CHAPTER 9

RESULTS OBTAINED FROM QUALITATIVE RESEARCH METHODS: NUTRITION KNOWLEDGE AND ATTITUDES

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"In content analysis, a researcher uses objective and systematic counting and recording procedures to produce a quantitative description of the symbolic content in a text" ; "It yields repeatable, precise results about the text" (Neuman 1997:273)(73).

In this chapter the findings on nutrition knowledge will be discussed in the first Sampling Unit and findings on attitudes on nutrition in the following Sampling Unit.

9.1 PRESENTATION AND DISCUSSION OF FOCUS GROUP DATA

9.1.1 SAMPLING UNIT: NUTRITION KNOWLEDGE

The responses concerning nutrition knowledge and attitudes towards nutrition were categorized according to either science based responses or to misconceptions (refer to Figure 15 in Chapter 8). Results and discussions are presented accordingly. The theme on nutrition knowledge was explored by asking questions and probing on the following topics: meal frequencies, hygiene control of meals, foods and drinks given to the child, and sources and functions of nutrients. These topics also delineated the context within which the data reduction was done and the results will be presented.

9.1.1.1 Meal frequencies

✦ How many times a day should an adult eat?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Two times	0	1	1	1	0	1	0	1	0	1	1	2	2	7	9 14.5%
Three times	3	3	2	5	1	3	2	5	2	7	2	5	12	28	40 64.5%
Four to six times	0	3	0	1	1	2	0	3	0	1	0	1	1	11	12 19.4%
Once a day	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1 1.6%
TOTAL	3	7	3	7	2	6	3	9	2	9	3	8	16	46	62

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The majority response was for an adult to eat three times daily (n=40, 64.5%). If the results are considered as a whole, 83.9% of the subjects in these communities were eating three or more meals a day. This differed from previous findings indicating that only 25% of the adult urban population consumed three meals daily (17). Only 14.5% of the respondents indicated the two-meal eating pattern, while (n=12, 19.4%) said

that they ate four to six times a day. This would seem to relate to eating two or three meals and two or three snacks per day. Only one respondent said that only one meal per day is the ideal.

✦ Why should an adult eat the number of times specified?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Nutritional reasons	2	0	2	0	0	0	0	0	0	0	0	1	4	1	5 13.5%
Health reasons	0	1	0	1	1	0	0	0	2	1	1	0	4	3	7 18.9%
Physiological reasons	1	3	0	1	2	5	2	3	0	1	0	1	5	14	19 51.4%
Immunological reasons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Financial reasons	0	0	0	0	0	0	1	0	1	0	0	0	2	0	2 5.4%
Cultural reasons	0	0	0	0	0	3	0	0	0	0	1	0	1	3	4 10.8%
TOTAL	3	4	2	2	3	8	3	3	3	2	2	2	16	21	37

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Reasons for meal frequency decisions for adults were mainly physiologically based (n=19, 51.4%). The reasons were related to energy expenditure with reference to their activities, breast feeding that added additional requirements for producing breast milk, and satisfying hunger. The next category of importance was that for health reasons (n=7, 18.9%). All the reasons mentioned were variations on one theme, namely strength and health. Nutritional reasons (n=5, 13.5%) were mostly mentioned by the two youngest age categories from the Mathibestad area. Their reasons included the balancing of food intake and an adequate food intake.

✦ How many times a day should a child eat?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Two times	1	2	0	0	0	0	0	0	0	0	0	0	1	2	3 7.5%
Three times	1	3	2	2	2	2	2	2	5	1	2	2	14	12	26 65.0%
Four to six times	1	0	1	0	0	0	0	1	2	0	0	5	4	6	10 25.0%
One time	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 2.5%
TOTAL	4	5	3	2	2	2	2	3	7	1	2	7	20	20	40

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most subjects (n=26, 65.0%) indicated the three meal and the four-to-six meal (n=10, 25.0%) eating

patterns. These responses corresponded with the meal pattern recommendations for children, suggesting three to seven meals a day for children due to a small stomach capacity (9, 12, 13, 14). Three subjects (7.5%) said that their babies ate twice a day only, with one subject responding to the one meal a day category. All of these babies were in the 0-3/12 age group and were actually still mostly relying on breast feeding. A once / twice a day eating pattern would therefore be acceptable, as they should not have been receiving solid food meals yet (10, 12).

✦ Why should a child eat the number of times specified?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Nutritional reasons	0	0	1	0	0	1	1	2	1	0	1	1	4	4	8 25.0%
Health reasons	0	0	0	2	2	1	1	0	1	0	0	0	4	3	7 21.9%
Physiological reasons	2	4	1	1	0	1	0	2	2	1	0	1	5	10	15 46.9%
Immunological reasons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cultural reasons	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1 3.1%
Socio-cultural reasons	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 3.1%
TOTAL	3	4	2	3	2	3	2	4	4	1	2	2	15	17	32

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most reasons for the chosen meal patterns were physiologically based (n=15, 46.9%). Most of these reasons dealt with hunger, stomach capacity and age. The nutrition (n=8, 25.0%) and the health (n=7, 21.9%) categories were equally popular. Nutrition reasons included quantity of food, balancing food intake and satiety. Health reasons mentioned were growth, gaining weight, avoiding disease and general strength. The cultural reason category was linked to three meals a day with one response only, and stated that it was the way people were used to doing it. Only one reason was categorized in the socio-cultural category, namely that the time of the day was used as an indication to feed the baby. Not much difference occurred between age groups or between clinics, except for the physiological reasons being more popular in the Makapanstad area.

In conclusion: it was clear from these responses that most mothers / caregivers knew the reasons for giving three or more meals per day to their children. Hunger and satiety, stomach capacity and adequate growth were mostly responsible for decisions on meal frequency. Few, if any, snacks were included in the meal patterns of these children. Nutrition education on meal patterns, taking into consideration age and inclusion of solid foods in the diet of the baby, might be very helpful to mothers / caregivers with very young babies in order to prevent overfeeding or underfeeding of babies. Education on balanced food intake for the older toddler would also be helpful, as these active children did not seem to get any nutritional snacks in between meals.

9.1.1.2 Hygiene control of meals

✦ Should you keep milk/food that is left over from one feed to give to the child the next time that he/she is hungry?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	1	0	0	0	0	1	0	0	0	0	0	1	1	2	3 10.7%
No	2	3	2	2	2	2	2	2	2	2	2	2	12	13	25 89.3%
TOTAL	3	3	2	2	2	3	2	2	2	2	2	3	13	15	28

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most mothers / caregivers from both clinics and all age groups responded negatively to this prompt (n=25, 89.3%). Just a few focus groups responded positively (n=3, 10.7%). The positive responses covered the whole age spectrum; one each from the 0-3/12, 7-9/12 and 25-36/12 age groups.

✦ What are the reasons for keeping leftover milk/food from one feed to give to the child the next time that he/she is hungry?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Availability	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1 33.3%
Other: Only if there is a fridge available	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1 33.3%
If it is not a long time you can keep it	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 33.3%
TOTAL	1	0	0	0	0	1	0	0	0	0	0	1	1	2	3

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

As only a few mothers / caregivers gave positive responses to this prompt, the data are limited and not unanimous. Availability of both food and cooling facilities, and storage for short periods of time were mentioned as reasons. These responses seemed to be linked with financial reasons, indicating that when milk or food was available, nothing should be wasted, but rather saved for use until all was consumed.

✦ What are the reasons for keeping leftover milk/food from one feed to give to the child the next time that he/she is hungry?

Negative response

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Hygiene	2	4	4	6	3	3	3	5	2	3	2	4	16	25	41 95.4%
Other: If food contains sugar it draws water and it can't be kept	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1 2.3%
The child needs fresh food each time	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1 2.3%
TOTAL	2	4	4	6	4	3	3	5	2	4	2	4	17	26	43

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

As was shown in the previous results (see 8.2.3.4 Sampling Unit: Bottle feeding), the negative response was given for hygiene reasons (n=41, 95.4%). Most of the mothers / caregivers felt that the milk / food would be contaminated if kept, which might ultimately lead to vomiting, diarrhoea or some other infection. All the groups responded equally, although the mothers / caregivers from the Makapanstad area gave the most responses.

✦ Do you check the milk or food of the child to see if it is not bad/off before you give it to the child?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	2	2	2	2	1	2	2	13	12	25 96.2%
No	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1 3.8%
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Although nearly all the mothers / caregivers (n=25, 96.2%) indicated that food or milk was not left over for later use, nearly all of them responded positively to checking food to see if it still was edible. Only one group in the 13-24/12 age category from the Makapanstad area had a negative response indicating that food was not kept, thus no checking was needed.

✦ How do you check the leftover milk/food before giving it to the child?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Senses: taste	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 92.2%
Senses: smell	0	0	0	0	0	0	1	0	0	0	1	0	2	0	2 7.1%
TOTAL	3	3	2	2	2	2	3	2	2	2	3	2	15	13	28

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Mainly the senses were used to determine freshness of foods: taste (n=26, 92.9%) and smell (n=2, 7.1%). All the groups responded similarly to taste, but only two of the Mathibestad area groups responded to smell. The taste sensation of sour food was mainly used as an indicator of staleness of food items.

✦ What are the reasons for checking the leftover milk/food of the child?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Hygiene reasons	4	2	2	3	2	2	2	3	2	2	2	2	14	14	28 93.4%
Other: We do not give leftover food to the child, therefore it isn't necessary to check foods because only fresh foods are given	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1 3.3%
To check if it is too warm or too cold	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1 3.3%
TOTAL	4	2	3	3	2	2	2	3	2	3	2	2	15	15	30

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

These responses showed that most of these mothers / caregivers (n=28, 93.4%) knew about the importance of hygiene and the health of their children. All the groups from both the clinics responded in this way. Only one group from the Makapanstad area stuck to their first response and indicated that no checking was necessary since no leftover food or milk was given to their children.

In summary: these results indicated that mothers / caregivers knew about food contamination. Nearly all the mothers / caregivers indicated that hygiene was an important issue regarding the feeding of their children. It seemed to be well known that keeping food or milk could lead to the contamination thereof and subsequently causing disease or infections. But some misconceptions also existed: "if food contains sugar, it draws out water, and it can't be kept"; "the child needs fresh food each time". These issues should be addressed in order to improve hygiene practices concerning food preparation and food storage.

Mothers / caregivers however also indicated that they checked leftover food before giving it to their children for the following reasons: checking the freshness of food items; determining if milk was sour; to check that no rotten food was given to the children. The manner of checking leftover food or milk was correctly explained by all the focus groups. It can be concluded that more food or milk was probably kept for later use than was admitted by the mothers / caregivers. This could also be linked to the previous responses on the storage place for leftover milk or food (see 8.2.3.4 Sampling Unit: Bottle feeding). Mothers / caregivers initially indicated that no advance preparation took place. However, leftover food or milk was kept in the shade or some other storage space. In such a case it would be necessary to check food or milk before usage. These findings indicated the need for proper education concerning hygienic food practices by mothers / caregivers.

9.1.1.3 Foods given to the child

✦ Should a baby / child drink milk every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All of the focus groups, including all age categories in both areas (n=26, 100%), gave a positive response regarding daily milk intake by babies or young children. All the mothers / caregivers thus valued the importance of milk as a daily food for children. However, this response did not imply that the belief was practiced. To verify the belief, actual intakes should also be taken into consideration (see the following probe on volume of food intake).

✦ Why should a baby drink milk every day?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	5	2	4	2	3	2	3	3	3	2	2	14	20	34 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	5	2	4	2	3	2	3	3	3	2	2	14	20	34

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the focus groups responded positively to the drinking of milk, but for different reasons. Some of these reasons were only vaguely stated, while others were more specific in nature. All the reasons presented were however scientifically sound (n=34, 100%). Reasons included milk having energy, vitamins, calcium, or protein, milk generally keeping a baby strong and healthy, for building the body, for growing up, to build strong bones and because milk is good for babies. No distinction in responses could be made between the various age groups, but more responses came from the Makapanstad area. The ethnographic descriptions of the reasons for giving or withholding milk will be discussed after all the results regarding foods or groups of foods have been reported.

✦ How much milk (additional to breast milk or solid food) should a baby / child drink every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
≤ 250 mL	2	7	2	6	0	5	1	4	2	8	2	3	9	33	42 84.0%
250 - 500 mL	0	0	0	0	2	0	0	1	0	0	0	1	2	2	4 8.0%
500 - 750 mL	0	0	0	0	0	0	1	1	0	0	0	1	1	2	3 6.0%
750 - 1000 mL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 1000 mL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other: measure according to age	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 2.0%
TOTAL	3	7	2	6	2	5	2	6	2	8	2	5	13	37	50

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

This question was put to the mothers / caregivers in an attempt to determine the average volume of milk consumed additional to solid food or breast milk. Although determining exact intakes would have been ideal, average intakes were determined. Most of the children in all of the age categories (n=42, 84.0%) consumed on average 250mL or less milk per day.

Only four focus groups (8.0%) indicated 250-500mL per day. These were from the 7-9/12, 10-12/12 and 25-36/12 groups. Only three focus groups (6.0%) from the 10-12/12 and 25-36/12 age groups drank 500-750mL per day and were thus taking in the recommended amount of two to three cups of milk per day (1, 18, 83). The intake category of 250 - 500 mL might only be adequate for some of the children in these age groups, as the top of the range of intake corresponded with the minimum of the recommended intake. Only 6.0% of the group therefore had an adequate intake of milk (and 92.0% an inadequate intake) even though it was said (previous probe) that children, for the correct reasons, should drink milk daily.

✦ Should a child eat meat every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	1	0	0	0	0	0	0	0	0	1	0	0	1	1	2 6.1%
No	5	3	2	2	2	2	2	2	2	5	2	2	15	16	31 93.9%
TOTAL	6	3	2	2	2	2	2	2	2	6	2	2	16	17	33

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The responses from practically all the focus groups (n=31, 93.9%) were in the negative for the probe on the daily consumption of meat by children . All of the focus groups in all of the age categories, from both the clinics, responded in this way. Only two of the focus groups (n=2, 6.1%) responded positively to this probe, both being from different clinics and from totally different age categories.

✦ What are the negative reasons for giving a child meat every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	1	2	0	1	0	0	0	0	0	0	0	0	1	3	4 14.3%
Misconceptions	3	2	2	1	2	2	2	2	2	2	2	2	13	11	24 85.7%
TOTAL	4	4	2	2	2	2	2	2	2	2	2	2	14	14	28

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Even though two groups responded positively to the daily consumption of meat, they could not provide any positive reasons. Some of the negative reasons (n=4, 14.3%) were science based, regarding difficulty in chewing or expensiveness of the product. These science based answers came from the two youngest age categories (0-3/12 and 4-6/12), although only the mothers / caregivers from the Makapanstad area mentioned the chewing difficulties and only the mothers / caregivers from the Mathibestad mentioned money. All of the other responses (n=24, 85.7%) were misconceptions coming equally from all the age categories and the two clinics. The misconception occurring most often was the belief that meat might cause worms in children and should therefore be avoided. This is a traditional belief that is common in many rural communities (12, 107).

✦ If you don't have meat, what can you give in the place of meat?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Other animal proteins	1	0	1	0	0	0	1	0	4	0	1	1	8	1	9 16.9%
Plant products	2	3	1	0	2	0	2	2	1	2	2	2	10	9	19 35.9%
Vegetable proteins	2	1	1	0	0	1	0	0	0	0	0	0	3	2	5 9.4%
Miscellaneous products	2	1	0	4	0	1	1	4	0	3	0	3	3	16	19 35.9%
Other: Porridge and milk	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1 1.9%
TOTAL	7	5	3	5	2	2	4	6	5	5	3	6	24	29	53

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The mothers / caregivers were probed in this manner to determine which foods were used regularly as a source of protein in the diets of their children, since meat was not given regularly. Two categories of foods were mentioned equally as being the most popular replacement for meat. Firstly, plant proteins (n=19, 35.9%) and secondly, miscellaneous products (n=19, 35.9%). The plant protein category consisted of only one item mentioned, namely soya mince. There was very little distinction between the various age groups and none between the clinics. Soya mince was the least used by the 4-6/12 and 7-9/12 age groups and not at all by these groups in the Makapanstad area. In the miscellaneous products category, only one item was mentioned as a meat replacer, namely a Purity vegetable and meat product. This finding is of concern as only one focus group mentioned this product (n=1, 1.9%), while all the other focus groups mentioned unsuitable meat replacers(n=18, 34.0%), e.g. Maggi soup, Royco soup, Oxtail soup, and "sop" (a term used for the water in which the meat for the family was boiled and then used as a type of gravy with stiff porridge). These products were used by all the age groups, but it was more common in the Makapanstad area than the Mathibestad area. Other animal proteins mentioned (n=9, 16.9%), included items like viennas, fish, milk, eggs in the age categories from 10-12/12 to 25-36/12, and minced meat in the 0-3/12 and 4-6/12 age groups. Nearly all these responses were from the Mathibestad area. Some vegetable products were also considered meat replacers (n=5, 9.4%). These included items like potato, pumpkin, merogo (green leaves like spinach, etc.) and Purity vegetables. These were mostly used by the younger age groups (0-3/12 and 4-6/12).

✦ What are the reasons for giving meat replacers to a child?

Positive responses

The reasons given for using certain food items are presented in relation to the food categories as they were mentioned for the foods (other than meat) used as a source of protein in the diets of children. These categories were other animal protein, plant protein, vegetable, miscellaneous and other products. Some of the reasons were mentioned exclusively for a certain food item and others were applicable to a number of food items and will be discussed accordingly (see Table 70).

TABLE 70: MEAT REPLACER CATEGORIES

REASONS FOR USING ITEMS AS MEAT REPLACERS **Positive responses**	MEAT REPLACER CATEGORIES														
	OTHER ANIMAL PROTEIN					PLANT PROTEIN	VEGETABLE PRODUCTS			MISCELLANEOUS PRODUCTS					OTHER:
	Vienna	Fish	Milk	Egg	Minced meat	Soya mince	Vegetable (potato/ pumpkin)	Me-rogo	Purity (veg)	Maggi soup	Oxtail soup	Sop	Purity (veg + beef)	Royco soup	Porridge with milk
1. It is a meat substitute	☻					☻☻☻	NO		☹	☻☻	☹		NO		NO
2. It is also good for growth	☻					☻☻	REA-			☹			REA-		REA-
3. They have the same vitamins that are found in meat		☻			☻☻	☹☹☹☹	SONS			☹		☹	SONS		SONS
4. It has a meat flavour						☹☹☹☹	GIVEN			☹☹☹☹	☹☹☹	☹	GIVEN		GIVEN
5. It is dried meat						☹									
6. For variety						☻									
7. To get something salty						☹						☹			
8. To gain weight						☹						☹			
9. They are soft						☹				☹	☹	☹			
10. They taste like meat						☹				☹	☹				
11. They are body builders		☻	☻	☻		☻									
12. It's like meat								☹		☹		☹			
13. To be strong and healthy												☹			
14. It will help him to grow up								☹							
15. It will keep her body strong					☻	☻									
16. They are having vitamins						☻		☻						☹	
17. It's healthy								☻							
18. They don't eat meat						☻									

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

All the different foods mentioned in each category are included in Table 70 and also all the different reasons given for their usage. In order to differentiate between science based responses and misconceptions, two keys were used: ☻ for the science based responses and ☹ for the misconceptions. By using the different keys, it was possible to indicate if a specific reason was used correctly / incorrectly for the different food items mentioned.

Plant proteins: only soya mince was mentioned, but almost all the reasons for giving meat replacers, were associated with the product. Most of the reasons given were misconceptions with regard to using it as a meat substitute. These included responses regarding flavour (meat / salt), texture (soft) and taste (meat). Misconceptions included were that the product was dried meat, and that the vitamin content was similar to that of meat thus being the important characteristic. However, some science based responses were also included, e.g. soya being a meat substitute, a body builder and good for growth.

Other animal proteins: not many reasons were given for these few products, but all were scientifically sound, e.g. a meat substitute, good for growth and body building.

Vegetables: few reasons were given for these products, which indicated a lack of knowledge in this regard. Some of the reasons mentioned however were misconceptions, e.g. merogo being like meat and vegetable Purity being a substitute for meat. The only science based responses were very general, e.g. being healthy.

Miscellaneous products: only one suitable food was mentioned, namely vegetable and beef Purity, but once again no reasons were given. All the other products mentioned were soups, and all the responses were misconceptions with regard to replacing meat in the diet of the child, e.g. soups are meat substitutes, have similar vitamins, have meat flavour and is like meat.

✦ What are the reasons for not giving meat replacers to a child?

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	0	0	0	1	0	1	0	0	0	1	0	0	0	3	3 50.0%
Misconceptions	0	0	1	2	0	0	0	0	0	0	0	0	1	2	3 50.0%
TOTAL	0	0	1	3	0	1	0	0	0	1	0	0	1	5	6

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the negative responses with regard to not including a substitute for meat in the diet, were given for the inclusion of soya products only. The responses were equally divided between science based responses and misconceptions. The mothers / caregivers were not prepared to give soya to babies without teeth, if they themselves had not tried it yet and also due to the spiciness of some of the products. Misconceptions

however were that soya would also cause worms, and that it was actually also a meat product. The ethnographic descriptions of the reasons for giving or witholding meat and meat replacers will be discussed after all the results regarding foods or groups of foods have been reported.

✦ Would you give a meat replacer to your child?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	2	3	2	0	2	0	2	2	1	2	2	2	11	9	20 80.0%
No	0	0	1	2	0	0	0	0	0	1	0	0	1	3	4 16.0%
No answer given	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 4.0%
TOTAL	3	3	3	2	2	0	2	2	1	3	2	2	13	12	25

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most mothers / caregivers (n=20, 80.0%) indicated that they would give these substitute products. Those who declined (n=4, 16.0%) were mostly from the 4-6/12 age category and from both areas.

✦ Should a child eat a starchy food like pap, rice, samp, mealie rice or bread with each meal?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	0	1	1	1	0	1	0	1	2	2	0	1	3	7	10 35.7%
No	3	2	2	1	2	1	2	1	0	1	2	1	11	7	18 64.3%
TOTAL	3	3	3	2	2	2	2	2	2	3	2	2	14	14	28

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Contrary to the expectation, most of the mothers / caregivers (n=18, 64.3%) replied negatively for the inclusion of starchy foods on a regular basis in the child's diet. Both areas reacted fairly similarly in this regard and only the 13-24/12 age group gave more positive responses. The mothers / caregivers in the Makapanstad area responded equally to the positive and negative, but the mothers / caregivers in the Mathibestad area responded mainly in the negative.

✦ What are the reasons for giving a child starchy food like pap, rice, samp, mealierice or bread with each meal?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	0	1	1	1	0	1	0	2	1	2	0	2	2	9	11 84.6%
Misconceptions	0	0	0	0	0	0	0	0	1	0	0	1	1	1	2 15.4%
TOTAL	0	1	1	1	0	1	0	2	2	2	0	3	3	10	13

DIFFERENTIATED BY CLINIC. MATHIBESTAD = MT ; MAKAPANSTAD = MP

The few mothers / caregivers who reacted positively, gave science based responses (n=11, 84.6%). These included starch being an energy source, providing strength, building the body. One of the groups indicated that a child could eat starch, but not in too large quantities since this would lead to all the negative effects as mentioned under the negative responses. Misconceptions were that starch built bones and caused a dry skin.

✦ What are the reasons for not giving a child starchy food like pap, rice, samp, mealierice or bread with each meal?

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	1	0	0	0	1	0	2	0	0	1	2	0	6	1	7 35.0%
Misconceptions	1	2	1	1	2	1	0	2	0	1	0	1	4	8	12 60.0%
Don't know	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 5.0%
TOTAL	3	2	1	1	3	1	2	2	0	2	2	1	11	9	20

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most of the negative responses to the inclusion of starch in the daily food intake of the child were misconceptions (n=12, 60.0%). These included responses like starch causing constipation, cramps, poor digestion, allergies and sores. It was also believed that starch was too rich for the child. Science based responses (n=7, 35.0%) referred to overweight and illness due to eating too much starchy foods and the texture of samp being too hard. The ethnographic descriptions of the reasons for giving or witholding starchy foods will be discussed after all the results regarding foods or groups of foods have been reported.

✦ Which type of bread is the best to eat (white, brown or wholewheat)?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Brown bread	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
White/whole wheat bread	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the mothers / caregivers (100%) in all the groups from both areas indicated brown bread as being the best kind of bread to use.

✦ What are the reasons mentioned for using white, brown or wholewheat bread?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	3	2	2	2	1	2	1	2	1	1	2	12	10	22 59.5%
Misconceptions	0	1	1	1	2	2	0	2	1	2	2	0	6	8	14 37.8%
No answer	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1 2.7%
TOTAL	3	4	3	4	4	3	2	3	3	3	3	2	18	19	37

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most of the reasons given by the mothers / caregivers for choosing brown bread were scientifically sound (n=22, 59.5%), but non-specific and also applicable for the other types of bread. These reasons included it being an energy source, a stomach filler preventing constant hunger, providing strength and starch, and it being healthy. Some misconceptions (n=14, 37.8%) however were also apparent: bread being a source of a lot of vitamins and protein and on the other hand being a poor source of starch; white bread had more starch and therefore was more unsuitable than brown bread; the starch in white bread caused worms.

✦ Should a child eat vegetables and fruit every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	0	3	2	1	2	2	2	2	2	2	2	2	10	12	22 84.6%
No	3	0	0	1	0	0	0	0	0	0	0	0	3	1	4 15.4%
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most of the mothers / caregivers (n=22, 84.6%) reacted positively to the eating of vegetables and fruit on a daily basis. The responses were basically equal from the two clinics, but all the 0-3/12 age groups from the Mathibestad area and one of the 4-6/12 age groups from the Makapanstad area responded negatively (n=4, 15.4%). This could be regarded as an acceptable response as these small infants might not have been eating solid food yet.

✦ What are the reasons mentioned for a child to eat fruit and vegetables every day?

Positive reasons

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Scienced based responses	0	4	2	1	1	3	4	2	0	3	3	3	10	13	26 65.0%
Misconceptions	0	0	1	1	2	2	0	2	2	2	1	1	6	11	14 35.0%
TOTAL	0	4	3	2	3	5	4	4	2	5	4	4	16	24	40

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

A large number of positive responses (n=40) for eating fruit and vegetables were made; most responses were science based (n=26, 65.0%), and a number were misconceptions (n=14, 35.0%). Science based responses included fruit and vegetables containing vitamins, providing variety to the diet, inducing growth and keeping them healthy and strong. Responses based on misconceptions mostly concerned the belief that fruit and vegetables aided bone growth and had protein to build the body. Least of the misconceptions came from the mothers / caregivers in the two lowest age categories (0-3/12, 4-6/12). More responses came from the mothers / caregivers in the Makapanstad area, but the distribution between science based responses and misconceptions was similar in both areas.

✦ What are the reasons mentioned for a child not to eat fruit and vegetables every day?

Negative reasons

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Scienced based responses	2	0	0	1	0	0	0	0	0	0	0	0	2	1	3 75.0%
Misconceptions	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1 25.0%
TOTAL	3	0	0	1	0	0	0	0	0	0	0	0	3	1	4

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Only a few negative responses were made, and from these, most were science based (n=3, 75.0%). All of these concerned financial issues, such as too little money to buy these products or to buy them every

day. The only misconception mentioned was that fruit and vegetables had too much vitamins which might have an effect on the child. All of these responses came from the 0-3/12 and the 4-6/12 age groups and mostly from the Mathibestad area. The ethnographic descriptions of the reasons for giving or witholding fruit and vegetables will be discussed after all the results regarding foods or groups of foods have been reported.

✦ Should a child eat a lot of fat (oil, butter, margarine) every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

An unanimous negative response (100%) was made by all groups from both clinics.

✦ What are the reasons given for eating a lot of fat (oil, butter, margarine) every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Scienced based responses	2	2	2	1	0	0	1	2	0	1	1	3	6	9	15 39.5%
Misconceptions	2	1	0	2	2	3	2	1	4	3	2	1	12	11	23 60.5%
TOTAL	4	3	2	3	2	3	3	3	4	4	3	4	18	20	38

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Several reasons were given of which most were misconceptions (n=23, 60.5%). About half of the science based responses were mentioned by the mothers / caregivers of the 0-3/12 and 4-6/12 age groups and the rest mostly by the mothers / caregivers of the 10-12/12 and 13-24/12 age groups. Aspects of overweight, diarrhoea and development of chronic diseases were mentioned. The misconceptions were mostly mentioned by the 7-9/12 and 13-24/12 age groups and least by the 4-6/12 group. Aspects mentioned in this regard were sores developing internally and on body surfaces, inhalation problems, high blood pressure and other diseases. Most of the science based responses were from the Makapanstad area, while the misconceptions were equal among the two clinics. The ethnographic descriptions of the reasons for giving or witholding fat will be discussed after all the results regarding foods or groups of foods have been reported.

✦ What is the best way to use fat in the diet?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Spreads	0	3	3	2	1	2	0	1	1	2	1	1	6	11	17 35.4%
Cooking	1	0	3	1	0	0	0	0	1	0	2	2	7	3	10 20.8%
Additions to food purely for flavour	2	3	0	0	2	2	2	4	0	2	2	2	8	13	21 43.8%
TOTAL	3	6	6	3	3	4	2	5	2	4	5	5	21	27	48

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Although the mothers / caregivers said that fat should not be used in the diet of the child, everybody explained how they used fat in the diet. Most of the responses were made for adding some form of fat to different food products in order to improve either the taste or the flavour (n=21, 43.8%). All the groups indicated fat usage in this manner, except the 4-6/12 age groups from both the clinics and one group from the 13-24/12 group. The practice explained was that of margarine ("Rama") added to porridge or potatoes. The second most popular practice was spreading margarine / fat on bread (n=17, 35.4%), and using it as a cooking medium (n=10, 20.8%), e.g. for frying. Usage on bread was mentioned by all the age groups, but fat as a cooking medium was not mentioned by the middle age groups (7-9/12, 10-12/12) at all. Mothers / caregivers from the Mathibestad area apparently used fat more as a cooking medium, while mothers / caregivers from the Makapanstad area often added more fat for flavour.

In conclusion: for a more complete evaluation on the suitability of foods for children, all the categories of food were considered in terms of the bodily functions. For growth purposes, foods with a higher protein content were considered together, and included milk, meat and meat replacers. Most of the mothers / caregivers indicated that milk should be given on a daily basis, but if the quantities actually given were taken into consideration, the actual intake of milk was very low indeed (below 250mL / day). This indicated that milk was not a major source of protein in the diets of the children. This was practiced even though the mothers / caregivers knew the correct reasons for the importance of daily milk intake. The next protein food discussed was that of meat. There was a negative response to daily consumption of meat and any other animal proteins. This was due to a very strong cultural belief that all kinds of meat caused worms in children and should therefore be avoided (12, 107). The value of meat replacers in children's diets was also examined. The result of these probes indicated that mothers / caregivers gave plant proteins (soya products) and miscellaneous products (including suitable Purity products and unsuitable soups and gravy) instead of meat to their children. Some of the mothers / caregivers even mentioned vegetables as being a suitable replacer for meat. The protein intake of the children in the age group naught to three years seemed to be poor in quality due to very low meat and milk intakes and unsuitable meat replacers. The nutritional evaluation (see 7.3 in Chapter 7) showed that the protein intakes were sufficient in all the RDA-age groups, varying between 84 - 360% of the reference value and in the WHO-age groups varying between 119-390% of the reference value. The calcium intakes however were low, varying between 44-52% of the reference value in the RDA-age groups.

To evaluate the energy content of the diet, the intakes of carbohydrate-rich foods and fats were considered together. The mothers / caregivers reacted negatively to the regular inclusion of starch-rich foods in the diets of their children. In the probe put to the mothers / caregivers, all kinds of starch-rich foods were mentioned by name (e.g. pap, rice, samp, mealierice, bread). All of these were considered unsuitable for the children. Only maize meal porridge, which was washed first to remove the white starchy residue, was considered a suitable product for the children. This porridge was further diluted to obtain a suitable textured product for the child. It seemed clear that no other starch-rich foods, except soft maize meal porridge, was given to children due to a lot of misconceptions regarding starch as such. Fat was also considered as being an item that should be excluded from the diets of children. The reasons put forward (as discussed previously) dealt mainly with long-term chronic illness, but also that fat was responsible for sores and inhalation problems. From the nutritional evaluation (see 7.3 in Chapter 7) it could be concluded that the contribution of carbohydrate-rich foods was adequate (contributing 67-75% of the total energy intake). However, soft porridge seemed to be the most popular / only starchy food included in the diet according to the cultural beliefs; leading to a poorly varied diet. The contribution of fats to the total energy intake of the child seemed fairly low (contributing 21-25% of the total energy intake).

Lastly, the intake of vitamin and mineral rich foods was evaluated. This was done by probes on the intake of fruits and vegetables by the children in the various age groups. An overall positive response was reported by all the mothers / caregivers of children eating full diets (7-9/12, 10-12/12, 13-24/12, 25-36/12 age groups) in both areas. However, misconceptions concerning the value of fruit and vegetables were also reported (e.g. the suitability of vegetables as a milk / meat replacer). The foods in this category did not contribute much to the volume of food consumed, as financial constraints prevented them from including much of these foods in the child's diet.

These results confirmed the finding that children aged naught to three years old had a fairly unbalanced diet, considering the protein, carbohydrate, fat, vitamin and mineral content of the diet (see nutritional evaluation in 7.3). The variety of foods included also seemed to be very limited. The focus of the nutrition intervention in this regard needs to be on the education of mothers / caregivers on the value of balanced diets of their children, how to balance their intakes correctly, suitable food choices and compilation of a suitable diet, as well as reasons for changing to all of these practices.

Ethnographic descriptions

Milk The results (see 9.1.1.3) showed a positive inclination towards giving milk daily to children. All the positive reasons were science based, but they could also be grouped according to types of responses. Firstly, very generalized responses included:

- "to keep the child strong and healthy"
- "it keep the body strong"
- "to keep her healthy"
- "because milk is good for the baby"

Some of the responses focused on growth:

- "because the child is young, he must get milk to grow well"
- "to grow up"

Other responses focused on nutritional content:

- "milk give the baby energy"
- "to get vitamins, calcium and protein"

Some responses focused on the functions of milk in the body:

- "it build the body"
- "it keeps their bones strong"

These responses confirmed that the mothers / caregivers did not have a sound knowledge concerning the importance of milk in the child's diet. Although all their responses were science based, it was very basic and generalized. Nutrition education should be directed at providing information on the nutrients provided by milk and its functions in the body of the child, as well as the quantities of milk that children should consume.

Meat and possible replacers of meat Only negative reasons for meat usage was given (see 9.1.1.3). Two reasons were scientifically sound:

- "because they don't have teeth"
- "you can't afford meat every day"

All of the other responses given were misconceptions regarding meat usage. The reason given by nearly all the groups was:

- "it will cause worms"
- "it causes worms in the intestines and even then, only cow's meat and not chicken"

One other reason only was given:

- "it's got a lot of iron"

The fact that iron was considered an element that should not be consumed in large quantities, was worrisome. None of the mothers / caregivers who believed that meat was necessary for daily consumption, could provide reasons for their belief. Substitutes for meat products were mostly given for flavour or variety and not for growth needs. The possible meat replacers mentioned by the mothers / caregivers were not always suitable products (see 9.1.1.3). The reasons given for their suitability as a meat replacer were largely misconceptions based on very vague ideas for the necessity of meat or a replacer of meat in the diet. The most common recurring reasons for using both soups and soya were:

- "It has a meat flavour"
- "They have the same vitamins that are found in meat"
- "They are soft"
- "They taste like meat"
- "To gain weight"

and for using soya:

- "It is dried meat"

and for the soup products alone:

- "It is a meat substitute"
- "it's like meat"

It was clear that a very strong cultural belief regarding meat consumption was practiced in this community, and nutrition education should be aimed at eradicating the misconceptions. Information regarding the nutritional content of meat, the value of an adequate iron intake for children and the value of meat in the diet of the child should be incorporated in a nutrition education programme.

Starchy foods To determine starch consumption on the whole focus groups were asked "should a child eat a starchy food like pap, rice, samp, mealierice or bread with each meal?" (see 9.1.1.3). Some of the negative responses given were scientifically sound:

- "He will be overweight"
- "The child does not have teeth to eat stampmielies yet"
- "He will be fat and get ill easily"

Others were misconceptions firstly to do with gastrointestinal discomfort:

- "It causes constipation and cramps"
- "A lot of starch make them constipated ('intestines styf')"

and secondly to do with digestion:

- "It is too rich for the child"
- "That is why we make it differently for the child - take out the starch and make slap pap"

and thirdly with skin health:

- "It will cause sores on the child"

The positive responses also included scientifically based responses:

- "To supply them with energy"
- "To provide strength"
- "Because starch plays an important role in the body; the body needs it"
- "For the child to grow up to be strong"

as well as some misconceptions:

- "To build their bones"
- "But not too much - it will cause the skin to be dry "

The type of bread used was also determined (see 9.1.1.3). All the mothers / caregivers preferred brown bread over any other type. Scientific responses included:

- "It stays long in the stomach - keeps you from getting hungry"
- "It gives strength"
- "It's healthy because it has starch"

Misconceptions concerning bread use included:

- "It has a lot of vitamins"
- "Because it does not have too much starch"
- "White bread has a lot of starch, so it causes constipation"
- "Because white bread has a lot of starch, it causes worms"
- "When you have eaten brown bread, you will get enough food for the whole day"

Misconceptions also existed regarding the suitability and need for starch in the diet of the child. Starch was wrongly considered as the cause of sores on the skin, constipation and poor digestion thus causing cramps. Due to a belief that starch was too rich for the child, the practice of washing and diluting the maize meal to make soft porridge for the children was used. Even the positive views on using starch seemed vague and nonspecific. Mothers / caregivers had knowledge on the suitability of brown rather than white bread, but their opinions for doing so were based on misconceptions, like the belief that certain kinds of bread had more starch than others, which was bad for the child. Nutrition education should focus on a clear definition of starch, its functions in the human body and suitable food sources to incorporate in the diet of the child. This information could be linked to the ideal sequence for introducing different solid foods (starch types) in the diet of the child. Eradication of misconceptions should also receive attention.

Fruit and vegetable groups The positive responses for including fruit and vegetables (see 9.1.1.3) in the diet were rather vague:

- "It will give the baby strength"
- "The child needs a variety of foods"
- "To keep the child healthy"
- "For a child to be normal"

and the misconceptions involved growth:

- "To build their bones"
- "It has proteins"
- "It makes the body and the bones strong"
- "It build up the body - (it's body builders)"

Negative responses were mainly financial:

- "We don't have enough money to give them every day"
- "Can't afford them"

and the misconception:

- "Lots of vitamins have an effect on the child"

These responses showed that the mothers / caregivers of babies or children did not have adequate nutrition knowledge, even about the most basic information regarding foods to incorporate in the diets of children to supply adequate nutrients. Mothers / caregivers were not aware of the functions of specific nutrients and in which foods these nutrients occurred. Nutrition education should focus on the variety of foods from this group and the various vitamins and minerals supplied, with their functions in the body.

Fat All the mothers / caregivers said that fat should not be eaten at all or only in very small quantities, thus indicating a negative opinion on dietary fat (see 9.1.1.3). The science based responses included:

- "The baby will become too fat if she eats too much fat"
- "It will cause heart diseases"

and some of the misconceptions were:

- "The baby will get sores on the body if she eats too much fat"
- "It will cause sores in the stomach"
- "The child will not inhale easily"
- "It will cause the child to have a high blood pressure every day"

Although limiting fat in the diet was quite a good practice, these mothers / caregivers were doing it for the wrong reasons, i.e. based on misconceptions. These mothers / caregivers should be educated on the value of fat in the diet (energy and fat-soluble vitamin content) and on suitable fat sources to use. There seemed to be a misconception that an increased fat intake alone was responsible for people becoming overweight. The long-term effects of consuming more energy than required on a daily basis, should also be addressed.

9.1.1.4 Drinks given to the child

✦ What do you give your baby to drink when he / she is thirsty?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Cold drinks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
Juice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

An unanimous answer in favour of water was given to this probe.

✦ What are the reasons for giving your baby these specific liquids to drink?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	3	3	4	2	2	2	1	2	2	2	1	14	13	27 81.8%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Response = science Interpretation = misconception	0	0	0	0	0	1	0	2	0	2	0	1	0	6	6 18.2%
TOTAL	3	3	3	4	5	3	2	3	2	4	2	2	14	19	33

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Nearly all the reasons given were scientifically based (n=27, 81.8%). The only other response made was scientific as such, but due to the interpretation by the mothers / caregivers, the response was classified as a misconception (n=6, 18.2%). This response given concerned blood volume, but the interpretation given was that water was necessary to increase the blood volume of the child, as if that was the only substance responsible for blood volume. The other reasons presented, included very basic responses like the body needs water, and water has an important role, but it was never specifically mentioned what these needs / functions were. Thirst, relief of constipation and replacement of lost urine were also mentioned.

✦ Do you think that it is important to see to it that a baby or young child gets enough liquids to drink every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the groups responded equally and in the positive to this question.

✦ Why do you think it is important to see to it that a baby or young child gets enough liquids to drink every day?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	3	2	1	2	1	2	1	4	1	2	1	15	8	23 63.9
Misconceptions	0	1	2	1	1	1	0	1	1	2	1	2	5	8	13 36.1
TOTAL	3	4	4	2	3	2	2	2	5	3	3	3	20	16	35

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The responses in this regard were mostly science based (n=23, 63.9%). More of the responses were coming from the Mathibestad area than from the Makapanstad area. These responses included items on digestion, body water content, passing of stools, dehydration and general comments like the need for water. A number of misconceptions were also apparent (n=13, 36.1%). These came from the 4-6/12, 7-9/12, 13-24/12 and 25-36/12 age groups. More misconceptions came from the Makapanstad area which included items like increased blood production, to help blood flow, to soften the skin and it loosens the stomach of the child.

✦ What liquids should they get to drink?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Cold drinks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water	3	2	2	2	1	2	2	2	2	2	2	2	12	12	24 68.6%
Juice (pure)	1	0	0	0	1	0	0	0	0	0	1	1	3	1	4 11.4%
Milk (drink)	1	2	0	0	0	0	0	1	1	1	0	0	2	4	6 17.1%
Purity liquid	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1 2.9%
TOTAL	5	4	2	2	2	3	2	3	3	3	3	3	17	18	35

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Previously mothers / caregivers said that they gave their children only water to drink. When the probe was put in a different manner, the responses were more varied. A large number of the mothers / caregivers (n=24, 68.6%) still indicated water as being the choice drink to give to babies to drink. Other drinks included milk (n=6, 17.1%) and juice (n=4, 11.4%). Not all the groups responded in this regard. Cold drinks were not mentioned at all.

✦ Which types of drinks is the best for children to drink between meals?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Cold drinks	3	1	1	0	0	1	1	0	0	0	1	4	6	6	12 33.3%
Water	0	1	0	2	0	1	0	1	1	1	0	0	1	6	7 19.4%
Juice - Purity	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1 2.8%
Breast feeding	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2 5.6%
Milk	0	2	1	1	1	1	2	1	1	1	1	2	6	8	14 38.9%
TOTAL	4	4	2	3	2	4	3	2	2	2	2	6	15	21	36

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

This probe was added to the interview schedule as a cross control of the previous questions on drinking patterns. Other drinks were mentioned as being ideal for drinking between meals. Cold drinks (n=12, 33.3%), Purity juice (n=1, 2.8%), milk (n=14, 38.9%) and breast feeding (n=2, 5.6%) were mentioned in addition to water (n=7, 19.4%). Water was mentioned much less (19.4%) with this probe than with the two previous probes (9.1.1.4) on drinking practices, where it was indicated that 100% of the mothers / caregivers gave their babies water to drink when they were thirsty; and when it was asked what liquids babies / young children should get to drink, only 68.6% indicated water. With this probe contrasting responses concerning cold drink usage were given. With the previous probes cold drinks were never mentioned, but with this probe mothers / caregivers indicated that cold drinks were given to babies aged 0-3/12 and 4-6/12.

- Why are these specific drinks best to give between meals?

Some of the reasons given were exclusive for a certain drink and others were applicable to a number of drinks. The reasons given for using certain drinks will be presented relative to the drink categories specified and discussed accordingly (see Table 71).

TABLE 71: REASONS FOR USING TYPES OF DRINKS BETWEEN MEALS

REASONS FOR USING TYPES OF DRINKS BETWEEN MEALS		DRINK CATEGORIES					
		COLD DRINKS		WATER	FRUIT JUICE (Pure)	OTHER PRODUCTS	
		Juice - artificial	Sweetened concentrates		Purity (juice)	Milk	Breastfeeding
1.	Because they have sugar and sugar gives the baby energy	☻	☻☻☻				
2.	These liquids will loosen the stomach for the child so that he can pass stools easily	☹				☹	
3.	Milk has vitamins and will keep the body strong					☻	
4.	It does not stay in the stomach long, so the stomach will be empty and he will eat again	☻				☹	
5.	If the child gets other drinks, the child loses his appetite, but not with water			☻			
6.	For her stomach not to be hard			☻			
7.	Because this will make the baby strong and healthy					☻☻☻	
8.	For a balanced diet					☻	
9.	To have enough blood in the body			☹			
10.	To have more water in the body	☹		☹	☹		
11.	They are best	☹				☻	
12.	They stay long in the stomach	☹				☹	
13.	They help the child grow					☻	
14.	Milk has substances that are good for the body (dikotla)					☻	
15.	Because this will easily be taken in by the baby	☻				☻	
16.	Breast feeding is healthy and easy to get / available						☻
17.	It will build the body					☻	
18.	The food will easily be digested			☹		☹	
19.	To pass the food the child has eaten					☹	
20.	Water is important in the body	☻		☻☻			
21.	Milk is good for the baby					☻	
22.	Milk has Calcium					☻	
23.	Because with every meal we need something to pass the food	☹					☹
24.	To prevent thirst	☻					

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

Cold drinks Most of the cold drinks used, were the sweetened concentrates to which only water was added, or the cheaper, artificial, sweetened types of juice drinks. These were very popular among the mothers / caregivers from both areas. The reasons given for using these items between meals were equally divided between misconceptions and scientific facts. Scientifically based responses included it being an energy source with a low satiety level, easy to administer, able to combat thirst. Misconceptions included the belief that cold drinks were necessary to combat constipation, that they were the best source of water and would also increase the water content of the body, that they had a high satiety level and that cold drinks were needed to carry food from the stomach through the body. Most of these responses were regarding the artificial juices that were freely available in these areas. The sweetened concentrates were correctly regarded as a sugar / energy source.

Water The responses were partly scientifically based and partly misconceptions. Water was correctly mentioned as being necessary to prevent constipation and that it would not affect the appetite as some of the other drinks might do. Some responses were very unspecific in that the mothers / caregivers only stated that water was important, with no specific reason mentioned. Misconceptions were that water increased the body water and blood content, and that it had to be present for proper digestion of food.

Pure fruit juice This category was only mentioned once in that it supplied water to the body which could be regarded as a misconception.

Other products Quite a number of mothers / caregivers mentioned milk / breast feeding as a suitable drink between meals. This indicated that milk was not considered a food, but rather a drink. Most of the responses were science based, focusing on the nutrient content (vitamins, calcium), providing a balanced diet and for growth and body building. Some of them, however, were very non-specific, like milk is best or good for the baby. Misconceptions ranged from preventing constipation, low satiety value versus high satiety value to aiding digestion and food passage through the gut.

To summarize: an effort was made to determine the variety of drinks children in these communities consumed and the reasons for it. This issue was probed in three different ways in order to cross control the items mentioned first. The importance of this strategy became apparent during the analysis phase (transcription and reduction) when it was discovered that more types of drinks were mentioned from the first probe in this line of questioning (one type of drink) to the second probe (four types of drinks) to the last probe (five types of drinks). This seemed to stress the fact that most of the mothers / caregivers knew the answer that was expected nutritionally, and gave this answer first and foremost, but when probed on the issue, they divulged information regarding other products (not nutritionally as suitable) also given to the children. If one probe only would have been included in the moderator schedule, only one type of drink used would have been listed. It is therefore valuable to have cross control questions / probes concerning certain issues.

Water was mentioned firstly as the most important drink given to children. Other liquids mentioned thereafter included milk and artificial juices. Water was thus given regularly to the children, but not as exclusively as was initially reported. It also became clear that the "juice" mentioned did not imply pure fruit juices like *Liquifruit / Ceres*, but rather the cheaper, artificial products available in the market. These were

even given to very small babies. The other important aspect to consider in this regard, was the misconceptions concerning the need for the intake of liquids. The need for liquid being available during / directly after eating solid food in order to aid the digestion process and the movement of food through the bowel was often, and in no uncertain terms, mentioned. Mothers / caregivers need to be educated regarding suitable drinks for children exclusively breast fed, and for those in the weaning stage. The fact that milk / breast milk was considered a suitable drink between meals rather than being an important part of food intake, should also be addressed.

9.1.1.5 Nutrition knowledge

Mothers / caregivers were asked to discuss the ideal foods that they gave to their babies / children in order to achieve a healthy balanced diet. The probes were structured according to the various functions that nutrients fulfill in the human body. This was done to determine if the mothers / caregivers had any knowledge on nutrition and nutritious foods and the reasons why certain foods were very important. It could thus be determined if any nutrition education is necessary regarding food choices and balancing the diet of a child nutritionally.

The responses will be discussed according to six different probes regarding the functions of nutrients in the body as they were put to the mothers / caregivers:

✦ What should you eat to:

- grow the body
- keep the eyes healthy
- prevent you from getting sick
- build teeth and bones
- give you energy / strength to do your work
- to help sores and scratches to heal quickly.

The reasons mentioned by the mothers / caregivers are presented in a result-matrix (table format). In some instances the reasons provided for using certain foods to fulfill the specific function had no relevance to the probe (inappropriate reasons), and foods mentioned in this regard would thus be considered invalid to this probe (invalid food responses). It will however be presented in the result-matrix to complete the data set and it will thus show the number of misconceptions that existed regarding each probe. These inappropriate reasons are presented in an italic font in the reason column and the food responses mentioned with it are shadowed to distinguish it from appropriate reasons. All the foods mentioned were grouped according to similarity (kinds of foods) in terms of function(s) in the body, namely:

- milk products
- meat and meat replacers
- fruit & vegetables - vit A rich
- fruit & vegetables - vit C rich

- fruit & vegetables - other
- bread & cereals
- fat
- other

Mothers / caregivers were asked which foods should be eaten in order to grow the body. The nutrients / foods expected to be mentioned in the ideal / correct answer were milk and milk products for calcium, protein for bone growth and meat, fish, eggs and meat replacers for protein and iron for growth of the body (14). It was clear from the responses (see Table 72) that a large variety of answers were given to this probe. Most of the foods mentioned came from food categories (n=60, 76.9%) other than those foods considered to be mainly responsible for growth, namely milk, meat and replacer products (n=18, 23.1%). The science based responses included items like milk, cheese and meat. The functions mentioned for these foods were mostly correct and included items on building and strengthening bones, supplying suitable nutrients and building or growing the body in general. A misconception identified was that meat was responsible for the building of bones. (Although it contributes to growth, it is not considered the main nutrient source needed for the building of bones specifically).

A large number of fruit and vegetables (carrots, merogo, cabbage, banana, apple, and fruit and vegetables as a general response category) were mentioned wrongly as being responsible for growth of the body. These were considered misconceptions as these foods are not solely responsible for growth. These foods were mainly considered being both rich in protein and vitamins, and responsible for building bones, which they are not. Some of the food items already mentioned for this probe (cheese, meat, carrots, merogo, cabbage, potato, banana, apple, the general categories of fruit and vegetables, pap and bread) were provided with reasons that did not tie in with the probe itself (invalid reasons), and therefore were considered misconceptions. These misconceptions included the prevention of illnesses, the provision of vitamins, and starch,and consuming these foods to be healthy and strong; all of which were correct for the foods mentioned, but incorrect for the probe.

In summary: it could be concluded that the mothers / caregivers in these areas did not really have knowledge as to which foods were necessary in the diet of a child for growth of the child as such. A lot of misconceptions also existed in this regard.

The second probe concerned the foods that should be eaten in order to keep the eyes healthy (see Table 73).

TABLE 72: FOODS AND REASONS MENTIONED TO GROW THE BODY

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL FOR GROWTH	FOODS MENTIONED: TO GROW THE BODY																			
	MILK PRODUCTS		MEAT & REPLA-CERS	FRUIT & VEG-(Vit A-rich)					FRUIT & VEG(Vit C-rich)		FRUIT & VEG(Other)					BREAD & CEREALS		F A T	OTHER	
	milk	cheese	meat	carrots	merogo	pump-kin	peas	spinach	cabbage	orange	potato	bana-na	apple	fruit	veg	pap	bread		foods with vitamins & CHO	sta rch
1. To build the bones				☹					☹		☹	☹								
2. To prevent illnesses				☻					☻		☻	☻								
3. They have vitamins					☻							☻☻	☻	☻☻	☻	☹				
4. To keep the body strong		☻	☻		☻						☻									
5. They have starch			☹													☻☻☻ ☻☻	☻			
6. To strengthen bones	☻	☻																		
7. To build the bones	☻	☻	☹			☹			☹		☹									
8. Provides Calcium	☻																			
9. They have vitamins and proteins	☻	☻												☻	☻					
10. To be strong and healthy		☻										☻	☻	☻	☻					
11. To build the body	☻	☻		☹	☹		☹		☹	☹		☹☹	☹☹	☹☹	☹☹	☹				
12. Don't know					☹															
13. It gives the body strength									☻											
14. To keep you well															☻				☻	
15. To be strong			☻☻		☻						☻				☻	☻	☻		☻	☻
16. It helps you to grow well					☹															
17. They have proteins								☹	☹											
18. They have proteins which builds the body	☻	☻																		

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

TABLE 73: FOODS AND REASONS MENTIONED TO KEEP THE EYES HEALTHY

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL FOR HEALTHY EYES	FOODS MENTIONED: TO KEEP THE EYES HEALTHY												
	MILK PRODUCTS		MEAT & REPLACERS	FRUIT & VEG (vit A-rich)		FRUIT & VEG (Vit -Crich)	FRUIT & VEG (other)	BREAD & CEREALS		FAT	OTHER	
				carrots	yellow peaches	cabbage					Don't know	
1. For the eyes to be bright				☻☻		☹						
2. It has substances that are good for the eyes				☻								
3. It has vitamins and carotene				☻								
4. Do not know				☹								
5. It has lots of proteins				☹								
6. It has vitamins				☻								
7. It has calcium				☹								
8. For the eyes to have good vision				☻								
9. No answer given				☹							☹	
10. To keep the eyes clear				☻								
11. The eyes will see well				☻								
12. It has vitamin A				☻	☻							

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

The ideal / correct answer to this probe was that vitamin A or carotene is an essential nutrient for healthy eyes and should be taken in by means of dark green or yellow or orange fruit or vegetables (14). It was obvious from the responses (see Table 73) that nearly all of the mothers / caregivers knew that carrots are important for healthy eyes. However, it was also evident that the mothers / caregivers did not always have clarity concerning the reasons for the importance of carrots, and also that no other foods in the same food category were hardly ever mentioned in the same regard. Only vegetables were mentioned as ideal foods of which most were from the fruit & vegetables - vitamin A rich category (the number of responses in this category were n=14 (87.5%) compared to responses from any other category n=2 (12.5%). Only two types of fruits and vegetables other than carrots were mentioned as being suitable of which one was vitamin A rich (yellow peaches) and one was vitamin C rich (cabbage). Most of the reasons given were very general, e.g. to be able to see well, for the eyes to be bright and for good vision. Only one focus group mentioned the correct reason, namely the vitamin A content of carrots. A number of misconceptions also became evident from the responses. These included carrots being high in protein and calcium and therefore being good for eyesight.

In conclusion: the mothers / caregivers in these communities knew which food to eat in order to have a high vitamin A intake, but they did not have knowledge as to why this nutrient is essential to consume. Nutrition education regarding vitamin A rich foods and their functions in the body is thus essential.

The third probe was about the foods that should be eaten to prevent you from getting sick (see Table 74).

TABLE 74: FOODS AND REASONS MENTIONED TO PREVENT YOU FROM GETTING SICK

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL TO PREVENT YOU FROM GETTING SICK	FOODS MENTIONED: TO PREVENT YOU FROM GETTING SICK																												
	MILK		MEAT & PROD.			FRUIT & VEG (vit A-rich)									FRUIT & VEG (vit C-rich)			FRUIT & VEG (other)									BREAD	OTHER	
	cheese	milk	meat	fish	eggs	carrots	merogo	pumpkin	apricot	spinach	peach	mango	beans	green veg	cabbage	orange	tomato	pear	banana	apple	pineapple	fruit	gems	potato	veg	bread	clean foods	do not know
1. To be strong + healthy			☻	☻					☻				☻			☻☻		☻	☻☻	☻☻	☻	☻						
2. To prevent illness							☻		☻							☻☻		☻	☻☻	☻☻	☻							
3. It has a lot of iron										☻					☹													
4. For the body to be strong and healthy		☻			☻																					☻		
5. They have vitamins from the sunlight							☹								☹													
6. They have vitamins					☺						☻	☻		☻	☻	☻☻			☻☻	☻		☻			☻			
7. To be healthy						☻		☻☻							☻☻		☻	☻	☻				☻	☻			☻	
8. To give your body a boost								☻							☻		☻						☻					
9. *To grow*	☻	☻			☻			☺							☺		☺						☺					
10. To get vitamins								☻							☻		☻						☻					
11. Fruits have natural proteins																				☹								
12. To be strong	☻	☻			☻																	☻			☻			
13. Don't know							☹															☹			☹			☹
14. *To build the body*	☻	☻	☻	☻	☻	☺		☺							☺	☺						☺		☺	☺	☺			

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL TO PREVENT YOU FROM GETTING SICK	FOODS MENTIONED: TO PREVENT YOU FROM GETTING SICK																												
	MILK		MEAT & PROD.			FRUIT & VEG (vit A-rich)									FRUIT & VEG (vit C-rich)			FRUIT & VEG (other)								BREAD	OTHER	
	cheese	milk	meat	fish	eggs	carrots	mero ho	pumpkin	apricot	spinach	peach	mango	beans	green veg	cabbage	orange	tomato	pear	banana	apple	pine apple	fruit	gems	potato	veg	bread	clean foods	do not know
15. To have strength						☻		☻							☻	☻								☻				
16. *To build bones*											☹	☹				☹			☹	☹								
17. No answer given																☹												
18. It gives the body strength																☻			☻	☻								
19. *It has Calcium and minerals*							☻																					

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

TABLE 72 continued.....

Ideally, the vitamins and minerals found in the fruit and vegetable group are to be considered important in maintaining health and immunity against disease and the fibre content for preventing constipation (14). Most of the responses (see Table 74) were given for foods in the fruit and vegetable category. This was calculated to be 81.1% (n=86) from the total number of responses (n=106) given for this probe from all the focus groups. Foods mentioned more often were pumpkin, cabbage, orange, banana, apple, and fruit in general. Most of the reasons provided concerned vitamins and minerals, although it was not always used in the correct context. Correct reasons mentioned were for instance "to prevent illness", "it has lots of iron", "they have vitamins from the sunlight", "they have vitamins", and "to give your body a boost". In some instances however, the reason linked to the probe, but the foods mentioned as performing these functions were completely incorrect. This was true for cabbage and foods having a lot of iron, and for merogo and cabbage which were supposed to have vitamins from the sunlight. Foods mentioned from the milk and meat categories were all suitable. The number of responses from these two categories were calculated to be 15.1% (n=16). The reasons were also mostly correct, except for eggs being thought of as rich in vitamins, and therefore preventing illness. Some of the reasons for the foods mentioned were not connected to the specific probe put to the mothers / caregivers, and were therefore considered as misconceptions, e.g. pumpkin, cabbage, tomato and gems were mentioned for their growth properties which have nothing to do with preventing illness. It is also true that these foods on their own would not promote growth. Cheese, milk, meat, fish and eggs were correctly mentioned for building the body, but carrots, pumpkin, cabbage, orange, fruit, potato, vegetables and bread were misconceptions. Building the body did also not tie in with prevention of illness. Peaches, mango, orange, banana and apples were also mentioned as being important for preventing illness due to the fact that they build bones. The last misconception concerned merogo, which was considered important due to its high calcium and mineral content, and therefore aids in the prevention of diseases. Although spinach contains calcium, it is not considered a valuable source due to the poor bioavailability in the body and the main function of calcium is not to prevent illness (14).

In conclusion: it became clear that the mothers / caregivers in these two communities were not really able to relate specific foods with the functions that they perform in the body. Some nutrition-related concepts were known to them but not in the correct context.

The fourth probe put to the mothers / caregivers concerned the issue of foods necessary to build teeth and bones (see Table 75).

TABLE 75: FOODS AND REASONS MENTIONED TO BUILD TEETH AND BONES

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL FOR BUILDING TEETH AND BONES	FOODS MENTIONED: BUILD TEETH AND BONES												
	MILK PRODUCTS		MEAT & REPLACERS		FRUIT & VEG (VITC-rich)	FRUIT & VEG (Other)				BREAD & CEREALS	FAT	OTHER	
	milk	cheese	meat	fish	orange	pear	apple-green	mealies	veg	starch		don't know	sugar
1. For the teeth to be strong	☻		☹				☹						
2. For the gums to be strong	☻		☻				☻						
3. Don't know							☹☹	☹				☹	☹
4. For the bones to be strong	☻☻		☻		☹		☹☹☹☹		☹	☹			
5. To keep your teeth strong	☻☻	☻		☹			☹☹☹☹☹ ☹☹						
6. They have calcium which is good for the bones	☻	☻		☹			☹						
7. They have iron	☹☹	☹	☻										
8. Because it has proteins	☻												
9. It has Mentadent P							☹						
10. It has vitamins	☻		☹				☻☻						
11. To build bones and teeth	☻					☹	☹						
12. It has calcium	☻						☹						
13. No answer given							☹						
14. *Milk has lots of fat*	☻												
15. It can harden your teeth								☹					

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

Calcium and protein are considered the main contributors to the growth and development of bones and teeth, and the major food sources are milk and milk products. These are therefore considered important components of the diet in order to promote bone and teeth formation and growth (14). The responses in this regard (see Table 75) were mostly misconceptions concerning the foods mentioned and their supposed functions. The results indicated that these foods were not considered the most important source of calcium. When the total number of responses given, were calculated, milk products received 31.5% (n=17) responses and meat & replacers 13.0% (n=7)responses, resulting in 44.5% of the total responses (n=54). All the foods mentioned in both categories were suitable, including milk, cheese, meat and fish. The reasons given for using these foods were quite vague, i.e. for the teeth to be strong, for the bones to be strong, to build teeth and bones. Calcium was mentioned twice only and protein once only. One evident misconception was that milk and cheese (and meat) contained iron that was important for building teeth and bones. The other misconceptions about meat specifically included the belief that meat was important for the strength of teeth and that it contained vitamins which were also important for building teeth and bones. Fish was also considered to have a high calcium content and to be important for strong teeth.

Most of the other foods mentioned for building teeth and bones were misconceptions. When calculated, these responses added up to 50.6% (n=30) of the total number of responses. Foods mentioned were oranges, pears, mealies, vegetables, starch, sugar and most often mentioned, apples (n=22, 40.7%). The reasons given for using these foods were very general. The only reason that could be interpreted as scientifically based, were that of apples being good for strong gums and that apples contained vitamins. The other reasons were all misconceptions of which apples, containing Mentadent P for building teeth and bones, and apples containing calcium, were the most obvious. Other misconceptions were that mealies would harden teeth, that pears would build bones and teeth, and that starch would make bones strong. For this probe, only one item mentioned was provided with a reason that did not link to the original question, namely milk which was considered to have a high fat content. Although it is true, it was totally irrelevant to building teeth and bone.

In conclusion: it was evident that mothers / caregivers in these communities had little knowledge on the types of foods needed to build the teeth and bones in the body. More than half the responses were misconceptions indicating that education regarding specific foods containing calcium and protein and reasons for its importance need to be included in a nutrition education program.

The next probe put to the mothers / caregivers in the various focus groups was to identify the foods and the reasons for eating foods that would give you energy / strength to do your work (see Table 76).

TABLE 76: FOODS AND REASONS MENTIONED TO GIVE YOU ENERGY / STRENGTH TO DO YOUR WORK

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL FOR PROVIDING ENERGY / PROVIDING STRENGTH	FOODS MENTIONED: GIVE YOU ENERGY / STRENGTH TO DO YOUR WORK																	
	MILK PRODUCTS		MEAT & REPLACERS			FRUIT & VEG (VIT A-rich)		FRUIT & VEG (Other)		BREAD & CEREALS					FAT	OTHER	
	milk	cheese	meat	fish	eggs	carrots	mero-ho	potato	veg	starch	samp	pap	grainy foods	brown bread	bread		sugar cane	sugar
1. To prevent them from getting sick	☻		☻								☹☹	☹			☹		☺	☺
2. To have energy	☹		☹								☻						☻	☻☻
3. Don't know	☹						☹					☹	☹	☹				☹☹
4. It build the body	☻			☻		☹		☹				☹☹						☹
5. They have starch											☻	☻☻☻			☻☻			
6. They have vitamins												☹			☹			
7. To be brave / full of life																		☻
8. To be strong	☻	☻		☻	☻				☻	☻		☻☻			☻			☻☻☻
9. Sugar has glucose																		☻
10. Sugar has starch																		☹
11 It gives strength												☻☻						
12. They have proteins	☻	☻		☻	☻				☺						☺			☹
13. For the body to be strong												☻						

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☺ - misconception

The responses given by the groups varied and included an equal number of misconceptions and science based responses (see Table 76). Foods rich in carbohydrate, protein and lipid may be used as sources of energy in the form of glucose, amino acids, fatty acids and glycerol. The major function of carbohydrates is as a source of energy. Glucose is the major source of energy for both nervous tissue and the lungs and the most common source of energy for muscles. However, muscles can also use fatty acids, although less efficiently. Fat is a concentrated source of energy which can be used to enhance the kilojoule content of the diet and is also the form in which excess energy is stored. Only proteins in excess of needs for other functions will be utilized as a source of energy (14, 18). Therefore the categories of bread & cereals, fat and sugars are considered to be the appropriate responses to this probe. Most of the mothers / caregivers responded in this way. When the total number of responses were calculated, 69.2% (n=45) were for bread, cereals, fat and sugar, but 30.8% of the responses were for the categories of milk, meat & replacers, fruit and vegetables. Most of the responses were made in the correct categories with appropriate foods like samp, pap, brown bread/bread and sugar, with science based reasons linked to them (n=25, 38.5%). Science based responses for the carbohydrate rich products included that these foods would provide energy, that they contained starch and that they would provide strength. Misconceptions mentioned were that these foods would supply vitamins and that sugar was starch. Foods from other categories mentioned included milk as an energy source and milk, cheese, fish, eggs and vegetables to provide strength.

Some of the reasons provided did not tie in with the initial probe put to the mothers / caregivers and were therefore considered inappropriate. These included milk, meat, samp, pap, bread and sugar which would prevent illness and therefore provided energy or strength. Milk, fish, carrots, potato, pap and sugar were considered as foods that built the body and therefore they were linked to providing energy and strength to the body. Lastly, milk, cheese, fish, eggs, vegetables, bread and sugar were all considered to have protein and therefore aided in providing strength and energy. Although some of the foods mentioned were appropriate with the reasons given, a large number of the responses provided were inappropriate or purely misconceptions.

In conclusion: it was clear that most mothers / caregivers knew which foods contributed to energy intake, but that some also considered protein-rich foods as being energy sources. Although the correct foods were mostly mentioned, mothers / caregivers hardly ever knew the reasons why these foods served as energy sources in the body. Nutrition education should thus be directed at appropriate foods for energy, as well as reasons for their inclusion in the diets of children.

The last probe concerning food choices was for foods to help sores and scratches heal quickly (see Table 77).

TABLE 77: FOODS AND REASONS MENTIONED TO HELP SORES AND SCRATCHES TO HEAL QUICKLY

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL TO HELP SORES / SCRATCHES TO HEAL QUICKLY	FOODS MENTIONED: TO HELP SORES AND SCRATCHES TO HEAL QUICKLY																												
	MILK	MEAT & PROD.				FRUIT & VEG (Vit A-rich)			FRUIT & VEG (Vit C-rich)			FRUIT & VEG (Other)								BREAD		FAT		OTHER				
	milk	fish	peanut-butter	meat	eggs	carrots	mero ho	spinach	cabbage	oranges	tomato	cauliflower	cucumber	veg	fruit	beetroot	potato	apple	banana	rice	samp	fatty food	oil	non fat food	vitamins	high roughage food	chocolate	don't know
1. To be healthy and strong								☻	☻☻			☻	☻	☻☻	☻☻					☹	☹			☻				
2. It build the body								☹	☹			☹	☹											☹				
3. Fat free food won't cause skin eruptions								☹	☹			☹	☹											☹				
4. *Fat free food won't cause weight gain*								☻	☻			☻	☻											☻				
5. Don't know / not sure / no answer given			☹				☹☹		☹					☹	☹	☹						☹	☹	☹	☹	☹	☹	☹☹
6. For the body to be healthy	☻	☻				☻	☻		☻					☻☻	☻☻													
7. They have vitamins, iron and protein														☹	☹													
8. To give us energy										☹									☹									
9. To build up the body / skin									☹	☹	☹					☹	☹		☹									
10. To restore blood														☹	☹													
11. They have vitamins	☻													☻				☻										
12. They have proteins														☹				☹										

REASONS MENTIONED FOR THE FOOD ITEM BEING IDEAL TO HELP SORES / SCRATCHES TO HEAL QUICKLY	FOODS MENTIONED: TO HELP SORES AND SCRATCHES TO HEAL QUICKLY																												
	MILK	MEAT & PROD.				FRUIT & VEG (Vit A-rich)			FRUIT & VEG (Vit C-rich)			FRUIT & VEG (Other)									BREAD		FAT		OTHER				
	milk	fish	peanut-butter	meat	eggs	carrots	merobo	spinach	cabbage	oranges	tomato	cauliflower	cucumber	veg	fruit	beetroot	potato	apple	banana	rice	samp	fatty food	oil	non fat food	vitamins	high roughage food	chocolate	don't know
13. To prevent us from getting sick														☻☻	☻		☻											
14. To heal							☻							☻	☻													
16. One shouldn't eat cheese, because it is very fatty and will cause sores on the skin	☹																											
16. Boiled or fried eggs are good for the skin					☹																							
17. To give strength		☻		☻													☻											
18. *Merogo is a starchy food*							☹																					

☻/☹ - each face resembles one response made by any focus group ☻ - science based response ☹ - misconception

TABLE 75 continued

Vitamins, minerals and proteins are needed for maintenance and healing of tissues. Foods from the categories of milk, meat & replacers, and fruit and vegetables are considered appropriate answers (14). The results showed that these were the most popular food choices made. When the total number of responses were calculated, 82.7% (n=67) were from the milk, meat, fruit and vegetable categories. The three fruit and vegetable categories however received the most responses of all (n=59, 72.8%). From the milk product category, only milk was mentioned with positive reasons of general health and milk as a source of vitamins. However, a misconception was revealed as it was noted that milk or cheese should be avoided due to its fat content as this would lead to sores on the skin. In the meat & replacer category, fish was mentioned with regard to general health, and both fish and meat with regard to providing strength. Peanut butter was also mentioned, but no reason for its usage could be provided. Boiled or fried eggs were mentioned as being good for the skin, but no clear reason was provided. In the fruit & vegetable category a large number of foods were mentioned with science based reasons. Spinach, cabbage, cauliflower, cucumber, carrots, merogo and vegetables and fruit in general were associated with making the body strong and healthy; vegetables and apples were mentioned as a source of vitamins; vegetables, fruit and potatoes specifically were eaten to prevent illness; merogo, vegetables and fruit were eaten for healing purposes and potatoes provided strength. Some of these foods, however, were also linked to misconceptions. Spinach, cabbage, cauliflower and cucumber were eaten to heal sores, because they built the body and because they were fat free and would not cause skin eruptions; vegetables and fruit in general aided in healing because it was rich in vitamins, iron and protein and because it restored blood; oranges and bananas gave energy; cabbage, orange, tomato, beetroot, potato and banana were eaten because they built up the body and skin and therefore aided healing; vegetables and apples had protein. Misconceptions in the bread and cereal category were that rice and samp made you healthy and strong and therefore helped to heal sores / scratches. Two of the reasons mentioned did not tie in with the original probe: spinach, cabbage, cauliflower, cucumber and nonfat food were eaten because they were fat-free foods which would not cause weight gain, and merogo was eaten because it was a starchy food. None of these reasons could however be linked with aiding the healing process.

From these results on the foods and reasons mentioned to help heal sores and scratches it was clear that the mothers / caregivers did not really have sound knowledge as to the choosing of foods that would aid the healing process or why these foods in particular should be used. Nutrition education should thus be directed at rectifying this lack of knowledge.

In conclusion: it could thus be stated that the nutrition knowledge of the mothers / caregivers were inadequate. Only some mothers / caregivers in some of the focus groups were able to supply answers concerning nutritious food choices and reasons for these choices for themselves and their children. Mostly mothers / caregivers were unable to identify foods needed for growth, for healthy eyes, to prevent illness, to build teeth and bones, to provide energy and to heal wounds. They were also unable to link nutritious foods to specific functions that they perform in the body. It became clear that mothers / caregivers knew words like starch, vitamins, minerals and protein, but that they did not know the meaning of these terms and applied them incorrectly with regard to the purposes they serve in the human body. Nutrition education is thus essential and should be directed at specific nutrient-rich foods and the functions they fulfill in the body, and how this is linked to a healthy diet for both mother and child.

9.1.2 SAMPLING UNIT: ATTITUDE TOWARDS NUTRITION

The last Sampling Unit deals with the attitudes of mothers / caregivers towards nutrition. As explained previously, the responses were categorized in terms of either science based responses or misconceptions (refer to Figure 15 in Chapter 8). However, some of the responses given by mothers / caregivers did not always reflect the reasons for a specific choice, but rather supported their positive attitude and action towards a specific practice or idea. Results and discussions are presented accordingly. Discussions focused on general health and the association with food, money influencing food choices and about traditions and culture affecting food preparation and food availability for children to get a complete picture of the practice. Attitudes towards nutrition was thus explored by asking questions and probing on health and eating, food and money, and traditions and culture. The three mentioned topics delineated the context within which the data reduction was done and the results will be presented.

9.1.2.1 Health and eating

✦ Do you think that the food you eat is important for good health?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00 %
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the mothers / caregivers in all the focus groups in both areas responded positively to this probe (100%). These mothers / caregivers seemed to be convinced that the food eaten was linked to health in some way.

✦ Why do you think that the food you eat is important for good health?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	2	4	3	2	2	2	3	3	2	7	2	3	14	21	35 92.1%
Misconceptions	1	0	0	0	0	0	0	1	1	0	0	0	2	1	3 7.9%
TOTAL	3	4	3	2	2	2	3	4	3	7	2	3	16	22	38

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most of the reasons (n=35, 92.1%) given to this probe could be categorised as science based responses. This question was interpreted by mothers / caregivers that good health was a result of their food practices which they believed to be correct. The answers given could be regarded as indicative of their positive

attitude. Some of the responses concerned general health, like preventing illness, healthy skin, adequate growth, etc. Other responses had to do with the food and perceived nutrient intake, like protein intake, vitamin and protein content of foods and eating fresh foods, indicating that after eating food one felt full of energy / strong. However, some misconceptions also existed (n=3, 7.9%), for instance the belief that any person would automatically eat the correct foods since any person knew what his/her body needed instinctively, or that the person buying the food "automatically" bought the right foods, or that all foods eaten would produce a balanced nutrient intake.

✦ Do you think that it is important to know how to eat healthy?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the mothers / caregivers in all of the focus groups felt positive about knowing how to eat healthy.

✦ Why do you think that it is important to know how to eat healthy?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	3	3	2	2	2	2	3	3	4	3	4	16	18	34 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	3	2	2	2	2	3	3	4	3	4	16	18	34

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the groups responded equally and all were science based responses. The responses given could broadly be grouped as attitudes concerning nutritional issues and those concerning general health. The nutrition-related attitudes were about eating foods with a high vitamin and protein content, to avoid eating foods without these nutrients, or eating foods with too much starch, or eating unnecessary foods. Another attitude that needed mentioning was that they believed that if a person did not know which foods were healthy he/she might end up losing weight or becoming sick (i.e. Kwashiorkor). One needed to know which foods were healthy for growing and building the body and which foods were important to eat. The health-related attitudes that featured prominently were that one should know which foods were healthy in order to become strong and healthy and to prevent illness. If healthy foods were not known, it might lead to eating foods that would harm the body. Healthy foods eaten would lead to a long and healthy life.

In conclusion: during the discussion of attitudes towards nutrition, various important themes / topics were

touched on which all contributed to the perceived attitudes. First of all the theme of food and the association with general health became apparent. Three of the probes on attitudes were about the association between food and health. In all three instances similar types of responses were received - all were about either general health-related issues, nutrition-related issues or disease prevention. The general attitude towards food and health was that if people were not ill with disease, the food that they ate were automatically healthy for them and prevented illness. The perception of health and food were different to the scientific view, indicating that specific healthy foods should be eaten in order to have a healthy body (14, 18). Nutrition-related responses mostly dealt with the intake of appropriate quantities of vitamins and proteins in order to be strong and healthy, and to have adequate energy levels, and to live a long life. The main perception on inadequate intakes of nutrients was that it might cause illness, or that it might harm the body in some way. The main misconception in this regard was that the people believed that they did not seriously have to control or check their food intake because they instinctively knew what their body needed and additionally, the person buying the food for the family would "automatically" buy the correct foods, or that all the foods eaten would "automatically" produce a balanced nutrient intake.

All the mothers / caregivers felt that the food eaten had an important association with good health. This attitude was confirmed a few times with various probes. There was a general perception that if a person was healthy (meaning without disease at that moment), the food that was consumed was considered as being healthy. The following responses substantiate this conclusion:

- " Sure it's healthy, because the one that's buying it choose healthy ones"
- "because we eat fresh foods from the garden, like maize, pumpkin, maraka, watermelon"
- "because we're not getting ill"
- "it's because we are healthy and still alive"
- "because the food is healthy - it makes you healthy"

No other reasons could be provided except that if illness was not present, it could be concluded that a person was healthy. Some mothers / caregivers said that foods were healthy because they contained substances which built the body, or which fought the bacteria causing diseases, or which contained vitamins that would prevent illness. To just consume food, was thus considered far more important than the kinds or amounts of foods consumed. Food as a general concept was considered important and not necessarily specific types of foods with their specific functions in the body.

To conclude the description on food and health, some ethnographic descriptions will be presented. Most responses were very generally stated indeed. The responses were categorised according to general responses, food / nutrient based responses and misconceptions, and will be presented as such. Some of the general responses given for associating food and health were:

- "because we are healthy"
- "because we are healthy and strong"
- "the baby is an example of health"
- "we are not losing weight"

- "we grow"
- "our skins are healthy"
- "because our skin is clear"
- "it's because we are healthy and still alive"
- "I don't get any problems after eating"
- "because the food is healthy - it makes you healthy"
- "I just eat what's available when I'm hungry but I have no health problems"
- "because we eat healthy food"

Some of the responses indicated food as being important for health in the sense that it prevented illness. These responses were also very general indeed:

- "because they eat foods that have vitamins e.g. fruits and vegetables, and vitamins prevent you from getting ill"
- "because they are healthy and they are not ill"
- "because we are not getting ill from what we are eating"
- "because I'm not getting sick after every meal"
- "because the foods that she eats will fight bacteria and prevent disease"
- "because I'm not getting ill unless I have eaten something which is not suitable for me (e.g. upset stomach from dirty food)"

The last group of positive science based responses associated the food or food content (nutrient content of the food) with a positive health effect:

- "because they eat foods that have vitamins e.g. fruits and vegetables, and vitamins prevent you from getting ill"
- "it have vitamins"
- "the foods we eat have substances that build the body"
- "because the foods she eating has lots of proteins, e.g. pap "
- "because after eating she feels full of energy / strong"
- "the food have proteins and vitamins"
- "because we eat fresh foods from the garden, like maizes, pumpkin, maraka, watermelon"

Some of the misconceptions regarding the attitudes towards food and health included:

- "sure it's healthy, because the one that's buying it choose healthy ones"
- "they are balanced"
- "because she knows what her body needs"

From the above it became clear that a general concept existed of certain substances being in foods that would be responsible for health, but that their attitudes were not substantiated by nutrition knowledge. Education in this regard is thus imperative as it would guide mothers / caregivers to choose foods for specific reasons and for specific health purposes.

✦ Do you think that a child that looks fat is healthy and well fed?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	1	0	2	1	0	2	0	0	3	0	0	0	6	3	9 23.7%
No	2	3	4	2	2	1	2	2	5	2	2	2	17	12	29 76.3%
TOTAL	3	3	6	3	2	3	2	2	8	2	2	2	23	15	38

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Mixed responses were received to this probe. Most of the mothers / caregivers (n=29, 76.3%) however responded negatively to this question.

✦ Why do you think that a child that looks fat is healthy and well fed?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2 20.0%
Misconceptions	1	0	3	0	0	1	0	0	2	0	0	0	6	1	7 70.0%
No answer	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1 10.0%
TOTAL	1	0	4	1	0	2	0	0	2	0	0	0	7	3	10

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Only two (20.0%) of the responses given could be categorized as science based responses. Although it was indicated that a fat child is a healthy child, the response also revealed that the child gained too much weight from eating too much food. Secondly, it was stated that the large / fat child was the healthy one that was not contracting diseases like any other thin emaciated child who was always sick with infections. The remaining responses (n=7, 70%) were all based on misconceptions, including the beliefs that fatness was hereditary and healthy, that fatness showed that a mother / caregiver cared for her child, and that fat children ate well and therefore did not become ill and lastly that being fat showed that the child was fed well and therefore was healthy. No positive responses came from two age categories (10-12/12 and 25-36/12 groups). The 4-6/12 group gave the most positive responses, but also most of the misconceptions as well. The mothers / caregivers in the Mathibestad area were responsible for most of the misconceptions and the only misconceptions from the mothers / caregivers in the Makapanstad area came from only the 7-9/12 age groups.

✦ Why do you think that a child that looks fat is healthy and well fed?

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	1	4	0	1	0	0	2	1	2	1	1	1	6	8	14 43.8%
Misconceptions	0	1	1	2	2	1	0	2	0	3	3	3	6	12	18 56.2%
TOTAL	1	5	1	3	2	1	2	3	2	4	4	4	12	20	32

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Although most of the responses for this probe were correctly answered in the negative (n=32), the majority of reasons given in this regard seemed to be misconceptions (n=18, 56.2%). The misconceptions included statements like looking fat or round was always due to oedema, that a fat body caused poor breathing due to choking ("the fat block her throat"), that obese babies only had fat in their bodies which caused illness, or that the problem with obesity was that it induced laziness. The science based responses (n=14, 43.8%) were generally about obesity being the cause of illnesses and that a healthy baby was of average weight. For this probe more responses came from the Makapanstad area; most being misconceptions. In the Mathibestad area there were equal numbers of misconceptions and science based responses.

In summary: mothers / caregivers were probed about their attitudes towards children being fat and therefore probably healthy. Although most of the mothers / caregivers replied correctly by denying such a belief, they could not verify their response by giving appropriate reasons for it. Mothers / caregivers could only generally state that babies should be of average weight and that overweight might be the cause of illness in the baby. Most of the other perceptions concerning overweight, were misconceptions due to a lack of information. It was believed that most fat babies were not really fat, but had Kwashiorkor, which is characterised by oedema which would therefore make them look fat. This misconception may have been due to inadequate nutrition information on PEM. The other main misconception that existed was that fat children were not able to breathe properly and would get high blood pressure or asthma as a result. These results showed that the mothers / caregivers had been exposed to information associating poor health with obesity, but that they did not understand the rationale as such.

✦ Do you think that the types of food that you eat prevents you from getting ill?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26 100%
No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the mothers / caregivers (100%) in both areas responded positively to this prompt.

✦ Why do you think that the types of food that you eat prevents you from getting ill?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	3	2	2	2	2	2	4	2	3	3	3	14	17	31 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	2	2	4	2	3	3	3	14	17	31

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the responses provided by the mothers / caregivers in both areas could be classified as science based responses. The mothers / caregivers also responded fairly similarly from all age groups and both areas, with a few more responses coming from the Makapanstad area. Most of the science based responses were general health or nutritional related responses. The responses in the health category were all in a similar trend: the people believed that since they were in good health and not ill with any identifiable disease, the food eaten was regarded healthy, or that the food that they ate did not cause illness and would fight the bacteria. The nutrition related responses included those where some of the nutrients were mentioned as being responsible for health (vitamins), or that the food contained substances that would build the body. It could thus be concluded that very few specific reasons could be given by the mothers / caregivers on this issue. (Also refer to 9.1.2.1 - the discussion on the importance of healthy eating).

✦ Are you willing to eat foods that you have never eaten before?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	2	3	1	1	2	2	2	2	0	2	2	2	9	12	21 75.0%
No	1	0	1	0	0	0	0	0	2	0	3	0	7	0	7 25.0%
TOTAL	3	3	2	1	2	2	2	2	2	2	5	2	16	12	28

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most of the mothers / caregivers (n=21, 75.0%) felt that they would like to try new foods, or foods that they have never eaten before. More positive responses came from the Makapanstad area, but fairly equally from all the age groups in both clinics. Only the 13-24/12 age group from the Mathibestad area did not give a positive reply at all to this probe. Only seven (25.0%) negative responses were given of which most were made by the 25-36/12 age group from the Mathibestad area. No negative responses were made by the 7-9/12 and 10-12/12 age groups.

✦ Why are you willing to eat foods that you have never eaten before?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	2	3	1	1	2	2	2	3	0	2	3	3	10	14	24 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	3	1	1	2	2	2	3	0	2	3	3	10	14	24

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the reasons presented by the mothers / caregivers to substantiate their positive attitude towards this matter were science based responses (n=24, 100%). Most of the responses could be classified as the mothers / caregivers wanting to improve their eating habits, for instance that they wanted to taste new foods in order to be able to eat it in future, or getting exposed to new foods when the women left their mother's houses to live with their husbands and their families. Some responses indicated the mother's / caregiver's willingness to try new foods in order to introduce more healthy foods into the diet, since a new food might also be needed by the body. It was also stated that a new food should be tasted to determine its suitability as a healthy food. Some responses also indicated availability of food as a reason to try new foods. Lack of money was a restricting factor in trying out new foods. Poor availability of commonly used foods might also lead the mothers / caregivers to try something new.

✦ Why are you not willing to eat foods that you have never eaten before?

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	1	0	1	0	0	0	0	0	3	0	1	0	6	0	6 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	1	0	0	0	0	0	3	0	1	0	6	0	6

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the negative responses given could also be considered as being science based responses. Mostly people would not try new foods due to their lack of knowledge concerning these foods, or a fear of experimenting with new things or in this instance foods (neophobia)(108).

The discussion on attitudes towards trying new foods revealed interesting trends. Most of the positive attitudes towards trying a new or unknown food concerned improving their eating habits:

- "we'd love to taste strange foods, but we don't have money to buy them"
- "to know the taste so that I can eat them next time"

General comments included:

- "you desire it"
- "to know the taste - whether it is sweet or not"
- "because they like to try a strange thing"

Availability of foods also plays a role in the attitudes towards new foods:

- "we will eat something new if there isn't something familiar available due to lack of money"
- "we'd love to taste strange foods but we don't have money to buy them"

Health related attitudes included:

- "want to taste new food because it will also be needed by the body"
- "they want to taste first because they don't know if it is suitable or not"

Some negative attitudes towards tasting unknown foods were however also apparent:

- "it can cause you some disease"
- "because you don't know the effect of the food on you"
- "I can't taste something I don't know - maybe they can cause me some disease"

It was clear from these responses that people mostly had a positive attitude towards trying something new or strange in order to improve their eating habits or health, to discover new tastes or to have something to eat if there was nothing familiar available to eat. The biggest fear of eating new foods was for contracting some unknown disease which could be explained in terms of neophobia (108).

9.1.2.2 Food and money

✦ Do you think that the most foods that you have available to eat are good for you?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	3	3	2	2	2	1	2	2	2	2	2	2	13	12	25 96.2%
No	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1 3.8%
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Only one of the focus groups (n=1, 3.8%) responded negatively to this probe. This group of mothers / caregivers had children in the 7-9/12 age category and were from the Makapanstad area.

✦ Why do you think that the most foods that you have available to eat are good for you?

Positive response

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	3	3	2	2	2	1	2	4	1	4	3	3	13	17	30 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	3	2	2	2	1	2	4	1	4	3	3	13	17	30

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Responses given by all the mothers / caregivers could be classified as science based responses. These responses however varied from general comments to more specific nutritional or health based responses. Some of the general comments included that only food that was well liked was prepared and therefore it was good; that the food eaten satisfied hunger and therefore the body's needs; all food was considered healthy and that they felt healthy and strong. One person also said that she felt she knew what her body needed. Some of the other responses focused on the fact that the mothers / caregivers were not ill as the foods eaten prevented disease. Some of the responses focused more on the nutritional aspects of foods. Some of the responses given were that food was good for you because it provided energy, it built the body and aided in growth and prevented weight loss. These responses confirmed the fact that mothers / caregivers were not really informed or knew about the nutritional content of foods and the functions of these nutrients in the body.

were science based (n=7, 41.2%), including statements of the father needing a lot of food due to hard work and a bigger body. The rest of the statements were culturally induced misconceptions (n=10, 58.8%), including statements like it being the traditional way, due to respect, receiving the privilege of more food due to working for an income for the family.

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	2	2	1	1	2	0	2	0	1	0	3	1	11	4	15 83.3%
Misconceptions (cultural)	0	0	1	0	0	1	1	0	0	0	0	0	2	1	3 16.7%
TOTAL	2	2	2	1	2	1	3	0	1	0	3	1	13	5	18

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The negative responses given supported the rejection of the culturally accepted belief. Most of the negative responses were from the Mathibestad area (n=13), with only a few responses from the mothers / caregivers from the Makapanstad area (n=5). Both science based responses and misconceptions were given. Most of the responses were however science based (n=15, 83.3%), as they were opposing the cultural practices that existed for a long time. These responses included the fact that it was now considered that everybody should get an equal share, changed cooking habits, females were allowed to eat more meat, children should also be considered and adults did not need to grow anymore. The misconceptions were less in number (n=3, 16.7%), and only covered a few aspects like the opinion that the father should change his buying habits to buy more food so that everybody could eat, or that the love for fathers and children was now considered to be the same as for the rest of the family.

Ethnography

In order to describe the cultural issue of the father or head of the household always receiving the biggest portion of food, an ethnographical description of the data from the focus group interviews was done. Most of the mothers / caregivers approved of this practice, and the reasons given for actually practising this cultural belief could be divided into science based responses and misconceptions. The science based responses included the following:

- "Because he is working so hard he should get the most food (help with the RDP putting in electricity)"
- "For him to be strong and have strength"
- "Because he works hard and gets home tired"
- "Because he is the one who is working for them"

Culturally based misconceptions were apparent and these included the following:

- "It was believed that babies are not supposed to eat meat - only it's gravy"
- "He was the head of the family and if there was meat left, it was left for the father. If the father is not there, it is left for the mother"
- "Because it is the rule"
- "Because we were taught that by our grandparents"
- "It was respect given to him"
- "He must eat too much (most), because he is the head"
- "Because it is our culture"
- "Because he is a man"

The negative responses in this regard were fewer and mostly science based:

- "He should not get more, our needs are the same"
- "We must eat the same portion sizes"
- "Because he is so old he must not eat enough, he must think of the child"
- "If he get the biggest portion, he is going to be too fat"

The misconceptions were more focused against the culture and could thus be considered as anti-cultural:

- "He is not the one who cooked the meal, the one cooking should get more"
- "Because the father doesn't always have money to buy food".

In summary: it became clear from these responses that the mothers / caregivers still believed in and practiced their cultural beliefs; believing that they were the best. It was also believed that the fathers / sons should always receive the biggest portion of protein rich foods. Nutrition education with regard to these practices and beliefs seems essential in order to improve feeding practices and the nutritional status of children in these communities.

It can be concluded that the interpretation of the results on attitudes revealed that the attitudes of the mothers / caregivers were based on misconceptions formed within the specific cultural group and that the attitudes were not based on sound scientific knowledge. If their knowledge on these various subjects is increased, it would probably lead to more positive attitudes towards nutrition and health.

✦ Why do you think that the most foods that you have available to eat are good for you?

Negative response

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1 100%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The only negative response given was a financially based response. The mothers / caregivers in this group felt that the food that they had available to them was not good for them since they did not have enough money to buy healthy foods.

✦ Do you think that you should have a lot of money to eat healthy?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	1	2	0	1	2	2	1	1	1	1	0	0	5	7	12 46.2%
No	2	1	2	1	0	0	1	1	1	1	2	2	8	6	14 53.8%
TOTAL	3	3	2	2	2	2	2	2	2	2	2	2	13	13	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

This probe received a mixed response. The negative response was given a few more times (n=14, 53.8%) than the positive response (n=12, 46.2%). More groups in the Makapanstad area said that money was essential and more groups in the Mathibestad area said that money was not so important.

✦ Why do you think that you should have a lot of money to eat healthy?

Positive reasons

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	1	0	0	1	0	0	0	2	0	1	0	0	1	4	5 35.7%
Misconceptions	0	2	0	0	2	3	1	0	0	0	0	0	3	5	8 57.1%
No answer given	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1 7.1%
TOTAL	1	2	0	1	2	3	1	2	1	1	0	0	5	9	14

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The responses given by the focus groups for the necessity of having a lot of money were mostly misconceptions (n=8, 57.1%), although some responses were science based (n=5, 35.7%). Most of the reasons given in favour of having a lot of money, concerned the issue of buying power rather than nutritional needs or health, e.g. being able to buy anything that they wanted to and that a lot of money was needed to stay healthy. The science based responses came from various age categories. It was said that healthy foods such as milk, vegetables and fruits were expensive foods to buy, and that you needed money to live and with no money available food could not be bought.

✦ Why do you think that you should have a lot of money to eat healthy?

Negative reasons

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	2	1	2	0	0	0	1	1	1	2	1	2	7	6	13 86.7%
Misconceptions	0	0	0	0	0	0	1	0	0	0	1	0	2	0	2 13.3%
TOTAL	2	1	2	0	0	0	2	1	1	2	2	2	9	6	15

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Most of the responses given were science based responses (n=13, 86.7%) and only a few misconceptions (n=2, 13.3%) were reported. The two misconceptions mentioned were both made by focus groups in the Mathibestad area. They said that one needed to eat a healthy product like merogo or soup only once a week or once a month when you had money available, and that would be often enough. The other misconception was that one could buy anything you want with a small amount of money. The science based responses were mainly about the fact that healthy foods might be just as expensive as unnecessary / luxury items like sweets, etc. It was also felt that if more money was available and a choice needed to be

made, it would have been for the unhealthy nice products. With a little money wisely spent, healthy foods could however also be bought.

In summary: nearly half (46%) of the mothers' / caregivers' attitudes were that a lot of money was needed for them to be able to eat healthy. The concept of a "healthy food" was unclear, however. When these mothers / caregivers were asked why they would need a large amount of money, it was reported that they wanted to be able to buy whatever they felt like eating, for instance "to buy anything that you think is suitable for the body", or "for you to have everything you wish to eat", and " so that if they need something, they can go and buy it". The opposing response, however, strengthened this perception towards purchasing power. The mothers / caregivers said that if more money became available to them or to others in the household, it was usually not used to buy nutritional foods. It was rather used to buy sweets and other unhealthy foods or luxury items without which one could live anyway. The general attitude uncovered was that more money would not necessarily lead to better and more nutritional eating practices as would be expected, but rather to even poorer eating practices. Only one of the focus groups indicated that money was an important issue for their health and that the foods that they ate were not good for them due to a lack of money.

Some of the science based responses given for a lot of money being important for healthy eating, focused on their inability to buy expensive foods such as milk, fruit and vegetables due to a lack of money, as being the restraining factor, while others just said that without money you can not live. Others groups gave valid reasons for money not being the most important issue for healthy eating, e.g. that unnecessary and / or unhealthy foods were bought when a lot of money was available. If only foods that were needed were bought, not a lot of money was necessary. With a little money people would only buy what was good for them. It was also stressed that if a budget was used and if they planned ahead concerning the foods to buy, it was not so important to have a large amount of money. Some of the mothers / caregivers also considered planting their own vegetables and fruits as an option to counteract a lack of money to buy expensive fruit and vegetables in the supermarkets.

Misconceptions regarding money and food was also evident. People thought that a lot of money was necessary for healthy eating in order to be able to buy anything they wanted to eat. Food and money were thus not considered in terms of health, but rather in terms of being able to eat anything wished for, which could in turn be much more detrimental to health. Another misconception was that one could buy anything one wanted with a small amount of money, and that it was not important to eat healthy items every day - once a week or month was quite enough.

From these discussions it became clear that these mothers / caregivers needed some education regarding budgeting for buying healthy foods and wise spending of money on food products. Misconceptions concerning the role of money in healthy eating should be eradicated and people should be empowered to make healthy food choices in order to eat healthy even with the small amount of money available to them.

9.1.2.3 Traditions and culture

✦ Do you think that the traditional ways of food preparation are the best?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	7	3	1	1	2	2	2	4	2	1	2	2	16	13	29 70.7%
No	1	0	6	1	0	0	0	2	0	1	0	1	7	5	12 29.3%
TOTAL	8	3	7	2	2	2	2	6	2	2	2	3	23	18	41

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

This probe resulted in different responses from the different focus groups. Both positive (n=29, 70.7%) and negative (n=12, 29.3%) responses were received from both areas. Positive responses came from all the age categories in both areas, while the negative responses were only made by a few groups.

✦ Why do you think that the traditional ways of food preparation are the best?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses (culture)	1	3	0	1	0	1	0	0	0	1	0	1	1	7	8 27.5%
Science based responses (health)	3	0	2	2	3	0	2	2	2	0	2	2	14	6	20 69.0%
Science based responses (socio-economic)	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1 3.5%
Misconceptions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	3	2	3	3	2	2	2	2	1	2	3	15	14	29

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The attitude of the people towards food preparation was the driving force for their actions in this regard. All the responses were science based and could be categorized in terms of cultural, health or socio-economic soundness. Although this probe referred to TRADITIONAL practices, only a few culturally based responses were made (n=8, 27.5%). These referred to their culture as being the reason for the practice, the tastiness of the food prepared in this manner or that their mothers taught them the correct ways. These responses were mainly made by the two youngest age categories with most of the responses from the Makapanstad area. More responses (n=20, 69.0%) were received in the health category, where it was referred to as being a healthy way / lifestyle as all the ancestors practised food preparation in this manner

and were in good health. The socio-economic aspect received one response (3.5%) only from one 7-9/12 group in the Makapanstad area. It was said that traditional cooking did not require any expensive food items or ingredients.

✦ Why do you think that the traditional ways of food preparation are the best?

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses (culture)	1	0	2	2	0	0	0	0	0	1	0	0	3	3	6 85.7%
Science based responses (health)	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1 14.3%
Science based responses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	2	2	0	0	0	0	0	1	0	1	3	4	7

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

All the negative responses were science-based and were classified in terms of cultural or health perceptions. The cultural science based responses were most common (n=6, 85.7%). These responses included attitudes towards taste, which was considered boring, or comments on the limited variation in the diet or that the food prepared in this way might be unhygienic and not prepared with acceptable techniques. Only one health-related attitude was expressed in the Makapanstad area. This explained the belief that the food was prepared with incorrect cooking methods thus leading to nutrient loss.

In summary: a probe concerning the traditional ways of food preparation was included in an effort to determine what influence culture had on the eating habits and therefore the nutritional status of the mothers / caregivers. Responses were mostly made about health. Mothers / caregivers with a positive attitude in this regard revealed that the traditional ways of food preparation were the best due to the fact that all the ancestors used it and that they were all healthy and strong and did not become ill. The perception thus existed that if a person was healthy and well, the food that he/she ate was healthy and therefore all the food practices were also healthy and good. Mothers / caregivers with a positive attitude towards cultural practices concluded that people who ate in the traditional ways were healthy and that the traditional ways prevented illness. It was also believed that the food prepared according to the cultural ways was very tasty and did not need any expensive ingredients.

A number of the negative responses focused on anti-cultural practices, indicating that the traditional cultural practices were no longer acceptable as the people were exposed to nutritionally more acceptable methods of food preparation. Some of these unacceptable practices were the boiling of meat in water only, no varied diet, not reading instructions or measuring ingredients and keeping mixtures, e.g. suurpap at a warm

temperature to ferment where it could easily be contaminated as well. The spicelessness and overcooking of foods also seemed to be a problem. Some of these mothers / caregivers were quite prepared to change from the traditional methods to a more varied and less strict approach to food preparation.

Ethnography

Mothers / caregivers were asked to explain or describe their traditional cooking methods. A variety of different methods and dishes were described as the mothers / caregivers were not probed according to a specific food or group of foods. A few ethnographic descriptions are given for different types of foods

Methods for meat preparation included:

- "boil meat in water until soft, add potato, onion, and spices"
- "wash the meat first, then add to water together with tomato, onion and spices all at once, and boil"
- "boil meat and add spices and salt"
- "meat is boiled only in water"
- "vegetables in meat - some add it immediately and others add it later"
- "meat is washed, put in the pot, add salt and water and boil for one hour"

Vegetable preparation techniques were also described in different ways:

- "pumpkin is washed and then boiled in water until soft and add margarine"
- " 'semphemphe' is a dish made from a vegetable that looks like a watermelon on the outside and is yellow and soft on the inside. It is peeled, boiled, and mixed until smooth (take all the hard bits out). Maize meal is added, it is boiled again and sugar is added"
- "'sephuru' is a dish made from beans (small brown beans). Boil until soft, mash it, pour maize meal, boil it again, cool it, make cakes and eat it like bread with tea"
- " 'ditloo' is very similar to green beans but it tastes different. Samp and peanuts and beans are mixed and eaten for supper"
- " 'leraka' is a dish eaten for breakfast which is very similar to Ditloo"
- "pumpkin is boiled with water only"
- "dikgobe ' is dry maize kernels which is boiled first, and then fried with salt and a little bit of water and stirred until it is brown"
- "fresh merogo is boiled, dried, then cooked with tomato and onion"
- "pumpkin is cooked with potato"
- " 'dithotse' - this is the beans that come from the pumpkin, we fry them with oil and pour salts and then you eat them with pap",
- " 'dinawa ' - brown beans. You can make soup or samp",
- "merogo is eaten fresh or dried".

A lesser variety of techniques for starchy foods was mentioned as the maize meal was mostly used to prepare pap ("bogobe") in a variety of consistencies. Other methods included:

- " 'ting' or 'suurpap'. Maize meal is mixed with 2 cups of boiling water and 4 cups of cold water. Close it with a lid and leave in the sun for one day. It's quicker when a metal tablespoon or a potato is added to the mixture"
- " 'motswiwtlane ' (suurpap)"
- "the maize meal is washed before cooking"

Other descriptions were more general in nature, and described only the meal patterns or general items prepared:

- "lots of variety was included in the diet, for example 'leraka' for breakfast and 'semphemphe' for supper, but nowadays there are less variety - we eat mostly only pap"
- "the modern way of cooking is to cook food only for a certain period of time to retain more vitamins and not till it is very soft"
- "the food is boiled in water - no spices are added"
- "moro wa phiri' (hyena's soup) - you mix water with salts and chillies, than you eat it with pap"
- "sometimes when we dry food, germs goes there"

✦ Should a father or head of the house always get the biggest portion of food?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	2	1	2	1	1	1	2	6	1	6	1	2	9	16	25 69.4%
No	1	2	0	1	1	1	0	1	1	1	1	1	4	7	11 30.6%
TOTAL	3	3	2	2	2	2	2	7	2	6	2	3	13	23	36

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

Traditionally the father and older sons had the first right to the protein-rich food and thus received the biggest portion since the father is the head of the household and the oldest (38). The perception of the mothers / caregivers towards this issue was examined by means of this probe. The results showed that this tradition was still practised and considered important (n=25, 69.4%). All the focus groups responded positively towards this issue with most of the responses coming from the 10-12/12 and 13-24/12 age groups. However, some of the mothers / caregivers (n=11, 30.6%) felt that this tradition was really old-fashioned and should not be practised any more.

✦ Why should a father or head of the house always get the biggest portion of food?

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	0	0	0	1	0	2	1	2	0	2	0	2	1	9	10 38.5%
Misconceptions (cultural)	4	0	4	0	1	1	2	0	1	1	2	0	14	2	16 61.5%
TOTAL	4	0	4	1	1	3	3	2	1	3	2	2	15	11	26

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The responses on this probe could be divided between science based responses and misconceptions due to cultural beliefs. The science based responses (n=10, 38.5%) were less common in all the focus groups. All the groups, except the 0-3/12 group, gave science based responses, but nearly all came from the Makapanstad area with only one science based response from the Mathibestad area. The science based responses were about energy utilization, referring to concepts like working hard, being strong and healthy and tiredness due to hard work. The misconceptions were more common and much more diverse (n=16, 61.5%). It was interesting to note that most of the misconceptions were from the mothers / caregivers in the Mathibestad area (87.5%). The misconceptions due to cultural beliefs concerned issues like the father being the head of the family, that it was a cultural rule to give the father the biggest portion, and the fact that babies should not eat meat but only the watery gravy.

✦ Why should a father or head of the house always get the biggest portion of food?

Negative responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	1	2	0	0	0	1	0	0	1	0	1	1	3	4	7 77.8%
Misconceptions (cultural)	0	0	0	1	1	0	0	0	0	0	0	0	1	1	2 22.2%
TOTAL	1	2	0	1	1	1	0	0	1	0	1	1	4	5	9

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The science based responses were more common in the negative responses to this probe (n=7, 77.8%). Two of the focus groups (22.2%), however, did not give a science based response at all (the 4-6/12 and 10-12/12 groups). The science based responses were mainly about the fact that all adults had the same needs and therefore one person should not necessarily get more of one kind of food than the other, and that the men abused this practice by just taking all the meat. It was accepted in these groups that everybody should get equal portions and that overeating of one kind of food item could lead to obesity. The

only two misconceptions came from the 4-6/12 and 7-9/12 groups, one from each area. These misconceptions could also be classified as being anti-cultural. These included beliefs that the person that cooked the food should get more, or that the one who bought the food should get the most. These were in contrast to the science based responses which actually considered the health of the child.

✦ Do you think that this is the correct way?

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Yes	0	2	0	1	0	1	0	2	1	2	0	2	1	10	11 37.9%
No	3	1	2	2	2	1	2	0	1	0	2	1	12	6	18 62.1%
TOTAL	3	3	2	3	2	2	2	2	2	2	2	3	13	16	29

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

More of the mothers / caregivers reacted in a negative manner (n=18, 62.1%) than with the first probe (n=11, 30.6%). This might indicate that although some of the mothers / caregivers were practising this cultural belief, they did not necessarily think that it was the right thing to do. Only a small number of the focus groups (n=11, 37.9%) indicated that they really believed that this practice was correct and acceptable whereas with the first probe more groups were positive (n=25, 69.4%).

✦ Why do you think that this is the correct way?

The mothers / caregivers were probed about the abovementioned cultural belief. The mothers / caregivers all reacted to this probe as if this belief was still widely accepted and practised in this community. Their positive or negative responses thus regarded their attitudes towards this cultural practice under discussion namely the father receiving the biggest portions of food or the only meat available. Both the positive and negative responses drew practically equal responses (17 positive and 18 negative).

Positive responses

DATA CATEGORIES	RESPONSES PER AGE CATEGORY (months)														
	0-3 n=6		4-6 n=4		7-9 n=4		10-12 n=4		13-24 n=4		25-36 n=4		CLINICS - TOTAL RESPONSES		
	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	MT	MP	TOT
Science based responses	0	0	0	1	0	0	0	3	0	1	0	2	0	7	7 41.2%
Misconceptions (cultural)	0	0	0	0	0	1	0	4	0	2	0	2	0	10	10 58.8%
TOTAL	0	1	0	1	0	1	0	7	0	3	0	4	0	17	17

DIFFERENTIATED BY CLINIC: MATHIBESTAD = MT ; MAKAPANSTAD = MP

The positive responses, thus supporting the previous positive belief towards implementing this cultural belief, came exclusively from the mothers / caregivers in the Makapanstad area. Some of these responses