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Faculty of Medicine

‘A Food Culture in Transition’

Perceptions of Healthy Eating and Reasoning in Food Choices

**A Grounded Theory Study of Young Mothers
in South Tarawa, Kiribati**

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Author

Anna Fallgren

Supervisor

Maria Emmelin

Department of Social Medicine and Global Health

Lund University

Abstract

The recent shift towards energy-dense and nutrient-poor diets has led to an increase of diseases such as obesity, diabetes and cardio-vascular disease. Due to poverty, geographical remoteness and lack of cultivable land, Kiribati experiences a double burden of malnutrition with high levels of NCDs among adults, and undernourishment among children. Since mothers are generally responsible for choosing food, it is of public health relevance to carry out research on their perceptions of healthy eating and food choices. The study at hand explores these issues in urban Tarawa. The aim was to explore perceptions and attitudes towards healthy eating and food choices among young mothers in South Tarawa, Kiribati. Using a Glaserian approach to Grounded Theory, the study used focus group discussions and in-depth interviews as the main source of data. The data was coded in three stages; open coding, focused coding and theoretical coding. This led to the construction of a conceptual model. '*A food culture in transition*' was chosen as the core category based on the findings. The mothers felt they were dependent on imports and had trouble accessing food because of the increasing lack of cultivable land. They were used to eating without variety, but dreamed of trying new interesting food. While balancing old knowledge from family and peer-influence with new requirements from nutrition interventions, the mothers had various understandings of healthy eating. They also faced expectations of being a good mother, while wanting to do activities for themselves. Engaging in activities often meant mitigating healthy eating and peaceful relationships. The findings indicate that sustainable change will not be achieved if variety of food is not provided. Mothers need to be empowered with nutritional literacy and supported in their food choices so that they can take ownership of changing their health behaviour. Interventions need to have coherent follow-up systems of activities and involve mothers in the planning and implementation.

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1. Introduction

Over the past decades, the world has experienced a transition towards nutrient-poor, energy dense and sugary diets with high levels of meat, salt and fat. This has been fuelled by the increased access to processed food found in supermarkets. Globalisation, urbanisation and an international import- and export market that control the prices and make this type of food cheaper to buy have contributed to diminishing farmland and increased reliance on food purchased in supermarkets (Skolnik, 2016). Access to fast and processed food has increased the levels of nutrition-related morbidity, and the prevalence of non-communicable diseases (NCDs) such as diabetes, cardiovascular disease (CVD) and obesity continue to rise (Ibid). While these diseases used to be mainly present in high-income countries, the burden of NCDs now affects and contributes to mortality across the globe (Fuster and Kelly, 2010). Out of the world's 56 million deaths in 2012, 38 million were due to NCDs, making them the main cause of death worldwide (WHO, 2014) and a major public health threat.

The problem with unhealthy eating is specifically severe in low- and middle-income countries (LMICs). Not only do they have the largest share of NCDs, but they also grapple with issues associated with insufficient nutrients that cause a double burden of malnutrition. This affects children in particular, causing problems with undernutrition, vitamin A deficiency, stunting and wasting (WHO, 2015). Children with stunted growth may be at higher risk of obesity, and overweight children are often micronutrient deficient. Being malnourished as a child increases the risk of NCDs later in life (Ibid). Exclusive breastfeeding for 0-6 months old babies is particularly important for ensuring adequate growth among children and reducing the risk of under 5 child-mortality (WHO, 2009). Micronutrient deficiencies, gestational diabetes, obesity or other nutrition-related diseases before or during pregnancies in mothers can have severe effects on the health of the baby. Healthy diets are therefore vital throughout the life course (WHO, 2015).

Systematic reviews of nutrition interventions in high-and low-income settings in Asia, Europe and North America show that school-based interventions targeting the young population is beneficial to avoid diseases later in life (Saraf et al.; 2012 Mikkelsen et

al., 2014). Often, these interventions involve parents, for example through distributing home assignments, newsletters or books (Ibid), or establishing school gardens where parents are involved (Mikkelsen et al., 2014). While the mentioned interventions target children, there is evidence that adults also can benefit from nutrition interventions, such as cooking classes. A systematic review of community-based cooking classes in high and low socioeconomic strata in Europe and North America indicated that confidence and eating behaviour was improved. However, these types of interventions are not always evaluated sufficiently (Garcia, 2016).

Worldwide, mothers are responsible for choosing and preparing food in the household and caring for their children (Lloyd, 2009; Schultz, Vatucawaqa and Tuivaga, 2007, cited in Morgan et al., 2016). In light of the described issues, it is of public health relevance to examine their views and understandings of healthy eating. Research reviewed for this study show that there is a range of factors that influence mothers' food choices. Studies with participants from both high and low economic strata conclude that cost and taste are important influences when choosing food (Raskinda et al., 2017; Hardcastle and Blake, 2015). Education is also an influential factor, and complex nutritional labelling has been found to contribute to difficulties in choosing healthy food (Machín et al., 2016). Studies have also found that identities and gender expectations play an important part in mothers' food choices. It is common for mothers to feel stressed because of guilt, tiredness and lack of time while having to provide food for their families (Blake et al., 2009).

While NCDs and problems linked to poor diets are of critical concern worldwide, they are exacerbated in the Pacific region. According to the WHO (2015), 25 per cent of the adult population in the region is overweight. A third of the regional population has high blood pressure, and in many countries the levels of obesity are above 50 per cent (Mercer, 2007, cited in FAO, 2015). These issues are direct consequences of unhealthy eating practices, such as excessive salt intake and low consumption of fruit and vegetables (FAO, 2015). High percentages of the population in Kiribati, Nauru and Papua New Guinea consume below the FAO/WHO daily-recommended intake of 400g fruit and vegetables (99,3, 98,9 and 97 per cent respectively) (SPC, 2010; FAO, 2015). Only a third of the region's babies are exclusively breastfed for the first six months. Among the children, 11.6 million are stunted and 4.7 million underweight

(WHO, 2010, cited in FAO, 2015). Since the problem of malnutrition is two-sided in the Pacific, it relevant from a public health perspective to find sustainable solutions to combat this regional epidemic.

Despite the prevalence of nutrition-related NCDs in the Pacific, few qualitative studies on food choices have been made. Aside from studies from Australia and New Zealand, only a few peer-reviewed studies were found from the Pacific Island states (Cacavas et al., 2011; Corsi et al., 2008; Morgan et al., 2016). One examined eating patterns among adolescents in Tonga. The study concluded that the school atmosphere and the quality of food in schools were influential, as most interviewees chose to buy food from the school (Cacavas et al., 2011). Two other studies included mothers or women as participants. One of them, from Federated States of Micronesia, suggested that culture, price and environment played a part in food choices. People chose imported food because it was convenient and quick. It also indicated that people prioritise cheap costs and good taste (Corsi et al., 2008). The study from Fiji focused on the factors influencing fruit and vegetable consumption. In both latter studies, a key barrier to eating fruit and vegetables was because some family members did not like the taste. In Fiji, however, it was shown that convenience or time efficiency were not as important, since many participants did not mind spending a long time preparing food (Morgan et al., 2016). This indicates that even within the same region, various factors influence food preferences.

Kiribati exemplifies many of the nutrition-related issues discussed in relation to the Pacific region. While 14,9 per cent of children under 5 are underweight (CIA, 2016), 38 per cent of males and 54 per cent of females >20 years were classified as obese in 2008 (Kiribati MoH, 2015). Diabetes and hypertension are also reported frequently among adults (CIA, 2016). Even though local foods in Kiribati (fresh fish, root crops, local fruit and vegetables) are scientifically proven to prevent NCDs like CVD, diabetes and obesity (Campbell, 2015), globalisation and urbanisation have contributed to a change of diets, consisting of imported processed food with high levels of sugar and fatty meats (Susumu, 2014). Kiribati's geological and biological constitution with restricted landmass, little rainfall and geographical remoteness and poor soil fertility means that little vegetation grows (Thomas, 2002). This, in combination with effects of climate change, such as wind damage and soil moisture

stress, makes it difficult to maintain a sound agricultural production (Campbell, 2015).

Being one of the poorest countries in the Pacific, with 66 per cent of the population classified as poor or at risk of falling into poverty (AHC, 2014), Kiribati is reliant on foreign aid. UNICEF has aimed at improving maternal and child health and survival through increasing access to health care and information about nutrition (UNICEF, 2013). Taiwan Technical Mission (TTM, 2015) currently runs a nutrition improvement project where schools in selected areas of the capital South Tarawa are given nutritious vegetables cultivated in the garden. Cooking classes are also common activities made by various actors, such as the National Nutrition Centre (Kiribati MoH, 2015).

According to Reiher (2016), mothers in South Tarawa often have poor knowledge and engagement in adequate breastfeeding practices, which can be due to cultural factors. Giving ‘local medicine’¹ to infants, or not breastfeeding their children while being pregnant with another baby are two examples. It is also common for mothers to feel obliged to respect elder relatives’ opinions on breastfeeding practices and division of food in the household. In light of these findings, it is of high concern to supplement existing evidence with data on how women perceive food choices and healthy eating, also with regards to their own diets and the dependency on imported food.

1.2. Aims and objectives

The aim of this study is *to explore perceptions and attitudes towards healthy eating and food choices among young mothers in South Tarawa, Kiribati*. Exploring these issues will increase the understanding of how to implement nutritional interventions with culturally adapted means of stimulating behaviour change.

The specific research questions are:

- What does the concept of ‘healthy eating’ mean to young mothers in South Tarawa?
- What are their attitudes towards local and imported food?

¹ Key informants confirmed that pandanus juice is often used as a local medicine for infants.

- How do they reason in their food choices?

2. Methodology

2.1. Overall research design

The framework of Grounded Theory guided this study (Dahlgren et al., 2004). This methodology helped conceptualising processes or actions related to the participants' perceptions of healthy eating and reasoning in their food choices (Creswell, 2013). The study used an emergent design that allowed for changes and adjustment in the data collection as the study proceeded. Being common tools in Grounded Theory, both focus group discussions (FGDs) and in-depth interviews were used as means of data collection. This combination also provided a comparison between individual experiences to those from a group level (Dahlgren et al., 2004).

2.2. Study setting

The study was set in South Tarawa, the only urbanised area in Kiribati (see map in Appendix 1). Three parts of the city, Betio, Bairiki and Bikenibeu, were chosen, as they are the main urban areas. Being situated in the west, central and east part of the city, they represent all parts of South Tarawa. Partially due to internal migration from outer islands, almost half of the population currently live in South Tarawa. With a land size of just 15.76 km², this makes it one of the most populated places in the Pacific (ADB, 2011). Overcrowding, like this, has effects on the social climate, environment and infrastructure (ADB, 2011; FAO, 2012). As such, South Tarawa is characterised by high rates of youth unemployment (54 per cent), an increasing share of people in poverty (CIA, 2016; Susumu, 2014), poor waste management, insufficient water resources and poor sanitation practices, causing high stress on the opportunity to find cultivatable land. The health status among children in South Tarawa is also dire. Water-borne diseases such as diarrhoea and dysentery are frequently reported (ADB, 2011).

2.3. Sampling of informants

The sampling was conducted in collaboration with ChildFund Kiribati. They provided contact with the National Nutrition Centre who became involved in the data

collection. Using purposive sampling allowed emergent ideas to guide the recruitment of participants (Dahlgren et al., 2004). The aim was to reach mothers below the age of 35, responsible for at least one child and living in the selected areas of Betio, Bairiki or Bikenibeu. Efforts were made to choose participants from villages of different socio-economic strata and household-size. Differences with regards to the living situations of the mothers and previous exposure to interventions was deemed important for gaining a better understanding of the linkage between food choices, knowledge and economic status.

2.3.1. Focus group discussions

The original plan was to use FGDs as the sole base for data collection, as group interaction is central for understanding norm systems, opinions and how people make choices (Dahlgren et al., 2004). The National Nutrition Centre assisted with interpreters and one or two research assistants at each FGD. They also introduced the author to nurses and volunteers at the health centres who served as gatekeepers for reaching participants. Many of the nurses and volunteers knew the mothers from the village well, which facilitated accessing mothers from various socio-economic situations, household-size and exposure to interventions. At the start of data collection, the women from the FGDs helped, in a snowball sampling process, to find more young mothers who could participate. Initially sampling informants from different settings helped to gain a broader understanding of the study topic (Ibid). Two FGDs were conducted in Bairiki, two in Betio and one in Bikenibeu.

2.3.2. In-depth interviews

As preliminary concepts started to emerge from the FGDs, the author found it useful to compare and contrast these ideas with individual experiences through semi-structured in-depth interviews (Dahlgren et al., 2004). Some of the issues appeared difficult to discuss in the open FGDs where the atmosphere may have felt intimidating. One interview in each of the selected area of Betio, Bairiki and Bikenibeu was performed. One of the mothers who had attended one of the FGDs was asked to participate again in one of the interviews. For the second interview, a volunteer at one of the health centres acted as a gatekeeper to find a participant within the desired age group. A staff member from National Nutrition Centre worked as the

gatekeeper for the third interview, using her contacts to find the last participant. Two women from villages with lower economic status and a communal housing situation were chosen, and the third from a wealthier part of South Tarawa in a nuclear household. This ensured a varied sample of the target population.

2.4. Data collection

Fieldwork in the area took place over a period of ten weeks, between the 9th January-21st March 2017. The first four weeks were devoted to understand the Pacific context, and to gather official material from international institutions and organisations working in the region that could be used for the literature review and discussion. The remaining weeks were allocated to the actual data collection.

2.4.1. Focus group discussions

The FGDs lasted between 75 and 105 minutes. A preliminary analysis of the FGDs started during the data collection so that probing questions could develop based on emerging ideas. The discussion guide (see Appendix 2) was therefore slightly modified throughout the data collection (Dahlgren et al., 2004). The FGDs had four main themes: 1) *The meaning of health and healthy food*; 2) *Local food versus imported food*; 3) *Getting and cooking food*; 4) *Priorities when choosing food for children*. These themes were elaborated on by asking open-ended questions that allowed further discussion. Pictures were also used as stimulus materials to facilitate the discussion (Hennink, 2007). In four of the FGDs, there was a moderator, a note taker and an interpreter present. Due to logistical constraints, one of the FGDs only had a moderator and an interpreter, who shared the task of taking notes.

2.4.2. In-depth interviews

The discussion guide was modified to target the informants directly in the interviews, encouraging more examples of their specific situations (see Appendix 3). The original questions from the discussion guide were covered, but the order changed according to how the interviews unfolded so that focus could be put on certain themes that emerged (Dahlgren et al., 2004). There was an interviewer and an interpreter present in all interviews. The interviews lasted between 90 and 105 minutes.

After five FGDs and three in-depth interviews, no new concepts emerged, and it was felt that a level of saturation had been reached. The FGDs and interviews were recorded, translated and transcribed in verbatim. After the data collection, informal interviews were held with two key informants from the area. These were purposively chosen i-Kiribatis that could help identify knowledge gaps in the data and discuss the preliminary findings from a structural and individual perspective. One was working in field of health, youth and education and the other for the local government association with expertise in the field of human rights, sustainable development and good governance.

2.5. Analytical approach

The Glaserian approach to Grounded Theory allows for an open, non-speculative approach to analysis, where the researcher suspends preconceptions about the study topic (Hartman, 2001). The analysis was made in different stages: Open coding, selective coding and theoretical coding, leading to the construction of categories and the building of a conceptual model that illustrates preliminary hypotheses. In line with Glaser's approach, the researcher is encouraged to incorporate ideas that emerge from the data to be able to theorise the findings. Therefore, the analysis started in the field, where memos and field notes were taken to remember and better understand the data and how the emerging concepts related to each other (Dahlgren et al., 2004). The memos were kept and written as soon as new ideas emerged from the data throughout the entire analysis process (see Appendix 4). The programme Atlas.ti was used to facilitate coding and for keeping memos. The open coding process allowed breaking down the data into smaller pieces, keeping close to the text. No distinction was made between the data from the in-depth interviews and the FGDs during the analysis. After the open coding, the data could be taken to a more abstract level in the selective coding process. Concepts were developed and the codes were put into clusters in order to construct categories. A decision on a core category was made. Going back to the data, using the concepts and the memos, categories were identified together with their sub-categories (see Appendix 5-6). In the final step, axes were found between categories, sub-categories and the core category to develop a conceptual model of how they linked to each other. Later on, the findings were integrated and discussed in

relation to existing theories (Ibid), using Furst et al. (1996) constructionist conceptual model of food choices, and the trans-theoretical model of change (TMC) (DiClemente, 2013).

2.6. Ethical considerations

The study was made possible through the assistance of ChildFund Kiribati. Their Code of Ethics and Child Protection policies were inherent to all parts of the study (ChildFund Alliance, 2017). The study adheres to the principals of the Council for International Organizations of Medical Sciences' ethical guidelines (CIOMS, 2016). Participants were informed about the aim and given opportunity to ask any questions about the study. They were also informed that their identity would be protected in transcriptions and reports of the results, but they were encouraged to let the information shared in the group stay in the group, with regards to the limitations in confidentiality in conducting FGDs. Before the FGDs/interviews, the participants were asked for oral consent and informed that those who wish to opt out could do so at any stage if they decide to do so. Information was also given about where the study would be available upon completion.

Permission to access information about potential informants through health centres was obtained in collaboration with Kiribati's Ministry of Health and National Nutrition Centre. A research permit and research visa by the Government of Kiribati was also approved prior to the study. In order to maintain social and scientific value to the chosen study setting, the Ministry of Health and relevant local authorities were informed that this study would be made. The author also had continuous dialogue with ChildFund Kiribati and other agencies with experience of the setting and a base in the community.

3. Findings

The FGDs and interviews consisted of mothers in the age span of 18-35, and with 1-7 children. Each FGD started with 5-8 participants, but at least one mother had to leave each discussion, which caused the final numbers to be between 4-6 participants (Appendix 7). Below, the findings are presented in accordance with the conceptual model developed within the frames of this study (see Figure 1). The mothers are in

the middle, experiencing a state between old and new food culture (referred to as the core category *A food culture in transition*). Each category shows how the core category is constituted, and the sub-categories on the sides illustrate how the mothers are pushed and pulled towards old and new habits. Later, they gradually lead down to the discussable food choices that mothers make.

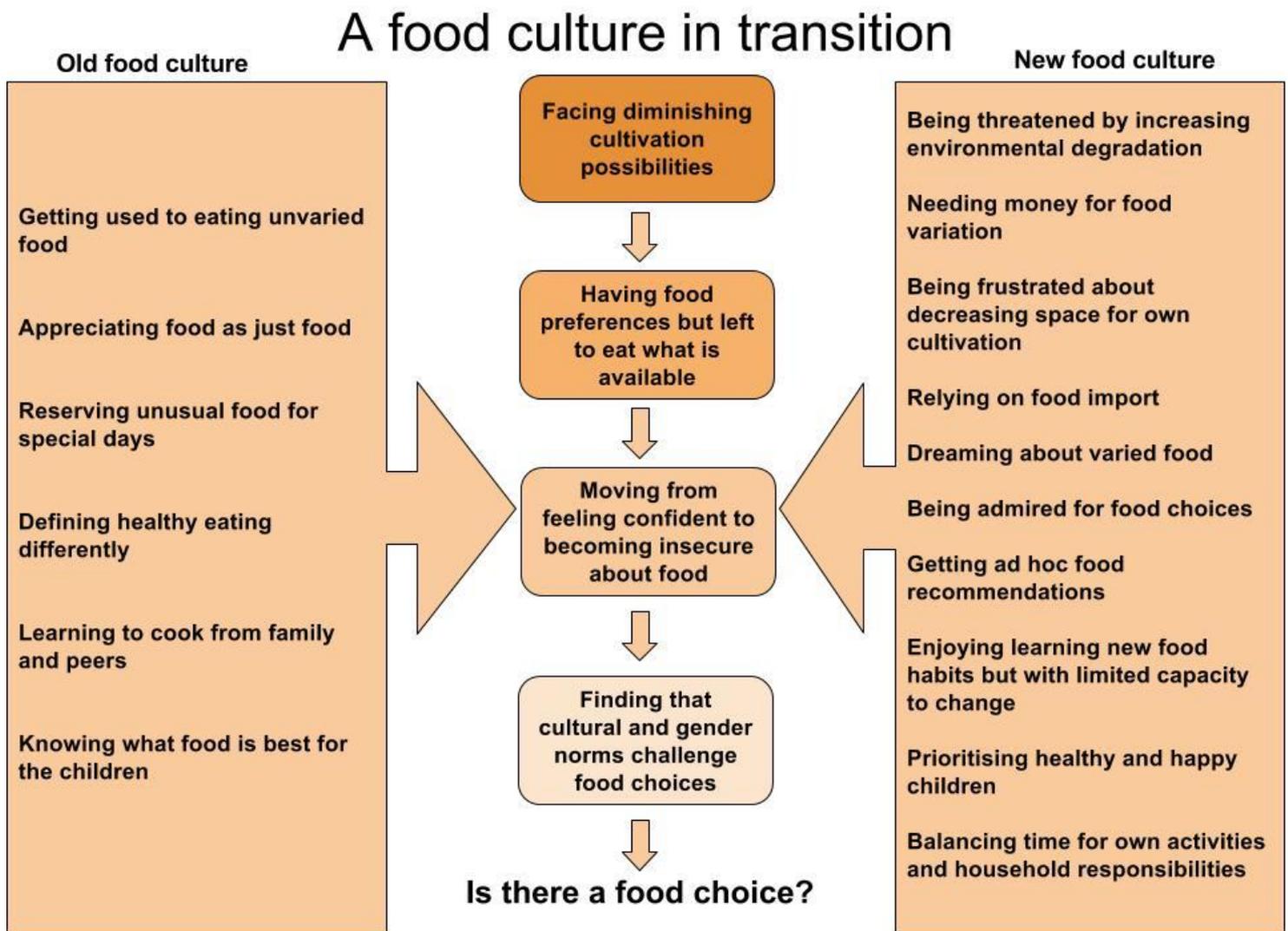


Figure 1. Conceptual Model illustrating the different aspects of a food culture in transition

Core category: A food culture in transition

The core category symbolises the reoccurring phenomenon that permeated the FGDs and the interviews, influencing food choices and perceptions of healthy eating for young mothers in South Tarawa. There is a battle between grappling with few

resources while being curious to try new food and striving to be modern. Knowing that there are expectations on being a mother adds extra pressure. The surrounding environment also influences their actions, with interventions teaching them new things that might differ from what they are used to or brought up with.

3.1. Facing diminishing cultivation possibilities

This category describes the context, causes, and consequences as a basis for a food culture in transition. Living on limited landmass in a crowded space with lack of cultivatable land while facing structural inhibitors such as not having enough money were contextual influences on food choices. In addition, this category reflects the change in what the mothers would consider as traditional food, which is a consequence of the sub-categories presented below.

3.1.1. Needing money for food variation

A main point during the FGDs and interviews was the issue of money and how it affects the ability to choose food. Normally, the mothers said that they only ate “*fish and rice all day long*” [FGD 1] without any variety. For mothers without gardens that could provide local food, there was no difference between local and imported food in terms of access, because both required money, and rice was cheaper.

“Living on Tarawa, we don't eat local foods such as breadfruit, you rely on money so you have to buy rice. And also there is not enough space for planting.”

FGD 4

This meant that people with money could choose whatever they liked to eat. However, the interviews helped to identify that having money also meant being able to choose to buy imported food that often contained high levels of sugar.

“Those who have money they can be sick as well. [...] They can buy everything from the store that can affect their life [...] they buy the food, like the sweet food.”

Interview 1

3.1.2. *Relying on food import*

With the on-going change towards urbanisation and the increased portion of imported foods in South Tarawa, the mothers often expressed how reliant they had become on the food market. The mothers said that they in fact did not have any choice of food to decide themselves what to eat, but that the decision of diets was already made by the system. They had therefore started to envisage imported food as their traditional food.

“Because we heavily rely on the imported food, that’s why we don’t decide, it’s like it’s becoming traditional. Rice and tinned food should be available but if there’s a shortage we don’t have any food on our plates.”

FGD 1

The dependency on the food market was not expressed as explicitly among mothers with gardens. In one of the interviews, one mother elaborated on how happy she was for her garden because it allowed her to get fresh fruit and vegetables. In choosing food, the most important thing was that it had to be cheap. In her household, they had regular income and budgeted for the food they needed to buy, which was only rice.

“Only the payday we worry for our budget, only that the rice, only the rice.”

Interview 3

3.1.3. *Being frustrated about decreasing space for own cultivation*

As the land space had diminished, local food was perceived as increasingly difficult to get.

“There are few coconut trees on South Tarawa as a result of having not enough space.”

A:” Why is that?”

“We call it overcrowded.”

FGD 3

The diminishing land space brought about a great deal of frustration towards the people moving in to South Tarawa. The mothers said that all space was saved for the

people who needed somewhere to live, rather than cultivation. Some suggested that “*we have to send them back to the outer island*” [FGD 2] or that only educated and employed people should be allowed to stay.

3.1.4. Being threatened by increasing environmental degradation

Many of the comments that the mothers made about their food choices were guided by perceptions about effects of climate change. Having learned the recent governmental decision to purchase land from Fiji for cultivation and to house future climate refugees, one woman made a sarcastic joke.

“[We have to] be migrated to Fiji [laughter]. Maybe there’s more space in Fiji.”

FGD 1

Another aspect of environmental issues and the effects on food choices was the matter of poisonous fish and contaminated water. There were comments on fishing and how, although some places were contaminated, people were left to eat what they could get.

“For us it doesn't matter what kind of fish it is, we just eat it. We can't predict whether it is poisonous or not, the best for us is to eat whatever we have.”

FGD 3

3.2. Having food preferences but left to eat what is available

The lack of resources to choose food had led to the mothers feeling used to appreciating an unvaried diet. They enjoyed eating what they always had eaten, and appreciated food as being nothing more than simply food. This category illustrates how local and imported foods were perceived in relation to accessibility, traditions and ideals. It also shows how the mothers talked about identity in relation to food choices, and how people were admired for the food they ate. The mothers talked about strategies for how they tried to change their behaviour according to norms and ideals, and how they faced difficulties.

3.2.1. *Getting used to eating unvaried food*

The mothers identified the most common food in Kiribati as fish and rice, and they found it delicious but not very healthy. Many of them laughed about how little variety there was and that they only ate fish and rice. Even though local food was identified as ‘their own’, or ‘Kiribati’ food, they had been brought up with and got used to eating imported rice and found it tasty.

“It’s because you’re used to it, so it’s tasty.”

FGD 5

One mother expressed her feelings towards having to eat local food when preferring to eat rice, because they had got used to rice since she was little. It was important that if they ate local food, they wanted to be able to go back to eat what they were used to.

“If we had breadfruit for one day, two days and then you would like to return back to rice [...] we feel that we’re not satisfied with breadfruit alone. If you keep having only breadfruit it feels like you want to cry [laughter].”

FGD 5

3.2.2. *Appreciating food as just food*

The mothers described that they often ate whenever they were hungry; there was no ritual of sitting down together and eating for the social aspect of it. In two of the interviews and most FGDs, many mothers described their time for lunch in vague terms, such as “2pm onwards” [Interview 2], or that it “*Depends on whenever they [the adults] want to eat*” [FGD 5]. However, one interview revealed that there were variations to how people ate. The informant explained that in her life, the time for food was when the whole family could sit down together and eat. She cherished the moment of having food as an opportunity to raise her children and interact with her family by sharing stories of the day when they did something good. She explained that it was often different in other households where many people lived.

“Sometimes [they say] “it’s okay”, they come and eat and... Standing and sitting and

they play to eat. All play, the food.”

Interview 3

3.2.3. Being admired for food choices

During the FGDs, it was suggested that healthy people were admired in South Tarawa. This was confirmed in the interviews, where two mothers conveyed that they tried to adapt their food choices to become like those people. They confessed that even though they admired healthy people, they saw it as too difficult to change their behaviour, as it would require cutting down food, doing physical activity, and eating ‘balanced food’, which they referred to as eating fruit and vegetables. One mother said that she got hungry and angry from simply trying and just wanted to sleep. She did not have the motivation to do everything that was required from being on a strict diet.

“Sometimes I do it and then I slowly go back to where I was before.”

Interview 2

The mothers also spoke about how being able to choose certain food increased admiration and caused jealousy among others. They said that having chicken would make the neighbours very interested. One of the interviewees elaborated on this, and stated that having chicken would also show signs of money, and increase admiration and curiosity for her and her food.

*“They would think that you have a lot of money. [...] “You are going somewhere?”,
“There’s a feast at your home?”*

Interview 1

3.2.4. Dreaming about varied food

Food aspirations were not spoken of in terms of money but rather in terms of that they had something different and tasty to eat. The desire to eat with variety was reflected in different ways. In describing the food of their dreams, most mothers mentioned chicken, which was regarded as delicious and something they rarely would eat. A group of mothers from a wealthier community identified various kinds of local seafood as their choice, such as lobster and red snapper.

“Because it’s not that very often that you can eat that type of fish. It’s more common to eat for those who are fishermen.”

FGD 5

The mothers were curious to try new food that they had previously not tasted. Getting something new that might be tastier than their usual food increased the variety and was even worth getting sick for.

“It’s too dangerous; they [the noodles] get you in trouble, your body [laughter] [...] It can cause something to go out of our neck [hesitation], hepatitis.”

“Cos noodle contains MSG, and it’s bad for the heart.”

A: “So why do people eat noodles if it gives you hepatitis?”

“Tasty.”

“People really want to eat spicy noodles.”

FGD 3

3.2.5. Reserving unusual food for special days

‘Special’ days were different than other days, and described as days of *butakis* (feasts), cultural days in school, Sundays or birthdays. On these certain occasions, people would have special, or rare food. This was food that you normally would not get, and they could be both local and imported. Mothers from wealthier households spoke of apples, oranges and chocolate cake, whereas others said they would have green leaves and chicken. The concept of unusual food on special days was specified in the interviews:

“It’s because we don’t eat them so it’s like it’s special. [...] Because Sunday is like, you tend to treat it as a special day so you have special food.”

Interview 2

Butakis required the mothers to show signs of wealth, mostly through presenting chicken or pork. They would save up large amounts of money to ensure that the food was well presented and well made.

“It’s embarrassing if not well presented. [...] The food should be extra special.”

FGD 1

3.3. Moving from feeling confident to being insecure about food

The third category reflects how perceptions of healthy eating were influenced by internal and external factors, such as peer influence, NGOs and authorities, and personal factors. Issues of identity and mothers’ own confidence in knowing what is best for their children are presented, and what actions they take in light of that confidence. The category also covers their insecurity when they are exposed to interventions with new suggestions for feeding children and the family. The struggle to choose the resources needed and feeling that they were not being coherently sensitised exacerbated this insecurity further.

3.3.1. Defining healthy eating differently

There was a great variety in how the mothers defined health and healthy eating. When they were asked about healthy eating and what a healthy (*marurung*) person would look like, they said diverse things like ‘strong’, ‘muscular’, ‘smart’, ‘active’, and ‘hard-working’. The mothers saw the term ‘balanced food’ differently. Some described the three food groups and that you should aim to eat ‘body building’, ‘energising’ and ‘protective’ food such as fish, breadfruit and fruit and vegetables. Others described balanced food as simply green leaves, fruit and vegetables.

“I think for the balance diet refer to green leaves.”

“Yeah green leaves.”

FGD 3

There was no apparent difference in how much they knew depending on their living or economic situation.

3.3.2. Learning to cook from family and peers

The mothers reported that they often listened to elders in the community or to their own mothers to get advice on how to cook and choose food. This had an impact on how the mothers perceived what was the healthiest option for their children.

“They [elders] want us to feed the children with the small one, the lagoon fish.”

FGD 5

Many descriptions of healthy food and ideas about how to feed their children can be traced back to the influences from peers. A mother whose own mother was a nurse had taught her about healthy eating, and she explained that she would use the mother’s recipes and give her children Weetabix (cereal made from oats and muesli) for breakfast while avoiding giving them too much fish. She felt secure in her knowledge about healthy food for her children.

“My mother used to be a nurse aid and she would always teach us how to cook and I use her recipes.”

FGD 1

3.3.3. Knowing what food is best for the children

The mothers were confident when they were asked about which type of food they gave their children. They shared many examples of food that they saw as helpful in keeping their children healthy.

“This type of food [banana] really helps my child, especially when, um, she has diahorrea, she speeds up in recovery.”

FGD 5

They also shared their knowledge on exclusive breastfeeding and all agreed that it was necessary to breastfeed the child between 0-6 months. Some mothers said that they had struggled with breastfeeding because they did not have any milk themselves, or because the baby did not want breast milk. They had consulted the health centre who were negative towards using formula, but felt sorry for the baby and did what they thought was necessary.

“I was advised not to give my baby foods, but our Kiribati habit is that if we think that the best for our baby, we’ll just go for it.”

FGD 2

3.3.4. *Getting ad hoc food recommendations*

Stories about not getting information relevant for their specific situation were shared in both the FGDs and the interviews. One mother said that once, she happened to pass by an awareness raising class for nutritious food for children, but since her child did not fit the target group in terms of age, she felt it was not for her. She did, however, stay to listen anyway. During the session, the trainers handed out books but she did not get one. Even though she could remember some of the contents, she did not feel confident enough to apply what she had learned. She was afraid she would do more harm than good to her child, since it had not been for the right age group. In addition, she did not get to take the learning material with her, so she kept on cooking what she had always cooked.

“I didn't get a copy of a book. I did not apply that cause the awareness was only for the five years old and my child was over than five years then. I heard it but still need a book to help me or guide me.”

FGD 2

3.3.5. *Enjoying learning new food habits but with limited capacity to change*

The mothers that had attended cooking classes and agriculture classes organised by different actors such as organisations, churches and women associations. They confessed that even though they had learned new things about nutrition, and maybe had made the food a couple of times, they had stopped after a while. Either it was too expensive, or they were just being lazy. It was not always that the interventions were seen as useless; they often enjoyed the classes. It was more an issue of not being able to incorporate it into their lifestyle.

“Like I need cabbages, most of my ingredients are from the ice-box [freezer] means cost me a lot to buy any of these.”

FGD 2

Another mother gave an example of when she had attended an agricultural garden class. Even though she was excited about it at first, it required too much effort. Besides, the lack of engagement from her fellow community members seemed to be

another reason for not finishing the planting successfully.

“The members of my group were not active, so I was not active too or, [laughter], I left the seedlings just... the seedling that we were given were never planted and died. [laughter].”

FGD 5

3.4. Finding that cultural and gender norms challenge food choices

Mothers' roles were described as very central. The mother was the one who was expected to cook, take care of the children and plan for festivities, while being in charge of the household. The children were seen as the centre of the attention, and if there was healthy food available it should be given to them. The mothers also listened to their food requests. However, there were mothers who described these norms as tiring, and struggled to say no to their children's demands. The category illustrates how the mothers had to deal with time issues in meeting the expectations as a mother. It also shows how the mothers acknowledged their own interests and beliefs, but that doing activities for themselves often meant mitigating healthy eating and peaceful relationships.

3.4.1. Prioritising healthy and happy children

Many mothers invested in their children's health because it made them proud. Healthy children performed better in school and the mothers enjoyed when other people admired them. They would therefore use what healthy food they had for the children, if available. Children often ate before the adults, something that was indicated as a change from before.

“Long time ago, men eat first but now seems like children has to eat first.”

FGD 3

The mothers reported that they listened to what the children wanted to eat and tried to please them, even if it was unhealthy food sometimes. Even though they knew that the children's health was important, it was sometimes too hard to stand against their wishes.

“Yes as the children leave us no chance but to give them [ice block] as they cry and cry so yes I just give them what they want.”

FGD 2

It was important to ensure that the children liked the food so that it would not be wasted. The mothers experienced a constant battle between trying to make ends meet in getting food, making it healthy, and making it taste good. One mother spoke of this feeling in the interview.

“If I don’t do what they ask [...] They will stop or they’re not going to eat it.”

Interview 1

3.4.2. Balancing time for own activities and household responsibilities

Some mothers had jobs, and many explained that they sometimes liked to join in on certain activities or do things for their own enjoyment, such as playing sports or bingo, while at the same time having to balance the role as ‘a good mother’. There were different ways of handling this. One mother decided to do what she felt like because she thought that her free time was important. However, this was without consequences.

“I sometimes get hit for playing my sport. [...] When my husband get angry... I prefer getting a divorce rather than stop attending the sport.”

FGD 2

Other women would try to balance their duties as mothers to suit the activity. Playing bingo, for instance, was a debated activity that affected the food because it required time and sometimes resulted in them not eating as they otherwise would. The mothers would cook things hurriedly, which would decrease the quality of food. In some cases, the family would eat all the food when the mothers were away and there would not be any food left when they got back and they would just have bread for dinner. When they wanted to do an activity for themselves, they cooked faster food to ensure that the family would not get angry with them.

“[Activities] *can affect our cooking as we do not cook to make it more tasty but to its fast way to be cooked and that's not good, worse.*”

FGD 4

Some mothers were outspokenly against playing bingo precisely for these reasons. They said it led to arguments in the family and unnecessary stress around money. The way in which activities affected the food choices was therefore seen as moving away from the traditional mother-role. Ultimately, the majority of the mothers thought that a mother’s job was to take care of the children and find strategies to make them stay healthy, regardless of the temptation of other indulgences.

“The mother plays a very big role in this and she needs to be very active. [...] You should cook them [the children] their own lunch instead of giving them money [to buy things at school], give it to them to eat. ”

FGD 5

4. Discussion

Following the aim to explore perceptions and attitudes towards healthy eating and food choices among young mothers in South Tarawa, Kiribati, this study has shown that mothers are influenced from different directions in regards to what has been described as *a food culture in transition*. This umbrella term describes the dynamics that old and new traditions bring to our understanding of inhibitors to healthy eating. In this section, the main findings will be discussed in relation to the three research questions (as outlined on pages 7-8). This section will also integrate the findings into two existing theories and provide suggestions for further research and interventions.

4.1. Theorising the findings

In discussing mothers’ reasoning and strategies in making food choices, the Food Choice Process Model, developed by Furst et al. (1996) is useful to understand what factors influence their decisions and perceptions, and the process they go through when choosing food. This model uses Berger and Luckman’s (1966) and Goffman’s (1959) understandings of a constructionist approach to illustrate how people put meanings and understandings into their food choices. The model divides food

behaviour into three major components. Firstly, the *life course* covers personal roles, and the environments we are exposed to over time. In line with constructionism, social, cultural and physical environments shape the socially constructed framework we call reality. Secondly, these life course factors shape the *influences* to food choices. These include ideals, personal factors, resources, social framework and the food context. Finally, the food choice process is also influenced by *personal systems*. Here, people weigh factors such as costs and quality of food, and personal relationships and nutrition and, as such, put value into their food choices (Furst et al., 1996).

The Transtheoretical Model of Change (TMC) is used to understand how behaviour change can be made. This theory is helpful to identify how the individual can take ownership of the change of health behaviour, with regards to the surrounding influences of a food culture in transition. The TMC identifies five steps of change. First, the *pre-contemplation* stage is when there is no thoughts or intentions to taking actions to change the health behaviour. Many who are at this stage are completely unaware of the importance of changing health behaviour. In the *contemplation* stage, consciousness about the need for change is raised, and people start thinking about the potential benefits of changing their health behaviours. The third stage is the *preparation* stage. Here, people become determined to change or adopt certain health behaviour and find specific solutions to how this can be done. Once this is made, people take *action* to adopt health behaviour, and make overt changes in their lives, with support from helping relationships. This stage is reached when the change is sufficient enough to decrease risks of potential diseases. Finally, people remain in *maintenance* when they feel more confident that they can stay in the achieved health behaviour, even if they sometimes have to work against falling into harmful behaviour (DiClemente et al., 2013). Here, suggestions for strategies in changing health behaviour will be discussed. The discussion will mostly focus on the four first stages of change, as these are most relevant to the findings.

4.2. 'Healthy eating' as a dynamic concept

For the mothers in this study, healthy eating largely meant balanced food, and they referred to this as green leaves, or fruit and vegetables. According to the nutritional

guidelines in Kiribati, balanced food means eating a varied diet consisting of energy foods, protective foods and bodybuilding foods (National Nutrition Centre, 2015, cited in Reiher, 2016, see Appendix 8). This shows that the mothers had uneven knowledge of what healthy eating means in their context. Knowledge can be seen as an intangible resource that influences people's food choices. It is not static and can differ over time (Furst et al., 1996). Since the mothers' knowledge was not consequent to what the guidelines recommended, the risk could be that they do not change the other parts of their diets that may be highly imbalanced. Even though mothers evidently need to add fruit and vegetables to their diets, they also need to become aware of the holistic aspect of balanced food, and eat a variety of food from the three food groups (National Nutrition Centre, 2015, cited in Reiher, 2016). With regards to a food culture in transition, with increasing levels of imported foods, nutritional literacy needs to be prioritised. It is common that people choose food labelled with claims of being healthy for promotional purposes, but do not check or understand their real nutritional value (Abrams et al., 2015). Research on nutritional literacy is essential for improving interventions that can be used to spread information in an accurate manner, especially with regards to access to varied food.

Furst et al.'s "knowledge as an intangible resource" can also be discussed with regards to mothers' insecurity and fear of making mistakes as a result of insufficient nutrition interventions. As mentioned in the introduction, community interventions to improve cooking skills often fail to incorporate evaluation plans (Garcia et al. 2016). This appears to be the case in South Tarawa too, as there was limited information to be found on evaluations of nutrition interventions. Since evidence suggests that cooking classes can improve confidence and eating behaviour (Ibid), having reliable data on interventions that adopt coherent monitoring and evaluation to keep track of the change and feedback from beneficiaries could help to overcome these issues.

The mothers stated that they will do what they perceive to be the best for their children, and that they learned from peers. These are crucial factors to bear in mind when tailoring interventions. Interfering with cultural practices in interventions is a sensitive dilemma. The TMC suggests that the mothers should be assisted to realise that they are in fact agents of change, so that they become aware of how their behaviour affects their children's health. By self-re-evaluating their current health

behaviour and the consequences it has on health (moving from pre-contemplation to contemplation), and providing helping relationships, they can prepare to take action and feel confident that they are the owners of change (DiClemente et al., 2013). Using community workers who can provide counselling and support to mothers who struggle and help them with practical solutions is a good resource for such achievements (UNICEF, 2012).

It is important to address the fact that mothers put value in meeting the preferences of other family members, such as their children. This phenomenon is one of the factors that are stressed in personal relationships (Furst et al., 1996) and seems to gain increasing importance among the mothers. Although mothers sometimes let their children eat what they liked because they did not have the will to deal with the child getting upset, valuing children's opinions could in fact be a very useful tool if children were equipped with nutritional literacy. Save the Children Fiji has made successful interventions where children are encouraged to speak their views about healthy food preferences in their families (Save the Children Fiji, 2015). This could fit well into the current Kiribati context, as new school syllabi explicitly include nutrition in their *Healthy Living* and *Health and Physical Education* classes² (Kiribati MoE, 2015; Kiribati MoE, 2017).

4.3 The changing relationship to food

A conservative perception of tasty food is not unusual. Preferences derive from the food people have eaten throughout their lives (Latham, 1997). This phenomenon seemed to be an inhibitor to healthy eating for the mothers. They had been brought up eating fish and rice, and ate it every day. However, the data also revealed a paradox, because the mothers also said that they dreamed about more variety and food they had not tried before. It is evident here that the surrounding structure influences the attitudes towards food (Furst et al., 1996). As suggested by constructionists, the context shapes their framework of reality (Goffman, 1959; Berger and Luckman, 1966). It is not a static contextual reality, but a dynamic one; the mothers experienced a food culture in transition that, to different degrees, allowed them to try new food

² At the time of writing, the syllabus for school year 7 and 8 was in the process of being launched but the final document had not yet been approved.

while still enjoying the food that they had been brought up with. The 'Go Local'-initiative aims at preserving the traditional and elder's way of cooking and making campaigns to get people in the Pacific Islands to start using the local food that is available and nutritious. The initiative has been successful in e.g. the Federated States of Micronesia (Englberger, 2011). In the Kiribati context with a food culture in transition, it seems more beneficial to find new ways of adding local nutritious food to peoples' current diets rather than removing food that they want to eat. In this case, more variety could be ensured, which seems to be important for the mothers.

Attitudes towards local and imported food were highlighted in how mothers experienced and described food for special days, when it was important that the food was well-presented and showed signs of wealth. Even though chicken or pork at *butakis* were seen as symbols of having money, other research suggests that *butakis* can also be a way of promoting fruit and vegetable consumption. As Kiribati faces cultivation problems, having fresh vegetables is increasingly becoming a sign of wealth and social status (East and Dawes, 2009). There is probably some truth to this statement since there were dimensions of what the mothers regarded as expensive food; those with gardens said local food was cheap, whereas those without garden or access to local food regarded it as expensive. Wealthy people were therefore able to buy local food. In addition, people who ate local (healthy) food were admired, which indicates that being healthy increases social status. This shows how ideals and personal roles as suggested by Furst et al. (1996) can change. The mothers suggested that interventions should aim to increase the use of land to make fruit and vegetable accessible for everyone's benefit. One alternative by FAO is the Farmer Field School Model, which has been used in many LMIC settings (FAO, 2016). These schools have mainly focused on empowering smallholders, their families and communities in rural settings (Ibid). Still, the concept of taking ownership and making their own contributions to improving the access to fruit and vegetables could be a smooth way of engaging communities and increasing participation in the improvements of peoples' diets. As East and Dawes (2009) put it, it is essential that interventions create independency rather than dependency. Given the limitations South Tarawa faces, further research is needed to establish how this could be made in the urban setting.

4.4 The unclear aspect of having a food choice

Personal roles influence food choices (Furst et al., 1996). Johnson et al. (2011) has found that wanting to choose healthy food and be a 'good mother' is not enough, because mothers who do not identify themselves as healthy are less likely to make healthy food choices. This claim can be adapted to the findings from this study. On the one hand, there was the 'good mother'; the focal point in the household that felt that it was her responsibility to ensure that the health of her family was good. On the other hand, the changing environment had allowed for another identity of a mother that sometimes worked or did activities for herself, which often led to unhealthy eating. This phenomenon could be explained as a weak 'health identity', as Johnson et al. (2011) put it. Public health interventions need to consider the issue of combining efficient cooking time and nutritious ingredients carefully. This especially concerns the insecurity of the mothers when they were not able to make the foods that were suggested by the interventions.

The findings in this study suggest that food choices are influenced by the access to resources, knowledge, preferences and expectations. Furst et al. (1996) emphasise that influences mutually shape each other and are more or less salient in each setting. Here, the data reveal that such influences determine the very extent to which mothers perceive themselves as having any choice of food at all. Some mothers said that the choice was already made for them because they were dependent on money and land accessibility, which suggests that poverty and marginalisation in their society plays an important part in their diets. Structural factors like these point to the urgent need for governmental action to promote local food trade (Rimon, 2011), improve trade policies, and joining private and public efforts to improve the health of the people of South Tarawa (FAO, 2015). This is fundamental because it helps the individual process of health behaviour change, by making varied food available for people to choose.

Identifying a lack of food choice is also important because it can influence how much ownership people take in a changing behaviour. The conceptual model developed from the result illustrates how the transitioning food culture has an impact on food choices. According to the TMC, people need to move from pre-contemplation to contemplation to even start thinking about the need to change, and more important

here, the perceived ability to change. People in the pre-contemplation stage are usually uninformed or under-informed, which highlights the need to improve literacy and thereby raise consciousness about the health issues involved in unhealthy eating. At this stage, there is no engagement in a cognitive process that can find potential solutions to change, but rather an avoidance of information of risky health behaviour (DiClemente et al., 2013). This could be interpreted as a low self-perceived ability to change, reflected in the mothers' statements of not having a food choice. This, in combination with low literacy, leads to the assumption that unmotivated or insecure mothers with low nutritional literacy will not contribute to long-lasting improvement towards healthier behaviour.

Some mothers from wealthier homes did use the term 'choosing food'. One may think that those who saw themselves as having a food choice are at a stage of contemplation or action of the TMC, since they had more accessibility to varied food. However, the data indicate differently. If the mothers would be given resources to access food, but not be provided with the literacy required to make informed choices, they may still not choose healthy food. In fact, few South Tarawians see nutrition or health as the main benefit of home gardening local food. Rather, they perceive home-gardens as an important source of income (East and Dawes, 2009). This may lead to them selling the cultivated nutritious food in order to purchase less nutritious food. Even though mothers with gardens spoke more frequently about eating fruit and vegetables, there was no apparent difference in the knowledge of nutrition according to their household status and there are no indications of them being further up the stages in the TMC than those who were from poorer settings. It would therefore seem too simplistic to assume that an increase in locally sourced fruit and vegetables would increase consumption, if choices of food are dependent on money, or that people feel that they do not have a food choice at all.

4.5. Methodological considerations

Given the lack of similar research in the area, this study should be seen as an explorative account of mothers' food choices and perceptions of healthy eating in South Tarawa, being the first of its kind. Some issues should be mentioned with regards to the methodology of the study.

Efforts to ensure that the trustworthiness of the study was kept at a high level were made continuously. Using triangulation of the data by having both FGDs and in-depth interviews increased credibility of the study (Dahlgren et al, 2004). Keeping field notes, having peer debriefs with the Swedish supervisor and ChildFund and National Nutrition Centre representatives, as well as talking to two key informants with a coherent understanding of the Kiribati context was important for the interpretation of the findings. The memos and field notes were also made to control dependability. They helped keeping track of the changes made during the study, and remembering the reasoning in the data analysis. The notes also helped ensuring confirmability so that the end product of the study was grounded in the data (Ibid).

Time was a struggle during the sampling process for the FGDs. Many mothers turned up late or not at all and the author had to find new participants on the spot, which might have interfered with the quality of the data. The usage of an interpreter was another limitation that may have influenced the rapport between the author and participant. Some nuances and issues may have been lost in translation during the FGDs. To overcome this, the note taker was given time to transcribe the FGDs from i-Kiribati to English after each session. The author was then able to address relevant issues in the next FGD/interview.

After having discussed the preliminary findings with the key informants, it became clear that there might be further cultural issues that influence how mothers eat and feed children. This thesis can conclude that cultural factors do play a part, but time- and logistics constraints made it difficult to explore this in more detail. For instance, it did not seek to understand detailed gender related issues pertaining to food choice. In addition, the composition of a public health student and an interpreter from the National Nutrition Centre may also have contributed to feelings of intimidation and reluctance to share personal stories.

In order to enhance transferability and the ability to make analytical generalisations, efforts were made to reach mothers from different areas in South Tarawa and give thick descriptions of the study setting (Dahlgren et al., 2004). Purposive sampling was used to get comprehensive, saturated data that also account for negative cases (Morse, 1999, cited in Dahlgren et al., 2004). Nevertheless, there might be further nuances

that have not been revealed due to limitation in scope and time. Also, there is a risk that the selected mothers chose to participate because of specific interest in the topic, which may have caused less variation in the findings.

This qualitative study can serve as a platform on which discussions for further interventions can be made (Dahlgren et al., 2004). For future research, adding a quantitative component would be valuable in order to show the specific distribution of the identified perceptions and attitudes. It could also measure more comprehensive household conditions and knowledge pertaining to food and healthy eating.

5. Conclusions and implications for interventions

The main findings indicate that a food culture in transition influences the ability to choose food, and that there are push- and pull factors on each side making it difficult for the mothers to keep a healthy diet. Food choices cannot be made coherently if mothers only get more money, or only more education. It is also important to note that everyone should have the right to treat him or herself to a tasty meal, and there should be options to have a variety of both healthy and tasty food on a regular basis. Based on these findings, the suggestions for interventions and further research are as follows:

- Interventions need to ensure that they include coherent follow-up systems of activities, so that nutritional literacy can be monitored at household-level. Both quantitative and qualitative methods should be used to collect data on outcomes, behavioural change and attitudes towards the interventions.
- Mothers need to feel that they are involved in rather than being observers or recipients of the change process. They need to be involved in the planning and implementation of awareness-raising classes in a participatory manner.
- Research should continue to explore opportunities to plan community gardens adapted to the crowded settings of South Tarawa.
- There is a need to identify opportunities to use children as agents of change, especially with regards to Kiribati's new school syllabi.

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Appendices

Appendix 1: Map of South Tarawa



Downloaded from: https://commons.wikimedia.org/wiki/File:06_Map_of_South_Tarawa,_Kiribati.jpg

Appendix 2: Discussion Guide

Intro song, prayer.

Introduction

Welcome to this focus group discussion. My name is Anna and I come from Sweden, which is a country in the north of Europe. I'm a student in public health and will be here for 5 weeks for my research on nutrition. This is Ntaene from the nutrition department who will help me translate and this is David who is helping us with taking notes during the discussion. We want to understand your thoughts and opinions around food and the access mothers in your village have to food, and what you feel is important when it comes to choosing food here in your village. We will do many focus group discussions with women in your age who have children, and we really appreciate that you take your time to do this. Your opinions are very valuable, because you know a lot about this topic. Please don't be shy to share your views; there are no right or wrong answers to the questions. The point is to get a discussion going, so please feel free to interact and speak freely about what you think is important about this.

Participating in this discussion is voluntary, there will be no possibility to identify who says what, you are anonymous. We don't need to say any names during the discussion. I will record the discussion it with my mobile phone so that we know that we capture everything you say and understand the discussion more clearly. Only us and my supervisor and I will have access to the recording, and we will delete the recording once the study is finished. The recording will be transcribed, then I will summarise what you and the other groups say and send the report to the nutrition department. If anyone of you is interested we will absolutely share the report with you. Are you all okay with us recording this discussion?

Let's establish some ground rules for this discussion. Do you have any suggestions? E.g. one speak at a time, be respectful to each other etc. Speak in to the microphone, don't laugh at each other. What is said in the group should stay in the group. The discussion will last for one to one hour and a half. Do you have any questions?

Opening question –*If this has already been done in the intro skip this part.*

- Tell us something about yourself and something that you like to do (eg. how many children, favourite food, interests etc.)

Introductory questions

- Could you tell me a bit about what people eat in your village and what you think about it? (Eg. Good/Bad-why?)
- What food do children eat in comparison to adults?

Key themes

The meaning of health and healthy food,

- What do you see here, and what do you think about these foods? (Ask them to compare and contrast, what do you use it for, which one is better? Why? Can

you give an example?) Lead into healthy/non healthy eating, cheap, expensive, tasty, beautiful etc.

- **What does health and healthy eating mean in your culture?** And especially for mothers like you here in South Tarawa/your village? (Probe: What is a healthy breakfast, lunch, dinner? Can you give some examples?)
- **Could you describe how your views about food have changed since you did the nutrition course or since other organisations came and talked about food habits, or through pamphlets, radio messages? Probe: problems, how have you adapted what you learned into your cooking and food choices? What usually gets wrong when interventions are made?**
- What do you as women here think food have to do with our body and mind? (*Probe, what is the purpose of food?*)

Local food versus imported food

- What do mothers like you think of imported food (*refer to pictures*) here in South Tarawa/your village?
- **What do you think is the difference between local and imported food?** (*Probe what they symbolise (for example, how does food in your village tell us about people and their culture? How is food culture important in your village or in South Tarawa? What do you eat that symbolises this tradition, more local food or more imported food? How does money play a part in the food mothers can choose? What about costs, taste, preparation etc. comparing local and imported foods. Lead into next theme.) If you put these foods on your table, what does that say about you? If you could dream, what would you prefer to put on your table? What is the reality?*)

Getting and cooking food

- How do families like yours access food here in your village? (*probe on access and priorities, where do you get the food etc. Also aim to understand what they think of fish and getting fish, especially if it's from the lagoon and how this affects accessibility*)
- Could you describe the general division of work between men, women and children when it comes getting/finding food and cooking? **Who decides what to eat? How do people eat?**
- How do women like you get food, cook and eat food here? (get into cooking opportunities)
- **Probe: What is important for women like you when it comes to getting food and cooking? (Link back to what they said about some food being better than the rest and how the nutrition courses has influenced them negatively/positively)**
- How do activities/external factors influence food choices for women like you?

Priorities when choosing food for children.

- **What is important for mothers like you when choosing food for your children?**
- How does it vary from babies to older children? (Probe: do mothers follow guidelines for baby feeding?)
- So, based on what you have told me about the importance of food being e.g. cheap, easy to cook, what would be the best way to make more people eat healthy?

Concluding questions

- We are now getting to the final stage of this discussion. Do you have any additional comments that you would like to discuss when it comes to food habits here in your village?

Appendix 3: Interview topic guide

Introduction

My name is Anna and I come from Sweden. I am doing a study together with the nutrition centre on perceptions of healthy eating and food choices among young mothers in South Tarawa. We are interested in understanding mothers opinions on food and food habits, what you think is important or not important when you choose food, and how you access food. We really appreciate that you are taking your time to contribute to this study. Please feel free to speak openly about what you think is important here, you are the expert in this field. The interview will be recorded but you will be anonymous and your name will not be displayed anywhere. You have the right to leave at any point and if there is a question you don't want to answer, you don't have to. The recording will be transcribed, then I will analyse the interviews and focus groups we have made and write up a report to the nutrition centre. When the study is finished, the voice recording will be deleted. The report will be available at the nutrition centre around July, so please contact them if you are interested in reading it. Are you okay with us recording this discussion? Do you have any questions before we start?

Opening questions

- Please tell me little bit about yourself and your life. How do you live, how many children do you have and what is your daily occupation?

Introductory questions

- **So this discussion will be about food. First of all, I'd like to know what you think is the purpose of food?** ("Food should be...")
- How would you describe the food situation in your village? What do people eat? (probe: what categorises these foods?)

The meaning of health and healthy food

- **When I say health, what does that mean to you? And healthy eating? How would you define a person who is healthy? (Probe: What do people think about being healthy, does it increase status etc?)**
- What do you eat for breakfast, lunch and dinner in your family? What do you think about these meals in light of what you said about health and healthy eating?
- **Could you describe how your opinion on food has changed over time, if at all? And why? How has your diet changed according to this? And the rest of your household's? If it was difficult to change habits, what did you do, could you seek help from someone?**

Local food versus imported food

- In Kiribati, you have both local foods like (let participant say which is which, e.g. coconut, breadfruit, fish)... and imported foods, (like noodles, ice block, rice)... What of these food do your family prefer? (Why? Can you give examples?)
- **How would you describe the difference between these two types of food?** (*Probe: what do the food mothers choose tell us about who they are? Money matters etc. What do these foods symbolise, what food constitutes your culture? What are your thoughts on having a food culture? Necessary, not important, indifferent? If you could dream, what would you put on your table? What prohibits you from doing that? Why do you want to put that on your table? What would other people think if you put it on your table? What would it say about you? How does status differ depending on what you put on your table?*)

Getting and cooking food

- How do you access food? (*probe priorities, what is more important when you access food, taste, time, money, nutritional value (for whom?), being able to present it in a nice way.. give examples?, eg. time, cost, taste, presentation, where do you get the food etc. What about the fish from the lagoon vs. ocean: how this affects accessibility*)
- **What is important when you access food? (Link back to what they said about some food being better than the rest and how the nutrition courses has influenced them negatively/positively)**
- Could you describe how you divide the work in your family, when you get food? Your husband, parents, children, who does what? Who decides what to eat? **Can you describe how you eat during the day? (Family sit down together etc.)**
- How do activities/external factors influence your food choices?

Priorities when choosing food for children.

- **What is important for you as a mother when you choose food for your children? (Probe: why is it important to give children better food? How important are other people's views about what food you give to your children?)**
- How does it vary from babies to older children? (*Probe: How do you take guidelines into consideration? What about if you are pregnant while having a little baby? Different food depending on age?*)
- What would be the best way to make more people eat healthy? What could organisations do to make it easier for you?

Concluding questions

- Do you have any additional comments that you would like to discuss when it comes to food habits here in your home? Any other comments on what the purpose of food is?

Appendix 4: Example of use of memos and concepts

Quote	Codes	Concept	Memo
<p><i>"Even if we are grown up now, still we don't know what kind of foods we should eat. We only eat foods that are tasty or that can satisfy us. We don't spend time searching what kind of foods should we eat, hopefully if we try and search or ask around we will possibly get an answer of what should we eat. I know that food is very important. Foods give us energy to do our work or home chores."</i></p>	Knowing but not being able to change	Being aware	<p>There is a paradox in not finding the power to search for information, but hoping that there could be some available. Help needs to come their way, not the other way around. They have never been given the information about food and nutrition, so they feel in need and want to learn more but cannot make the effort to change their diets.</p>
	Feeling dependent		
	Wanting more information		
	Feeling insecure		
	Knowing food is important for energy		

Appendix 5: Example of analytical coding process

Quotation	Open code	Subcategory	Category	Core category
<p><i>"Sometimes foods can show what status we are in, for example if we are in high rank in the government as an example then we can buy any kind of foods but if we are not then we can just buy foods that are cheaper and that we can accommodate with our small earning of money."</i></p>	<p>Variety meaning higher status</p>	<p>Being admired for food choices</p>	<p>Having food preferences but left to eat what is available</p>	<p>A food culture in transition</p>

Appendix 6: Core category, categories and subcategories

A food culture in transition			
Facing diminishing cultivation possibilities	Having food preferences but left to eat what is available	Moving from feeling confident to becoming insecure about food	Finding that cultural and gender norms challenge food choices
Needing money for food variation	Getting used to eating unvaried food	Defining healthy eating differently	Prioritising healthy and happy children
Relying on food import	Appreciating food as just food	Learning to cook from family and peers	Balancing time for own activities and household responsibilities
Being frustrated about decreasing space for own cultivation	Being admired for food choices	Knowing what food is best for the children	
Being threatened by increasing environmental degradation	Dreaming about varied food	Getting ad hoc food recommendations	
	Reserving unusual food for special days	Enjoying learning new food habits but with limited capacity to change	

Appendix 7: List of participants

	Age of participant(s)	Number of participants	Number of children	Living area
Focus group 1	19-28	6	1-3	Bairiki
Focus group 2	18-35	7	1-6	Betio
Focus group 3	18-35	5	1	Bairiki
Focus group 4	23-30	8	1-5	Bikenibeu
Focus group 5	22-35	7	1-7	Betio
Interview 1	24		3	Bairiki
Interview 2	18		1	Bikenibeu
Interview 3	31		2	Betio

Popular science summary

The world has recently gone through a shift towards unhealthy diets consisting of high levels of sugar, fat and salt. This has led to high rates of diabetes, overweight and high blood pressure. In Kiribati, one of poorest country in the Pacific and geographically remotely located with little cultivation opportunities, few people eat enough healthy food. As a result, children become undernourished and underweight, whereas adults develop the already mentioned diseases.

Interestingly enough, plenty of interventions have tried to improve the situation but the problems with food-related diseases remain. This might be because hardly any research has been made on what people actually think about food, and what they find important when choosing food. This study suggests that it is necessary to listen to their views in order to know how to make successful interventions. Since mothers usually are responsible for making food for their families, this study looks at their views of healthy eating and food choices in South Tarawa, the capital of Kiribati.

Using group discussions and interviews to learn about mothers' views, this study shows that mothers experience a shift in a food culture that influences their food choices. The lack of money and space, combined with sometimes being unsure of what they should eat to be healthy, put pressure from one side. On the other side, the mothers feel influenced by what their own relatives think about food, and pressure of being good mothers. In the same time, they like to try new exciting food.

It therefore seems that mothers feel they are stuck in a food culture in transition. The results add on to existing theories and thoughts about food choices from the academia, but find that claims about that mothers actually have a food choice in fact could, and should, be questioned.