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Patterns of cultural consensus and intracultural diversity in Ghanaian complementary feeding practices

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Abstract

Designing effective interventions to improve infant and young child (IYC) feeding requires knowledge about determinants of current practices, including cultural factors. Current approaches to obtaining and using research on culture tend to assume cultural homogeneity within a population. The purpose of this study was to examine the extent of cultural consensus (homogeneity) in communities where interventions to improve IYC feeding practices are needed to address undernutrition during the period of complementary feeding. A second, related objective was to identify the nature of intracultural variation, if such variation was evident. Selected protocols from the *Focused Ethnographic Study for Infant and Young Child Feeding Manual* were administered to samples of key informants and caregivers in a peri-urban and a rural area in Brong-Ahafo, Ghana. Cultural domain analysis techniques (free listing, caregiver assessment of culturally significant dimensions, and food ratings on these dimensions), as well as open-ended questions with exploratory probing, were used to obtain data on beliefs and related practices. Results reveal generally high cultural consensus on the 5 dimensions that were assessed (healthiness, appeal, child acceptance, convenience, and modernity) for caregiver decisions and on their ratings of individual foods. However, thematic analysis of caregiver narratives indicates that the meanings and content of the constructs connoted by the dimensions differed widely among individual mothers. These findings suggest that research on cultural factors that affect IYC practices, particularly cultural beliefs, should consider the nature and extent of cultural consensus and intracultural diversity, rather than assuming cultural homogeneity.

KEYWORDS

caregiver beliefs, cultural domain analysis, cultural homogeneity, focused ethnographic study, Ghana, implementation research

1 | INTRODUCTION

The first 2 years of life are critical for growth and development, and research indicates that diet plays a significant role in determining whether a child thrives during this early period. Complementary feeding practices are a product of culture. The cultural values, norms, and beliefs pertaining to child feeding and care that are available to members of a society affect practices through their influences on the multiple decisions caregivers make during the complementary feeding period (Engle, Menon, & Haddad, 1999; Njai & Dixey, 2013; Pak-Gorstein, Haq, & Graham, 2009). Thus, interventions to improve infant and young child (IYC) feeding must be acutely responsive to

cultural features, including the cultural barriers and facilitators of optimal practices (Fabrizio, Liere, & Pelto, 2014). Undernutrition, both chronic and acute, is the leading underlying cause of child mortality and morbidity worldwide (Black et al., 2013), and feeding practices during the period of complementary feeding (6–24 months) are a critical determinant of health, growth, and cognitive development. This is also the period during which the diets of many children in low- and middle-income populations are nutritionally inadequate.

Child malnutrition is a pressing issue in Ghana. The most recent Demographic and Health Survey showed that one in five children (19%) suffer from chronic malnutrition (stunting, height-for-age z-score < -2 SD), 1 in 20 (5%) suffer from acute malnutrition (wasting,

weight-for-height z-score < -2 SD), and two-thirds (66%) of children younger than 5 years of age are anemic (Ghana Statistical Service et al., 2015). In the Brong-Ahafo region, where the studies reported here were conducted, the numbers are similar: 17% of children are stunted, 5% wasted, and 63% anemic (ibid). To a large extent, IYC feeding practices are implicated in these findings (Awumbila, 2003).

To increase the effectiveness of interventions to improve complementary feeding practices, there is a pressing need to better understand their complex determinants, including how cultural factors interact with other determinants (Tumilowicz, Neufeld, & Pelto, 2015). There is an extensive body of literature documenting the significance of culture as a determinant of complementary feeding practices (Kruger & Gericke, 2003; Lindsay, Machado, Sussner, Hardwick, & Peterson, 2008; Pelto, Levitt, & Thairu, 2003) and a concomitant understanding that interventions designed to address these practices must be “culturally appropriate” (Bentley et al., 1991, 2014).

Unfortunately, efforts to incorporate cultural elements into the design of interventions are often based on an *a priori* assumption of cultural homogeneity within societies, without consideration of the potential significance for nutrition interventions posed by demonstrable variations within populations (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003; Newkirk, Oths, Dressler, & Dos Santos, 2009; Pelto & Jerome, 1980). From a theoretical perspective, a fundamental feature of culture that has particular relevance for social interventions is that individuals adopt the beliefs that are present in their wider sociocultural system to varying degrees. Moreover, in addition to differences in adhering to beliefs, the specific content or meanings of cultural constructs also varies among members of a cultural group (Kreuter et al., 2003).

Even when individuals attempt to maintain particular cultural norms, their behaviours are often driven in large part by situational contingencies (Pelto & Pelto, 1975). The significance of these contingencies for complementary feeding has been noted by Awumbila (2003), who wrote, “Women negotiate [these] practices within a complex web that includes their cultural beliefs, assessment of their own local environment and their child’s nutrition status, as well as their own personal circumstances.”

The concepts of cultural consensus and intracultural diversity, which have been developed and utilized by social scientists, particularly in the areas of anthropological and psychological theory and methods, are relevant and useful for nutrition research and action. In recent decades, methods to examine cultural consensus and intracultural diversity empirically have been developed and employed to examine a variety of sociocultural issues (Borgatti & Halgin, 2012). Cultural consensus refers to the degree to which individuals share particular cultural understandings (Dressler, Borges, Balieiro, & dos Santos, 2005; Weller, 2007). The obverse of cultural consensus is intracultural diversity, which is concerned with analyzing and interpreting differences in cultural beliefs within a population (Triandis, 1983; Weller & Baer, 2001).

Methodologically, many of the techniques to describe and analyze consensus and diversity have been developed under the aegis of cultural domain analysis (Borgatti, 1994). According to Borgatti and Halgin (2012), a cultural domain can be defined as “a set of items all

Key messages

- Cognitive mapping techniques can effectively articulate maternal knowledge frameworks regarding child complementary feeding decisions.
- This focused ethnographic study revealed evidence of both cultural consensus and diversity among caregivers. Caregivers largely agreed regarding the influence of particular values on their complementary feeding decisions and how individual foods are judged with respect to these values; yet, there was intracultural diversity in how these values were defined.
- Future research on local complementary feeding beliefs and practices should consider the nature and extent of cultural consensus and intracultural diversity—rather than assuming cultural homogeneity—when designing complementary feeding interventions.

of which a group of people define as belonging to the same type” (p. 81). Further, “cultural domains are about people’s perceptions rather than people’s preferences” (ibid, p. 81). In cultural domain analysis, techniques such as free listing, pile sorting, and rating and ranking are used in order to describe and understand how individuals organize their knowledge frameworks.

Investigations of cultural consensus and intracultural diversity have produced insights about beliefs and constructs in a variety of cultural domains (Dressler, Grell, & Viteri, 1995; Poggie & DeWalt, 1992; Weller, 1987). However, to date, there has been very little empirical enquiry into the nature and extent of intracultural diversity with respect to IYC care and feeding practices. Given the evidence from other sectors of human activity, including other areas of health, it is important to develop a more nuanced understanding of people’s food and feeding-related knowledge, beliefs, and behaviours. Thus, it is necessary to treat the idea of cultural consensus as an empirical question, open to examination, rather than an established fact (Newkirk et al., 2009).

This paper draws on ethnographic research in two communities in the Brong-Ahafo region of Ghana to assess two key issues for IYC feeding that relate to cultural consensus and intracultural diversity: (a) the degree of consensus in caregiver beliefs and concepts related to IYC feeding and (b) the nature of intracultural variation among caregivers with regard to IYC feeding.

2 | PARTICIPANTS AND METHODS

2.1 | Study areas

Two locations in the Brong-Ahafo region of Ghana were selected for this study: Ntrankro, a small rural community in the Kintampo South district with a population of approximately 1,535 people and Tuobodom, a larger peri-urban community in Techiman North district

with a population of around 13,000 (GSS, 2014a; Kintampo Health and Demographic Survey, 2014). The community of Ntankro is approximately 50 km northeast of Tuobodom. In rural Ntankro, farming and small-scale agricultural production for the marketplace are the major economic activities for families. Although some elements of infrastructure are limited, the community has access to water pumps, schools, and electricity. In the peri-urban area of Tuobodom, small-scale market trade is a primary economic activity, particularly because of its proximity (about 9 km) to Techiman municipality—a major trading hub in the region (GSS, 2014a). For further description of characteristics of the Brong-Ahafo region, see GSS (2014b) and Owusu-Agyei et al. (2012).

2.2 | Study design

Following the focused ethnographic study (FES) methodology (Gove & Peltó, 1994; Peltó, Armar-Klemesu, Siekmann, & Schofield, 2012), data collection was conducted in two phases. In the first phase, individual interviews were conducted with key informants (i.e., experienced mothers and grandmothers) and in the second phase, with a purposive sample of typical caregivers (i.e., young mothers). The two-phase method of data collection meant that some modules were administered only in the first phase of interviews and others only in the second phase (see Table 1). Data gathered in the first phase of key informant interviews were used to inform data collection with the second round of caregivers.

2.3 | Samples

In Phase 1, 78 interviews were carried out with key informants in the two communities. Informants were selected with the help of community health volunteers and elders as caregivers with high levels of knowledge and experience with infant and childcare. The key informant samples were mainly mothers but also included grandmothers and community health workers (Tuobodom: 8 of 39; Ntankro: 7 of 39).

Following the FES procedures, a Phase 2 sample of caregivers with children between 6 months and 5 years were selected for interviews (24 in each location). They were interviewed using a different set of data collection procedures (Peltó et al., 2012). A purposive sampling method was used to identify caregiver-respondents to ensure a diversity of social and economic profiles and children's ages. Sampling by child age selected caregivers to fill age divisions as follows: 6–8 months, 9–12 months, 13–18 months, 19–24 months, and 25–59 months.

2.4 | Data collection tools and analysis

A major challenge for examining cultural consensus and intracultural diversity is identifying appropriate methods. In this study, we employed a combination of tools drawn from cultural domain analysis and qualitative interviewing. Researchers from the Kintampo Health Research Center (KHRC) conducted interviews in Twi (the local language), using qualitative open-ended interview guides, with

TABLE 1 Phases and modules in the focused ethnographic study of infant and young child (IYC) feeding

Phase	Number of respondents (both sites combined)	Interview modules
1. Caregiver key informants	78	<ul style="list-style-type: none"> • Demographic and socio-economic characteristics • Foods for IYC • Food definitions • Food preparation and storage • Sources of food acquisition • Seasonal differences • Types of childcare-giving problems for caregivers of IYC • Food and nutrition problems in IYC • Health and food perceptions
2. Caregiver respondents	48	<ul style="list-style-type: none"> • Demographic and socio-economic characteristics • Perceptions of IYC food characteristics • Factors that influence feeding IYC • Cognitive mapping of food attributes • Food and feeding-related problems for caregivers of IYC • Perceptions of nutrition and fortification of IYC foods

probing, and structured cognitive mapping techniques (Borgatti & Halgin, 2012; Weller, 2014). The structured techniques consisted of free listing and rating tasks.

2.4.1 | Free listing

In Phase 1, free listing was used to elicit an inventory of the foods that key informants considered appropriate for infants and children younger than 5 years of age. The key informants were asked to list all the foods one can feed a child in each of the age divisions listed. The most commonly mentioned foods in the free listing were then used to create 43 food cards, which were used in the Phase 2 exercises.

2.4.2 | Dimension ratings

Based on the first phase of the study, as well as the generic FES recommendations, the research team selected five value dimensions that affect caregivers' food decision-making (Peltó & Armar-Klemesu, 2011; Rodriguez-Oliveros, Bisogni, & Frongillo, 2014). The dimensions were healthiness, child acceptance, convenience, modernity, and appeal. Three of the dimensions (healthiness, child acceptance, and convenience) have been used in other FESs because the literature on beliefs and IYC feeding suggests they are commonly identified as factors that are important to caregivers. Modernity and appeal were

selected as additional dimensions to explore because the research team felt they were potentially important for interventions to introduce new foods into the study area.

Using a board with five slots to represent degrees of importance (high to low), respondents were first asked to rate each of the five dimensions in terms of their importance for their own

TABLE 2 Descriptive characteristics of respondents by location

Indicator	Ntankro (rural)			Tuobodom (peri-urban)		
	Key informant No. (%)	Caregiver No. (%)	Total No. (%)	Key informant No. (%)	Caregiver No. (%)	Total No. (%)
<i>Gender</i>						
Female	38 (97%)	25 (100%)	63 (98%)	39 (100%)	25 (100%)	64 (100%)
Male	1 (3%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)
<i>Age group (years)</i>						
18–25	4 (10%)	19 (76%)	23 (36%)	3 (8%)	24 (96%)	27 (42%)
26–35	21 (54%)	4 (16%)	25 (39%)	25 (64%)	1 (4%)	26 (41%)
36–45	6 (15%)	2 (8%)	8 (13%)	9 (23%)	0 (0%)	9 (14%)
46–55	3 (8%)	0 (0%)	3 (5%)	1 (3%)	0 (0%)	1 (2%)
56+	5 (13%)	0 (0%)	5 (8%)	1 (3%)	0 (0%)	1 (2%)
<i>Educational level</i>						
None	13 (33%)	4 (16%)	17 (27%)	10 (26%)	3 (12%)	13 (20%)
Primary	11 (28%)	6 (24%)	17 (27%)	7 (18%)	7 (28%)	14 (22%)
Middle/junior secondary school	13 (33%)	10 (40%)	23 (36%)	15 (39%)	12 (48%)	27 (42%)
Tech/comm/senior secondary school	1 (3%)	5 (20%)	6 (9%)	0 (0%)	3 (12%)	3 (5%)
Post-middle college	0 (0%)	0 (0%)	0 (0%)	3 (8%)	0 (0%)	3 (5%)
Post-sec	1 (3%)	0 (0%)	1 (2%)	2 (5%)	0 (0%)	2 (3%)
University	0 (0%)	0 (0%)	0 (0%)	2 (5%)	0 (0%)	2 (3%)
<i>Occupation</i>						
Farmer/laborer	27 (69%)	11 (44%)	38 (59%)	14 (36%)	4 (16%)	18 (28%)
Stock breeder	2 (5%)	0 (0%)	2 (3%)	0 (0%)	0 (0%)	0 (0%)
Trader	4 (10%)	7 (28%)	11 (17%)	13 (33%)	4 (16%)	17 (27%)
Professional/clerical	4 (10%)	0 (0%)	4 (6%)	8 (21%)	10 (40%)	18 (28%)
N/A	2 (5%)	7 (28%)	9 (14%)	4 (10%)	7 (28%)	11 (17%)
<i>Household annual income (GHS)</i>						
0–1,000	4 (10%)	4 (16%)	8 (13%)	3 (8%)	6 (24%)	9 (14%)
1,000–2,000	5 (13%)	5 (20%)	10 (16%)	3 (8%)	2 (8%)	5 (8%)
>2,000	3 (8%)	2 (8%)	5 (8%)	5 (13%)	1 (4%)	6 (9%)
Do not know	27 (69%)	14 (56%)	41 (64%)	28 (72%)	16 (64%)	44 (69%)
<i>Source of drinking water</i>						
Tap inside house	2 (5%)	0 (0%)	2 (3%)	2 (5%)	0 (0%)	2 (3%)
Communal tap/pump	37 (95%)	25 (100%)	62 (97%)	35 (90%)	25 (100%)	60 (94%)
Other source	0 (0%)	0 (0%)	0 (0%)	2 (5%)	0 (0%)	2 (3%)
<i>Type of latrine/toilet</i>						
Flush toilet	0 (0%)	0 (0%)	0 (0%)	6 (15%)	1 (4%)	7 (11%)
Pit latrine	21 (54%)	13 (52%)	34 (53%)	27 (69%)	16 (64%)	43 (67%)
Open field	10 (26%)	3 (12%)	13 (20%)	1 (3%)	3 (12%)	4 (6%)
Other toilet	8 (21%)	9 (36%)	17 (27%)	5 (13%)	5 (20%)	10 (16%)
<i>Electricity</i>						
Yes	31 (80%)	17 (68%)	48 (75%)	33 (85%)	20 (80%)	53 (83%)
<i>Source of energy for cooking</i>						
Kerosene/gas stove	1 (3%)	0 (0%)	1 (2%)	5 (13%)	2 (8%)	7 (11%)
Charcoal with coal pot	5 (13%)	4 (16%)	9 (14%)	17 (44%)	4 (16%)	21 (33%)
Firewood	33 (85%)	21 (84%)	54 (84%)	17 (44%)	19 (76%)	36 (56%)
<i>Living in a formally constructed building</i>						
Yes	38 (97%)	20 (80%)	58 (91%)	33 (85%)	21 (84%)	54 (84%)
No	1 (3%)	5 (20%)	6 (9%)	6 (15%)	4 (16%)	10 (16%)

Note. GHS = Ghanaian cedis; N/A = not applicable.

decisions about what they feed their children. Prior to this exercise, the interviewers engaged each respondent in a discussion about the meaning of the dimensions. The first rating exercise was followed by a second one in which respondents were asked to rate each of the 43 food items on a scale of 1 (low) to 5 (high) on each of the five dimensions.

Audio recordings of the interviews were checked for quality, transcribed, and translated from Twi into English by KHRC staff. Transcripts were closely read several times, after which an initial coding scheme was developed, based on emerging themes. The codes were recorded in NVivo (version 8) following standard qualitative analytical practices (Miles & Huberman, 1994). The initial, detailed codes were then grouped into larger concepts. Frequencies of words and ideas within concepts were also counted. Data from Tuobodom and Ntankro were analyzed separately, a methodological necessity as we wanted to examine and compare the data for commonalities and differences. The quantitative data in the interview schedules were analyzed with descriptive statistical procedures using Stata (StataCorp, 2011).

TABLE 3 Caregivers' rating of importance of five dimensions for their complementary feeding decisions

Dimension	Ntankro (n = 24) Rural Mean (SD)	Tuobodom (n = 24) Peri-urban Mean (SD)	Total (n = 48) Mean (SD)
Healthiness ^a	4.2 (1.5)	4.4 (1.1)	4.3 (1.3)
Appeal	3.9 (1.3)	3.7 (1.3)	3.8 (1.3)
Child acceptance	3.5 (1.1)	3.5 (1.3)	3.5 (1.2)
Convenience	3.1 (1.5)	3.1 (1.5)	3.1 (1.5)
Modernity	2.8 (1.5)	2.1 (1.5)	2.5 (1.5)

^aRanking values: 5 = highest importance to 1 = low importance.

3 | RESULTS

3.1 | Characteristics of the samples

Characteristics of the rural and peri-urban samples are shown in Table 2, separated into key informant (Phase 1) samples and caregiver-respondent (Phase 2) samples. As expected, given the selection criterion in the key informant phase for individuals who are identified as particularly knowledgeable about childcare, women in the key informant sample are older than those in the caregiver respondent sample. The concomitant differences in educational level between the two samples reflect these age differences. They also suggest modest improvements in schooling for girls. The comparison of the rural and peri-urban samples also reflects occupational differences and opportunities. As expected, the peri-urban sample showed higher participation in trade and professional occupations compared to the rural sample (Table 2). Also, peri-urban respondents had greater access to amenities, such as flush toilets and latrines, electricity, and alternative fuels to firewood.

3.2 | Aspects of cultural consensus and intracultural diversity

Table 3 presents respondents' ratings of the importance of the five dimensions for their decisions about what to feed their children. Caregivers in both Ntankro and Tuobodom gave healthiness the highest score. Appeal received the next highest rating, followed by child acceptance, convenience, and modernity, which were not regarded as highly with respect to their perceived influence on feeding decisions.

Table 3 shows that the rank order of these dimensions was the same in both localities. Also, we see that each dimension received a

TABLE 4 Consensus and non-consensus in rural and peri-urban samples for foods receiving the highest mean ratings (top 10^a) on "Healthiness" and "Child acceptance"

Healthiness			Child acceptance		
Consensus foods	Non-consensus foods		Consensus foods	Non-consensus foods	
	Rural	Peri-urban		Rural	Peri-urban
Cowpeas			Milo ^c		
Mashed yam			Tea		
Cerelac ^b			White rice		
Oranges			Bread		Jollof rice ^f
Watermelon			Mashed yam		Biscuit
Pineapple			Egg		Fortified milk powder
Egg			Koko ^e		Mango
Fried fish			Yam with kontamire		Orange
Ayoyo soup ^d			Cerelac ^b		Watermelon
	Milo ^c	Carrots	Brown rice		Fried fish

^aOut of 43 different foods that respondents were asked to rate.

^bCommercial instant baby cereal.

^cCommercial cocoa and powdered milk drink.

^dSoup made with ayoyo, a local green, and leafy vegetable.

^eTraditional fermented maize porridge.

^fRice cooked with tomatoes, spices, and meats or vegetables.

similar mean score in the rural and peri-urban sites. Moreover, the standard deviations on the ratings are very similar.

In addition to rating the importance of the dimensions, respondents were asked to rate each of the 43 individual foods and dishes that were identified through the free listing exercise in Phase 1. In this rating exercise, the foods were rated sequentially for all five dimensions and their comments were audio recorded. Examining the mean ratings for each of the foods for each dimension, we found that for nearly all of the foods, the mean differences between the rural and peri-urban samples was less than 0.9 (not shown). On three of the dimensions—healthiness, appeal, and modernity—the difference in mean rating between the two locations was <0.9 for 90% of the foods. For the dimension “convenience,” this increased to 95%, and for child acceptance, the figure was 89%. These findings indicate that respondents in Ntankro and in Tuobodom had similar views about the relative value of individual foods with respect to the five dimensions.

To further explore patterns of agreement, we examined the foods with the highest ratings in both samples, selecting the top 10 foods for each dimension. For two dimensions, healthiness and convenience, more than 80% of the top rated foods were the same for both locations. For appeal, this is a similarly high 70%. Child acceptance, however, showed large differences in the top 10 foods, with 30% of the foods being the same across the two locations. Table 4 illustrates the results for “Healthiness,” the dimension that had the highest level of consensus between the rural and peri-urban samples and for “Child acceptance,” the dimension that had the lowest level of consensus between the samples.

Turning to the results from caregivers’ discussions, which are contained in the texts that were generated in the course of the cultural domain analysis, we can examine the meanings of the concepts that caregivers employed in the rating exercises. Table 5 contains verbatim translations of the phrases that respondents used when we asked them to discuss the meaning of the dimensions. These discussions, which were conducted prior to the rating exercises, were intended to ensure that respondents understood the words we used when we introduced them to the rating exercise with the dimensions. Although not initially intended to examine intracultural diversity, they provide a valuable database to examine this issue. Each line in the table reflects an interpretation that could have been by one or more individuals. Individuals sometimes offered several statements, but everyone responded with at least one.

In Table 5, we see that some of the content—the meaning that caregivers impute to the dimensions—is the same in both the rural and peri-urban samples. The words and phrases in italics indicate statements that were made by respondents in only one of the samples and not in the other.

The striking finding in Table 5 is the high level of intracultural diversity both within and between sites in the meanings that the words “healthiness,” “appeal,” “convenience,” “child acceptance,” and “modernity” have for the women who participated in the study. For example, although healthiness was unanimously the most important dimension, it encompassed a number of considerations, including concern about the effect of foods on children’s bodies or attention to the nutrients the foods contain, or how the foods are prepared.

TABLE 5 Meanings attached to the five dimensions, by location^a

	Rural	Peri-urban
Healthiness	Good for child’s growth Makes the child strong Gives the body blood High in nutrients Prevents or cures illness <i>Makes the child intelligent</i> <i>Cooked/prepared well</i> <i>Covered/protected from flies</i> <i>Not too much salt or pepper</i>	Good for child’s growth Makes the child strong Gives the body blood High in nutrients Prevents or cures illness <i>Gives energy</i> <i>Can/should be eaten every day</i> <i>Satisfies hunger</i>
Appeal	Attractive in appearance or smell Delicious taste Children like to eat it I like to eat it Good for health <i>Gives energy</i> <i>For special occasions</i>	Attractive in appearance or smell Delicious taste Children like to eat it I like to eat it Good for health <i>Prepared well</i> <i>Has fish or meat</i>
Child acceptance	Children like to eat it Makes children happy or excited Makes children healthy <i>Children will eat of lot of it</i> <i>Children demand, cry or beg for it</i>	Children like to eat it Makes children happy or excited Makes children healthy <i>Child will agree to eat it</i> <i>Child is fed with it regularly</i> <i>Gives energy</i> <i>Sweet</i> <i>Soft or liquid food</i> <i>Can be eaten while playing</i>
Convenience	Does not need to be cooked Does not take much time or effort to cook <i>Packaged and pre-prepared</i>	Does not need to be cooked Does not take much time or effort to cook <i>Readily available/not difficult to acquire</i>
Modernity	Not traditional Not eaten in the old days Foreign/imported Grandparents do not know them/children know them Expensive/ cannot get very often <i>Does not spoil easily</i>	Not traditional Not eaten in the old days Foreign/imported Grandparents do not know them/children know them Expensive/cannot get very often <i>Newly introduced</i> <i>Packaged/made by industry</i> <i>Nutritionally fortified</i> <i>Cannot be grown on farms/ must be bought in shops</i>

^aPhrases in italics mentioned only in location.

Appeal evoked similarly varied responses. In particular, we note the distinct contrast between “caregiver-centered” and “child-centered” interpretations of this dimension. For some women, foods are considered to be “appealing” based on their own personal tastes, whereas for others, appealing foods are those that their children like and enjoy. Still others referred more generally to the attractive appearance of foods or their positive effect on the body. Convenience was the only dimension that was generally interpreted by all respondents in much the same way—that is, convenience is defined as a food that requires little or no preparation. The results demonstrate that although caregivers show a high degree of consensus about which dimensions are most important and how individual foods are judged in relation to the dimensions, there is far less consensus about the cultural content of those dimensions, even within communities.

TABLE 6 Answers to the question “Are there any foods you do not give your child, but some people give to theirs?” by location and child age group

Child age group	Ntankro			Tuobodom		
	Yes (%)	No (%)	Do not know (%)	Yes (%)	No (%)	Do not know (%)
6–8 months	67	5	28	72	14	14
9–12 months	50	31	19	42	28	30
13–18 months	42	31	27	42	28	30
19–24 months	36	44	20	17	50	33
25–59 months	25	44	31	14	53	33

3.3 | Caregivers' perceptions about intracultural diversity

Table 6 illustrates another aspect of intracultural diversity, namely, caregivers' own perceptions about intracultural differences in their communities. A feature of these results is that mothers of infants generally see themselves as different in their practices from other women in the community, but as children get older, women tend to think that their practices are not as different from other mothers in their community. In both the rural and peri-urban samples, there is less consensus about what children are being fed in the period from 6 to 18 months than there is about feeding between 19 and 59 months. By 19 months of age, children are generally expected to be eating whatever the rest of the family is eating, whereas at younger ages they are not. This does not mean that after 18 months of age all children are likely to be eating the same foods. Rather, the results in the table reflect caregivers' beliefs that mothers would be feeding their children the family meal after this age.

Caregivers' views about intracultural diversity in feeding practices, and their characterizations about how these relate to diversity in beliefs, are noteworthy. Consider the following comments from the transcripts:

A caregiver from Ntankro with a child 6–8 months old: “Others give their children fufu,¹ ampesi,² and commercial foods but I think a child of this age cannot eat these foods because they are not healthy. Moreover, children of this age have no teeth to chew. They have to be given soft foods.”

Another caregiver in Ntankro, talking about the same age group, said that some people would not give their children solid foods because “they think that their child can't eat it. But I know that I have to give solid foods.”

In Tuobodom, one caregiver explained that for children 6 to 8 months of age: “I will not give a child fufu or konkonte³ else the child will not look attractive and will not grow well.”

In their discussions with interviewers, caregivers in peri-urban Tuobodom were more likely to state that they did not know whether other caregivers fed their children differently than they did compared to the response pattern in the rural community of Ntankro. Respondents in Ntankro, however, were more likely to say that their own child was fed differently than other infants in the community across all age groups than in Tuobodom. It is also clear that caregivers in the rural

area had a high awareness of commercial IYC foods even if their access to them was limited; many respondents from Ntankro talked about some mothers being able to feed their children products like Cerelac⁴ or Lactogen,⁵ items that they could not afford.

Summarizing the results presented above, we find evidence of strong consensus concerning the relative value of the dimensions for decision-making as well as the qualities of individual foods in relation to the specific dimensions we examined. However, there is less agreement about what those qualities mean. Thus, there is also strong evidence for significant intracultural diversity.

4 | DISCUSSION

With respect to cultural consensus about IYC feeding in Brong-Afaho, we find two areas of strong agreement: (a) what dimensions or values are most important when it comes to deciding what to feed IYC and (b) how individual foods are judged in relation to these values. Healthiness was clearly the most valued dimension, followed by appeal.

Although caregivers showed high levels of uniformity (consensus) with respect to the numerical ratings of foods on the dimensions, their verbal commentaries complicate the assessment of cultural consensus and open a window that reveals extensive cognitive intracultural diversity, at least regarding the basic concepts we explored. For example, for caregivers in Brong-Afaho, the concept of “healthy” or “healthiness” in relation to food has widely different meanings, as varied as “not contaminated with dirt” or “possessing properties that promote growth.” These differences in the meanings that concepts connote originate from various sources, including exposure to and acceptance of biomedical nutrition knowledge.

Many caregivers in Brong-Afaho recognized intracultural diversity in beliefs and practices and felt their own perspectives and actions to be clearly different from others. In these discussions, many caregivers invoked a recognition of “situational contingencies.” For example, they flagged the importance of financial constraints, or the types of foods grown on their farms, or the specific tastes, preferences, and health status of their children. Thus, we see that everyday pressures and stresses play roles in mediating cultural norms, which results in a diversity of practices even when caregivers share knowledge and beliefs.

The discussions with caregivers also revealed a range of opinions about about which foods should be given at specific ages and how to

¹Fufu: a Ghanaian staple food made with flours that are boiled and pounded into a dough-like consistency

²Ampesi: a Ghanaian meal that is prepared with boiled yam, plantain, cocoyam, and/or cassava, and is served with stew or gravy

³Konkonte: dried cassava flour mixed with water to make a firm porridge

⁴Cerelac: commercial instant baby cereal

⁵Lactogen: commercial infant formula

manage the feeding process. For example, concerning the timing of introducing complementary foods, several respondents thought that some mothers in their communities began to feed the child from the family pot too early, whereas others felt that solid foods were introduced too late. Moreover, in both study locations, women articulated strong views about specific foods that were good for intelligence, growth, or preventing disease, and the age at which they should be introduced.

Turning to the implications of the findings for nutrition interventions and the design of communications with caregivers, we note that the high level of consensus about what is important is encouraging, particularly as it cuts across rural and peri-urban areas. Another finding for intervention planning is that none of the differences among caregivers in Brong-Ahafo with respect to the foods they are using to feed their IYC involve incompatible ideas. However, differences in the meanings of concepts suggest the potential value of designing a communication strategy that encompasses the differences and range of views.

The nature of intracultural diversity in caregivers' understandings and perceptions about dimensions that affect their feeding decisions suggest that an approach that encompasses or promotes a range of positive qualities of specific foods and feeding practices, rather than focusing on one or two key messages, might be a more effective and appropriate strategy in this context. This approach need not unduly complicate health messaging; rather, we suggest the use of multiple simple and straightforward messages that are responsive to the different interpretations of the most valued dimensions (i.e., healthiness and child acceptance).

The fact that "appeal" is important to caregivers in Brong-Ahafo suggests that interventions can also emphasize sensory qualities and palatability of IYC foods. The finding that caregivers interpreted this dimension from "caregiver-centered" and "child-centered" perspectives, has implications for health messaging and communication. One orientation suggests verbal and visual communications that speak to the appeal of complementary foods through the lens of the caregiver's personal tastes, whereas the other emphasizes appeal to the child. Our findings also suggest a need for further research on the visual and taste preferences of local communities with regard to food, which can then be incorporated into intervention design.

Caregivers' implicit orientation toward independence of thought and action, which is implied in their discussions about how their own beliefs and practices differ from others, suggests the value of stressing independent choice and autonomy and reinforces the concept of recognizing the specific needs of individual children. Health messaging or interventions that are centered on healthiness, for example, could incorporate and articulate the range of different aspects of healthiness that are important and salient for different caregivers. These include modern, biomedical concepts of nutrient content, and the various positive effects of foods in promoting better growth, immune system functioning, and cognitive development. Additionally, many caregivers are concerned about food safety and hygiene, and others focus on foods that will satiate or be satisfying to the child. These interests and concerns provide other content for communication.

In summary, although all of the dimensions, and particularly healthiness and appeal, can be used to structure behaviour change communication messages, building on the diversity of perspectives, contingencies, and interpretations is important in developing an effective strategy to connect with caregivers. The fact that caregivers tend to individualize their own experiences and circumstances and those of their children can be used in building the communication strategy, particularly as they often see their own practices as distinct from others, even where there are overarching areas of consensus.

Using a focused ethnographic methodology, which included both cognitive mapping techniques and probing discussion, permitted us to identify areas of cultural consensus and intracultural variation in the Brong-Ahafo region. The extent to which the situation in Brong-Ahafo region reflects conditions in other parts of Ghana or in other parts of the world cannot be assessed without research that explicitly and intentionally sets out to examine cultural consensus and intracultural diversity. Although this research can be conducted in either greater or lesser depth than the current study, it is important to consider these factors when designing nutrition interventions. We hope the results of this examination will encourage others to explore cultural consensus and intracultural diversity in other communities, particularly as part of implementation research to inform the design of complementary feeding interventions, as well as in studies that are concerned with understanding the nature of cultural determinants of nutrition and food behaviour.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

CONTRIBUTIONS

GP, MP, PM, and AL contributed to the study design. CT, GM, MP, and AL coordinated the study and managed the data collection. NK and SZ analyzed the data. NK, SZ, GP, and MP drafted the report. All authors contributed to rewriting the manuscript.

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