = 1; 4.0%). During the analysis of the FGDs and interviews, nine themes emerged, including: (i) starting complementary feeding; (ii) food choices; (iii) family meals; (iv) food preparation methods; (v) meal composition; (vi) texture; (vii) education source; (viii) food source; and (ix) nutrition knowledge. These themes and the key concepts associated with them were categorised into timing and transition, meal preparation, and knowledge and choices.

Timing and transition

The key findings related to the timing of starting complementary foods and transitioning to eating like the rest of the family are summarised in Table 1.

The age at which complementary foods were introduced varied between the participants. Family members influenced the

Table 1: Key findings from the focus-group discussion (FGD) with caregivers on timing and transition

Question	Theme	Key concepts	Quotations
At what age did you start to give your child solids/foods other than breastmilk or formula?	Starting complementary feeding	The age of starting complementary feeding varies between rural and urban caregivers, with the timing influenced by external sources, e.g. family members	"At 6 weeks we were giving her foods we ate" (FGD no. 3, urban, participant 1) "Honestly, 3 months because my mother started giving mealie meal porridge" (FGD no. 6, urban, participant 4) "My child started solid food at 4 months, but I was still breastfeeding" (FGD no. 2, rural, participant 3) "2 years – he did not want to eat any food, so I just gave breastmilk" (FGD no. 4, urban, participants 4)
What types of solids did you start to give your child at this age?	Food choices	The most common foods that were used to start complementary feeding were starch-based foods such as porridge in the form of maize meal or commercial infant porridge, pumpkin and/or butternut as well as potato	"I started with incumbe porridge – a porridge made from ground samp" (FGD no. 2, rural, participant 2) "porridge, sometimes Cerelac (commercial infant cereal), sometimes maize meal porridge" and "mashed potato" (FGD no. 1, rural, participant 2) "porridge" (FGD no. 1, rural, participant 1; (FGD no 4, urban, participants 1–3) "I started on Cerelac then proceeded to maas, noodles, and maize porridge" FGD no. 2, rural, participant 1) "boiled pumpkin and gem squash" (FGD no. 3, urban, participant 4) "mashed potatoes and butternut" (FGD no. 4, urban, participants 4)
At what age did your child start to eat the same foods/ meals that the family does?	Family meals	The child's readiness was influenced by the input of other family members as well as prompting by the child itself and their acceptance or refusal of the meal	"1 years old" (FGD no. 1, rural, participant 1; FGD no. 3, urban, participant 1, 4, 6, 7; FGD no. 5, urban, participants 1 and 2) "from 9 months" (FGD no. 1, rural, participant 2; FGD no. 3, urban, participant 2 and 3) "8 months" (interview 1, rural) "mine was 6 months because my mother used to take the potato from the curry and smash it into the rice" (FGD no. 6, urban, participant 1) "mine started recently at two years – as soon as I took the child off the breast, she started eating solids a little bit even though she was still finding it hard to eat solid food. I still have a problem with feeding but it's better than before when I was still breastfeeding" (FGD no. 2, rural, participant 4) "still not eating family meals" (FGD no. 4, urban, participant 4)

introductory age, especially the female family members. The participants reported that the first complementary foods introduced were starch-based foods such as porridge in the form of maize meal or commercial infant porridge, and vitamin A-rich vegetables such as pumpkin and butternut as well as mashed potatoes. The starch food group was considered culturally acceptable to start with, affordable and more easily available. As the complementary foods became more established in the child's diet, the caregivers were asked when the child started to eat the same meals as the family at a mealtime. Some of the children's readiness was determined by the influence of a family member, while some children's readiness was determined by the child him/herself and their acceptance or refusal of the meal.

Meal preparation

Meal preparation involves the cooking, manipulation of texture to suit the child's needs and the meal composition. The key findings associated with meal preparation are summarised in Table 2.

When asked how the caregivers prepared the food for their children, they reported that the foods were mostly boiled in water to achieve the required soft, moist consistency. The caregivers reported that, when a meal was put together for the child, it would mostly be composed of either starch and vegetables or starch and protein. The ability of the caregiver to add protein to a meal was based on affordability.

Knowledge and choices

The caregiver's complementary feeding choices are influenced by their education sources, nutrition knowledge and availability of food from food sources, as summarised in the key findings in Table 3.

Caregivers were largely influenced by where they were receiving their information from. Some mothers were able to access information and guidance from reputable sources such as the clinic, healthcare workers and educational material. Secondary advice came from the influence of the female community and family members, including grandmothers, mothers and aunts.

When the participants were asked about where they purchased or sourced their food from, supermarkets were reported as the main source. Supermarkets were a popular choice because they had more variety, convenience, fresh produce and better affordability. It was also reported that some participants living in the rural areas preferred the supermarkets in town, as there was little access to shops near their homes or they were unable to grow their own produce.

It was reported by the participants when asked about convenience foods that they would buy convenience snacks for the child, but only if they could afford it. These foods were chosen for their ability to provide pleasure to the child rather than for their nutritional value. These foods often were high in salt, sugar and fat. The caregivers understood foods to be

Table 2: Key findings from the focus-group discussion (FGD) caregivers on meal preparation

Question	Theme	Key concepts	Quotation
How do you prepare your child's food?	Food preparation methods	Water was the most frequently used cooking medium, because caregivers preferred the boiling method to achieve the soft consistency	"we only fry sometimes" (FGD no. 3, urban, participants 5) "wash and boil vegetables" (FGD no. 4, urban, participant 2) "mainly boiling" (FGD no. 1, rural, participant 1 and 2; FGD no. 2, rural, participants 1–4; FGD no. 3, urban, participants 1 and 2)
Once it is cooked/made, which types of food do you put together to make it a meal?	Meal composition	The food group combinations were either a starch and vegetable, or starch and plant or animal protein	"I cook pap and then have spinach or meat as a side" (FGD no. 2, rural, participant 2) "beans and rice" (FGD no. 2, rural, participant 4) "meat, spice, and beans" (FGD no. 1, rural, participant 1) "we make a stew and mix rice or potato with the meat" (FGD no. 1, rural, participant 2) "milk and porridge" (FGD no. 2, rural, participant 2); (FGD no. 4, urban, participant 1) "starch and protein" (FGD no. 3, urban, participant 2) "protein as a sausage and starch as chips" (FGD no. 3, urban, participant 4) "during the day it depends what I cooked if its beans we eat rice or phutu" (traditional maize meal porridge) (interview no. 1, rural) "chicken with rice" (FGD no. 4, urban, participants 3) "bread and eggs or fish" (FGD no. 5, urban, participant 2)
What is the consistency of these foods that you give your child?	Texture	Soft and moist consistency was the most accepted by the children, but not too runny	"it is normal, not runny" (FGD no. 1, rural, participant 1) "If I'm cooking pap then I must cook the stew with more gravy so that when I dish for the child, I have to add more gravy to soften the pap" (FGD no. 2, rural, participant 1) "not as thick as the ones consumed by older people" (FGD no. 6, urban, participant 5) "soft" (FGD no. 2, rural, participants 1–4; FGD no. 4, urban, participants 1–4) "it must be stewy" (FGD no. 3, urban, participants 3) "thick" (FGD no. 5, urban, participants 1 and 2) "thick and creamy" (FGD no. 3, urban, participants 1)

of high nutritional value through observation of how the child responded in behaviour towards the food as well as if they noticed a change in their physical appearance over time. The protein and dairy food groups were highlighted as important for growth and development.

Discussion

Starting complementary feeding

The recommended age for the introduction of solids is six months of age.[1] Early introduction (< 6 months) and late introduction (> 7 months) is associated with short-term health effects such as rapid weight gain or rapid weight loss (acute malnutrition), infections, as well as possible long-term effects such as chronic malnutrition, atopic diseases, type 1 and 2 diabetes, paediatric obesity and delayed neuromuscular development.[12] In this study, some caregivers introduced solids earlier or later than recommended, despite having knowledge of the recommended age. These choices were largely affected by the influence of other family members and pre-existing ideologies. These findings have highlighted that more efforts need to be made in addressing the varied introductory ages by targeting and correcting the indigenous knowledge pathways engrained within cultural belief systems.

Food choices

In this study the caregivers most frequently used starting foods from the starch food group. This food group was chosen for its acceptability by the child, cultural tradition, being readily available and affordable, and that it could be mashed to a pureed or soft consistency. Although starchy foods are high in energy, they lack protein and iron, which are essential nutrients during this transition period.[13] Efforts need to be made in teaching the caregivers on choosing better starch-based foods that are more nutritionally adequate, such as using fortified grains like maize meal and showing them how to enrich the puree with foods high in iron and protein, e.g. liver.

Family meals

The readiness for the child to start eating like the rest of the family was influenced by the feeding styles of the caregivers and input from family members. The caregivers relied on their own ability to identify how their child responded to changes in diet, such as food group combinations and textures. In an Ethiopian study, this type of feeding style was identified as a responsive feeding style where decisions were based more on emotional responses to the child rather than sound scientific knowledge. Hence, the caregivers were sensitive to the child's feeding cues, likes, dislikes, refusal and acceptance of a meal or food item.[14] The dangers with this feeding style are that caregivers may avoid giving certain foods and/or texture because of how the child responded to it initially. It is recommended that infants should be exposed to new foods or textures between 8 and 15 times before acceptance may be achieved.[15]

Food preparation methods

In this study, the caregivers most frequently preferred cooking vegetables and/or starch-based foods via the boiling cooking method. This involved submerging the food item in water and boiling over a hot burner until it was cooked through. The main objective of this method was that it easily achieved the soft consistency the caregivers desired. Boiling is considered a healthy cooking method as it uses little fat; however, it is associated with changes in nutrient content that occur during

Table 3: Key findings from the focus-group discussion (FGD) caregivers on knowledge and choices

Question	Theme	Key concepts	Quotation
How did you learn to prepare the foods that you give your child?	Education source	Caregivers relied on information from clinics and healthcare professionals, as well as cultural-based practices advised from female family members and community Road-to-Health booklet is an important education source	"we learn from the clinic when we take the child there" (FGD no. 1, rural, participant 1) "from the clinic" (interview 1, rural; FGD no. 4, urban, participants 1–3) "from the Road to Health booklet" (FGD no. 5, urban, participant 1) "from watching television" (FGD no. 4, urban, participant 3) "I learned from the clinic and magazines" (FGD no. 1, rural, participant 2) "I went to the hospital for antenatal care, so they showed me" (FGD no. 3, urban, participant 7) "from the elders, even at the clinic they told us the child should only eat healthy food" (FGD no. 2, rural, participant 1) "from our mothers and grandmothers" (FGD no. 1, rural, participant 1 and 2; FGD no. 5, urban, participants 1 and 2) "mothers" (FGD no. 3, urban, participants 1–3; FGD no. 6, urban, participant 1–5)
Where do you get your food from? Why do you get your food/ ingredients from these places/sources?	Food source	Caregivers living in rural areas' food options were limited in comparison with the variety associated with urban areas Supermarkets were the most popular food source	"in the city – because we get our grant payouts from that area, so we shop there"(FGD no. 1, rural, participant 1) "We buy it from the shop – there is no other place for us to buy it" (FGD no. 2, rural, participants 1–4) "supermarkets – they stock baby stuff" (FGD no. 3, urban, participants 1) "supermarkets – fruit and veg are cheap and they sell fresh things" (FGD no. 6, urban, participant 2) "supermarkets – it's cheap" (FGD no. 4, urban, participants 1) "supermarkets – it is easy and convenient" (FGD no. 4, urban, participants 4) "supermarket – I don't have a place where I can plant" (FGD no. 4, urban, participants 3) "city supermarkets – my child likes this food from that place and the other thing is that there's no place where we can plant things like veggies and stuff because we don't have water so that's why I often buy it from the shop" (interview no. 1, rural) "supermarkets – because there's no other place to buy it from" (FGD no. 2, rural, participant 1)
Are there other foods, drinks, and snacks that you give your child that you buy from the shop, markets, or restaurants?		Convenience foods are considered luxury items The choice to buy convenience foods was based on affordability Convenience foods are bought for the purpose of enjoyment, and not because of their nutritional value The snacks are usually high in salt, sugar and/or fat	"sweets, chips, nespray, and juice" (FGD no. 1, rural, participant 1) "Takeaway foods are too expensive" (FGD no. 1, rural, participant 2) "dried fruit" (FGD no. 4, urban, participants 3) "chips and sweets and the most important thing are biscuits" (FGD no. 6, urban, participant 2) "they like KFC" (FGD no. 3, urban, participant 7) "fusion juice" (FGD no. 3, urban, participant 3) "milkshakes and pizza" (FGD no. 3, urban, participant 5) "if I do have money, I do buy the child snacks like Lays (fried potato crisps)" (FGD no. 2, rural, participant 2) "fried chips with sauce" (FGD no. 2, rural, participant 3)
From the foods you give your child, which do you think makes your child grow well and healthy?	Nutrition knowledge	Protein (animal and plant) food group was identified as the most nutritious food group Dairy was identified as an important food group	"vegetables, sugar beans and spinach" (FGD no. 1, rural, participant 1) "I give milk for calcium" (FGD no. 4, urban, participant 4) "for me its maas, it keeps the child healthy" (FGD no. 2, rural, participant 1) "Egg" (FGD no. 3, urban, participants 1 and 2) "chicken" (FGD no. 3, urban, participant 1) "cheese" (FGD no. 3, urban, participant 4) "beans" (FGD no. 2, rural, participant 3) "vegetables and fruit" (FGD no. 4, urban, participant 2) "vegetables" (FGD no. 6, urban, participants 1–3) "porridge" (FGD no. 6, urban, participant 5)
Why do you feel that these foods you've mentioned make your child grow well and healthy?		Caregivers' food choices were motivated by their own knowledge of what is considered healthy The physical evidence of a child growing and positive response of the child towards a meal motivated the caregivers on their food choices	"they are strong" (FGD no. 1, rural, participants 1 and 2) "I know because it's my idea" (FGD no. 4, urban, participant 1) "because we can see results" (FGD no. 3, urban, participant 1) "the fitness of the body" (FGD no. 2, rural, participant 1) "if they asking for the foods then they are enjoying it" (FGD no. 3, urban, participant 2)

the cooking process.[16] In vegetables it is associated with decreased glucosinolate content and decreases in phenolic compounds.[17] In potatoes, which is a common starting solid used by the caregivers, it preserves the bioactive composition but is associated with a decrease in folate content (especially when peeled).[17] Preparing complementary foods of high nutritional quality is essential, hence caregivers should be given advice on how to best prepare and cook common complementary food items to ensure the nutritional content is retained.

Meal composition and texture

In the current study, most caregivers started to give family meals by one year of age, which follows the appropriate cues given in infant feeding guidelines.[18] The most preferred consistency/texture in the preparation of the meals was soft and thick, followed by a runny and watery consistency. Food consistencies that are thin and runny (often watered down) can decrease the nutrient density (especially energy and protein) of meals, which may affect the child's nutritional status if used consistently.[19] Despite some participants using preparation methods as per normal family meals, most caregivers still prepared foods separately using different cooking methods with prolonged cooking times such as boiling and stewing to achieve a soft consistency. However, compromising the nutrient density of the food by boiling in excess water should be avoided and, rather, if possible add ingredients like milk to adjust the consistency.[20] By the age of seven months, children should consume foods from at least four food groups each day.[21] The caregivers in the current study reported that meal combinations were mostly starch with protein, or starch with vegetables. These findings were similar to another South African study investigating complementary feeding, where the children's diets lacked animal proteins, dairy products, fruits and vegetables, and contained higher amounts of starches such as bread and porridges.[21] These meal combinations create poor dietary diversity, which often lacks key micronutrients such as calcium, iron and zinc.[22]

Education sources and nutrition knowledge

The source of nutrition education will greatly influence whether the caregiver translates and implements the correct complementary feeding practices. In this study, the caregivers relied on information from clinics, healthcare professionals, road-to-health booklets as well as from cultural-based practices advised by female family members and community. Caregivers' food choices were motivated by their own knowledge of what was considered healthy, but this was shaped by what they had learnt from the education sources. In the current study, caregivers identified that they believed dairy and protein (animal and plant) food groups were the most nutritious and would help their child grow. The physical evidence of a child growing and the positive response of the child towards a meal motivated the caregivers in their food choices. Adequate caregiver nutrition counselling in developing countries has been associated with an increase in weight gain and height, as well as a decreased risk of stunting in children aged between 6 and 24 months.[23] Hence, developing educational material specifically for the target group of caregivers will certainly have a positive influence on complementary feeding choices and practices. The material should be based on practical advice on how to make informed decisions, keeping in mind the influencing factors like affordability, availability, access and preparation of appropriate nutrient-dense foods.

Food sources

With increased urbanisation, those living in urban areas are exposed to more processed and unhealthy foods, marketing campaigns and increased access to unhealthy foods, thus consuming higher amounts of them.[24] However, those living in rural areas make use of smaller shops as larger supermarkets are far from their homes, but these shops often have poor variety.[25] Most caregivers responded that food items and ingredients were procured from supermarkets mainly due to their convenience, affordability and freshness. Further affecting food sourcing is the long travelling distance from homes to the shop, especially in rural areas where dwellings are spread far apart. Convenience was also highlighted as an important determining factor, particularly in the rural areas, where food items were purchased from places close to where grants were paid out or from towns that were closest to their home.

Study limitations

This study had some limitations. First, the sample size was small due to a poor response rate and travel issues with caregivers getting to the arranged study sites. Second, this study was done only in KwaZulu-Natal and so does not represent the other cultures and practices associated with other provinces in South Africa.

Conclusion

The current study demonstrated that the primary caregivers who are involved in the complementary feeding transition process were influenced by internal and external factors that affected their choices and practices. The caregivers relied largely on advice from family members, who advised on their customs and cultural belief systems, which then impacted when the caregivers started complementary foods, regarding food choices, texture, meal composition and transition to family meals. The caregivers sourced complementary foods based on accessibility, convenience and affordability. The caregivers described having a responsive feeding style, where their decisions were influenced by their sensitivity to how their child was responding emotionally and/or physically to the foods they were receiving.

Educating the primary caregivers of the household should be the goal of complementary feeding research and initiatives. Caregivers need to be educated on the importance of timing complementary feeding correctly and the transition process. Nutrition education should aim to improve and correct knowledge and beliefs about complementary feeding practices. Caregivers should be given practical advice on how to make informed decisions, keeping in mind the influencing factors like affordability, availability, access and the preparation of appropriate nutrient-dense foods.

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References

1. Sayed N, Schönfeldt H. A review of complementary feeding practices in South Africa. *S Afr J Clin Nutr*. 2020;33(2):36–43.
2. Du Plessis L, Kruger H, Sweet L. Complementary feeding: a critical window of opportunity from six months onwards. *S Afr J Clin Nutr*. 2013;26(3):129–49.
3. Altman M, Hart T, Jacobs P. Household food security status in South Africa. *Agrekon*. 2009;48(4):345–61.
4. Statistics South Africa. *General household survey*. Pretoria: Statistics South Africa; 2019.
5. Statistics South Africa. *Towards measuring the extent of the food security in South Africa: an examination of hunger and food inadequacy*. Pretoria: Statistics South Africa; 2014.
6. Gucher-Greeff A. Media influence on parental understanding of optimal nutrition for their young children; 2018. [cited 2021 May 5]. Available from: https://repository.up.ac.za/handle/2263/68022.
7. Agren D. Mexico state bans sale of sugary drinks and junk food to children; 2020 [cited 2021 May 5]. Available from: https://www.theguardian.com/food/2020/aug/06/mexico-oaxaca-sugary-drinks-junk-food-ban-children.
8. Chakona G. Social circumstances and cultural beliefs influence maternal nutrition, breastfeeding and child feeding practices in South Africa. *Nutr J*. 2020;47(19):1–15.
9. Khwela H. Optimal child growth and development project launched, 2019 [cited 2021 May 5]. Available from: https://chs.ukzn.ac.za/news/optimal-child-growth-and-development-project-launched/.
10. Nyumba T, Wilson K, Derrick CMN. The use of focus group discussion methodology: insights from two decades of application in conservation. *Methods Ecol Evol*. 2018;9(1):20–32.
11. Tausch A, Menold N. Methodological aspects of focus groups in health research: Results of qualitative interviews with focus group moderators. *Glob Qual Nurs Res*. 2016;3:1–12.
12. Przyrembel H. Timing of introduction of complementary food: short- and long-term health consequences. *Ann Nutr Metab*. 2012;60(suppl 2):8–20.
13. Quann E, Carvalho R. Starch consumption patterns in infants and young children. *J Paediatr Gastroenterol Nutr*. 2018;66(Suppl 3):S39–41.
14. Wondafrash M, Amsalu T, Woldie M. Feeding styles of caregivers of children 6-23 months of age in Derashe special district, Southern Ethiopia. *BMC Public Health*. 2012;12:235.
15. Carruth B, Ziegler P, Gordon A, et al. Prevalence of picky eaters among infants and toddlers and their caregivers' decisions about offering a new food. *J Am Diet Assoc*. 2004;104(1 Suppl 1):57–64.
16. Lee S, Choi Y, Jeong H, et al. Effect of different cooking methods on the content of vitamins. *Food Sci Biotechnol*. 2018;27(2):333–42.
17. Fabbri A, Crosby G. A review of the impact of preparation and cooking on the nutritional quality of vegetables and legumes. *Int J Gastron Food Sci*. 2016;3:2–11.
18. KwaZulu-Natal Department of Health. *Training and information package on complementary feeding*. Pietermaritzburg: Global Alliance for Improved Nutrition, 2015.
19. Abeshu M, Lelisa A, Geleta B. Complementary feeding: review of recommendations, feeding practices, and adequacy of homemade complementary food preparations in developing countries - lessons from Ethiopia. *Front Nutr*. 2016;3(41):1–9.
20. World Health Organisation. *Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals*. Geneva: World Health Organisation; 2009.
21. Faber M, Laubscher R, Berti C. Poor dietary diversity and low nutrient density of the complementary diet for 6- to 24-month-old children in urban and rural KwaZulu-Natal, South Africa. *Matern Child Nutr*. 2016;12(3):528–45.
22. Ronquest-Ross L, Vin N, Sigge G. Food consumption changes in South Africa since 1994. *S Afr J Sci*. 2015;111(9–10):1–12.
23. Imdad A, Yakoob M, Bhutta Z. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries. *BMC Public Health*. 2011;11(S25):1–14.
24. Hoddinott J. *Global Panel on Agriculture and Food Systems for Nutrition Working Paper: The economics of reducing malnutrition in Sub-Saharan Africa*. New York: Global Panel on Agriculture and Food Systems for Nutrition; 2016.
25. Temple N, Steyn N, Fourie J, et al. Price and availability of healthy food: a study in rural South Africa. *Int J Adv Basic Appl Sci*. 2011;27(1):55–58.

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