

# Child feeding in rural northern Ghana: Carer's perceptions of food and their children's diets

Margaret Wekem Kukeba<sup>1,2</sup>  | Debbie Fallon<sup>3</sup> | Peter Callery<sup>3</sup>

<sup>1</sup>Department of Paediatric Nursing, University for Development Studies, Tamale, Northern Region, Ghana

<sup>2</sup>CKT University for Technology and Applied Sciences, Navrongo, Upper East Region, Ghana

<sup>3</sup>Department of Nursing Midwifery and Social Work, Faculty of Biology Medicine and Health, The University of Manchester, Manchester, UK

## Correspondence

Margaret Wekem Kukeba, Department of Paediatric Nursing, University for Development studies, PO Box TL 1883, Ghana, C535+92 Tamale, NT-0272-1946. Email: mkukeba@uds.edu.gh

## Abstract

A child's diet should be composed of appropriate nutrients to achieve optimal nutritional status, and though there is a substantial evidence base for child feeding recommendations, developing countries continue to face challenges regarding optimal child feeding. This paper describes an ethnographic study undertaken in rural northern Ghana to explore community perceptions of what counts as food for children and the impact this had on the nutrients they received. Fifteen households with children under 5 years were purposively selected. In-depth interviews were held with 25 mothers, 7 fathers and 8 grandparents within these households as well as 2 diviners. Participant observations were also undertaken. Findings show that satiety rather than nutrition was the key consideration in adult choices about a child's diet. The community regarded carbohydrate-based meals as food, but considered protein, vitamins and mineral-based foods as nonessential elements of a child's diet, and important sources of these nutrients were regarded as treats.

## KEYWORDS

child, culture, developing countries, ethnography, food, rural communities

## 1 | INTRODUCTION

Only one in six children worldwide receives an acceptable diet (United Nations Children's Fund is a United Nations [UNICEF], 2016). This is in spite of the global efforts to ensure that most children feed optimally. The recommended infant and young child feeding practices guidelines suggests that children's daily diets should contain foods from at least four of the seven recommended food groups (World Health Organization [WHO], 2004, 2005). The Ghana Statistical Service (GSS) estimates that only 13% of children under 5 years in Ghana receive recommended foods for their age (GSS, Ghana Health Service [GHS], & ICF, 2016). This suboptimal feeding is a major factor in the persistent undernutrition in Ghanaian children (Multiple Indicator Cluster Survey [MICS], 2011). In rural northern Ghana, 3 out of 10 children under 5 years are malnourished (Glover Amengor et al., 2016) and 3 in 5 children under 5 years old are anaemic (UNICEF,

2013). These deficiencies affect morbidity and mortality during and beyond childhood because children who receive inadequate diet are at risk of developing chronic ill health in adulthood (Dewey & Begum, 2011). Inadequate nutrient intake and related deficiencies influence economic under development. Anaemia alone is estimated to cause reduction of approximately 2.5% in wages in Ghana (WorldBank, 2010). Global child feeding recommendations to promote optimal nutrition (GHS, 2009, 2013) are readily available. To facilitate the uptake of such recommendations, community health nurses, midwives and medical (physician) assistants provide information about child feeding and nutrition to mothers as primary caregivers and as those with the main responsibility for feeding children (GHS, 2009, 2010, 2012). There is evidence to suggest that most primary child caregivers have information about child-feeding recommendations (Aborigo et al., 2012; Appoh & Krekling, 2005; Paul et al., 2011; Pelto & Armar-Klemesu, 2011) but that multiple factors such as poverty,

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culture and inadequate understanding of the recommended practices contribute to the persistent provision of inadequate food to children. Cultural analysis of child feeding could help unveil the enduring factors that contribute to the persistent poor feeding of children and the resultant malnutrition. Food cultivation and the choice of foods to include in a diet have been established to be partly born out of culture (Helman, 2007). Cultivation of food crops ensures availability and accessibility to members of a community. However, cultivating food could be culturally censured to ensure that community members fit in what are generally acceptable food norms and traditions. This could affect the production of crops that may yield better and provide communities of the means to feed. Additionally, the definition of food may restrict the inclusion of certain diets in the meals of individuals such as children. For instance Helman, (2007) observed that food could be classified as food or nonfood and food for the affluent and nonaffluent, suggesting that some nutritious food sources may not be eaten or may be eaten by only some category of people. Thus, information about community perceptions of food and the nutrient base of children's diets in rural northern Ghana could provide information on whether there are enduring culture-related food practices that ran counter to public health-recommended child feeding practices. This paper reports on a rural Ghana community's perception of food and children's diet from their cultures perspective with specific reference to children under 5 years.

## 2 | METHODS

An ethnographic design was used to explore feeding practices of children under 5 years in a village in rural northern Ghana. The cultural factors that influenced what counted as food were behavioural and ideational concepts as described by many culture theorists such as Smith & Riley (2011). Principles of constructionist qualitative methodology, which have been widely adopted for studying similar cultural ideas (Hammersley & Atkinson, 2007; Fetterman, 1989), guided the study. The methods included interacting with participants directly in their own environment, noting physical food materials, and conducting informal interviews to understand participants' perspectives of child feeding. Specific activities with community included observing what food items were included in a child's diet and asking questions about the meanings associated with foods given to children.

### 2.1 | Study setting

The data were collected between October 2014 and May 2015 in households of a rural community in the Upper East Region of northern Ghana. The community is located in the Bongo district in the north-western boarder of the region. The community is approximately 23 km from Bolgatanga, the Upper East regional capital. The amenities in the community include a community-based health planning and services (CHPS) centre, a kindergarten, primary and junior high schools, a Feeder road from Bongo the district capital and passes through the

### Key messages

- The conceptualization of food may not promote consumption of varied foods to meet children's nutrient needs.
- Treasured sociocultural values, beliefs and norms may disallow children from receiving certain nutrient sources of food.
- Cultural competence of health workers may be examined to establish nutrition related professional cultural competence.
- Nutrition intervention may use action research approach to identify and use culture custodians such as the elderly to disseminate public health-oriented nutrition information.

community to the next community. The community also has a couple of protestant and charismatic churches and a catholic church. The commonest means of transportation within the community are tricycles, motorbikes and bicycles. Only one community lies between this study community and the Burkina Faso border community. This makes it a vibrant trading community as is common in most communities closer to the border towns in rural northern Ghana. However, the community members are also farmers, who form one of the food baskets for northern Ghana, as most of the community members' trade in foodstuffs they cultivate. The community mainly practise the extended family system. Family members ranged from four generations of blood relatives with great-grandparents down to great-grandchildren, aunties and uncles, and sisters and brothers. Thus, compounds within households would have adult siblings with their spouses and children. There were however few nuclear family households. This was composed of a man, wife and his children. Family members live in a typical northern Ghanaian rural-styled household, which comprises several houses enclosed in a courtyard or compound, traditionally accommodating members of the extended family. Figure 1 shows an example of the community's landscape, households and the link between compounds in a typical household in the community (DocNordic, 2007). The household style also appears to be related to the family system, as there are passages between the compounds within the households for people to be able to easily access other compounds.

### 2.2 | Recruitment and sampling

Approval for access was obtained from the chief of the community and the Regional and District Health Directorates within which the community is located. Health workers at the community's CHPS centre facilitated access to potential participants attending child welfare clinics. Multiple sampling techniques were used to avoid gatekeepers



**FIGURE 1** The community's landscape, households and compounds in a typical household in the community

cherry picking participants. The University of Manchester ethics committee and the Regional Health Directorate provided ethical approval and administrative permission, respectively. Community and household heads and individual participants gave consent. The study information was provided continuously during recruitment, interviewing and participant observation throughout the fieldwork.

### 2.3 | Participants

Any household member who contributed to making food-related decisions for children or who directly prepared food or fed children was identified and included in the sample. Fifteen households with 32 children under 5 years participated in the study. Children recruited into the study were consciously done to ensure that all categories of age groups under 5 years in the community were included in the study to ensure maximum variation. Table 1 is a summary of key participants category and age category of children. Most informants could not accurately report their ages but three mothers reported their ages to be 14, 16 and 17 years. Out of the 52 key informants, only four indicated that they had received basic formal education, but none of

**TABLE 1** Summary of category of participant and age category of included children

Category of key participants	Number
Fathers	8
Mothers	24
Grandmothers	13
Grandfathers	3
Diviners	3
Other relatives	1
Total	52
Age category of children in months	Number
05	4
68	4
923	13
2459	11
Total number of children	32

them could read nor write in any language. Three younger mothers reported they had some primary education. Three traditional spiritual leaders (diviners) also participated, albeit unexpectedly.

### 2.4 | Data generation

M. W. K. conducted 680 h of participant observation and undertook 52 interviews with participant. These included informal conversations during observations and multiple scheduled in-depth interviews that reflected the social interactions dynamics of the community. Topic guides including perceptions of food for children; food items (both raw and cooked) that children receive; food preparation techniques and processes; and individuals' roles in food preparation were used to ensure that interviews and observations remained focused on cultural aspects of child feeding. Field notes were initially written out of sight of participants, but in response to the prompting of some participants, M. W. K. subsequently visibly made notes during interviews and observations.

Interviews took place within compounds, under the shade of trees and in huts, sheds built outside, mostly in front of the main house where community or household members assemble during the afternoons when the sun is scourging to rest and share company. The interview prompts included what food do you give to your child?; what influences your choice of food?; could you explain how you prepare the food? and Could you tell me any reasons why you do these (example of activities) when cooking? Interviews were audio recorded, and pictures of essential scenes were captured. M. W. K. also wrote field notes, reflexivity journals and memos of both the subject of child food and emergent methodological issues.

### 2.5 | Data analysis

Analysis started in the field to help identify issues to explore during subsequent data collection. Audio recordings were transcribed verbatim in the local language and subsequently translated into English. A local language expert was engaged to conduct back-to-back translation of a sample of 10 of the interviews. A third translator reviewed the transcriptions and audios to validate the interpretation of

participants' responses and indicated that differences found in transcribed data were semantic. The textual data of interviews and field notes were uploaded to NVivo and analysed using framework analysis (Ritchie & Lewis, 2003) to develop themes. Spradley's (1979) universal semantic relationships structure shown in Table 2 also informed the data analysis process in that words, sentences or paragraphs were considered with reference to the relationships such as the type, causes and reason of another in the context of the data. This helped with coding the data and determining meaning. The universal semantic relationship framework was used as a guide for interrogating the content of the data. For instance, when a participant says, my parents..., my mother and co usually discuss that. They say if children are exposed to meat, it will predispose them to steal some if they see it, the semantic relationship model helped as a framework for deciding what the participants statement means for coding. This was at a conceptual level, where the framework was readily available to prevent researchers from wondering off the data. Two other researchers (P. C. and D. F.) reviewed resulting themes to aid with interpretation and clarity.

## 2.6 | Ethical considerations

The University of Manchester ethics committee and the Regional Health Directorate provided ethical approval and administrative permission, respectively.

## 3 | FINDINGS

The acknowledged influence of a child's feeding on their growth, development and health has resulted in nutritional guidelines that recommend exclusive breastfeeding for the first 6 months and continued breastfeeding with complementary foods from at least four of the seven food groups for children 6 to 23 months (WHO, 2018). Children beyond 23 months are expected to be given family feeds. The guidelines also make explicit the recommended textures of food and the

number of meals per day for children of various groups to ensure their optimal growth and development. However, the findings of this study show how child feeding is markedly different to the recommended feeding practices, as it is the community understandings of what counts as food that significantly influences food choices for children, with unintended consequences that include poor quality diets.

### 3.1 | The community's concept of food and food cataloguing

Key aspects of food included its physical appearance, particularly its bulkiness and its ability to ensure physical filling with most participants repeatedly describing food as anything that resulted in satiety. Community perceptions also guided the accepted or preferred food sources that were included in a child's diet. For example, origin of a food source, whether from the community or elsewhere, influences its inclusion in a child's diet. The reasons for providing food also determined its value or usefulness with participants suggesting that food was anything edible given to a child to prevent them from nosing around compounds for food or that, which prevented children from crying, or as mother stated below, that provides the caregiver with respite from the child's attention:

**MK:** you indicated that somethings are a waste of time and not food. Could you tell me a bit more, about what makes you consider some things as food and others as waste?

**Dukopoma:** if the thing is edible and can satisfy a human being, is it not food? if you give a child something, and the next minute, that child is on you again, and you are not able to do whatever work you were doing or even have peace of mind to rest, will you call such a thing food? It means the child was not satisfied. Food is what I have told you earlier. Our TZ (solid cereal gruel) is the best food one can ever find.  
[Mother]

The narrative of the participants also reflected the observed diets of the children in this study (see Table 3), which were mainly dense, with physical filling potential (see Table 3) and showing that animal sources of foods were largely omitted from the diets of children as they did not satisfy the child as illustrated by this mother:

**MK :** Ok, so the foods available partly determine what you would cook for C. I can see many fowls jumping in and out of your compounds, your mother in-law said she went to get water for your goats, but you seem not to add them to C's diet. Those are also food.

**Akele :** does meat fill the stomach of the child? If your child is crying of hunger and you give them only meat, will it satisfy the child? Meat is not relevant when it comes to finding food for your child. A good mother will try to find food for their children [Mother]

**TABLE 2** Universal semantic relationships

Serial number	Domain	Semantic relationship
1	Strict inclusion	X is a kind of Y
2	Spatial	X is a place in Y; X is a part of Y
3	Causeeffect	X is a result of Y; X is a cause of Y
4	Rationale	X is a reason for doing Y
5	Location for action	X is a place for doing Y
6	Function	X is used for Y
7	Meansend	X is a way to do Y
8	Sequence	X is a step (stage) in Y
9	Attribution	X is an attribute (characteristics) of Y

Note: Spradley (1979).

**TABLE 3** Examples of excerpts showing the major constituents of food items in the diets of children

Excerpts on foods fed to children	Main food sources	Main food groups	Forms of food (volume)
<i>E's (child) food was TZ with baobab leaf soup (H5Cp2)FN</i>	Baobab leaves Guinea corn	Fibre, iron trace carbohydrates	Light/fibre dense
<i>I cooked millet and rice and we have all eaten . (This included the 3 years old boy) I asked what of the baby? The woman was carrying this infant. The little girl, who had told their mother about the cooking, told me that they wanted their mother to bring her so that they would feed her.</i>	Millet	Carbohydrates, vitamins	Dense
<i>I asked her what the ingredients are, and she says, it is only the millet and rice. We went to beg for salt from the nearby house, but they said they did not have any, and so we washed the rice and millet and poured all into boiling water and allowed it to cook. (H5Cp1)FN</i>	Rice	Carbohydrates	Dense
<i>The mother of the 3<sup>rd</sup> child had gone into the house and reappears with the mashed kenkey and her son, and began to feed him with her fingers. The woman then gives the 11-month-old child to her daughter and ask her to feed the child since her hands were already clean. The mixture was very watery with rice water appearance (water and solutes separate), making the watery part to be on top and remnants of the kenkey under the bowl. (H5AII)FN</i>	Maize	Carbohydrates	Dense
<i>She put 3 of the steamed soya bean and corn flour cakes into a bowl pour some refined palm oil from world food program (WFP) over the cakes, sprinkled pounded pepper and salt on it, and calls E to pick it for lunch. Ed went to a clutter of used dishes and looking through, she found water in one of the bowls and seemingly washed her hands in it and went back to sit on the ground, stretched her legs around her food and started to eat in ten minutes Ed finished his food. (H5Cp3)FN</i>	Maize soya beans refined palm oil	Carbohydrates vitamins proteins oils	Dense

The adverse reports on the status of meat as an important food source are dominant. Akele appears to suggest that food must fill the stomach, and because meat cannot fill the stomach, meat cannot be food. The response of Lamisi during a conversation also supported this:

**MK:** but is meat not also food?

**Lamisi:** only meat does not fill one's tummy.

**MK:** Are you suggesting that something is food only if it fills the tummy?

**Lamisi:** yes, if you eat meat will you be satisfied? You need food to make you satisfied. Unless you want a whole goat to yourself (laughing). [Mother]

The participants informally classified food as satisfying foods, accompaniments and treats. Satisfying foods were mainly solid gruel made of cereals and grains. Accompaniments were low-volume food substances or foods the community consume in small

quantities such as vegetables, fruits and meat, poultry, fish and seasonings like salt and stock cubes. Treats were foods given to indulge children and could be derived from either the accompaniments or satisfying food groups. Table 4 shows a list of foods and their categories with ticks and crosses indicating those that community members mostly served children and different sources of food.

The community also categorized food in terms of homegrown and foreign foods with homegrown foods being cultivated locally either in the community or other neighbouring communities as illustrated below:

**MK:** But why do you think the women should not feed the children with rice?

**Amisah:** You see, the rice is not our homegrown food You see ehn, (hesitant) sister when you feed children their father's foods (food from their community), that way, they grow to know their roots. [Father]

**TABLE 4** Category of foods in children's diets

Food component	Use base categorization			Source based categorization	
	Satisfying	Accompaniments	Treats	Homegrown	Foreign
Millet					
Corn					
Rice					
Guinea corn					
Beans					
Dawadawa					
Kenaf leaves					
Dry okra					
Tomatoes					
Dry baobab leaves					
Anchovies powder					
Saltpetre					
Salt					
Oil					
Groundnut					
Yams					
Noodles					
Palm nuts					
Oranges					
Plantain					
Bambara beans					
Eggs					
Meat					

Some participants believed that children should not routinely eat foreign foods but should only eat such foods occasionally as treats. Only satisfying foods were considered as appropriate for feeding children daily.

As for those foods, if occasionally people eat these foods, it is okay, but to make them our foods, which should not be the case. During Christmas and the harvest feast, we can eat anything we want. As it is our children, these days do not even like our foods. Before we know, our food will no more be cultivated.  
[Grandfather]

### 3.2 | The sociocultural symbolic value versus the nutritive value of food

The data show that food is a core element of the community's cultural heritage. The desire of community members to use homegrown foods as a means of handing down their culture to future generations influences the food sources in a child's diet. As indicated in Tampugre and

Amisah's statements, they perceive that the community's child feeding traditions may be lost if women rarely feed children homegrown foods, and as a result of this, some participants advocated the giving of only homegrown foods to children as a social rule. Homegrown food was associated with health with health and vitality as Nsorbillia suggests (below).

**MK:** You also indicated earlier that newly born children would usually be given guinea corn water and herbs. What do those two do for the child?

**Nsorbillia:** Those things give the child blood and if any disease attacks the child, it is unable to survive. As you can see me as I am, I have never been to the hospital. If not now that, these diseases have also entered me. I am strong. [Father]

Anaba's narrative (below) not only highlights the belief that homegrown food is healthier but also links outside food to sickness and confusion. Furthermore, it is outsiders or you people, such as researchers or health professionals and stronger women that are the catalyst for the unwelcome changes to children's diets.

You see, what I said the other day, the system is spoiled, why should the eating of meat matter so much? Meat is nothing. Our concern should be what will satisfy a child. Because of all these talks (IYC feeding education), the children do not even like our indigenous foods, which are healthier. Me like this when I travel to the south to do my cattle business, I eat TZ and I let the southerners know that is my hometown food. Some of them even admire me. They ask if that is what makes me look healthy? Yet, look at the things you people have brought, these are sickness and confusing to the children. They do not even know the difference between our food and other foods. Write and tell our children that TZ, guinea corn, kenaf leaves, beans and millet cakes, those are our foods. Rice is nothing, as for corn TZ Ask my wife if they prepare it here, they will have me to reckon with. I cultivate corn to sell and we can roast it and eat but not for TZ. According to my father in those days, there were rules, and these women could not go about giving anything to children that the community did not like, but now, you women are even stronger. *[Grandfather]*

Anaba laments dietary change here, highlighting a belief that home-grown food is healthy, that outside food is unhealthy and is the cause of sickness. He also appears to suggest that those who advocate for change or who advise the women of the community to include new food in the diet of the children in the community are responsible for sickness, confusion and the demise of the community culture. Indeed, with the phrase write and tell our children that TZ, guinea corn, kenaf leaves, beans and millet cakes, those are our foods. Anaba is seeking support from the outside to reinforce the passing on of indigenous food culture to the children of the community. Furthermore, participants believed that consuming food grown from their own community demonstrated being true to their ancestry and that it was more fitting to feed children with homegrown food because it teaches children their traditions regarding food and preserved their agricultural lineage and related benefits. There was some limited acceptance of food from outside of the community on special occasions as Tampugre explains below, but this is tempered with some regret that this limited acceptance should not lead to it becoming our food and that younger generations may now be rejecting community foods in favour of outside foods. He also expressed with certainty that in years to come, the community members would no longer farm guinea corn, which is one of the main grains currently cultivated by the community:

As for those foods, if occasionally people eat these foods, it is okay, but to make them our foods, which should not be the case. During Christmas and the harvest feast, we can eat anything we want. As it is our children, these days do not even like our foods. Before we know, our food will no more be cultivated. *[Grandfather]*

A participant reported that she had observed that their children did not generally like TZ made from guinea corn because it appeared red and unappealing, even though the guinea corn and millet TZ, in particular, were bulkier than TZ from maize:

**Nsorbilla:** Even now, the children do not like guinea corn TZ, it is always force and hunger. Why!

**MK:** You also indicated earlier that newly born children would usually be given guinea corn water and herbs. What do those two do for the child?

**Nsorbilla:** Those things give the child blood and if any disease attacks the child, it is unable to survive. As you can see me as I am, I have never been to the hospital. If not now that, these diseases have also entered me. I am strong. *[Father]*

The community appears to emphasize feeding children home-grown and mainly carbohydrates-based foods even though it cultivates different categories of food groups.

### 3.3 | The symbolism of meat in the community

The perceptions of meat as lacking in nutritional value because it is not filling enough was not the only reason this community avoided feeding meat to their children. The data also indicated that meat served a symbolic purpose in the community seen as both a sign of affluence when provided for others and a source of deviance when eaten outside of special occasions.

#### 3.3.1 | Meat, a cause of social deviancy and poor health

The data show that meat has purposes and symbolic meanings that appear to be more important to the community than using meat and meat products for food. Meat was seen as having a negative role in the social and physical development and health of children. Most participants suggested that meat could cause social deviance in children. According to the participants, when a child eats meat, they may become dependent on it and that could lead to acting in socially unacceptable ways. For younger children, participants suggested that they might beg for meat and other items from strangers because of developing sweet taste due to the meat-eating habits. Other participants reported that children could grow to be social deviants in adulthood due to the habit of finding means of meeting a habit of eating meat, likening meat to an addiction or habit that results in unacceptable behaviours as means of meeting this habit. A participant reported that most children who turn out to be thieves, truant and irresponsible adults have their parents to blame for feeding them meat during childhood. Meat is therefore a highly restricted food item in the diet of children. The comments below demonstrate participants' beliefs about the role of meat in the antisocial behaviour of children.

My parents..., my mother and co usually discuss that. They say if children are exposed to meat it will predispose them to steal some if they see it because it is tasty and besides when you give meat people will start to discuss you that you are a bad woman. [Mother]

It is the tongue. As their mouths become sweet, what happens? You know, once it gets used to a particular thing it is difficult to do without it. That brings the stealing. Cannot you see our world today? The indulgence is the problem This has to do with how frequent the child is given meat. If a child like this one is given meat, only when you perform a religious ritual, and kill a fowl, that cannot make the child a bad child or sick. However, if every day you stretch your hand to a child with meat, that child will obviously go wayward and you the parent will suffer if the child is sick. As for babies, they have no business with meat. What do they need it for? Will it satisfy them?, [Father]

It is also believed that when children eat animal products such as eggs, they may not grow appropriately or may develop some ill health such as worms or abdominal upset. These beliefs work to prevent giving children diets with animal sources of food. One participant claimed that even though she wishes to feed her child all varieties of food including meat and eggs, she was unable to do that because her family members did not subscribe to that practice. She indicated that her in-laws reprimanded her for giving her child meat to taste.

Oh! As for those, you do not give to children. A few days ago, my sister in-law came home, and they had killed a fowl and I cooked it. When I gave some to T, my sister in-law exclaimed and told me that children do not eat meat and that if I give the child meat, her teeth will not erupt. [Mother]

You see, it is actually not good to give children these things. In our Frafra tradition, when you give children eggs, forget about those who do not have and may not give it frequently However, for those who can afford and may give the children eggs frequently, when this happens the child may develop a sickness in which the whole anus will prolapse and appear reddish. It is because of these sicknesses that it is not good to give babies eggs. In addition, the meat too, you know the stomach of children is not strong. Even me who is an adult can eat fresh meat and develop severe abdominal problems and some of them may even develop diarrhoea. But the reason why here we do not accept that children be given meat is that their stomachs are not matured and when they are given especially fresh

meat, it creates a sore in the stomachs of the children and they even run diarrhoea which is sometimes untreatable. [Grandmother]

Here, a grandmother highlights a number of health problems purported to be caused by feeding children eggs or meat, ranging from delayed dentition to anal prolapse, and how the family regulates the diet of children in subtle ways through the reinforcing of cultural beliefs about food.

### 3.3.2 | Meat and animal products as a sign of affluence

Despite the restrictions on eating meat, the keeping of animals was an outward sign of affluence of a child's family. The findings show that meat sources such as cattle, goat and fowls were capital items and that eating these animals was perceived as wasteful. Families in the study sold meat sources such as cattle to mobilize money for meeting other household needs. However reserving the animals from sale to demonstrate affluence appeared to be more important to the families than selling the animals and using the proceeds to obtain food for the family; the visible ownership of animals was a matter of some pride, as the following examples highlight:

Are you suggesting that we should be cooking meat every day like food? My daughter, this is not possible, if we were doing that there would not be any animal left in this community and we will be laughed at. You see that my brother, who came the other day when you were here, because of such behaviour, there is nothing in his animals shed. That is disgraceful. As for a man you should be able to keep a few animals in your shed no matter how needy you are, at least, you are not disabled. [Grandfather]

Is it wrong to keep animals? If a grown up man like me does not have cattle in my shed will not I be a laughing stock? I should show that my life was worth living before I die and go to my ancestors. If my children decide to waste the animals, I will not be there to share the disgrace. After all, it will no more be my house. However, for now, my peers must see me as worthy of respect. I am not rich like others, but at least I will not be an object of shame in this community. I try to take care of my animals and when I get money, I buy more. [Grandfather]

As a result, less wealthy households are socially tabooed from using animals for food in their households. Thus, for fear of being criticized and rejected, households that appear willing to give children meat avoid it. This is evident in grandfather's statement and echoed in the statement by a mother in her submission below:



You see, when you do that (eat meat) what will people think? Especially if you do not have enough resources and do that, and you encounter some problem or the next day you are looking for even food to eat and you do not get, that is when people always talk about you. If for instance, you will get to eat both food and meat all the time, no one will talk about you. However, if you get and eat meat today and tomorrow (sigh hmm! and Pause). You understand. [Mother]

Participants also recounted the use of meat and animal products for religious purposes, which further limits them as a source of everyday food. As a mother explains below,

My husband has a few among those you can see, but he uses them to search his ways. You know these men, they go here and there to consult a diviner and they need the fowls, so if you attempt to kill an animal you will have problems with my husband. [Mother]

Both the mother's statement here and a grandfather's earlier statement (Ask my wife if they prepare it here, they will have me to reckon with) draw attention to the display of protection for these cultural ideas. Together with the grandfather's contention that these traditions are being eroded, it may be that there are also some tensions within the community related to tradition and resistance of change.

## 4 | DISCUSSION

The findings of this study demonstrate that the community perceptions of food for children included edible bulky substances that provide satiety. Certain foods were associated with negative beliefs, for example, the community emphasized the value of feeding home-grown foods to children in maintaining cultural heritage. Animals were kept to demonstrate affluence rather than as a source of food and meat, and consumption was restricted due to beliefs that such foods cause ill health, delayed growth and promote deviant social behaviour. These ideas contributed to the decisions about food sources that are added to a child's diet. Clearly, these ideas about food are not consistent with the scientific rationale for child feeding. Organizations such as UNICEF (2019) and WHO (2018) jointly recommend that the diet of a child must contain foods from at least four of the seven food groups. Providing nutrients for growth and development and for maintaining health are the scientific rationale for child feeding (Christian, Mullany, Hurley, Katz, & Black, 2015; Whitney & Rolfes, 2018), but it may be that the scientific rationale is not enough to persuade some communities with deeply held traditions about what counts as food.

The community in this study defined food as any edible substance of volume, which provides physical satiety, and food sources that met this criterion were mainly carbohydrate-based. Serving children mainly carbohydrate diets limits them from consuming varied sources of nutrients necessary for their growth and development (WHO, 2009).

Fruits and vegetables, meat, poultry and their derivatives are the main sources of micronutrients, minerals and vitamins (Lawrence & Worsley, 2007; Whitney & Rolfes, 2018). However, the community places such sources of food in their treats or accompaniments categories, which are not routinely included in a child's diet. Furthermore, there were such strongly held negative beliefs about feeding meat to children that it was hardly ever included in their diets, limiting their protein intake substantially. As a result, children were unlikely to receive adequate vitamins and mineral-rich diets.

Carbohydrates as the predominant nutrient source in a child's diet appears to be a widespread practice in rural African communities and diets with a limited source of varied nutrients is common (Hampshire, Casiday, Kilpatrick, & Panter-Brick, 2009; Hotz & Gibson, 2001). Maize, a main source of carbohydrate has also been reported as the main component of complementary diet of children in countries such as Ethiopia, Niger, Malawi and Zambia (Gibson et al., 2009; Hampshire, Casiday, Kilpatrick, & Panter-Brick, 2009; Hotz & Gibson, 2001; Katepa-Bwalya et al., 2015). However, what is lacking at least in the Ghanaian literature and which this study highlights are the limited explanations of what informs community food choices, such as the concept of satiety and bulkiness of food as a dominant factor in the choice of the sources of a child's diet. Satiety is an important indicator of responsive child feeding (Dewey & Brown, 2003). Nevertheless, communities' emphasis on satiety whilst neglecting the necessary variety of nutrient sources in a child's diet may contribute to under-nourishment of children. Bulkiness of the diet of the child was found to be more about quantity and thickness of the diet. Giving of quantity without considering appropriate texture and nutrient density of foods given to children has been reported as a way of ensuring satiety in times of perennial food scarcity in other parts of Africa, Niger (Hampshire et al., 2009). However, unlike the Hampshire et al. (2009) study, where the volume of the food was increased by diluting, in this study, the food must be thick and large. In view of this, health professionals may renew their emphasis on dialoguing with communities on the importance of right textures and varied food sources in a child's diet.

The findings also show that sociocultural ideas and the perceived symbolic significance of some food sources especially those rich in proteins (particularly meat proteins) vitamins and minerals may outweigh the nutritive significance of food in these communities. Although the belief that multiculturalism or the spreading of cultural diversity across society negatively impacts on indigenous practices (Lash & Featherstone, 2002; Neal, Bennett, Cochrane, & Mohan, 2013), it may not be the case in this study community. This provides fertile ground for tensions around the provision of particular foods to children, with the bulky homegrown food appearing culturally preferable to outside foods that provide a wider source of nutrients. So public health messages about the importance of consumption of wide varieties of foods (Marmot & Wilkinson, 2005) run contrary to the preference for the beliefs of some members of this study community, who advocated the consumption of home-grown foods only in order to preserve both agricultural and cultural traditions.

The regions in northern Ghana are bedevilled with perennial droughts and related food insecurities (Antwi-Agyei, 2012), which means that adequate varieties of all food sources required to meet nutrient needs are not always available and clearly communities may have to supplement their food sources from other cultural groups. However, the community perceptions around homegrown as superior to foreign food may limit the nutrients the children receive generally but also particularly during seasonal food insecurity. Community members who watch, coerce and sway each other's behaviour through criticisms to ensure the children are only fed with homegrown foods reinforce these ideas.

As shown in the data, symbolic use of food sources, values and traditional beliefs may severely limit essential nutrient sources in children's diets. The keeping animals as a means of demonstrating level of affluence and the restriction of meat as a food source due to beliefs about physical illness, poor development and social deviant behaviour are a cause for some concern. Similar to the findings of our study, a cross section of previous studies conducted in Africa has also reported varied beliefs, norms and traditions opposing the use of specific food sources in children's diet (Colecraft et al., 2006; Gupta, Gehri, & Stettler, 2007; Hampshire et al., 2009; Kruger & Gericke, 2003; Matsuyama, Karama, Tanaka, & Kaneko, 2013; Mwangome, Prentice, Plugge, & Nweneka, 2010; Owino, Amadi, Sinkala, Filteau, & Tomkins, 2008; Sellen, 2001; Thairu, Pelto, Rollins, Bland, & Ntshangase, 2005). For instance, Hampshire et al. (2009) reported beliefs that children may suffer disease when given high-quality food like milk, and Colecraft et al. (2006) found that their participants believed the giving of animal sources of food to children resulted in sophisticated taste that was difficult to meet. Similar to our findings, Hampshire et al. (2009) report the use of household wealth to exhibit family social status as a reason household resources may not be used to provide for the nutritional needs of children.

The data highlight how often unspoken sociocultural factors appear to influence the contents of a child's diet and as an unintended consequence may be contributing to persistent undernutrition of the children in Ghana. These are important considerations, yet it is unclear as to the cultural competencies of the health workers who provide nutrition health information because the evidence around health workers' knowledge of these factors is limited. Perhaps, health workers may require more awareness of the cultural issues impacting on childhood nutrition that will then enable them to channel recommended child feeding information in ways that are more acceptable in the local cultures and that will account for their cultural sensitivities. Other studies have identified powerful individuals such as grandmothers, spiritual leaders and household heads in rural African communities as the custodians of culture (Aborigo et al., 2012; Aubel, Toure, & Diagne, 2004; Bezner Kerr, Dakishoni, Shumba, Msachi, & Chirwa, 2008), and such individuals were evident in this study. Culturally sensitive collaboration with these individuals may help to bridge a cultural divide between public health workers and the communities they aim to serve, by working to change sociocultural philosophies and practices that may lead to the willing acceptance of public health messages and recommended practices.

## 4.1 | Limitations of the study

Despite the aim of ethnography to present the study groups' perspective, the researcher's interpretation cannot be completely detached. This interpretative nature of the study suggests that the authors' preconceptions may lead to misunderstanding and unintentionally distorting participants' views. Additionally, one of the authors' culture has similarities with that of the study community and this might further influence their interpretation of the culture. As indicated in Section 2, this study is not a classical ethnography. It aims to contribute to the explanations of unsuitable child feeding and persistent malnutrition in under-fives in Ghana. However, considering that contexts differ, these findings may not be useful in effecting change in cultural practices in a wider context. Nonetheless, this study is useful as it provides lenses for designing interventions in a culturally sensitive manner.

## 5 | CONCLUSION

This study has illustrated how the content of children's food did not correspond with recommended scientifically proven interventions to promote optimal growth and development due to enduring sociocultural interpretations, values, beliefs and traditions about what constitutes food in this community. The findings suggests that it would be useful to re-examine the processes used by health workers to disseminate child nutrition-related information in order to facilitate a better understanding of how to promote acceptable changes to diet in this context. Health professionals may also need to reappraise their own cultural competencies in order to present successfully health information in such communities. Participatory action research approaches may offer a way forward as they have been successful in harnessing the support of grandmothers who are custodians of culture in order to promote acceptance of scientifically proven maternal and child health practices that prevent morbidities and mortalities (Aubel, 2012), for example Aubel et al. (2004).

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### CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest. The order of authorship has been acknowledged and accepted by all listed authors.

### AUTHOR CONTRIBUTIONS

MWK primarily conceived the research objective, designed study plan, collected, analysed and interpreted the data under the supervision and guidance of DF and PC. MWK also drafted and revised manuscript based on reviews, discussions and agreements with DF and PC.

## ORCID

Margaret Wekem Kukeba  <https://orcid.org/0000-0003-2394-6598>

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