

Exploration of Zulu Mothers' Choice of Food for Their Children



Submission by

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DECLARATION

I declare that the material in this thesis titled "Exploration of Zulu Mothers' Choice of Food for Their Children", submitted for the degree of Master of Nursing by Research, is the result of my own research except where the work of others is acknowledged. I also declare that this thesis, in whole or part, has not been submitted for an award including a higher degree to any other university or institution.

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ABSTRACT

South Africa has a high incidence of childhood mortality and morbidity. More than fifty percent is attributed to mild and moderate malnutrition and the highest incidences occur in rural communities such as North Kwa Zulu Natal (NKZN). Despite recent South African government interventions, such as the Integrated Nutrition Programme, Integrated Management of Childhood Illnesses and the introduction of Food Based Dietary Guidelines, malnutrition is still a severe problem. Nutritional research studies on children aged one to five years confirmed that malnutrition results from inadequate intake of nutrient and energy rich food. However, contextual influences on the mothers' food choices for their children had not been reported.

The purpose of this study was to explore and understand, from the perspective of NKZN mothers, the influences on their choices of food for their children aged one to five years. A qualitative research design using a naturalistic approach was implemented. The strategies used for collecting data from eight mothers of children with identified nutrition related illnesses included interviews, observations and a focus group discussion. In-depth interviews and a focus group discussion were conducted to explore food choices from the mothers' perspectives. Further understanding of their food practices was gained by observing the broad features of each informant's home, living conditions, surrounding environment and various

food preparation practices and resources. The data were analysed for common patterns of meaning and categories of influence in the mothers' choice of food.

The influences on the mothers' food choice that emerged from the study included the geographic location of the informants in the form of isolation from shops, their living conditions, family income and seasonal availability of food. Social and cultural changes, such as declining numbers of adult males in each household and the shift from subsistence farming to the dependence on the cash economy, were substantial influences. Most importantly, limited knowledge of food value and of nutrition related illnesses influenced the choice of food that NKZN mothers provided to their children.

This study discovered that despite the many problems confronted by NKZN mothers, they were enthusiastic in their request for knowledge to improve the health of their children, albeit requiring the assistance and cooperation from health care professionals and policy makers. Insight of the contextual influences will enable health care professionals and policy makers to develop appropriate programmes that assist NKZN mothers in the provision of energy and nutrient-rich food for their children.

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CHAPTER 1: INTRODUCTION

This study explores the choice of food that mothers living in the remote communities of North Kwa Zulu Natal (NKZN), South Africa provide to their children aged between 1 and 5 years. This introduction chapter provides a background, rationale and significance of the study and organisation of this thesis.

1.1 BACKGROUND OF THE STUDY

The South African population in 2001 was 44.8 million (South African Census, 2001). Despite the drop in the fertility rate and the rise in the HIV epidemic, this population has increased by over four million people since the time of the last census in 1996. The South African population remains youthful with 34% of population under 15 years of age (Bradshaw, Maseiteng & Nannan, 2000). Whilst these figures show an increase in population, they are not a true reflection of the state of South African's health and poverty. South Africa's childhood mortality is higher than other countries of similar income status and half these mortality figures are caused by mild to moderate malnutrition (Bamford & Chopra, 2001).

At the same time, unemployment was steadily increasing with a decline in the number of jobs available in South Africa from 5.2 million in 1996 to 4.8 million in 1999 (Bradshaw, Maseiteng & Nannan, 2000). The unemployment rate in 2001 was recorded officially at 28% (South African Census, 2001).

The highest unemployment figures occurred in rural African females, standing at 59% (Bradshaw, Maseiteng & Nannan, 2000). This has led to increasing poverty in South Africa where it is estimated that 16 million people, almost a third of all citizens, are living in poverty with its highest incidence in rural female-led households, where 70 percent of rural South Africans are considered poor (South African Department of Agriculture 1998).

A consequence of poverty in South Africa is food insecurity that is defined as a lack of access to adequate safe and nutritious food (South African Ministry of Agriculture and Land Affairs, 1998). As a result of low incomes, 30% to 50% of the population has insufficient food and is exposed to an unbalanced diet that is low in nutrients, vitamins and energy (South African Ministry of Agriculture and Land Affairs, 1998).

These unbalanced diets contribute to the child mortality rate in South Africa. The South African national mortality rate for children was last recorded as 59 per 1000 live births (South African Department of Health, 1998). The incidence of child mortality is even higher in NKZN at 74.5 per 1000 live births. In the Usuthu district, NKZN, the mortality figures of children under five years of age are substantially higher at 145 per 1000 live births (Hoque, 2001).

Malnutrition-related childhood illnesses and disorders, such as anaemia, Vitamin A deficiency and stunted growth, are prevalent across South Africa. These contribute largely to more than half the childhood deaths in this

country. (Bamford and Chopra 2001). These conditions were confirmed in national childhood nutrition surveys conducted in 1994 and 1999 that disclosed one in ten children aged one to five years of age were underweight, one in five were stunted and one third of children aged one to five were mild to moderately Vitamin A deficient (Labadarios & Middelkoop, 1995; Labadarios, 2001).

According to the South African Government Department of Health, Vitamin A deficiency could be responsible for as many as one in four childhood deaths under five years of age (South African Directorate of Nutrition, 2002). The National Food Consumption Survey disclosed children living in rural communities or on commercial farms were the most seriously affected by energy, nutrient and Vitamin deficiencies (Labadarios, 2001).

Nutritional deficiencies can largely be prevented by increasing children's consumption of meat, poultry, fresh fruit, vegetables and plant products that comprise of a rich source of energy and nutrients (Michelsen, Weaver, Branka & Robertson, 2000). Savage-King and Burgess (1996) suggested it was important to feed children energy and nutrient rich foods during the weaning period off breast milk and the time of rapid childhood growth from one to five years of age. According to Labadarios (2001), immediate attention was required by Government, health, and community authorities to alleviate these nutritional deficiencies by providing education and assistance in improving rural families access to nutritious food.

The South African Government has responded to these recommendations by introducing National Food Based Dietary Guidelines. An Integrated Nutrition Programme (INP), established in 1994, has been expanded and funds have been allocated to encourage malnourished communities to establish income generating programmes (South African Department of Health, 2002). The South African Government has further enhanced the education of health care authorities and their communities by embracing a strategy of the United Nations Children's International Emergency Fund (UNICEF) known as the Integrated Management of Childhood Illness (IMCI). These programmes are implemented in various communities across South Africa (South African Department of Health 2002).

In a six-year period of employment working in an 80-bed Salvation Army hospital in NKZN, I witnessed similar childhood nutritional problems. Many children and infants attended the hospital for treatment for malnutrition-related illnesses, such as failure to thrive, kwashiorkor, eye irritations, diarrhoea, skin and respiratory infections. These occurrences were a vivid reflection of the high mortality figures for this district.

While the management of the Salvation Army was not involved in the South African Government initiated programmes, they had sufficient insight to understand the need to combat malnutrition by establishing preventative health education and primary health care programmes. Five mobile health clinics were established in 1997 at remote villages in NKZN. These clinics provided medical treatment and Vitamin supplements to mothers, babies

and children and a wide range of other primary health care facilities such as immunizations, family planning and health education.

In 1999, thirteen volunteer community health workers trained by the Salvation Army joined the clinic team to provide primary health care, with the aim to reduce nutrition related childhood illnesses. The objectives of the health care team were to educate the mothers on the importance of feeding fresh food to children and to encourage the establishment of vegetable gardens for fresh food production within their communities. Some of the communities were provided with educational assistance and resources, such as seeds, tools, and irrigation systems, to sustain and maintain community food gardens.

Despite the positive response from NKZN mothers to the mobile health clinics and education programmes that promoted feeding children a variety of energy and nutrient rich food, a high incidence of malnutrition-related illnesses continued to be reported at Salvation Army clinics in NKZN. It became clear that the enormity of the problem far exceeded the boundaries and available resources of the Salvation Army, and despite the enthusiasm of the mothers, the positive outcomes were minimal.

1.2 RATIONALE OF THE STUDY

In late 2000, the Helen Keller Institute and the Salvation Army health care team administered a 'Food Frequency Survey' to 850 mothers in NKZN, with the aim of ascertaining the extent of the nutritional imbalance problems

within the Salvation Army's health care catchments. This unpublished survey found that the vast majority of children aged one to five years of age consumed low amounts of meat, fresh fruit and vegetables but they consumed higher levels of starch and processed food. That is, they consumed adequate caloric intake, however the Vitamins and minerals from fresh fruit, vegetables and meat were low.

These Helen Keller Institute studies, and my general observations, indicated that the malnutrition-related problems might be far more deeply associated with factors other than just nutritional knowledge of the mothers. Such factors could include cultural and other contextual fundamentals of the NKZN communities. These factors may have historically been neglected in previous nutrition programmes in other malnourished communities. Leading nutritionists, Pinstrip-Andersen, Pelletier and Alderman (1995) and Werner and Sanders (1997), supported this view and emphasised that nutrition interventions have in the past been based on "top down models". This is a label given to nutrition programmes that are designed outside malnourished communities and have had little impact on overcoming many of these other multiple problems confronting mothers of malnourished children.

Bellamy (1998), and the United Nations Children's Emergency Fund (2002), have attempted to address these multiple problems through their promotion of the "triple A cycle" of assessing and analysing the causes of malnutrition and taking actions of intervention at all levels of society. In

order to combat the malnutrition-related problems in NKZN, it becomes clear that a new approach is required that will follow the first two “triple A” processes of assessment and analysis. This study will undertake a first-hand investigation into the mothers’ choice and preparation of food for their children. Furthermore, I will endeavour to identify the influences and reasons behind those food choices from the mothers’ perspective. This approach is the first step towards improving the nutritional status of malnourished NKZN children, as it will identify the problems, constraints and the methods of preventing childhood malnutrition from a bottom up approach.

1.3 SIGNIFICANCE OF THE STUDY

The children of NKZN have a greater likelihood of dying from malnutrition-related conditions than many others in South Africa. It is clear from earlier research that their diets are deficient of Vitamins and nutrients, but the reasons for this deficiency have not been confirmed. The lack of knowledge and low socio-economic status of women have been documented by Bellamy (1998) as being major contributors to poor choice of food for their children, but there appears to be little detailed literature of other influences at a community level available in South Africa.

Insight gained from understanding the mothers’ choice of food and the perceived problems and barriers to the consumption of fresh food will shed light on why there is low consumption of a variety of energy and nutrient-rich food by NKZN children. This new insight will assist nurses and health

workers to develop more relevant community-based programmes that encourage mothers to increase their children's consumption of nutrient rich food. Understanding the cultural and contextual influences on the NKZN mothers' food choices will provide reasons for the children's dietary deficiencies and enable nurses and others in authority to design appropriate health education and other programmes for these communities.

1.4 AIM OF THE STUDY

The aim of this study is to explore from the mothers' perspective, the rationale and the influences for their choice of food for their children under five years of age. A detailed description of the food and identification and analysis of the influences on that choice of food for their children will be achieved through direct observation of and interviews with NKZN mothers.

1.5 ORGANISATION OF THE THESIS

Chapter two provides an overview of the nutritional status of South African children and discusses a number of documented government and community initiatives to combat childhood malnutrition in South Africa. Research related to mothers' food practices in South Africa and other countries are discussed, and the need for further understanding of mothers' choice of food in South African rural communities was considered.

Chapter three outlines the conceptual frameworks guiding this research study followed by the research design, preparation for the research and description of informants. The data collection and analysis process, ethical issues and the rigour of the study are discussed.

Chapter four presents findings that emerged from analysis of data that were collected from observations, interviews and a focus group. The findings described the NKZN mothers' choice of food for their children and identified their perceived influences for those choices.

Chapter five discusses the findings with the current literature on the influences in mothers' choice of food for their children.

Chapter six provides a summary of the study followed by a description of the limitations of the study, implications for nursing practice, health education and research.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In order to provide a broad context of South African mothers' choice of food for their children, this chapter examines the impact of malnutrition and childhood illness in developing countries, particularly South African children. Previous and existing nutrition programmes in South Africa are critically examined. The establishment of National Food Based Dietary Guidelines and community programmes introduced to increase household food security are reviewed. In addition, research related to mothers' food practices are discussed and the call for further qualitative research in South Africa are considered.

2.2 MALNUTRITION AND CHILDHOOD ILLNESS

In the twenty-first century, malnutrition still poses a serious threat to the health and well being of vast numbers of infants and children in developing countries, such as South Africa. Every year, 11 million children under the age of five in developing countries die from readily preventable and treatable illnesses such as diarrhoea dehydration, acute respiratory infections (ARI), measles and malaria. In half these cases, illness is complicated by malnutrition (UNICEF, 2002).

More than fifty percent of childhood mortality in developing countries can be attributed to mild to moderate protein energy and micronutrient malnutrition. Children aged one to five years who are mild to moderately undernourished are respectively 2.5 and 4.6 times more likely to die than well nourished children (Pelletier, 1994). Protein and micronutrient malnutrition is harmful to children's health because it lowers resistance to infections, such as diarrhoea, acute respiratory infections and measles, with the result that the severity and duration of infectious diseases are increased (Truswell, 1999). These infectious diseases reduce children's appetites, leading to further weight loss and slower growth. Unless the spiral of malnutrition and infection is halted, the children with these diseases develop Kwashiorkor and progress to other severe illnesses that can lead to death (Savage-King & Burgess, 1996).

Nutritionists encourage the consumption of energy-rich food such as meats, fish, poultry and legumes, in order to prevent stunting and underweight for age. These food contain protein and energy, promote childhood growth and development and also provide the energy required to prevent and fight infections (Truswell, 1999). Childhood consumption of food that is rich in Vitamin A is also promoted because Vitamin A is the principal micronutrient that children require to prevent and fight infection (Child Health Unit & South African Department OF health 1998). Vitamin A prevents tissue damage during infection, by destroying free radicals and is necessary for the repair of tissues of the gastro-intestinal tract and lining of bronchioles (Savage-King & Burgess, 1996). Vitamin A is found in fruit and vegetables,

particularly those that are orange or dark green in colour such as pumpkin, spinach and mangoes. Thus the consumption of these types of fruit and vegetables plays an important role in preventing illness in growing children (Love & Sayed, 2001).

In addition, fruit and vegetables provide children with other micronutrients, such as Vitamin C, folate, riboflavin and protein, which help prevent anaemia, promote growth and repair damaged skin and body tissue (Savage-King & Burgess, 1996). Antioxidants, which protect the body against infections, are contained in many plants and vegetables, including those above, and make a valuable addition to children's diets (Michelsen, Weaver, Branka & Robertson, 2000). Therefore, promoting an increase in children's consumption of energy and micronutrient-rich food, particularly in developing countries, might reduce the high number of children (eleven million) dying from mild to moderate malnutrition (UNICEF, 2002).

2.3 NUTRITION PROGRAMMES IN DEVELOPING COUNTRIES

The problem of childhood malnutrition in developing countries was acknowledged over twenty-five years ago at the 1978 International Conference on Primary Health Care. At this conference, the World Health Organization produced the Declaration of Alma-Ata promoting the health for all peoples of the world, which states:

A main social target of governments, international organizations and the whole world community in the coming decades should be the attainment by all peoples of the world by the

year 2000 of a level of health that will permit them to lead a socially and economically productive life (Werner & Sanders 1997, p.21).

The document stated that in order for this target to be achieved, it was the responsibility of nurses, physicians, health workers and others working as a team to respond to the expressed health needs of their communities.

These responsibilities included providing education concerning prevailing health problems, the methods of preventing and controlling those problems, and promoting food supply and proper nutrition (Werner & Sanders, 1997).

Unfortunately, twenty-five years later, these goals have not been achieved in many countries and, as a result, countries such as South Africa are burdened with childhood malnutrition, contributing to high rates of infant and childhood mortality. Many nutrition programmes in developing countries have not been sustained because they have been designed without collaboration with the communities for which they were intended. This was supported by Werner and Sanders (1997), Pinstrup-Andersen, Alderman and Pelletier (1995), who believed local factors such as political structures, cultural norms and the lack of understanding of the availability of food, have inhibited the implementation and sustainability of many nutrition programmes. Pinstrup-Andersen, Alderman and Pelletier states:

Most nutrition interventions tend to be traditional top down models. Only by chance does an existing intervention offered to a community match the existing problems,

constraints and opportunities for their alleviation (p.342).

Top-down models designed by governments and international aid organizations without consultation and collaboration with malnourished communities can leave families of malnourished children with a feeling of powerlessness, resignation and lack of confidence to change their nutritional practices (Pinstруп- Andersen, Aldeman & Pelletier 1997). Health care workers and facilitators can help reverse this process by enabling people to identify and analyse for themselves the local causes of their nutritional problems. This can build a sense of collective self-confidence and empowerment within communities (Werner and Sanders, 1997). Nutrition education programmes might encourage women's empowerment but it is necessary to include the whole family and community to improve childhood nutrition.

As early as 1985, Morley and Woodland acknowledged that women perform most of the gathering and preparation of food, but believed that nutrition programmes need to involve other members of the family and the broader community, because without their support, such programmes are at risk of failure (Morley & Woodland, 1985).

2.4 MALNUTRITION AND CHILDHOOD ILLNESS IN SOUTH AFRICA

In the South African Department of Health (SADOH), in a five-year plan summary of 1999, it was acknowledged that childhood malnutrition was a

serious public health problem and there was a need for sustainable nutrition programmes designed in cooperation with malnourished communities. The (SADOH) summary stated:

The feeding of five million primary school children and the implementation of community nutrition programmes over the last five years needs new tools to allow the transition from food and input hand-outs to projects that are sustainable at the community level (SADOH, 1999, p. 27).

Like many other developing countries, the great majority of South African children have insufficient intakes of meat, dairy products, vegetables and fruits resulting in a diet that is deficient in energy and poor nutrient density to meet their micronutrient requirements (Vorster & Jerling, 1995; Bourne & Steyn, 2000). This dietary imbalance is a major contributing factor in mild to moderate malnutrition that has resulted in South African children's stunted growth, underweight for age, micronutrient deficiencies and recurring diarrhoea and respiratory infections (Bamford & Chopra, 2001).

A comprehensive national survey conducted by Labadarios and Middelkoop (1995), on the nutritional status of preschool children, confirmed the severity of malnutrition in South Africa. This survey revealed that one in four children was stunted (permanently retarded growth) and one in ten was underweight. These findings equated to 660,000 children who were stunted and 1.5 million children were underweight in South Africa. This study also found that one in three children had a marginal Vitamin A status

and one in five children were found to be anaemic (Labadarios & Middelkoop, 1995).

Four years later, the National Food Consumption Survey (NFCS) of 1999 revealed similar results for children aged between one to nine years of age. Children aged one to three years old living in rural or tribal communities were the most severely affected with 30.6 % stunted growth (Labadarios, 2000). The study also found that one in two children had an intake of approximately half the recommended level for Vitamins A, C, B6, folate, riboflavin, niacin, calcium, iron and zinc (Labadarios, 2001).

The widespread deficiency of Vitamin A in South African children increases childhood morbidity and is suspected to be responsible for as many as one out of every four childhood deaths (South African Directorate of Nutrition, 2003). South Africa's infant and child mortality rates are considerably higher than that of other countries with comparable economies such as Mexico and Brazil (Hoque, 2001).

NKZN has one of the highest number of children within its province, suffering with stunted growth and marginal Vitamin A deficiency, which both contribute to the high incidence of child morbidity and mortality (Hoque, 2001). Malnutrition and stunted growth in children is severe in many other rural communities across South Africa. An explanation for this is largely because the consumption of vegetables, fats and meat products is lower amongst the rural population than in urban areas (Labadarios, 2001; Vorster & Jerling, 1995).

Literature from leading nutritionists and the South African Department of Health (SADOH) acknowledges that the key underlying factor preventing consumption of these varieties of food is poverty in the form of limited disposable income. The poor nutritional status of children in rural communities is further exacerbated by a lack of nutritional knowledge and limited production of their own food from crops and livestock (SADOH, 2002; Labadarios, 2001).

As part of nutritional programmes, gender issues may need to be addressed in some communities, which could be a contributing factor to the women's sense of powerlessness to improve their children's nutritional status.

Labadarios (2000), states:

Food security of young children depends on power relations within the household. If these relationships are unequal, children may be poorly fed. The power relations are very dependent on the status of the women in the house. If only the man makes decisions regarding buying the food the needs of the children may be neglected (p.31-32).

It appeared from the literature that South African education related to agriculture and food production has traditionally targeted men and did not consider the vital role that women in many communities play in being responsible for providing food for their households (Steyn, 2000; Walker, 2001). According to Steyn (2000) and Labadarios (2001), women in rural households performed most of the agricultural activities such as the growing of maize and food garden produce, and it was important that they

were trained to be aware of their children's nutrient needs and ways of meeting those requirements.

2.5 SOUTH AFRICAN NUTRITION PROGRAMMES

The South African government has responded to the recommendations arising from the National Food Consumption Survey and attempted to improve the nutritional status of children by introducing National Food Based Dietary Guidelines (FBDG). The South African government has also established an Integrated Nutrition Programme (INP) that tackles the issues of both nutrition education and poverty at government, community and family level. The South African government, in conjunction with UNICEF, has also introduced Integrated Management of Childhood Illnesses (IMCI) programmes in all nine provinces. This is an additional source, linking health facilities and communities with the aim of improving the nutritional status of children five years and under (SADOH, 2002).

2.5.1 National Food Based Dietary Guidelines

One of the first actions of the South African Government resulting from the findings of the National Food Consumption Survey was to develop a set of National Food Based Dietary Guidelines. The recommendations of Labadarios (2001) arising from the National Food Consumption Survey suggested that the establishment of national nutrition education programmes should be a priority of national and provincial governments, health and education facilities. Labadarios (2001) stated:

Families and communities, especially mothers / caregivers, must be informed that micronutrient deficiencies can be prevented by consuming a variety of food especially legumes, fruits, vegetables and when possible, food from animal origin (p.12).

Nutritionists called for the South African Government in cooperation with community and the private sector to address these nutritional knowledge deficits by promoting a set of National Food Based Dietary Guidelines (Labadarios, 2001; Steyn, 2000; Love, 2001).

The South African Government responded by commissioning nutritionists to establish the South African Food Based Dietary Guidelines Work Group. Before completion of the guidelines, the Work Group conducted extensive reviews of the nutrition related health concerns, mortality trends and food consumption patterns of South Africans. The Work Group's aim was to develop a set of dietary guidelines in a non segregating manner, with the aim of being universally understood and implemented where possible by children over five years and adults of all cultural groups and nationalities in South Africa (Vorster, Love & Browne, 2001). These guidelines are as follows:

- enjoy a variety of food
- be active
- make starch food the basis of most meals
- eat plenty of fruit and vegetables every day
- eat dry beans, lentils and soy regularly
- chicken, fish, milk, meat or eggs could be eaten daily
- use fat sparingly
- use salt sparingly
- drink lots of clean safe water
- If you drink alcohol, drink sensibly

- Use food and drinks containing sugar sparingly rather than between meals (SADOH, 2003, p.2).

As a result of the recommendations of the Work Group, the South African National government officially adopted food based dietary guidelines (FBDG) with the view of promoting healthy lifestyles among all South Africans. The SADOH (2003) believed the implementation of these guidelines will have a major impact on reducing disease and death rates due to under- and over-nutrition.

Nutritionists suggest an additional set of guidelines is still required for children less than five years of age. Labadarios (2001), Steyn (2000) and Love (2001) believed young children have specific dietary needs for growth and development and there is a need to focus specifically on preventing younger children developing problems due to under-nutrition. For example, Love (2001), stated:

The decision to have separate guidelines for young children is based on the fact that South African Children have specific nutrition related public health issues (mainly under nutrition) and those children *per se* have specific dietary needs for growth and development (p.6).

Steyn and Labadarios (2001) supported a separate set of guidelines and gave an example whereby a set of guidelines could be established in order to encourage children under five years of age to consume food that contain fat, in order to provide them with energy required to aid their physical and mental growth and development. The FBDG was officially launched in 2003

by the South African Health Department but the suggestions by the above nutritionists in 2001, for a separate set of guidelines for children under five, have not yet been implemented.

Love, Maunder, Green, Ross, Smale and Charlton (2001) conducted a qualitative research project, utilizing focus group interviews with Zulu and Xhosa population groups in NKZN and the Western Cape. Both population groups understood the suggested food guidelines, however, they all mentioned several constraints to the implementation of the guidelines. Primary constraints included affordability and availability of food, household taste preferences and limited time. For example, Zulu mothers stated that they understood that fruit and vegetables are good for their health but do not have the money to buy them.

In relation to this study, Love et al. (2001) believed that nutrition educators, whether nurses or other health professionals, should provide explanatory information accompanying the FBDG, offering practical advice to overcome problems of affordability or restricted seasonal availability. These health professionals need to assess what is realistically available and affordable within their clients' specific community and to identify and encourage positive strategies already being practiced (Love, et al., 2001). Love and Sayed (2001) and South African Ministry of Agriculture and Land Affairs (1998) have suggested that where financial constraints prevent frequent consumption of vegetables and fruits, self-sufficiency could be promoted by establishing vegetable gardens.

2.5.2 Improving Household Food Security

The need for promotion of self-sufficiency programmes and food gardens was demonstrated in the National Food Consumption Survey that revealed only 25% of South African households were secure with their quantity of food (Labadarios, 2001). Household food security was defined by Bellamy (1998), as:

...access to food of good quality and in sufficient amounts at all times to meet the need of individual household members for optimum life (p.27).

May (1994), disclosed that 31% of non-urban households were considered to be food insecure, and she believed the high incidence of household food insecurity in rural communities was attributed to a decline in the production of home grown produce and limited access to alternative sources of income. This was usually in the form of wages from family members working in urban areas or from old age pensions (Steyn, 2000). Household food insecurity was also often the result of "shocks" that have been inflicted on families such as drought, loss of employment and death of family members (May, 1994). The South African Ministry of Agriculture and Land Affairs (1998) admitted that these factors contributed to rural households being predominantly managed by women, who were mostly living in poverty and were not food secure. Steyn (2000), provided further insight in this problem and stated:

Household food security is directly related to the burdens placed on women. As a result of the

large scale migration of men to urban areas in search of work, female headed households have become the norm, particularly in non-urban areas. This has placed additional responsibilities on women, particularly with regard to child-care (p.7).

Sogaula (2003) conducted a study to determine the status of household food security in rural South African children following the treatment of severe malnutrition in two rural hospitals. The results showed that recovery and sustained weight gain post-recovery were very poor and caused by severe food insecurity, as opposed to lack of feeding knowledge on the part of caretakers. The study suggested the need for further community based nutrition programmes that would enable families to be food secure (Sogaula, 2003).

Two years earlier, the NFCS recommended that in rural or other appropriate settings, community based nutrition programmes should be established in order to strengthen home based crops and livestock. This would enable households to move closer towards being food secure and increase the amounts of micronutrients consumed by children (Labadarios, 2001).

Government and community initiatives have been organised to increase food security for families. This included a campaign launched by the Department of Health in the Northern Province of South Africa in 2002.

The key messages in the campaign were:

- Eat vegetables and fruit for good health

- Grow your own vegetables and fruit for food security, nutrition and health
- A healthy mind a healthy body
- Grow spinach, carrots, tomatoes and cabbage to protect your body from disease
- Lets work together and feed our families (Nonama, 2002, p.1).

There have been a number of documented programmes in which women have embarked upon improving childhood health by starting community food gardens. Taylor (1999) gave examples of mothers being motivated by community health workers and supported by food garden committees, to establish community food gardens and to produce Vitamin A enriched vegetables such as spinach, carrots and pumpkins.

Faber (2002) conducted a study in the Ndunkazi community in NKZN to determine whether Vitamin A status in children could be improved through a home garden project. Over a twenty-month period, 114 sustainable home gardens were established and Vitamin A status was significantly improved. The success of this project was due to positive support of the community and the integration with community based growth monitoring activities and nutrition education by nurses and community health workers (Faber, 2002).

The success of these two community projects supported calls by Labadarios (2001), and Steyn and Walker (2000) for greater cooperation between State, communities and individuals to improve food security for families and the nutritional status of children in South Africa.

2.5.3 The Integrated Nutrition Programme

In an effort to improve childhood health status, the South African Department of Health set out to create a five-year plan to fund and support nutrition related projects that are sustainable at a community level, by channeling financial and technical assistance through the Integrated Nutrition Programme (INP) (SADOH, 1999). The INP was established in 1994 offering an integrated approach to nutrition to replace the fragmented food-based approach of the past (South African Directorate of nutrition, 2002). The INP provided nutrition interventions at facility and community based levels. One of the aims of the INP was to improve the capacity of communities to solve their problems of malnutrition and hunger. To achieve this aim, the INP developed a set of standards that included providing education material, equipment and referrals (SADOH, 2002).

The INP supported community based nutrition programmes that aspired to strengthen household food security, improve knowledge about nutrition, support the care of women and children and promote a healthy household environment. The INP worked with other sectors, such as Departments of agriculture and social welfare, churches and community groups, to tackle the root causes of poor nutrition and poverty (South African Directorate of Nutrition, 2002).

The INP provided financial assistance to nutrition education programmes and income-generating projects that enabled households across the country to be food secure (SADOH, 2002). The INP was allocated 590 million rands

(approximately 100 million Australian dollars) from the SADOH 2001-2002 budget, for poverty relief projects in the form of small-scale income generating activities. Unfortunately, the opportunity to help improve the nutritional status of many families and communities was missed because most provinces substantially under-spent their budget from these allocated poverty relief funds (SADOH 2002).

The SADOH believed that this occurred due to limited human resources within provincial and district health departments to distribute funds, leaving many communities unaware of the possible INP assistance programmes (SADOH, 2002). This supported the belief of Werner and Sanders (1997) that many top down programmes designed at government level fail because communities were not involved in the development of nutrition programmes. They also failed because women were not adequately informed of their opportunities for self-empowerment that would have resulted in improving the nutritional status of their children.

2.5.4 The Integrated Management of Childhood Illnesses

The South African Government appeared to be aware of the need to improve and expand the INP. In 2001, the INP was boosted in its efforts to improve the quality of health care and access to resources in malnourished communities with the introduction of Integrated Management of Childhood Illness (IMCI) programme in all nine provinces (SADOH, 2002). IMCI was developed by the WHO and UNICEF in 1995, and was considered the umbrella through which all Primary Health Care interventions can be

delivered to children. It was recommended for use in countries such as South Africa, where infant mortality exceeded 30/1000 live births and it was comprised of three elements that complement each other:

A. *Strengthening the health system*

IMCI in South Africa began the programme of providing comprehensive primary health care by ensuring that health centres and clinics around the country were stocked with drugs, vaccines and nutrition supplements. Since the inception of IMCI in rural communities in 1998 until 2000, the availability of oral rehydration fluids and nutrition supplements increased from eighty four percent to ninety percent (Bamford and Chopra, 2001).

B. *Improving clinical skills*

This assessment component of IMCI was designed to improve nurses' diagnostic skills and systematically assess every child for the main symptoms of childhood illness and check for malnutrition, anaemia, tuberculosis and HIV. Nurses and health workers were also encouraged to look beyond the presenting problem and investigate underlying factors that precipitate the onset of various illnesses including malnutrition (UNICEF, 2003). In May 2001, IMCI practices were assessed in 81 health clinics and, according to the SADOH, the quality of care had improved in each clinic facility (SADOH, 2003).

C. *Improving family and community practices*

The success of IMCI was also dependent on the establishment of the household and community component that was only launched in South Africa in 2002 (SADOH, 2003). IMCI provided nurses and health workers with information explaining 16 key family practices that included the provision of appropriate nutritional food to children:

Starting at six months of age, feed children freshly prepared energy and nutrient rich complementary food, while continuing to breast feed up to two years or longer. Provide children with adequate amounts of micronutrients (UNICEF, 2003, p.2).

It is important that the health workers and nurses communicate these messages to mothers, as they are crucial in encouraging beneficial practices in the homes of the communities in which they work. However, the knowledge given by nurses and health care workers has a greater chance of improving family health practices if they have the support of the whole community (Kerry, 2003).

The success of the community based component of IMCI cannot fully be assessed in South Africa because it is still in its infancy, however UNICEF has supported over 80 IMCI programmes in developing countries. UNICEF (2002) gave an example of an IMCI programme in Tanmil Nadu, India, in which village health committees and health activists were established. The cultural activists conducted activities, village meetings, and visited mothers and their families to promote key family practices related to good nutrition. This programme was considered a success, as there was a 21.4

percent improvement in the number of children of 'normal' weight (UNICEF, 2003).

UNICEF (2003) gave another example of a successful community based IMCI programme in Madagascar of improved immunization coverage and exclusive breast-feeding practices. International Red Cross Africa also supports the IMCI program. The International Red Cross would consider possible home-based interventions to improve nutrition through financing food gardens and health education programmes in future communities who utilise IMCI (International Red Cross, 2003).

In all of the UNICEF sponsored IMCI programmes, the community component is pivotal to improve children's nutritional status through building a partnership between the health facilities and communities (UNICEF, 2003). Kerry (2003) indicated that a health project could only be successful and sustainable if the IMCI core team of trained health professionals accepted and facilitated ownership by the local community. An IMCI team must acknowledge that local health problems are solved together with the community through a process of assessment, analysis and action. For projects to be sustainable, the process of assessment, analysis and action is ongoing, and for this reason UNICEF have called it the "triple A" cycle (Bellamy, 1998, p.41).

2.6 PROGRAMME ENHANCEMENT

Many programmes conduct numerical or quantitative evaluations on an ongoing basis. Qualitative research, however, is considered an essential part of the assessment process and an important link in the triple A cycle of assessing and analysing the needs of a community from their own perspective (Kerry, 2003). The community component of IMCI strengthens the capacity of families with knowledge, skills and support to combat malnutrition and the other causes of morbidity and mortality (UNICEF, 2003). Dalton (2003) stressed that before this can take place, health professionals must gather and review existing information about family practices, and assesses the problems and priorities of the community and families. This can be achieved through qualitative research that involved interviews and focus group discussions with key providers of childhood care such as mothers or grandmothers (Kerry, 2003).

Successful nutrition interventions programmes are based on careful analysis of the nutrition problem and the behavioural and environmental determinants of the problem. Klem and Ross (1999) stressed this was achieved through conducting behaviour-focused qualitative research. Qualitative methods, including in depth interviews, were widely used to explore feeding practices of mothers in countries such as India, Sri Lanka, Nicaragua and Brazil. In Uganda, qualitative studies provided insights into the attitudinal constraints held by mothers regarding the consumption of leafy greens (Klem & Ross, 1999).

Silva (1999) conducted qualitative research in the form of semi-structured interviews and unstructured observations of women with malnourished children in Brazil. The study found that a lack of knowledge about nutrient rich food, low income, seasonal availability and cultural constraints due to food beliefs were all contributing factors to the reduced consumption of Vitamin A enriched food in mothers of child bearing age. The study showed there was a need for a large scale communication strategy in the form of posters, radio and television campaigns, promoting the benefits of a diet that includes Vitamin A enriched food (Silva, 1999).

These studies indicated that qualitative research on the topic of childhood nutrition makes an important contribution to the assessment and the evaluation of existing programmes. According to Coutsooudis et al. (2003), little is known about the acquisition and distribution of food in households, and the knowledge, attitudes and traditional beliefs that influence food choices has not been researched at a district or community level in South Africa. Therefore, qualitative research is required in South Africa to understand the reasons for the mothers' choice of food, as disclosed in studies from other countries with micronutrient deficiencies.

2.7 CONCLUSION

Nutritionists have established that malnutrition poses a serious health threat to a majority of South African children and millions of other children in developing countries, resulting largely from insufficient intake of micronutrient, protein and energy rich food.

The South African government admits that in the past, nutrition programmes have not been successful in addressing this problem because their programmes have tended to be fragmented and designed outside malnourished communities. In recent years, the South African Department of Health has made an effort to rectify this by establishing the INP and IMCI programmes. Both programmes are still evolving and have had elements of success and failure. Kerry (2003) maintained that these programmes could achieve success by working with malnourished communities and understanding the environment in which they live.

A greater understanding of the mothers' choice of food for their children in malnourished communities is required in South Africa that will help nurses, the INP and future IMCI personnel to design programmes that are tailored to the needs of the local community. It is clear that the major factor in the success of such programmes is community involvement at every level. In order to assist communities with problems of childhood malnutrition, qualitative research was needed to provide a clear understanding of the needs of mothers from their perspective.

CHAPTER 3: METHODOLOGY

This chapter outlines the conceptual framework and research design used in conducting this study. The preparation requirements for entering the field of this research, description of participants, data collection and analysis are explained. Ethical issues and rigour of the study are discussed.

3.1 CONCEPTUAL FRAMEWORK

This section discusses the component of the Community Counselling Model UNICEF conceptual framework of malnutrition and presents a conceptual framework modified from these models for this study.

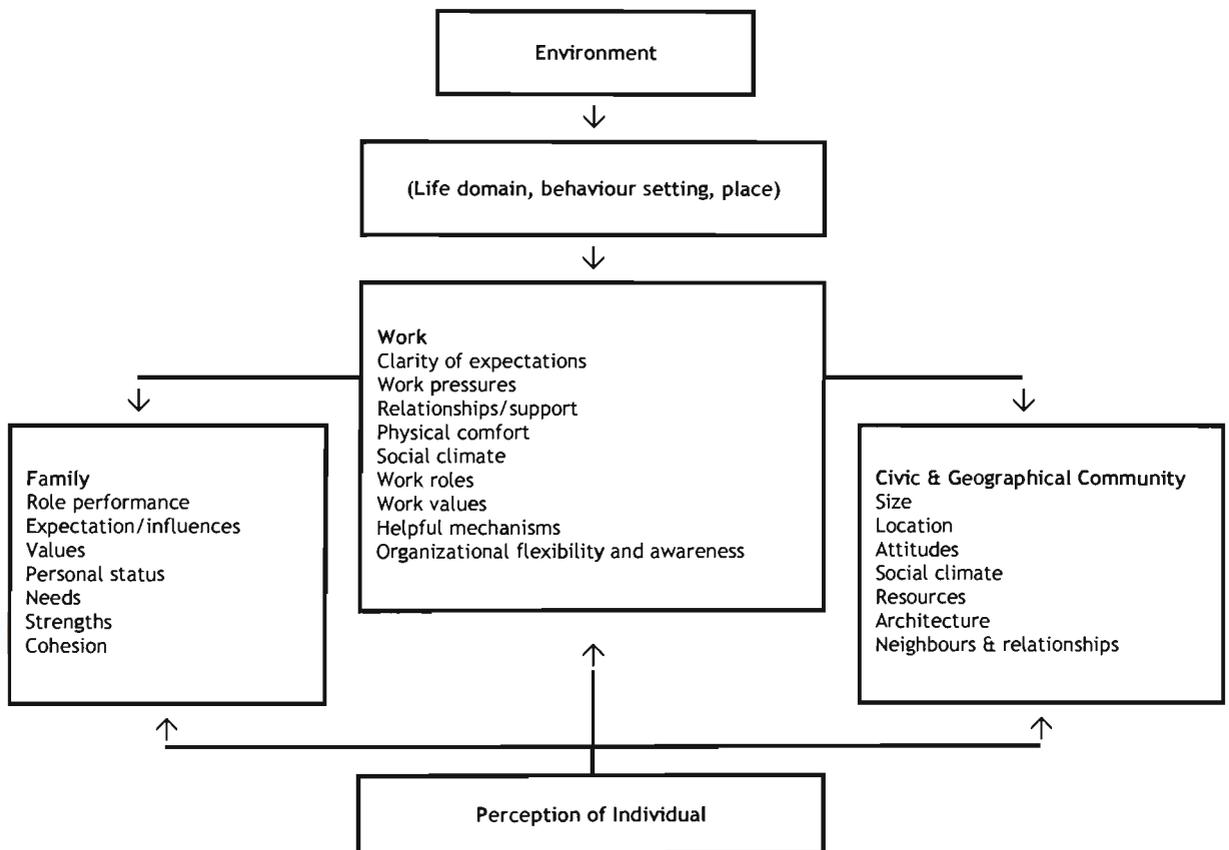
3.1.1 The Community Counselling Model

This research utilised the Community Counselling Model (CCM) modified by Hershenson, Waldo and Power (1996) to consider environmental and cultural factors that could influence the mothers' choice of food. The CCM was originally developed by Judith and Michael Lewis in 1989 as a framework of strategies for mental health practitioners to help clients identify and overcome problems that originate in the environment in which they live or work. Lewis and Lewis (1989) asserted the CCM could be applied by any human service organization where cultural and environmental factors influence people's problems. The CCM acknowledges that environmental factors contribute to the development of almost any

problem a client may face and, because the environment affects people in so many ways, the first step of the helping professional is to recognise the impact of environmental factors such as social support (Lewis & Lewis, 1989).

Hershenson, Waldo and Power (1996) argued that the term 'environment' could mean many things other than just social support and expanded the CCM by illustrating three different components of a client's local environment. These were family, work and geographic community, and that each component contained a list of identifiable features that impacted upon the client's problem or behaviour (refer to Figure 3.1 below).

Figure 3.1 - Areas for Environmental Assessment



Source: Hershenson, Waldo and Power (1996, p.200).

The framework of Hershenson, Waldo and Power (1996) was designed as an assessment tool for helping professionals or counsellors to identify the source of the client's psycho-social problems and components such as the work environment. The work environment may not be relevant to this study but nevertheless other components of this framework such as the family and geographic environment could be effectively adopted as a guide to identify possible influences on Zulu mothers' choice of food.

Lewis, Lewis, Daniels and D'andrea (1998) believed that some helping professionals have been ineffective because they lack a cultural awareness and attention to cultural background that is central to the planning and delivery of community services and interventions. The CCM addressed this problem by identifying cultural norms, values, beliefs, kinship bonds, and traditional customs as a major influence on clients' problems. When compiled, they provide a description of cultural influences of the problem under investigation, as perceived by the client (Hershenson, Waldo & Power, 1996). Furthermore, this model follows similar principles of qualitative research that endeavours to discover the "emic" perspective of providing an insider's account of reality that produces knowledge of the reasons why people act or behave in a particular way (Holloway, 1997).

The CCM was utilised in Zambian communities to identify influences on problems associated with HIV/AIDS (Salvation Army, 1998). Through a series of home visits, as well as listening and reflecting within the community, cultural, environmental and other influences on sexual

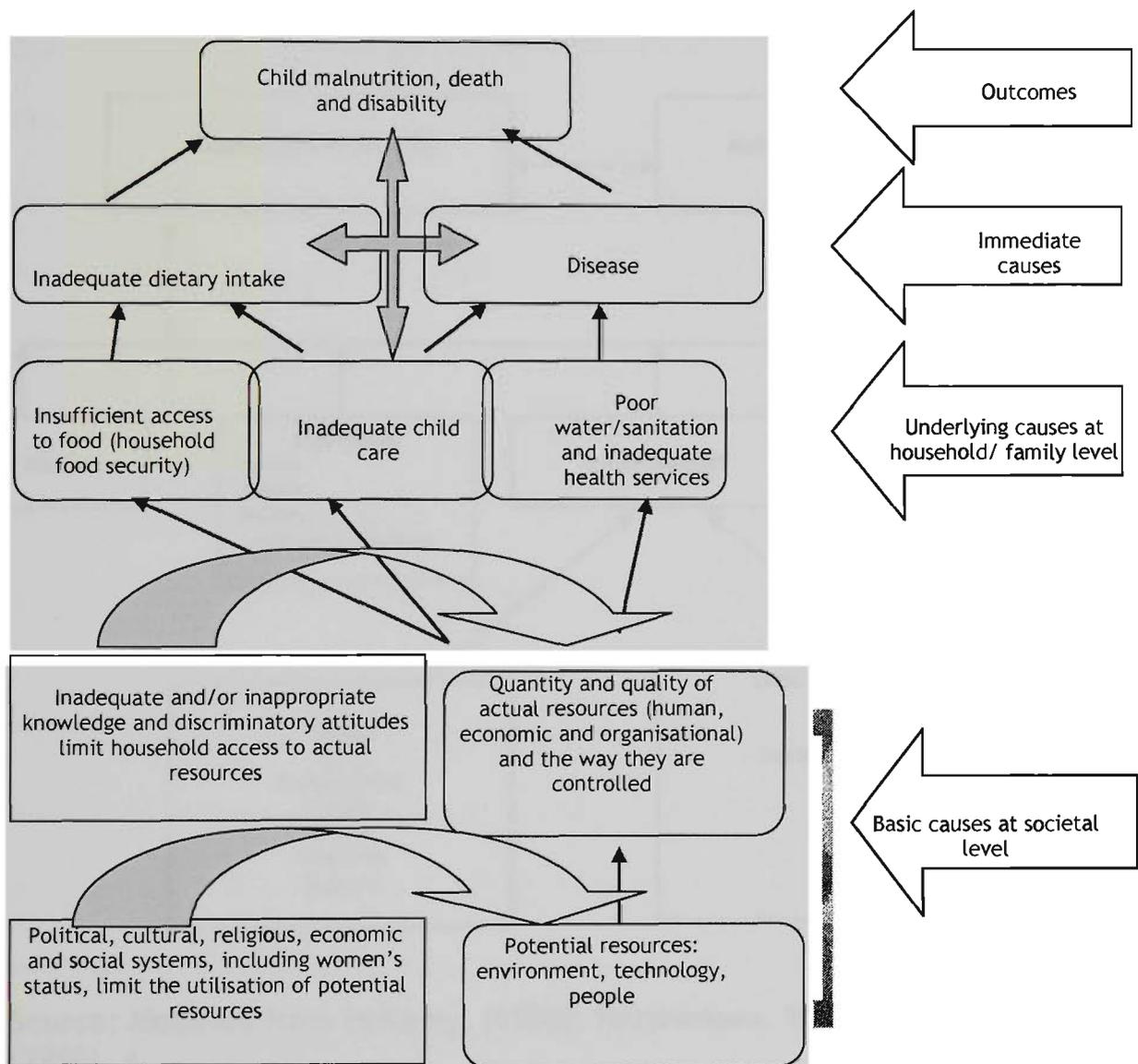
behaviour were identified (Campbell & Radar, 1995). Primary health care nurses utilised this information to work in co-operation with the community in establishing culturally relevant HIV/AIDS prevention programmes (Salvation Army,1998). Although the problems in Zambian communities are different from those in this study, similar guidelines associated with the CCM will apply. The CCM provided a foundation for building a conceptual framework for this study. However, it might be possible that there are other influences on mothers' choice of food for children as revealed by the UNICEF conceptual framework of malnutrition (Bellamy,1998).

3.1.2 The UNICEF conceptual framework

The UNICEF conceptual framework on the causes of malnutrition was also a useful guide for this study. This framework was designed in 1990 as part of a nutrition strategy that could be used to plan effective action against malnutrition at national, district and local level. UNICEF's conceptual framework showed that malnutrition is immediately caused by inadequate dietary intake and disease, resulting from a number of underlying and basic causes such as insufficient access to food (lack of household food security), inadequate maternal and child care practices and poor water, sanitation and health services. These causes at the family level were usually the result of basic causes at societal level such as economic and social systems, women's status and environmental weather patterns. These factors limited the utilization of potential resources (Bellamy,1998). The UNICEF model is useful to this study because it offers a clear understanding of the

immediate, underlying and basic causes of malnutrition as identified by Bellamy's (1998) description of UNICEF Conceptual Framework on the causes of malnutrition (refer to Figure 3.2 below).

Figure 3.2 - UNICEF Conceptual Framework: Causes of Malnutrition

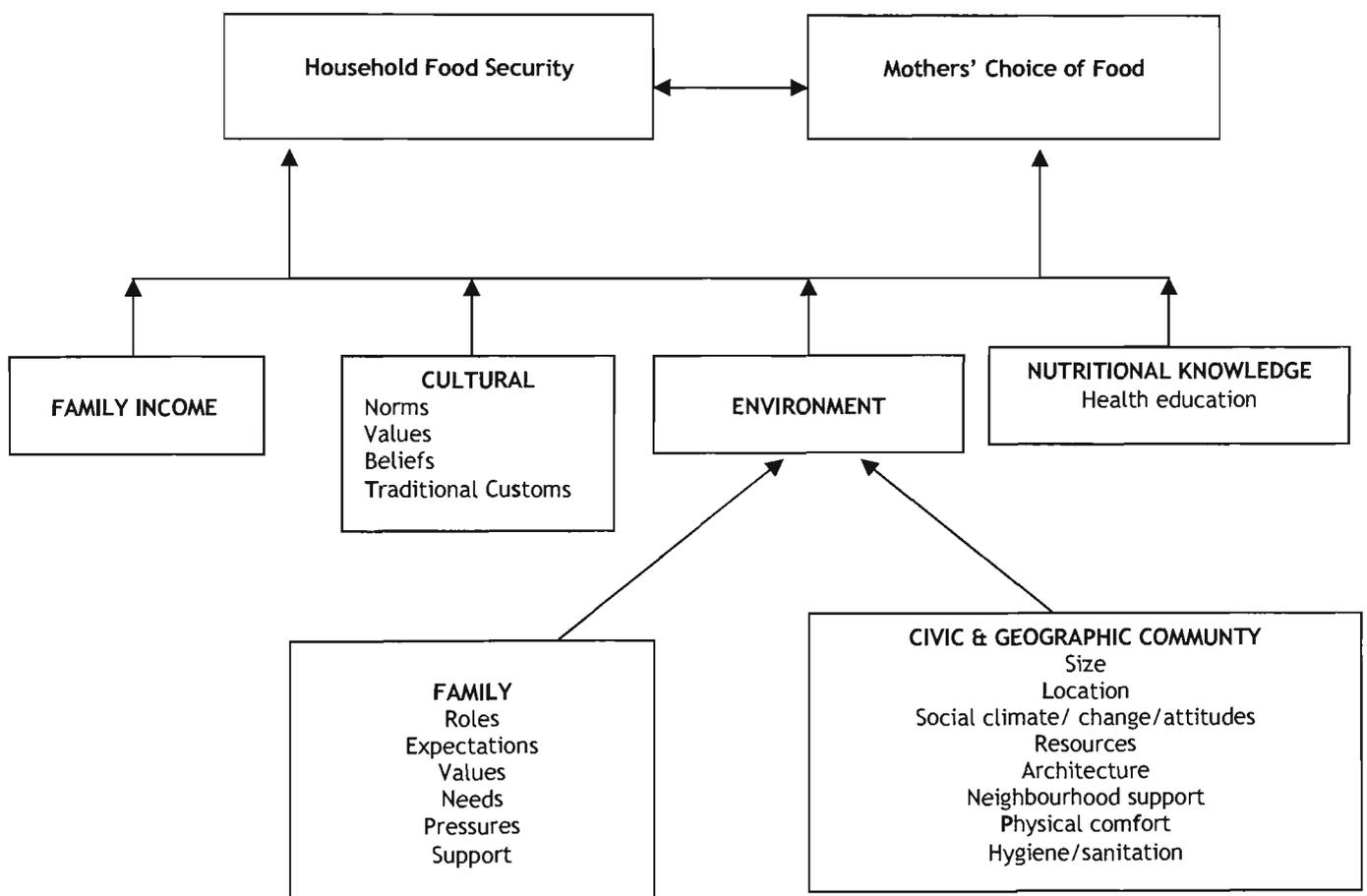


Source: Bellamy, (1998).

3.1.3 Conceptual framework for this study

Based on the UNICEF's conceptual framework and the CCM, a conceptual framework specific to this research has been developed as shown in Figure 3.3 below.

Figure 3.3 - Conceptual Framework for this study



Source: Modified from Bellamy, (1998); Hershenson, Waldo and Power (1996).

Possible criteria influencing Zulu mothers' choice of food for their children could be related to family income, cultural, nutritional knowledge and environment. The environmental influences included family/social and civic/geographical environments, which in turn might affect household food

security status and ultimately the mothers' choice of food for their children. My interview guide (refer to appendix) was developed from this conceptual framework to guide me in data collection when conducting observations, asking open-ended questions and interviews with NKZN mothers. This conceptual framework also guided me in analyse and categorise raw data, and present them as meaningful information. Therefore, the framework assisted me to develop the one essential feature of qualitative research being, "organising and ordering data on how people experience their world, live and relate to each other" (Leininger, 1985.p.6).

3.2 RESEARCH DESIGN

A qualitative research design using a naturalistic approach has been employed to explore Zulu the mothers' choice of food for their children. Patten (1990, p.40) defined a naturalistic inquiry as a "study of real world situations as they unfold naturally; non-manipulative, unobtrusive and non-controlling". The naturalistic inquiry approach was utilised in this study because it enabled me to talk with mothers and observe them in the natural setting of their homes when preparing meals for their children. The qualitative research design was used because it allowed me to collect observation and interview data that reflected the Zulu mothers' own perceptions about the choice of food for their children. The three strategies designed to collect the qualitative data were interviews, observations and a focus group discussion.

In-depth interviews were conducted in each informant's home that enabled me to understand the feelings, concerns, perceptions and knowledge of the informants in regards to feeding patterns and food choices for their children. Holloway (1997) described an in-depth interview as a "conversation with purpose" providing meaningful insight into peoples' behaviour. Interviews and observations contributed mutually because interviews provided me with a lead for observations and observations in turn engendered a probe for asking relevant questions (Erlandson, Harris, Skipper & Allen, 1993).

Observations were chosen as a strategy to examine the actions and interactions of Zulu mothers in the social context of their homes. The observation process followed Holloway's (1997) guidelines of moving along a continuum, initially starting with observing such things as living conditions, geographic location and resources. In later follow up visits, I became more of a participant observer that enabled me to gain a meaningful interpretation and validation of the verbal information expressed by the informants.

A focus group discussion was chosen to assist me in exploring and clarifying the points of view of the informants and build on the answers of others in the discussion group to divulge information that may not be provided in the individual interviews (Rice & Ezzy 1999). According to Holloway and Wheeler (1996), group interaction enables people's thoughts and feelings to be stimulated. The group interaction process was utilised in this study to

produce further data and gain greater insights into the mothers' choice of food that would possibly not be disclosed in the home visits.

3.3 RESEARCH METHOD

The research method process included the preparation before commencing the study, description of informants, data collection, data management and data analysis.

3.3.1 Preparation before commencing the study

The preparatory requirements before commencing the study include knowledge of the cultural scene, accessibility and approval for the study and availability of a translator.

(a) Knowledge of the cultural scene

Successful entry to a community depended upon collecting background information on the cultural scene of the people and community of intended study (Brewer, 2000). This was achieved through gaining an understanding of the geographic location, political structure, cultural norms and childhood nutritional problems. My experience as a nurse working in North Kwa Zulu Natal for six years provided me with background understanding of the cultural scene of NKZN from an "etic" (objective) perspective. I identified the problem of malnutrition-related illnesses and the need for research to examine this problem from an "emic" perspective (study of the subjectivity of the informant) (Holloway, 1997). Through my six years'

employment and involvement in NKZN, I had developed a trust and rapport with both residents and leaders of the NKZN communities prior to the commencement of the proposed study.

(b) Accessibility and approval of study

Six months prior to the commencement of the study, I made contact with two primary health care nurses working and living in NKZN. They confirmed it would be culturally acceptable for a male to observe and interview the informants (mothers) in their homes, and that the proposed study would benefit their community. From my own experience and from information received by the above two community health nurses at Mountain View Hospital, it was my understanding that there were no safety issues that could hamper the collection of data in the three proposed communities of NKZN.

Prior to commencement of the study, the Salvation Army administrators granted me permission to recruit potential informants (mothers) at their mobile clinic sites and conduct a focus group exercise at Mountain View Hospital (refer to appendix). This site was chosen because it was an accessible place for all informants to meet and was situated in a comfortable, quiet, safe and familiar environment, ideal for the enhancement of dialogue and discussion.

On my behalf, the Salvation Army administrator located at Mountain View Hospital, visited three local tribal councils of NKZN and notified them of

the intended study. In October 2002, the hospital administrator confirmed that all three communities gave permission for the study to be conducted. At this time the hospital administrator offered me accommodation at Mountain View Hospital and assistance with transport to and from the research sites. The research commenced after it gained ethics approval from the Victoria University Human Research Ethics Committee (refer to appendix).

Prior to conducting the field enquiry, I adhered to the following feasibility guidelines as stipulated by Erlandsen et al. (1993). These are certain factors relating to access to the research site that include geographic accessibility to informants, availability of transport, lodging facilities for the researcher, financial viability and acceptance of the community to allow the research to take place.

(c) Employment of translator

The common language of the people in the study is Zulu therefore a translator was required due to my limited vocabulary in this language. A Salvation Army officer recruited a translator on my behalf. There was no registration for qualified translators in NKZN but the translator chosen was of acceptable standard because she could speak both Zulu and English and translated for me at all times during home visits, interviews and the focus groups. In order to limit the possibility of gender sensitive and confidentiality issues arising during the study, it was necessary that the translator was female and she had no prior connection with the NKZN

community. This ensured that only the independent translator and myself knew about the information disclosed by mothers in the study.

(d) Recruitment of Zulu mothers

A local Salvation Army officer and the clinic nurses at three mobile clinic sites in NKZN assisted in the recruitment of potential informants who met the criteria of being mothers or care-givers that brought their children aged one to five years to clinic with malnutrition-related illnesses. Two weeks prior to commencement of the study, posters written in Zulu advertised the study and were displayed at bus stops and on the buildings of the three mobile clinic sites at Ngome, Ombinbini and Moiplaas communities.

A plain language statement written in English and Zulu (refer to appendices) was issued to potential informants explaining the purpose and requirements of their participation in the study. The informants were also notified that any information they provide would remain confidential and that if they decided not to participate in the study, their future treatment at Salvation Army Mobile Health Clinic would not be affected. Twelve mothers were given the plain language statement and time to consult with their family, of which eight informants volunteered to participate in the study. No further recruitment was necessary as the data reached saturation by the eighth informant and there were representatives from each of the three pre-selected communities.

I explained to all informants the importance of giving an informed consent to participate in the study (refer to appendix). They then signed a consent form to be observed and interviewed in their homes and to attend a focus group discussion at Mountain View Hospital. My translator explained the details of the information sheet and consent form to two informants who had difficulty reading Zulu.

3.3.2 Description of informants

All eight informants were either mothers or grandmothers of children who were suffering from malnutrition-related illnesses and disorders diagnosed by clinic registered nurses (refer to Figure 3.4 below).

Figure 3.4 - Demographic Data of Informants

INFORMANT	AGE	RELATIONSHIP TO SICK CHILD	COMMUNITY	NUMBER OF CHILDREN TO FEED	CHILD'S PRESENTING SYMPTOMS	MOTHER'S LEVEL OF SCHOOLING
FAITH	22	Mother	Moiplaas	8 (5 children, 2 nieces, 1 nephew)	Cough skin sores, loss of weight, worms	To age 14 years, secondary school
MARY	45-50	Grandmother	Moiplaas	6 (3 children, 1 nephew and 1 niece)	Loss of weight, cough, diarrhoea, worms, earache	Primary
CONTANCE	35-40	Mother	Moiplaas	5	Cough, skin sores, underweight, diarrhoea, oedema of appendages	To age 13, Primary
AGNES	55 - 60	Grandmother	Ngome/ Farera	7	Worms, cough, skin sores, loss of weight, oedema of appendages	Primary
GRACE	30-35	Mother	Ngome/ Farera	5 (3 children, 1 niece, 1 nephew)	Loss of weight, cough, worms, skin sores and earache	To age 14, Primary
PRECIOUS	50	Grandmother	Ngome/ Farera	2	Loss of weight, worms, skin sores and earache	To age 12, Primary
TEMBE	23	Mother	Ombinini	5 (3 children, 2 nieces)	Diarrhoea, loss of weight, cough	To age 14 years, secondary school
BEATRICE	32	Mother	Ombinini	7 (5 children, 1 niece, 1 nephew)	Worms, Oedema, loss of weight	To age 14 years, secondary school

Half of the children showed the observable symptoms of Kwashiorkor. The majority of informants were caring for an average of 5-6 children including at least three under the age of five years. Many of the children they cared for belonged to their extended family. The parents of these children were either ill, deceased or absent from home seeking employment opportunities. Most informants had completed primary school education standard, however two women had completed two years of secondary school. Two informants could not write in their vernacular language of Zulu. The informants that were mothers aged between twenty-three and forty years whilst those who were grandmothers were aged between forty-five and sixty years.

3.3.3 Data collection

Data was collected in the form of in-depth interviews, observations and a focus group discussion.

(a) In-depth interviews in the informants' homes

Each informant was visited in her home on two occasions. The first visit included an in depth interview with informants, asking questions regarding cultural values, meanings, beliefs and knowledge of their choice of food. Before commencement of each interview, I respected the Zulu custom of arriving with my translator at the entrance to each kraal (village) and waited to be escorted by children into each informant's house. The informants then warmly greeted us and asked us to sit down on a grass mat

in their homes. With each visit, the translator and myself gave particular attention to establishing a rapport with informants, initiated by sharing with them in a cup of tea or cool drink. At this time, I carefully explained the purpose of our visit and showed a tape recorder to each informant. I explained why it was important for the interview to be taped and asked for their permission for this to take place.

The duration of each interview was approximately three-quarters of an hour in which time the informants were asked a number of questions based on an interview guide that I had developed prior to commencement of this study (refer to appendix). Informants were asked if they could describe what type of food they fed their children on that particular day. Probing questions were also asked seeking further clarification on some answers. My interview guide consisted largely of semi-structured, open-ended questions as suggested by Spradley (1980) and Holloway and Wheeler (1996). This enabled informants to provide a rich source of subjective data of their perceived interpretation of experiences and understanding of influences in the choice of food for their children.

During each interview, there were not many distractions in the room other than one or two infant children sitting beside the informants. Towards the end of each interview, one or two of the informant's relatives knocked on the door of the interview room. The relatives were curious to know what the interviews were about and asked if they could come in to the room and listen to the last few minutes of the interview. Although the relatives

joined in at the late stage of my conversation with the informants, they nevertheless provided a valuable source of additional information regarding generational changes in daily food consumption and supplies. At the conclusion of the interview, the informants and their family members were assured of the confidentiality of the information they had disclosed.

They were also given the opportunity to ask questions about the study. Most of the informants wanted to know what their voice sounded like on tape and I obliged by playing some of the tape back to them. Friendly exchanges of gratitude were expressed between the informants and myself, and we then left having made an appointment to visit the informants again during their preparation of family meal.

I kept a journal to reflect on the interviews that had been conducted at each household. This journal was an introspective record, alerting me to the awareness of my personal influences on the study. For example, at the end of the first day of interviews, my journal noted I was educating informants about the importance of feeding a variety of food to their children. Upon reflection, I managed to avoid offering nutritional education by concentrating on asking questions only that related to gaining an understanding of the experience of each informant. It was also explained to informants that educational assistance could be offered to them at the end of the focus group discussion. My journal also noted the feelings of empathy that I was feeling for the informants after they had explained to

me the difficulties that they face, resulting from the absence of adult males in all of the informants' households.

(b) Observations

During each home visit, observations were noted in regards to the informants' living conditions, surrounding environment, location and distance from shops and available resources such as types and numbers of livestock and cultivated crops, along with activities of all the people present during each household visit. These observations enabled me to validate all of the information that was provided in interviews and general conversation by the informants as well as form a comprehensive view to discover all of the factors that influence the informants' choice of food. In order to support my observational findings and aid my memory I gained a verbal approval from informants to photograph their cooking facilities and garden produce.

My second visit to the informants' homes provided an opportunity to observe the informants preparing a family meal. The presence of me being the male researcher did not appear to disturb the informants because all of them warmly greeted me into their homes and then carried on to prepare the family meal without being distracted from their tasks at hand.

During this time, I asked a number of questions whilst the informants were preparing the meal, such as how they learned to cook and prepare the food and what were their reasons for preparing the food in that particular way.

My field notes also documented the informants' kitchen facilities, the type of food that was being prepared and the interactions between informants and family members during food preparation.

(c) Focus group discussion

Immediately after consenting to participate in the study, all of the informants were given a time and date for the focus group discussion. The focus group discussion was conducted after the observations and interviews were completed in all of the informants' homes. The venue for this discussion was the dining room of a nurse's home at Mountain View Hospital. This room was a suitable site for conducting the focus group discussion because it contained comfortable seating arrangements that were placed in a semi-circle where all of the informants could be seen and heard. The venue was also situated in a quiet area and there were not too many outside noises that could cause any distractions.

Mountain View Hospital also kindly assisted by providing informants with transport to and from the hospital as well as providing the informants with a cooked lunch. Six informants attended the focus group discussion and there were two informants to represent each community. Two informants were unable to attend because they were away visiting sick relatives. The focus group meeting was recorded on audiotape and I facilitated the meeting with the aid of my translator.

The informants were first asked to introduce themselves and then compile a list of food they fed their children in the last three days. After completion of this task, the informants were then given a copy of the National Food Based Dietary Guidelines (NFBDG) and asked to compile a second list of food that were on the guidelines but had not been fed to their children over the last five days. I then asked the informants to identify specific obstacles that restricted them from feeding their children nutrient-rich food. Some of these obstacles were not raised in the previous individual interviews and were now only identified through focus group interaction. The informants were then sufficiently confident in discussing sensitive issues within a peer group that had a similar socio-economic background.

The focus group achieved its explicit aim of gaining further understanding of the informants' cultural values, beliefs and nutritional knowledge relevant to their choice of food. This was achieved by means of the previously mentioned questions that encouraged mothers to interact with each other and share their thoughts and experiences related to their choice of food. The focus group lasted two hours with a positive outcome. The informants collectively discussed their perceived opportunities to increase the variety of food they identified in the dietary guidelines. This gave me valuable insight into how the informants were motivated and learned from each other to increase the variety of nutrient-enriched food for their children.

3.3.4 Data management

My journal and field notes were recorded in a diary and this information was subsequently transcribed onto my personal computer. My computer was password protected to which only I could access. Similarly, the interview tapes were accessible only to myself as they were locked up in a filing cabinet that only I had access at any required time. Before the tapes were locked away, I released them into the care of a nurse at Mountain View Hospital, who transcribed all of the recorded data from Zulu to English from handwritten notes on foolscap-sized paper.

Another qualified nurse from Mountain View Hospital proofread the translations of the tape recordings, which reduced the likelihood of there existing any mistranslation and/or bias. It was important to ensure that the transcribed data was authentic before I left South Africa. As a further check on accuracy, I commissioned a Zulu-speaking bilingual person in Australia to re-transcribe the tapes from Zulu to English. He transcribed all of the data to English on to a floppy disk. There was no discrepancy between the data transcribed in South Africa to the data that was transcribed in Australia.

3.3.5 Data analysis

The data analysis was a progressive process that began from the first day of the in-depth interviews with the informants. The data was collected and underwent initial analysis by myself. This was achieved by listening to the tape recordings and identifying information that needed further

clarification in forthcoming interviews. I was aware that my time in South Africa was limited to just two home visits for each informant and it was important that any information not clarified or obtained in the first home visit be obtained either in the second visit or in the focus group. For example, after listening to the tapes after one home visit there was no mention about the mother giving her child fruit to eat. Therefore on the second visit to that informant's home, I asked questions about the child's consumption of fruit.

The transcription of each interview, observation field notes and journals were read several times to gain an understanding of the unique context of each informant. The process of thematic (category) analysis was chosen as to which data from all of the interviews and the focus group discussion was carefully analysed and coded for common categories and patterns of meaning (Morse & Field, 1996).

Common patterns emerged from the interview data as the informants' words, phrases and sentences were grouped together. After numerous rounds of analysis from organizing and reorganizing of the information, five major categories and sub-categories were established. For example, one of the major categories was the knowledge of informants and a sub category was the knowledge gained from their mothers. My original conceptual framework contained categories that are slightly different to the ones actually obtained from the research data; however the framework helped as a guide to group this massive information into the five specific

categories that influenced the informants' choice of food for their children. The categories to be presented in the next chapter emerged from the informants' perspective.

3.4 ETHICAL CONSIDERATIONS

I abided by the Nurses Ethical Code of Conduct and the Victoria-University Codes of Conduct for research throughout the entire study. I collected data from informants only after they were given a plain language statement about the study and signed a consent form (refer to appendices).

Informants were given a week to think about their decision to partake in the study and I clarified any issues and concerns the informants had prior to inviting them to sign a consent form. I informed all informants that they could withdraw from the study at any time and professional counselling services were available through the Salvation Army. To avoid a potential conflict of interest, they were notified that counselling services were also available through the government district hospital counselling service.

The principles of confidentiality were abided by in this study. All of the informants were given pseudonyms at the beginning of the study and again during the focus group. Informants granted me verbal permission to photograph their cooking facilities and vegetable gardens but none of the informants' true identity was disclosed in any of the research. My translator abided by the rules of confidentiality by agreeing not to discuss the content of interviews and observations with any one other than the researcher. The translator had no known contact with any of the

informants prior to the commencement of this study as she belonged to a separate community. As mentioned previously there were three separate transcriptions of the data completed in both South Africa and Australia. The rules of confidentiality were explained to the transcribers in both NKZN and Australia and the transcribers were not aware of the identification of any of the informants in the study and would therefore not be able to trace the source of information on the transcribed tapes.

The original research notes from the transcribed interviews were stolen from my vehicle in Australia. Fortunately, these documents did not contain any sensitive information and the informants' confidentiality was not breached, as their true identities were never disclosed in the study. I was responsible for the security of all of the data, including field notes, consent forms, audiotapes, hard copies of transcripts and journals during the course of this study. The School of Nursing and Midwifery, Victoria University will hold the data for five years from the time of completion of this study.

3.5 RIGOUR OF THE FINDINGS

The trustworthiness of these findings was achieved by following the principles of truth through credibility, dependability and confirmability as suggested by Lincoln and Guba (1985).

3.5.1 Credibility

The credibility of these findings was maintained by following the principles of triangulation, whereby I used multiple sources of data to provide insight

into the same events or relationships (Erlandson et al., 1993). The multiple sources of data comprised of recorded interviews, observations, and the focus group discussion. Triangulation provided support for each piece of gathered information enhancing the rigour of research (Roberts and Taylor, 2002). The triangulation process of interviews and observations also involved observing and talking to other people in the each of the informant's household, thus adding to the provision of rich information related to Zulu mothers' choice of food. Triangulation of using three transcribers added credibility to the study, reducing the risk of mistranslation of information being presented in the research findings.

My journal provided a reflection on the home visits and focus group, noting problems that arose during the fieldwork and interactions, reactions, thoughts and feelings to events of each research day. These were all taken into account when the data was being analysed and added to the credibility of findings by helping me become aware of personal biases. Due to the informants living in a different country to myself as well as not being able to understand English, it was not possible for mothers to check the accuracy of the research findings. However, the research team consisting of the project supervisor and co-supervisor were able to ensure the study was credible by reviewing and challenging my interpretation of findings. The supervisors helped me clarify themes/categories and remove biases that I was not aware of. They also checked that I had records of field notes, journals and the transcribed notes to support my interpretation of findings.

3.5.2 Dependability

Dependability refers to being able to have the study audited. This means that all records of field notes, journals and interviews can be verified and authenticated by the researcher to an independent auditor (Rogers & Cowles, 1993). Documented dates and times of home visits have been kept and dates are noted in every journal and field note entry. The researcher provided a clear description of the design strategies and procedures used to conduct the research.

The process of analysis and the formation of findings were provided in the thesis. For example the use of categorical/thematic analysis was described and could be explained to an independent auditor. An audit trail was established by way of describing how five categories of influences in the informants' choice of food for their children emerged from the raw data. The sub-category of each category was explained and the informants' accounts were used to illustrate the category/sub-categories. Colour coding was used for initial categorization and a codebook was maintained.

3.5.3 Confirmability

As with most qualitative studies, this research is not transferable but it provides an understanding and a framework for similar studies in other settings. Confirmability of this study was established as all the processes of credibility have been conducted in following these processes. The perspectives of the Zulu mothers were reported as clearly as possible, putting in steps to enable correct translation of the informants' relevant

accounts that illustrate their points of view and using multiple data collection strategies and taking a neutral viewpoint throughout all of the steps of the research. Consultation with members of the research team and the use of a reflective journal helped me to be aware of any personal biases that could influence the outcome of the research findings.

3.6 CONCLUSION

This chapter has outlined a conceptual framework that I developed as a guide to understanding the influences on the mothers' choice of food. By conducting a qualitative research design using a naturalistic approach, I was able to observe and talk to informants in their homes whilst they were preparing the family meal. I established an understanding of the influences in their choice of food from their perspective, using three qualitative data collection strategies of observations, interviews and the focus group discussion.

The preparation carried out prior to conducting my research included gaining knowledge of the cultural scene of intended study, seeking accessibility and approval of the study, and employment of the translators. Eight Zulu mothers who attended the mobile clinics for treatment of their children's malnutrition-related illnesses were recruited for the study. The data was collected from observations, in-depth interviews and focus group discussion and all data was carefully analysed and coded for common categories and patterns of meaning. Ethical considerations were adhered to in this study such as gaining an informed consent and information

describing the study was provided to informants. Lastly, the trustworthiness of this study was established through following the principles of credibility, dependability and confirmability.

CHAPTER 4: FINDINGS

4.1 INTRODUCTION

This chapter presents the findings that emerged from the data that was collected from observations, interviews and a focus group discussion as to what influences the informants in their choice of food for their children.

Influences that emerged include geographic location, household environment, availability of food, social and cultural changes, and the lack of knowledge of which food is most nutritional for young children.

4.2 GEOGRAPHIC LOCATION

NKZN is a mountainous region of approximately sixty square kilometres situated 350 kilometres north of the provincial city of Durban which is located on the North East coast of South Africa (refer to illustrations). The informants of this study came from three communities known as Moiplaas, Ngome/Farera, and Ombinbini. These communities occupied adjacent territories of approximately 20 square kilometres each. All were accessed by the same arterial road, which linked the two major towns of Nongoma and Vryheid.

From observations that took place at the informants' respective homes, it could be described as living on rural tribal land. The informants explained

to me that their families arrived in the area as squatters on the land more than twenty years ago. Some of the informants had resided in the area of NKZN for many generations and, until recently, had been living a predominantly subsistence farming lifestyle. Informants claimed they were able to permanently stay on that land but under the jurisdiction of a local Zulu chief and tribal council.

Their homes were only accessible by four-wheel drive vehicles and all lived at least twenty minutes walk from the main road. The mobile clinic site, the nearest general store and primary schools were also at least a twenty to thirty minute walk from the informants' homes. District hospitals were located in the towns of Vryheid and Nongoma however the traveling time in a motor vehicle from each of the communities was approximately one hour as of all the informants' homes were isolated from the main transport route.

Informants could only afford to travel by taxi to Vryheid or Nongoma once or twice a month, when they were in receipt of their family pension or salary payment. A child between the ages of 8-15 years or an adult relative was needed to accompany informants to the town to assist in carrying home the purchases of food and other essential items. The transportation of supplies was a major undertaking, as over 40 kilograms of food was required to be carried home. The women were also often required to carry one or two live chickens in a basket while carrying their infant child wrapped in a blanket on their backs.

In this journey, families shared an over-crowded Kombi van taxi with up to fifteen passengers. The cost of this one-hour return journey for two people was approximately 10% of the average monthly pension. As the informants left the taxi they were met by their children, who transported the supplies in wheelbarrows, up to one kilometre to the informants' homes.

The isolation of the informants from nearby shops, combined with their low salary or pension had a direct influence on their choice of food because they could only afford to shop on a monthly basis. This resulted in a broad selection of food consumed by children immediately after the informants returned from their visits to the towns and shops. The bulk of this food only lasted a few days to a week and for the remaining weeks in the month, the variety of food was quite limited. The problem of isolation from shops was exacerbated by the very meagre production of home grown, cultivated crops and livestock that I observed at each informant's home. The informants therefore had become reliant upon purchasing food from these distant shops and towns.

4.3 HOUSEHOLD ENVIRONMENT

During the home visits, observations were made on informants' living conditions, food and livestock resources. These factors constituted an influence on the mothers' choice of food for their children.

4.3.1 Living conditions

From my observations, there were a number of living conditions such as cooking practices, lack of clean water supply and sanitation that indirectly influenced the informants' choice of food for their children, as these conditions often rendered children susceptible to illness and poor appetite.

Most of the informants belonged to an extended family unit living together in a cluster of at least five buildings. The informants explained that one building was for the grandparents, one for the husband and wife, one for the mother and young children of up to five years, and separate buildings for the older male and female children. Most of the homes are round huts called 'rondaavals' made of mud and straw, with a central place for a fire and only one small window or two at the most, for ventilation. A few of the homes were square and constructed of concrete blocks with corrugated iron roofs and two windows. In all of the homes, the windows seemed insufficient to allow smoke to be released and limited the light entering the room. On each observational home visit, I found the homes were very musty from the accumulated affects of smoke and cooking fumes. Since there was no electricity, gas or paraffin lamps were used to provide illumination in all homes.

During the home visit, I observed food being prepared and cooked in a cast iron pot over open fires in the middle of each house (refer to illustration). All of the informants stated that the open fire also provided heating for the room that was particularly helpful during the cold winter months of May to

August. I was in NKZN during the summer months of December to February and the average daytime temperature was around twenty-three degrees Celsius, but the informants maintained that during the winter months, temperatures could drop to almost freezing point at night. At these times, a fire was essential for heating as well as cooking.

As these were single room dwellings, the occupants slept in the same room as they cooked, ate and conducted other daily activities. The furniture in these homes was observed to be quite sparse. Most informants had a dressing table, wardrobe and a table to prepare food and store the kitchen pots and utensils. In some of the informants' homes, I observed porridge or boiled vegetables in aluminum pots without lids. This could be a possible source of contamination or breeding ground for microorganisms that increased the risk of illness and poor appetite in the informants' children. No informants owned a refrigerator for storage of fresh food. The absence of such an appliance had a direct influence on the informants' choice of food. Fresh food products such as meat were cooked and consumed within the first two days of purchase, as there were no other means of keeping food fresh and free from contamination.

Some mothers had a single bed that they shared with their infants, however most mothers and infants slept on grass mats placed over the concrete or dirt floors of their homes. Sleeping in this way could also contribute to the children's susceptibility to infection as they are exposed to damp floors and fluctuating temperatures.

All of the informants had access to running water from nearby springs that they shared with their neighbours. Water flowed from the springs throughout the whole year. It was normally more abundant during the summer months but due to the current drought, the water flow from each spring was less than the previous year. This water source was used for both drinking, cooking and hygiene purposes. Either the informants or their children collected water, which was then poured into 25 litre plastic drums and stored in the house. Drinking water was neither treated with chlorine nor boiled. I observed the water descending from a mountain spring that drained into an irrigation pipe constantly flowing into a trough at the bottom of an incline. These pipes appeared to be poorly maintained as they were contaminated with soil and rust. Because of poor maintenance only two of the eight informants and their families appeared to have a clean water supply.

The water troughs were quite dirty and this could be a result of all the communal activities at the spring. The adults and children washed themselves whilst squatting and standing in the trough, as the water flowed from the pipe to their body. This included small children who may not have attained complete control of bladder and bowel function. The informants also washed their clothes at this same spring site and allowed the clothes to dry on the granite rocks alongside each spring. Due to the lack of fencing around the springs, cattle and other animals further polluted some troughs. Unfortunately, I contracted a gastrointestinal infection as a result of drinking a glass of murky water that had been

collected from one of these springs. In relation to other public health issues, none of the families had any toilet or pit latrine facilities. People defecated 50 -100 metres away from the village and then covered their faeces with soil.

The informants did not mention that any of their living conditions directly influenced their choice of the food they gave to their children, however I observed living conditions such as smoke filled rooms, food stored in pots with no lids, sleeping on the damp floors, poor water and sanitary conditions. I believed that all of these conditions could make children more susceptible to illness and poor appetite. Unwell children tended to have diminished appetites and some of the children in this study were refusing to eat the portions of food prepared for them, thus restricting their mothers' choice of food.

4.3.2 Food and livestock resources

All of the informants were growing their own crops of maize and next to these crops they had food gardens that contained unripe pumpkins. The size of these gardens was equal to the area of one of the rindaavals (refer to illustrations). A few informants were growing other produce, such as sweet potatoes, amadumbe (kind of yam) and sugar beans, however, none of these vegetables, including the maize, were ready for harvest. On the whole, the variety and quantity of vegetables being cultivated in each garden was very sparse.

Most informants and their families had a limited number of livestock that could be used for providing food for their children and two informants had no livestock at all. Five out of the eight informants owned three to six beef cattle that were only slaughtered for consumption once or twice a year, on special occasions such as weddings and funerals. Two informants owned a goat that they planned to slaughter for eating during the Easter celebrations. Four informants owned one or two dairy cows and two families reared half a dozen egg-laying chickens.

From my observations and from all the data collected it appeared that the informants were limited in the choice of food for their children due to their scarce resources of cultivated crops and livestock. This directly resulted from a number of influences namely, family income, seasonal availability of food and social and cultural changes.

4.4 FAMILY INCOME

Emerging from interview and focus group discussion data, family income appeared to be a major influence in NKZN mothers' choice of food.

Interview data revealed that maize meal porridge, sour milk (maas), and a vegetable such as cabbage, mfino or pumpkin leaves form the basis of a typical meal for children during the summer months of December to March. These food were all they could afford to feed their children on a daily basis and other food such as poultry products, beef, rice and sugar beans are extra food that are purchased only on a few occasions each month when informants had money available to spend on food.

All informants stated that they would buy a greater quantity and variety of food if they had more money at their disposal. Apart from the typical daily meal of maas and porridge, other food were purchased mostly on a monthly basis from the local store or from the nearest towns of Vryheid or Nongoma. Money to purchase food for the family came from one working salary of either informants' partners or siblings. Many families also relied on their parents' or grandparents' aged or disability pensions to buy food. The aged pension was approximately 700 Rands (175 Australian dollars) per month. The informants who depended on money from pensions believed it was insufficient to buy enough food to meet all of the family's needs.

Agnes said:

Pension is like peanuts I have so many mouths to feed and little money to buy food for them.

Despite the little money the informants received from family salaries or pensions, they looked forward to pension or salary day in the last week of each month, as it meant that food other than maize meal and sour milk could be purchased in the town for the whole family.

An example of a shopping list of the food observed to be purchased by Beatrice in the town of Nongoma on pension day included 1 bag of potatoes (10 kg), 10 kg of white rice, 5 kg sugar beans, 1 dozen eggs, 5 litres vegetable oil, 1 kg beef, 2 live chickens, 2 packets of soup powder, 6 tomatoes, 6 onions, 3 paw paws, 250g of sugar, 125g of salt, 1kg margarine. These products were purchased on a monthly basis to feed 10-

12 people in Beatrice's family, including seven children. Beatrice spent most of her mother's aged pension money (\$175 Australian) on these basic food items every month.

After the basic food was purchased, there was not much money left to spend for the rest of the month. All of the informants had just a small amount of money to spend on other food items such as bread, tea, milk and sour milk. Most of the informants followed similar food purchasing practices. Some informants occasionally purchased chickens, cabbage and milk from a farmer who visited their villages on Tuesdays and Thursdays, however most of the informants only bought sour milk on a regular basis and little else. The chicken bought occasionally from the farmer and on pension day was considered a monthly treat for the children and the rest of the family. I observed mothers feeding their children small pieces of boiled chicken meat with a portion of a vegetable such as cabbage, mashed sugar beans and rice. The chicken heads, legs and feet were prepared separately from the body of the chicken and the remainders, that included the offal, consisting mainly of the kidneys and liver, were grilled on the open fire and fed as a treat to the adult members of the household.

Apart from this treat, everybody in each family, irrespective of sex or age, were fed similar food. The only other exception was porridge. Maize was made into porridge for the children whilst the teenagers and adults were fed ground, dry maize commonly known as 'puthu'. This looked similar to mashed potato only slightly drier and courser in appearance. Quantities of

food were issued according to appetite needs of each adult and child. Food choice for children was influenced mostly by availability and affordability of food rather than determined by sex or age.

From my home visits and interviews with the informants, it was clear that there was an uneven distribution of food throughout the whole month. At the beginning of each month after pension or pay day, there was a variety of food being fed to children, but after just a week or two later, the volume and variety of the food decreased. For example, I visited Faith and Constance's home just after pension day and they were cooking rice, chicken, sugar beans, boiled eggs, soup and vegetables. The other items of food in the house included a bag of potatoes, cabbages, sugar beans, rice, a packet of soup powder, bag of sugar, salt, a drum of cooking oil, a bowl of fruit, a plate of chopped up beef and one chicken.

Unfortunately, all of the informants only had enough of this food to last a week or two after pension or pay day. Once the stocks of soup mix (soy powder) sugar beans, and chicken were all consumed, just porridge, sour milk and a few vegetables and rice twice a week were all they could feed their children for the remainder of the month. The informants would prefer to feed their children a greater variety of food throughout every month, but their budget would not stretch so far.

The informants chose to cook polished rice with the porridge, but the ten-kilogram bag of rice was rationed to children only twice a week. They preferred to alternate with other maize constituent food, such as samp,

mealie rice and protein rich cow peas but they could not afford to buy them. Tembe said:

I grew up eating mealie-rice, samp and cow-peas. These food tasted nice and we rarely got sick or went hungry. I cannot afford to buy these food and they are only eaten on special occasions. I think our children seem to be sicker than when I was a child because we had more kinds of food to eat.

The informants believed the increasing cost of their staple food such as maize meal, exacerbated their lack in variety of food. In the past year, the price of maize meal had increased from 165 Rand to 270 Rand per 80kg bag. They could not identify the reason for such a large increase in price but surmised that it was partly due to the poor rains in the last two years. The informants were still purchasing 80kg bags of maize meal but were reducing their expenditure on other food. Precious supported this and stated:

The price of maize meal has increased a lot in the past year. I am continuing to buy 80kg of maize a month but have now been forced to buy less bread, tea, margarine, sugar beans, rice and many other food.

If the informants could not afford to pay cash for maize, some of them would purchase it on credit and as a result, they accumulated a debt at the local store. Mary said:

When I do not have much money I purchase my maize on credit from my local store because it is important my children receive their porridge

every day because it will help them grow strong and healthy.

Sour milk was fed to the informants' children at least twice a day for most days of the week. They obtained it easily from either their own dairy cows or bought it every couple of days from dairy farmers or from the local stores. Pasteurised sour milk was considered affordable to buy at only approximately two Rand (45 Australian cents) per litre. Agnes said:

I buy my fresh milk and sour milk from the farmer Mr. Smith when he passes in his truck every two or three days. He charges two rand and twenty cents a litre and that is still affordable for me.

Most of the informants would have liked to bake their own bread and scones but did not have enough money to purchase a wood oven stove for baking. Only one informant had a wood stove and found it very useful for baking but she still preferred to cook in the pot placed over the coals. The other informants had no resources for baking and cooked all of their food in cast iron pots on wood coals. All of the informants would have liked to own a gas refrigerator enabling them to store meat, chicken and fresh food, however it was considered a luxury item that none of the informants could afford to buy.

Every informant had a food garden, producing pumpkin and maize and stated that they wished to grow more of their own produce. However, they did not have enough money to purchase onion, tomato, spinach, cabbage, sugar bean and other vegetable seeds. Informants could not afford to buy

beef and dairy cows to replace those that had been stolen by organised crime syndicates, or to replace those that died of disease. Most informants were growing fewer crops of maize because they could not afford to pay for the hire of oxen and as a result of this they were ploughing their fields by hand.

All of the informants believed the choice of food available to them for the entire month were severely restricted by the insufficient family income at their disposal. One informant made grass mats and sold second-hand clothes as the sole source of income required to feed her family. All of the other informants were dependant on family pensions or salaries received at the end of each month to buy food to feed their children.

4.5 SEASONAL AVAILABILITY OF FOOD

Informants fed their children mfino, cabbage or pumpkin leaves each day in the summer months because of its abundant availability. Cabbage was not grown in summer but was considered affordable to buy at only ten Rand (two Australian dollars) per sack of ten cabbages. Beatrice said:

I will buy a bag of ten cabbages from Town at the end of the month. This will last about a week or two then I will buy another bag off Mr. Smith two weeks later. I usually have enough money for this second bag because Mr. Smith's cabbages are usually affordable at only 15 Rands a bag.

Mfino is a native green, leafy vegetable that grows wild in the summer months providing there is abundant rainfall. I observed a large quantity of

mfino growing in the fields around the informants' homes during the month of January, after a few days of heavy rains. All of the informants picked the mfino leaves growing in between the maize fields and pumpkin patches. Faith said:

My mother taught me to pick the mfino leaves and cook them in a pot of boiling water with a little salt. I cook it about three or four times a week and serve it with maize porridge.

The informants explained to me that they occasionally ate pumpkin leaves, which were dark green in colour (rich in Vitamin A), eaten during the summer months and cooked in a similar method to mfino. The informants preferred to feed their children cabbage because they believed it had a superior taste to mfino and pumpkin leaves. The informants also considered feeding their children spinach, but it was regarded a difficult vegetable to grow during the summer time. During the focus group, one informant mentioned that she used to grow spinach throughout the whole year by just chopping it back at the base and it would re-grow again. This was new knowledge to the other informants who immediately requested more information, while the others had forgotten this method of propagation.

Tomatoes and onions were desirable summer crops, but financial constraints prevented informants from purchasing seeds for home cultivation. The only seeds kept for the next season were pumpkin seeds and the informants had forgotten that seeds from other vegetables could

also be stored for use in the next season. At the focus group discussion

Faith said:

I just did not consider drying the seeds of my crop of tomatoes and onions, and I had forgotten that this is what my mother and grandmother used to do.

Thus the knowledge of seed collection and the growing of certain vegetables had been lost.

Very few of the informants were growing their own fruit that ripened in summer. I observed only two mango trees and one peach tree outside their homes. Three informants shared the fruits from these trees with their neighbours and considered peaches and mangoes as a favourite food of their children. The informants believed these fruits could satisfy their children's appetites between meals and children freely picked them during the months of December to February. I observed that every informant had one small crop of banana trees in their Kraal (village) and wild guava trees were growing abundantly around all of the villages. The informants explained that the fruits from these trees would ripen in March and were considered a tasty and free food source for children of all ages. During the summer, the informants usually bought mangoes, paw paw and peaches for their children. These fruits were chosen because they were the most common fruits available in town during this time and their children enjoyed the taste. Precious said:

I buy my children a bag of mangoes or peaches when I go to Nongoma at month end. They love these fruits and it is a treat for them once or twice a month.

I observed rows of street vendors in Nongoma all selling the same fruits during the pension days. The focus group discussion revealed every informant enjoyed these succulent fruits in their season. According to the informants, there was less food available to feed children due to the diminishing size of food gardens and maize crops. They expressed concern that the lack of rainfall and drought conditions over the past two years had severely compounded the problems for crop growth and maintenance. Whilst visiting Constance's home, she showed me a crop of maturing maize and said:

I have not managed to grow much maize for a couple of years now because of the lack of rain. Only God knows why we have this problem but we used to grow almost twice this amount of maize. Without the rain the sun just kills all the young mealies. This year I also planted less mealies because we were not sure if they would grow.

An added problem associated with the drought was the influx of insects or locusts. Constance showed me some mealie plants and pumpkin leaves that had been chewed away to the stems. She said:

The drought appears to have brought more bugs to our crops because you can see little grubs are eating the leaves of our meelies and pumpkins. I do not know what I can do to kill them?

The informants' choice of food, to a large extent, was influenced by their limited availability of money to purchase food produce. The restricted choice of food was exacerbated by the lack of home grown produce and the lack of money to purchase vegetables seeds that grow in summer, such as onions and tomatoes. In addition drought conditions significantly reduced the amount of maize and other produce being grown.

4.6 SOCIAL AND CULTURAL CHANGES

Collected data revealed that social and cultural changes influenced the choice of food for informants' children and, according to informants, these could be categorised as: dependence on purchased food, declining numbers of adult males, changes to family structure, compulsory schooling, diminishing cultural practices, and lack of social support.

4.6.1 Dependence on purchased food

The largest social change influencing the informants' choice of food was the emergence of the cash economy and the dependence on purchasing food with either cash or credit from nearby shops or street vendors. This became evident through each informant's mention of the word "poverty". The informants and their elderly relatives all believed that "poverty" was the main problem facing their families. Elders defined poverty in terms of lack of food produced from their own crops and livestock whereas younger informants defined poverty purely in terms of having little money to buy food. Beatrice's mother, stated:

When I was a child there was always plenty of food all year round. We rarely had to go to the store because we produced most of the food here on this land.

By contrast, Mary stated:

The clinic nurses explained to me I should feed my children many different food like pumpkin, spinach, meat and beans but it is no good talking about it. I would love to cook many other food but I can't because the problem of money is always there.

This difference in the perception of poverty gave an indication of the effects of the social changes taking place in NKZN. This had a significant influence on choice of food because within a generation priority had shifted to feeding children food that was bought from shops as opposed to food that they produced and cultivated themselves.

4.6.2 Declining Manpower

During the home visits, I observed and confirmed from informants the absence of adult male members residing in their households. Illness accounted for much of this absence, but many adult males were also away from their home seeking employment. Some of the informants' relatives and partners were living in the major cities of Durban or Johannesburg and the informants rarely received any money or contact from them throughout much of each year.

According to the informants, many adult males moved away to the cities looking for work due to the closure of local farms that were once a source

of regular employment for many of the informants' husbands or relatives. Many of these farms have been converted to forestry plantations that required less casual labour than the traditional maize or dairy farms.

Only two informants owned cattle that provided milk for their children. In each household, cows had either died or had been stolen. The informants expressed their concern about the increased incidence of cattle theft by organised crime syndicates, but they were of the belief that the increase in cattle theft was exacerbated by the shortage of "cattle watch" persons. The informants also believed that the cattle were dying because of the lack of males to immunise them against diseases such as Cowpox or Foot Rot. The lack of manpower directly influenced the decline of a variety of crops being cultivated, Mary said:

Now we don't have the men or the oxen to plough the fields. Men used to have jobs around here but they would come home in the evenings and weekends to help us in the fields to plant and cultivate crops. We used to grow beans of all kinds, cow peas, millet, amazbane (potatoes) and sweet potatoes as well as meelies and pumpkins. Now all we grow are meelies and pumpkins because there just isn't the manpower to help us any more.

Concern was expressed that wild dogs and goats were destroying crops due to the lack of adult males to maintain and repair fences that were designed to keep animals out of the cultivated areas. Less manure was being made available to crops because of a reduction in cattle numbers. Most of the informants were no longer keeping chickens because of the scarcity of men

to prevent predators, such as dogs or birds of prey, from killing them. Thus, beef, chicken-meat, eggs and a variety of vegetables were generally only available to be fed to their children when the informants could afford to buy them from the store.

4.6.3 Changes in family structure

All of the informants have been affected by changes in family structure. They were caring for extended family members' children, the parents of which were either away from home looking for work or suffering from sickness or had even died. The informants thought chest and stomach complaints were the cause of most of the illnesses but did not stipulate the name of any common diseases that were endemic in the region, such as HIV/AIDS or tuberculosis. The lack of adult care-givers left all of the informants in a precarious position of having limited food supplies with fixed financial resources and responsibility for an expanding extended family. This also resulted in the informants providing less food for each child. Faith said:

The problem is that the family has been extended, before there was not so many children at home. Now I am looking after my dead brother's children and my younger sister's child. I only rely on my mother and father's pension to feed all these extra children. The more mouths to feed, the less food for each of them.

The absence of adult males also exacerbated other problems in that the informant's time is fully consumed in caring for extended family members,

leaving little time to perform other duties that were once the responsibility of those missing adult males.

4.6.4 Compulsory schooling

One informant also believed the advent of compulsory schooling decreased her family support system and left her little time for growing her own food produce. When the children were at home, boys and girls had their own specific tasks to assist their parents around the home. The boys' tasks included chopping firewood as well as looking after the family livestock and the girls would fetch water, collect firewood and help prepare the family meal. Constance said:

I would like to give more time to my garden plot but with not many men around and with the children going to school I have had to give extra time to do these other tasks like fetching the firewood. It takes me half a day, two or three days a week to fetch and chop wood. Fortunately the children can help me on the weekends.

The advent of compulsory schooling also compounded the problem of livestock loss. Boys aged five to fifteen used to look after the cattle, but in the last five to ten years, children had not been looking after them because they were attending school. Constance said:

I do not know why things have changed so much? It must be because God wants it that way. There aren't even as many cattle as there used to be, perhaps it's because nowadays there isn't anybody to herd the cattle. The boys now go to school and there are only few men in the

community. There seem to be only the old ones and the younger ones left.

Mary said:

We don't keep many cows because there is just no one around to look after them. It used to be the job for the boys but now they go to school and they don't have the time or interest to look after them.

The advent of compulsory schooling, lack of manpower and the added responsibility of looking after extended family members' children all influenced the informants' choice of food for their children. The informants were left with little time and assistance available for growing their own food produce and raising livestock, contributing to their decision to prepare and cook predominantly food purchased on cash or credit.

4.6.5 Declining traditional cultural practices

In addition to the factors above, changes in cultural practices influenced informants to own and maintain fewer cattle. During the focus group discussion, I learned there was little priority given to breeding and owning large numbers of cattle due to a decline in following the traditional Zulu cultural practice of "Labola". Labola was the traditional marriage custom of providing cattle to the bride's family but this was not adhered to by many of the informants in this study. Tembe said:

We can longer afford to follow the labola custom. My family and my boyfriend's family are not concerned about us not getting married and following the old traditions.

Some informants indicated that they would marry much later than the earlier generations in order to save sufficient money to pay for Labola with cash rather than with the traditional gift of cattle. The postponement and abandonment of these practices had significant effect on the number of cattle. This in turn led to a smaller amount of beef available to feed their children. Thus, beef was only fed to children on special occasions or when purchased from shops at the end of each month.

4.6.6 Limited community support

All of the informants believed that community support amongst their neighbours had declined over the last ten to twenty years. Agnes said:

When I was a child we used to share our slaughtered beef with our neighbours and they used to do the same for us, but now we rarely share anything. If we need anything from our neighbours they generally expect to be paid back in cash at a later date. We even have to pay for the loan of our neighbour's oxen to assist in ploughing our fields.

It appeared that the limited sharing of food and resources has declined as a result of the dependence on the cash economy. This limited sharing of food had a direct bearing on the informants' choice of food because there was less food available from other sources in their own community.

The informants stated that they were involved in little discussions with other mothers and leaders in their communities about childhood nutrition. They revealed that neighbourhood meetings were conducted on an irregular basis in their general point of community discussion that was situated under

the “community-meeting tree”. Every male head of each household was called to the meeting to discuss any issues that were of concern for the community. If there were no males in the household, women could attend the neighbourhood meeting. However, most of the informants claimed they were not interested in attending the meetings because they mainly discussed men’s issues. Mary said:

Most of the men just argue amongst themselves about things like land re-location and who should be on the tribal councils? Only occasionally they might discuss some things that affect us women at home, such as this cattle theft problem.

Childhood nutrition, illness and health were not discussed at these meetings. Although the houses were situated 100 metres from each other, informants saw little benefit in sharing knowledge of various food with each other because they knew their neighbours were in a similar socio-economic situation to themselves and were growing and consuming similar food. According to the Divisional Leader of Salvation Army in NKZN, opportunities for women to share in discussions on childhood health and nutrition issues were available at Salvation Army Home League meetings specifically for women. These meetings are held weekly in three locations, not far from most of the informants’ homes and all the women in the community were welcome. No informants in this study attended the Home League because they were either unaware of the meetings, or they considered themselves not belonging to the Salvation Army Church. Constance said:

The Salvation Army is just up on the hill and they have meetings for women during the week but I am not a member of that church and so I don't go to their meetings.

As far as could be ascertained, other churches in the area did not conduct meetings for women other than religious services. Therefore, according to the informants, no formal support network existed and nutrition related issues had not been addressed.

This lack of opportunity for sharing knowledge between generations and neighbours could contribute to restricting the informants' choice of food for their children because expertise in growing and preparing varying kinds of food was being lost to the community. This was brought out in the focus group discussion whereby informants were reminded of forgotten skills from older informants. For example, Agnes and Precious explained to the others that food such as spinach and sweet potatoes could be grown year-round, and seeds could be dried from one season to another.

As a result of decreasing numbers of adult males in rural households, little food was grown locally. The informants moved from a cashless, subsistence farming lifestyle to a lifestyle that is predominantly reliant on income and the changing social structure of rural households directly influenced informants' choice of food.

4.7 KNOWLEDGE OF INFORMANTS

The informants' knowledge of nutritional values, preparation of food, childhood health and appetite needs influenced their choice of food. The source of this knowledge came predominantly from their mothers. Clinic nurses and other sources provided some knowledge in the above areas and on the choice of food for their children.

4.7.1 Knowledge gained from mothers

The knowledge informants gained from their mothers included sources and preparation of food, and nutritional needs of growing children. The predominant food I observed the informants feeding their children included soft maize porridge, sour milk and one vegetable, either cabbage or mfino (native growing green leafy plant). The informants' explanation was that it was a typical daily meal for children they learned to cook from their mothers, Grace said:

As a child my mother told me I won't get sick if I eat all my sour milk and porridge every day.

According to the informants, their mothers taught them that vegetables such as cabbage, mfino and pumpkin must be included with maize and sour milk in their children's daily diet in order for the children to stay well, but they did not seem to know the nutritional value of those items of food. Faith's explanation was typical of most of the informants' answers, when she said:

My mother told us that we must eat all our vegetables and porridge because they make us grow strong and healthy. I do not know why these food make children strong and healthy but I think she was right, because as a child I ate plenty of vegetables, porridge and maas and grew up to be a healthy person.

During the home visits I observed all the informants and their neighbours cultivating crops of maize besides their plots of food gardens (illustration 4). Faith said:

Because of the drought we are not growing much maize this year but most of us here at Moiplaas are still growing some maize because we eat it every day and we have always grown it and were taught by our mothers that it was good for our health.

According to the informants, the maize would be mature for harvest in May or June and provide their family with enough maize meal for the whole of the Winter months. In Spring and Summer, maize was purchased at the local store until the next crop matured in Autumn.

Although the price of maize meal has doubled in the last year, the informants were still purchasing the similar quantities because they considered it to be the most important food to feed their children and their family. Constance supported this when she said:

Even if I cannot afford to feed my children other food, I will always feed them porridge and maas (sour milk) because they prevent the children from going hungry and I was told by my mother that this made me strong and healthy.

The skills learned for preparing and cooking most food have been handed down the generations from Zulu mothers to daughters. For example, most of the informants were taught by their mothers to cook porridge early in the morning in a cast iron pot of boiling water added with six to eight tablespoons of vegetable oil, half a cup of sugar and a cup of milk.

I observed all the mothers preparing the porridge in this way and they would usually make enough for about ten to twelve servings. The porridge was specifically made for the children and the elderly. Most informants stated that their mothers used to add animal fat to porridge but due to the decreasing number of slaughtered cattle in each village, fat was a rare commodity and vegetable oil was considered a cheaper alternative. Faith said:

I add vegetable oil to the porridge for extra flavour and it helps the porridge to mix well in the pot. We used to mix animal fat to the porridge but we don't have the fat available because these days we rarely slaughter our own cattle.

An optional source of fat was Rama vegetable margarine but informants revealed that due to financial restrictions it was only bought occasionally as a treat to spread on their children's bread. Faith continued:

My mother taught me to boil vegetables (such as cabbage and mfino) for about twenty minutes in a cast iron pot over an open fire, then add a little salt to the pot for flavour. Most days the lunch was just a plate of cooked vegetables with a cup of sour milk.

According to the informants, they fed their children stews containing either beef or chicken, in the evening for one or two days after pension day.

While visiting Constance and Agnes' homes after pension day, I observed them placing tomatoes, onions, soup powder, beef or chicken together in a pot, made into a stew and cooked over an open fire. Constance said:

My mother traditionally taught me to cook this way so that the food can last up to two days and can be reheated over again. We do not have refrigerators and the beef that was purchased at the store has to be cooked today in order to prevent it from becoming contaminated.

Most of the informants explained to me that they did not plan meals but cooked just what was available each day. However, certain food were grouped together and prepared and cooked according to the teaching they received from their mothers or older female relatives. For example, I observed some of the informants feeding their children sugar beans with chicken and the reasons given for this were similar to Beatrice, who said:

If I had sugar beans and chicken in the house I would always cook them together because it is just the way I was taught by my mother and the children like the taste of them together.

I observed that children over three years old were fed solid food, such as chicken-heads and legs, and were given greater portions of cabbage, sugar beans and porridge than the two year olds. The younger children were given small chopped up pieces of chicken and mashed sugar beans. The informants explained the reason for giving chopped and mashed up food was because their children's teeth were still undeveloped. The informants

also learned from their mothers that preparation and quantity of food should be altered to meet the growing requirements of each child.

Beatrice said:

When I was feeding my first child my mother explained that I should mash the food because Tembe could not chew food properly until her teeth had grown.

Faith also said:

I learned how to feed my children by watching my eldest sister mash food like potatoes and sugar beans so her child could swallow it all.

Tembe's sister taught her how to prepare and cook food by her sister but all the other informants were taught how to cook by their mothers. The informants' mothers valued maize meal, sour milk and a vegetable as the most important food for children and that has influenced them to give this food to their children every day. As a result of their mother's teaching, the informants preferred to feed their young children food that could be easily mashed. The informants habitually fed their children sugar beans mainly with chicken. This meant that they were combining two protein sources in one meal, resulting in a shortage of protein rich food later in the month.

4.7.2 Knowledge gained from nurses

It appeared that clinic nurses were providing broad and general nutritional information, suggesting the types of food that should be fed to children.

According to all of the informants, the mobile clinic nurses instructed them

that their children's health and appetite would improve if they were fed them a variety of food other than just maize porridge, sour milk and one vegetable each day. Faith explained:

The mobile clinic nurse said I should feed my children green leafy vegetables, pumpkin, sugar beans, eggs, chicken, chicken livers, beef, sour milk and maize porridge so they will have good growth and good health.

Constance also said:

The clinic nurse taught me I should feed my child plenty of green leafy vegetables, pumpkin and other food such as meat and chicken in order to prevent him getting infections and skin sores.

During the home visits, all of the informants explained to me that while they valued the nurse's advice, they thought it was not practical to feed their children a variety of food due to their limited financial resources.

Beatrice said:

We learned from the clinic nurse that we ought to give the children mfinjo, greens, beans and meat regularly so they can become strong. Of course we would like to feed the children more of these food but where would we get it? We can only buy food like meat when there is money at month end. It gets cooked on that same day and by the next day or two it's finished.

During the home visits, all of the informants expressed their helplessness to follow the nurses' guidelines because of economic restraints, but the focus group discussion disclosed that this was not the sole reason for their limited choice of food. The informants raised the issue about feeding their

children a variety of vegetables, such as pumpkin, spinach and carrots, but they did not know why these food were necessary, nor did they appear to understand their nutritional value. For example, at the focus group discussion Precious said:

The clinic nurse explained to me I should feed my grandchildren carrots, pumpkin and spinach. I do not know why these food are better for my children's health than the cabbage and mfino that I have been feeding my children this past few months.

Mary agreed:

I have been feeding my child cabbage and mfino and thought it provided my children with enough energy and goodness. When at the clinic I was told about giving other vegetables to help improve Sundile's health but I still do not know why I should feed her different vegetables.

The informant's lack of understanding about the nutritional value of food appears to have influenced their choice of food because they considered mfino, cabbage and maas to be sufficient food for their children's growth and health and were cheap and readily available. The importance of supplementing this food with other nutrient-rich vegetables was therefore not considered. On the other hand, the focus group discussion revealed that two informants, Agnes and Faith, had added chicken livers and egg to their choice of food as a result of advice given to them from the clinic nurse. Faith said:

A few weeks ago the clinic nurses said to me that I should try and feed my two year old some

mashed egg and chopped up chicken liver because it will help give her energy and improve her appetite and growth. I think every mother here should feed them this food because my child seemed to like eating small amounts at a time and I think it has helped her to get her appetite back.

This illustrated how the teaching from nurses influenced the informants' choice of food.

Agnes and Faith had witnessed the improvement in their children's appetite and realised the importance of allocating such nutritious food, such as chicken liver and mashed egg, to their younger children rather than adults. The other informants explained they previously did not know about these food practices, but they were willing to follow Tembe and Faith's practical example, because their children's poor appetite was a serious concern.

Mary's comment in the focus group discussion confirms this:

I buy eggs for the whole family and it only lasts a few days in the week and the livers from our chickens are usually given to my mother to eat because she enjoys them as treat. I can try and save the eggs for the young ones if it means giving them good health.

This positive enthusiasm of informants to vary their children's diet contrasted sharply to the messages given to me during the home visits. In their homes, the informants stated financial constraints prevented them feeding their children a variety of food but in the focus group discussion, they were requesting further knowledge about the value and management of certain food. Knowledge provided by nurses influenced some of the

informants' choice of food, because they were impressed with the improvement in their children's health that directly resulted from feeding their children energy and nutrient-rich food.

4.7.3 Other sources of nutritional knowledge

Only three informants received nutritional information from sources other than their mothers or clinic nurses. Agnes was encouraged to start a vegetable garden by the community health worker in order to provide nutritious food to her grandchildren. Agnes was the only informant to have received such health promotion messages from a community health worker and she then acted upon it. I observed her growing sugar beans, tomatoes, onions and pumpkin. She said:

I have just started to grow sugar beans, tomatoes and onions and pumpkin because Princess (the health worker) told me that the children will grow well and not become sick if I feed them these types of vegetables. I am willing to try and grow them because I cannot afford to buy them each week at Ngome store. When I get some money I am going to buy spinach and carrot seeds because Princess also said these vegetables are good for the children's health.

During the focus group discussion, Agnes also informed the other informants that she received information from the community health worker who encouraged her to alter her choice of food for her grandchildren.

I once thought mfino and cabbage were sufficient to help my grandchildren grow but the community health worker pointed out that my children were sick because they needed extra

types of food in their diet. Since I have been feeding the children extra food like spinach and sugar beans their growth and health has improved.

Two informants had a radio and listened to Radio Zulu programmes featuring limited health advice and it is possible that these messages could have been misunderstood. For instance, Faith remembered hearing only that HIV infected children should be fed fresh vegetables. In her view, Radio Zulu was providing information that was not perceived as being relevant to her situation. No informants could attribute any of their nutritional knowledge from their time at school or from their visit to the district hospitals. Tembe said:

I received some nutritional advice at school but cannot remember what those messages were about.

Precious showed me a packet of protein-enriched maize meal that was given to her by a doctor at the local hospital. It was given to improve her child's appetite but she did not receive any instructions for its use and was not told the nutritional value of that item of food.

Other scraps of information were received by various sources and means but were few in number, incomplete, irregular and appeared to have little impact on the informants' choice of food. However, one informant had made significant changes to the choice of food for her children, directly resulting from encouragement and nutritional advice she received from the volunteer community health worker in NKZN.

4.7.4 Informants' knowledge of childhood needs

The informants' knowledge of their children's illnesses, poor appetite and favourite food, also influenced the choice of food for their children. All the informants visited the mobile clinic because they acknowledged that their children needed medical treatment for intestinal worms, skin sores, coughs, diarrhoea, and earache that they had been suffering from for more than five days. They were all concerned that these illnesses would continue if their children were consuming little food due to their poor appetite. Every informant was issued with a bottle of multi-Vitamin syrup at the mobile clinic and they initially thought that this syrup would improve their children's poor appetite within a few days. Upon visiting informants in their homes a week after they were at the clinic, I discovered they were all disappointed that the multi-Vitamin syrup had not improved their children's appetites. Precious said:

I thought my child's appetite would improve once she received the multi-Vitamin syrup but that has finished and she still will not eat a full meal of porridge and maas. I do not know what can be done to get her to eat more food?

It appeared that because informants had not been told otherwise, they regarded the multi-Vitamin syrup as a medicine that they expected to "cure" their child of its problems, instead of a food supplement.

From the focus group discussion, it became evident that all the informants endeavored to improve their children's appetites by offering them smaller portions of food. No mention was made to increase the frequency of feeds

and the informants offered food only two or three times a day, when it was the family meal time. There was also no mention of increasing the varieties of food, possibly because very little choice was available.

During the home visits, I discovered some of the informants' children were suffering from diarrhoea as well as a lack of appetite and the informants were observed to be treating their sick children with watered down porridge added with extra sugar. This was a traditional remedy that they had learnt from their mothers. Constance displayed frustration and helplessness when she said:

When I was a child we did not get sick much but when we did our mothers use to feed us this porridge water in order to get us well again. I have been feeding Lindi this for over a week now as well as the multi-Vitamin syrup but there is still not much improvement in her health and appetite.

Many of the informants were unsure of how to encourage their children to eat, other than giving multi-Vitamin syrup, smaller feeds, and porridge water. It appeared as though strategies for treating poor appetites in children had not been passed from mothers to daughters because it is more of a problem facing the mothers today and a prolonged poor appetite and sickness was rarely prevalent amongst the previous generation of mothers in NKZN. The older informants, Mary and Agnes, believed that ten years ago they did not need to know how to improve their children's appetite because there was always a variety of food children ate to keep them well,

and if they became ill, it was for only brief periods of time. During the focus group Mary said:

There seems to be more sickness in children these days. When I was a child we weren't sick for long because we never went hungry and had more types of food such as beans, meat and vegetables. When my younger brothers were sick they would improve if they had the maize water to drink. Now I get frustrated because I do not know what I can do about the extended periods of diarrhoea and poor appetite.

All the informants believed that poor appetite was a new phenomenon. The general consensus amongst everyone in the focus group was that, as children, they were fed a greater variety of food that prevented them from going hungry and becoming ill for extended periods. The informants acknowledged that illnesses have increased as the nutritional standards have lowered but were unsure of the exact cause of their children's illnesses. The informants were also perplexed and frustrated at not knowing how to improve the health of their children. The informants believed that they had not been given any advice about adding extra ingredients to their children's food but both peanut butter and margarine were considered a treat that the children liked when spread on their portions of bread. These food were considered to be luxury items bought at the end of each month only if informants had a little extra money left over, after purchasing all the other basic items of food. Most informants mentioned Rama (margarine) as their preferred choice of flavouring to food

rather than vegetable oil, but it was not affordable to add on a daily basis.

Faith said:

If I could afford it I would add Rama to the porridge because the children say the porridge tastes better with Rama than oil.

All of the informants would have liked to add two or three spoons of Rama to the spinach but they only added it when they could afford to buy margarine at the end of the month. Constance said:

I would like to add Rama to this mfino but I cannot afford to buy it until month end. All the family including the children love the taste of their food when it has Rama added to it.

All of the informants believed their children's favourite food were bread and fruit. One or two loaves of bread were bought each week to be shared by the whole family. Once a month, fruit such as peaches, mangoes and paw paws, were bought as a treat for the children. None of the informants considered giving fruit to their children for its nutritional value and fruit was not a priority food that should be consumed every day. Tembe explained:

I go to town to buy most of my food and as a treat for my children I can afford to buy them their favourite food of peaches and mangoes.

The informants' children who were older than two years of age enjoyed eating Niknaks (Twisties), boiled lollies, and processed peanuts and raisins but the informants did not distinguish the comparative nutritional value of

these food. The children did not expect these snacks very often, as they were only bought for special occasions. Sometimes visiting relatives would bring some of these snacks as a gift for the children. Mary said:

My children love eating nik naks, sweeties (boiled lollies), and peanuts and raisins. But they don't expect to be given them by me very often, except, maybe at Christmas, weddings or other special functions.

Maas was a favourite food of all the informants' children and they received it daily because it was easily accessible and affordable at two Rand (45 (Australian cents per litre) and the mothers considered it a nutritious food.

Agnes said:

The children love drinking maas and even get excited to see Mr. Smith's truck because they can have their maas.

The informants' children enjoyed eating tinned pilchards but it was not available in any of the stores at the time of the research and I did not observe any fish being fed to children, or any fish stored in their homes.

The informants occasionally bought tinned corned beef for the children but because of their limited budget, it was considered a treat.

Apart from maas, all of the informants did not choose to feed their children favourite food on a regular daily basis, because they were considered to be treats for the children's enjoyment on special occasions. Food, such as Rama, peanut butter and fruits, were not mentioned as having any nutritional value or being fed as appetite stimulants to children.

In summary, the informants acknowledged they had little understanding of the types of food to feed their children when they are sick or had a poor appetite, and requested that I give them some advice to improve their children's appetite.

4.8 CONCLUSION

Six major categories emerged from the data analysis as influences on Zulu mothers' choice of food for their children. These were the geographic location, household environment, family income, seasonal availability of food, knowledge, social and cultural changes. The informants fed their children a typical meal of maize porridge and sour milk as result of influences that predominantly arose from their mothers' teaching.

Influences from other sources were very limited. Some informants had made changes to their choices of food for their children as a result of teachings received from the nurses, and one informant developed a food garden as result of encouragement from the community health worker.

The informants appeared unaware of the value of each food variety and ways to improve their children's appetite.

There was a commonly held belief that seasonal and financial availability severely restricted the food they could feed their children. The informants also recognised that social change to family and community structures, such as the emergence of the cash economy, increased extended family size due to death and illness and the decline of adult males in the home over the course of a generation directly influenced their choice of food.

In spite of these changes, all of the informants displayed enthusiasm during the focus group discussion as to find ways in which they could improve their children's health and appetite. Through this discussion, the informants appeared to learn from each other that their children's nutritional status could be improved through making a number of small changes that would create a greater choice of food for their children.

CHAPTER 5: DISCUSSION

5.1 INTRODUCTION

This chapter discusses the findings of this study with the literature on the influences in mothers' choice of food for their children that were the geographic location, household environment, family income, seasonal availability of food, social and cultural change and knowledge of informants.

5.2 GEOGRAPHIC LOCATION

This study revealed that the geographic location of the informants had a direct influence on the food the informants chose due to the limited access to shops to purchase the majority of the food and that it occurred only once per month. This was not documented by nutritionists as a specific problem restricting mothers' choice of food in other South African communities. On the other hand, insufficient access to food is listed as an underlying cause of inadequate dietary intake and malnutrition, as highlighted in the UNICEF Conceptual Framework of Malnutrition (Bellamy, 1998). Access to food was referred to by Bellamy (1998) in terms of affordability to buy food and failure to produce their own home-grown food but not in terms of distance from shops. Findings from this study also revealed that isolation from shops was not a problem to the previous

generation because their subsistence farming practices promoted self-sufficiency and rarely did they buy food.

5.3 HOUSEHOLD ENVIRONMENT

The informants' living conditions were deemed to have detrimental affects to the children's health. Bellamy(1998) and the UNICEF Conceptual Framework outlined poor water and sanitation supported this and other living conditions as an underlying cause of inadequate dietary intake, which ultimately affected the informants' choice of food for their children. This study revealed that the informants had very limited food and livestock resources, severely restricting the choice of food for their children. This phenomenon was not just isolated to NKZN but according to the literature from Labadarios (2000), Steyn (2000), and Walker (2001), rural populations across South Africa have been progressively changing from living a subsistence farming lifestyle requiring little cash to feed their families, to a society that is dependant on salaries and welfare payments in order to survive. This dependency on financial support from family members, with resultant loss of motivation and skills to produce their own food supplies, as found in this study, was also paralleled in the literature.

5.4 FAMILY INCOME

This research study revealed that all of the informants' expectations of an improved lifestyle through pensions and salaries were not being met and that they were struggling to have enough income to provide adequate food

for their families. All of the informants believed that they were living in poverty. This situation was not unique to NKZN communities. Labadarios (2001) disclosed that one third of South Africans lived in poverty with those in rural communities constituting the highest percentage. This research highlighted the severity of the informants' limited choice of food due to low family income that was not found in any literature. For example, due to financial restrictions, the informants were unable to feed a variety of food to their children for three quarters of every month. Another compounding problem not found in the literature was the increasing cost of maize and other food produce purchased from shops. The informants also disclosed a lack of money to purchase seeds for their food gardens.

The SADOH (2002) acknowledged that low family incomes was a major cause of food insecurity and believed they were endeavouring to improve household foods security needs across South Africa through expanding the INP programmes in many areas, including the development of community nutrition and food garden projects. Unfortunately, informants in this study did not know of any nutrition support projects or programmes in their communities.

5.5 SEASONAL AVAILABILITY OF FOOD

The findings support the literature that drought has a major impact in creating further hardship. A drought lasting over two consecutive years has led to many failed crops of maize and the informants were more reliant on purchasing their staple food from the stores. The informants also believed

that drought may have been a contributing cause of the increasing cost of maize. May (1998) described a drought period as one of the short-term shocks sustained on communities preventing adequate feeding of children. Nevertheless, the informants believed that the drought was becoming a long-term problem as it had lasted over two years despite current brief periods of rain during the time of this research. The drought, current during the first month of the research, had produced locust and other insect infestations. The informants stated that their inability to control insects that were inflicting damage to their already meagre crops was a major problem in food production identified by the informants, a factor that was absent from existing literature.

5.6 SOCIAL AND CULTURAL CHANGE

The findings of this study and literature revealed the largest social change influencing the informants' choice of food was the emergence of the cash economy. In conversations with the informants and their mothers, this research has revealed how over one generation, the people from NKZN have moved from obtaining food independently from subsistence farming to a lifestyle predominantly dependent on food purchased from shops and stores. However, my research findings and literature concur that other patterns of social and cultural change provided an explanation for an inability of families to manage and produce equal quantities of crops and livestock as the previous generation.

One reason was the absence of males in each household. This was largely due to the exodus of men to the cities in search of higher paid work, which resulted in the women being left in charge of the households. This was disclosed by the informants in this study and supported by Steyn (2001), but this research has provided more detailed information as to why this has occurred, such as the closure of many local commercial farms that were replaced by timber plantations. The findings and literature concurred that the absence of males was also attributed to the high incidence of family death and illness. May (1998) disclosed that the death of family members created an extra burden on the mothers or grandparents who became responsible for the care of the children of their deceased relatives. Reports from all informants in this study and from other journal articles found there was less food for each child because the family budget remained stagnant yet there were extra children to feed.

Even though May (1998) cited death of family members as a short-term shock due to loss of income, the informants in this study considered death to be a permanent loss of labour and knowledge that had lasting implications for the nutritional status of their children. The informants stressed that the lack of male labour resulting from death, illness and working elsewhere resulted in greater responsibilities for women such as looking after deceased relatives children and performing duties that were once the responsibility of adult males. This was a major concern for all the informants because they were left with little time to spend in managing their food gardens and livestock, and this problem was compounded by a

lack of available assistance from other members in each household. This explanation appears not to be found in current publications.

As a result of the absence of men, households were in the charge of women, and all of the informants were trying to feed everyone equally according to their perceived needs. These findings from eight informants were different from Labadarios (2000) who disclosed that in many rural communities small children were being poorly fed because the households had unequal power relationships in which males dominated the households.

Another social change described by the informants as a major cause of reduced livestock and crop damage was the advent of compulsory schooling in 1995. Previously, children were responsible for herding cattle and protecting the crops from both domesticated and wild animals, but a search of the literature has failed to identify the loss of children's labour to compulsory schooling as a factor in the reduced food security of many rural households. Another important finding not mentioned in the literature, that explained the limited choice of food for the informants' children, was the decline in the traditional cultural practice of *Labola* (dowry) that culminated in a reduction in the amount of cattle maintained by the informants. Ultimately, this resulted in less beef being available for human consumption.

The informants also believed their neighbourhood support networks were not as they used to be in previous generations and families generally did not share food resources and preferred to keep to themselves. This limited

sharing of food resources had a direct bearing on the informants' choice of food because there was less food available from other sources in their own community. Literature from the South African Department of Health (2002) acknowledged that limited sharing of food and knowledge was a problem in many communities nationwide and, therefore, it was not merely a local problem.

From the literature review, it was evident that the Integrated Nutrition and IMCI programmes were established with the aim of fostering and strengthening the kind of community and family support required to improve household food security (SADOH, 2002 & UNICEF, 2002).

Unfortunately, this information had not penetrated to these communities in NKZN. For example, there was only one communal food garden in the visited communities. Although established by the Salvation Army, this garden suffered poor maintenance due to little ongoing support and commitment from the Salvation Army and the community. This contrasts sharply with the literature from Taylor (1999) and Faber (2002) who reported two successful nutrition programmes in other districts of Kwa Zulu Natal. In both these communities the women developed sustainable food gardens with good long-term prospects and have resulted in an increase in Vitamin A status of their children.

5.7 KNOWLEDGE OF INFORMANTS

This study revealed that strong influences in the mothers' choice and access to food were either their knowledge or lack of knowledge in the

growing, purchasing, preparation and nutritional value of feeding a variety of food to their children. This was confirmed in publications from Labadarios, (2001) and UNICEF (1990). Bellamy (1998, p.24) stated in the UNICEF conceptual framework "inadequate knowledge limits household access to actual recourses". This was apparent in this study when the informants disclosed that they were unaware that they could actually grow a variety of food for home consumption in the summer months other than just mfino and pumpkins.

Qualitative studies conducted in Uganda, Brazil and India found traditional cultural constraints prevented the consumption of Vitamin A-rich food (Klem & Ross, 1999). However, the findings of this study contradict this, as the informants revealed that their traditional cultural practices and diets actively promoted the consumption of nutrient and energy rich food. Unfortunately, with the change in culture and women's roles, drought, disease and the cash economy, traditional knowledge appears to have faded and become less relevant. For example, in this research, the knowledge gained by the informants from their mothers about the importance of feeding their children sour milk and maize meal porridge remained strong and influential in their choice of food. However, other knowledge, such as drying seeds for the next crop and the skills learned to grow certain produce throughout the whole year, seemed to have been forgotten. The SADOH (2002) and Kerry (2003) reported that community education programmes are designed to alleviate this kind of deficit, but as

yet, these types of programmes have not been implemented in the study population.

The informants were unsure what food to feed their children who were suffering from prolonged poor appetites. This problem was virtually unknown to the informants' mothers and might explain the void in their knowledge. An explanation for this particular lack in knowledge was not found in literature. Most of the informants' in this study were given multi-Vitamins to be administered to their children for poor appetite, but could not recall receiving any education to augment the instruction for the administration of the syrup from the clinic nurses. This study supports UNICEF (2002), SADOH (2002), and Kerry (2002) belief that there is a need for education programmes in South Africa that encourage and train nurses and health care workers to pass on nutritional information to mothers at hospitals and clinics. The literature also suggested that nutritional information could include providing mothers with a set of food-based dietary guidelines. Informants of this study had no prior knowledge of any such food guidelines for their children.

The example of being given good nutritional advice was revealed by three informants in the focus group discussion as they explained that their children's health and appetites improved as a result of acting on the advice of the nurses and health care workers to change certain dietary practices. During this discussion other informants were encouraged by the three informants positive advice and they appeared to be learning from each

other and generated a sense of enthusiasm and encouragement that was not displayed by them during my home visits. The informants were also happy to discuss and attempt to find solutions to their problems. This positive discussion confirmed the findings of Werner and Sanders (1997), and Pinstrup- Andersen, Alderman & Pelletier (1995), who believed that when women and communities come together to discuss their children's nutrition deficiencies, they start to support each other and empower themselves to change their situation.

The lack of opportunity for sharing knowledge between generations and neighbours to discuss, learn and share resources for improving childhood nutrition was a concern, not only for informants but also for the South African Department of Health (2002). They acknowledged that expertise in growing and preparing varying kinds of food was being lost, which would limit household food security and the choice of food for South African children.

The informants believed they had little, if any, community support and were unaware of available INP resources or programmes being initiated in other South African communities that were also suffering from high childhood malnutrition and mortality. This situation was not unique to NKZN as the SADOH (2002) reported that due to inadequate infrastructure at district and community level, half of the INP financial budget for 2000-2001, which was designed to create funds for income generating projects, was not utilised. This research indicated that a far more collaborative "on

the ground” method of communicating governmental and non-governmental programmes along with strong community support networks was mandatory in order to successfully improve the nutritional status of NKZN children.

5.8 CONCLUSION

This study supported the literature from the National Food Consumption Survey 2000, that the mothers’ choice of food is influenced by the restricted availability of food and a limited knowledge concerning childhood health and nutrition issues. This research is particularly useful because it expanded on national nutritional issues and disclosed local factors influencing why mothers chose the food they do that is not apparent in the literature. Factors included the change in family dynamics and culture, compulsory school attendances by children, the closure of commercial farms, the increasing prices of basic food items and the limited infrastructure for women’s and community groups.

CHAPTER 6: CONCLUSION

6.1 INTRODUCTION

This chapter provides a summary of this thesis, outlines the limitations of this study and discusses the implications for practice, health education and future research.

6.2 SUMMARY OF THESIS

This study achieved its aims in establishing an understanding of NKZN mothers' choice of food for their children. The first objective in this study was to identify the types of food being fed to children aged one to five years of age. This was achieved, but the extent of the limitations in their choice of food was far greater than previously anticipated prior to commencing this research. This was of real concern. For example, the research disclosed that maize meal, sour milk and a vegetable or two formed the basis of the majority of children's meals for that particular month.

The second objective was to understand the particular influences that determined the mothers' choice of food for their children. They included:

- (a) Environmental factors, such as geographic location and isolation from shops, unhygienic and unhealthy living conditions, as well as limited access to crops and livestock resources.

- (b) Family income was a major influence because a variety of food were affordable only once per month on receipt of salary or pension.
- (c) Seasonal availability of food was a an influence on choice of food because according to informants drought conditions and the fact it was Summer at the time of the research meant that there were few crops being harvested for their daily consumption.
- (d) Social and cultural changes in families and communities resulted in the absence of adults due to unemployment, illness or death, thus producing smaller crops and few livestock. Extended families were reduced with fewer carers being available for young children and severely limited labour resources. This had a cumulative affect of reduced finance, reduced food resources, increased number of mouths to feed, and limited choice of food.

This study identified the attitudinal differences with regard to lifestyle between the generations that witnessed profound changes in South Africa over a short period. The older informants and their parents believed they were suffering from poverty because of lack of food and livestock resources whereas the younger informants believed they were suffering from poverty because of a lack of monetary finances.

- (e) The knowledge of informants was a key influence in their choice of food. For example, informants fed their children sour milk and porridge as instructed by their mothers in order for their children to grow strong and healthy. Other avenues of knowledge open to the informants were sparse

and they possessed inadequate knowledge of the nutritional values of a variety of food. During the focus group discussion, some informants shared knowledge of feeding practices learned from nurses and a health care worker that resulted in an improvement in their children's appetite, weight and health. Limited opportunities for sharing knowledge in regards to of cultivation methods, food preparation and nutritional values of food also restricted food choice.

6.3 LIMITATIONS IN THE STUDY

The main limitation of this study was the amount of time available to conduct my research. I was only able to visit each community on only two occasions and only one focus group discussion was conducted. This restricted further possible data being collected regarding informants' choice of food in other communities and in other months of the year. This research was conducted during the summer months, and was therefore not able to witness informants preparing other food specific to the remaining seasons. Qualitative research is by its very nature time and context bound, and thus cannot be generalized to other times or other settings. In this study only mothers of children seen by a nurse with malnutrition were sampled and therefore cannot be generalized to the wider population. Despite these limitations adequate information was obtained to gain an understanding from the NKZN mothers' perspectives of the influences on the choice of food for their children.

6.4 IMPLICATIONS OF THIS RESEARCH

This study has implications for nursing practice, health education research and policy makers.

6.4.1 Nursing practice

In gaining an understanding of the factors influencing the mothers' choice of food for their children, nurses and health care workers can appreciate the difficulties presented to these mothers. This study revealed that many of the informants' unsanitary living conditions might indirectly influence their choice of food as these conditions contributed to their children's persistently poor appetites and recurring illnesses. Insight into such contextual influences could assist nurses and health care workers to play a vital role in educating mothers of the importance of appropriate sanitation such as clean, boiled water and disposal of faecal material. They could also suggest ways for their communities to access funding from government and non-government organisations for water and sanitation projects by way of the building of pit latrines, construction of bore holes and other activities that promote childhood health.

Knowing their client's socio-cultural environment would enable nurses and other health care workers not only to provide relevant instruction, but to teach, support and empower their clients in a holistic way. For instance, they could impart nutritional health and hygiene knowledge to the mothers while providing food supplements and medicines for their children.

All of the informants were requesting more health education and knowledge to overcome the most pressing concern of their children's poor appetite, a concern not familiar with earlier generations. Nurses and health care workers have potential opportunities to give nutritional information along with the medicines and food supplements. If nurses and health care workers understand the important role of NKZN women, and how they influence the nutritional status of children as identified in this research, they could, encourage and motivate women towards self empowerment, increase dialogue, information and food resource-sharing that produces benefits to children's health. This was clearly missing in the NKZN communities.

6.4.2 Health education

This study revealed that health education could be derived from a variety of sources. Most of the informants lacked nutritional knowledge about the variety, preparation and planning of food. For example, because the nutritional values of food were not understood, two protein-rich food, such as sugar beans and meat, were often given together in one meal. Practical advice from nurses and health care workers could not only provide information about the nutritional value of specific food, but also suggest ways in utilising their limited resources. For example, mothers or caregivers could be encouraged to plan meals that extend their sources of protein over a whole month by serving a single protein-enriched food with each meal. Some of the informants revealed the benefits of receiving this

kind of nutritional knowledge from a health care worker and nurses. This study also revealed that informants could not remember receiving any nutritional knowledge from their time at school and a possible source of future knowledge could be found in placing nutrition education high on the list of priorities for NKZN school curriculums.

One of the highlights of this research for me personally was witnessing the enthusiasm of those informants to share their newly acquired knowledge with others in the focus group discussion. The responses of all of the informants, their willingness to learn from one another and zest for knowledge to improve their children's health was encouraging. This single, two-hour focus group discussion between the informants produced surprising outcomes. This research highlighted the importance of group activities for women of similar socio-economic status and ethnicity. In these groups women have ample opportunity to share knowledge, ideas and concerns about their children's health.

Both this research and the literature from nutritionists and government authorities demonstrated the necessity for encouraging women, family and communities to co-operate, support and empower one another. Health promotion and education has a role in encouraging such groups and their outcomes.

6.4.3 Implications for research

This study has found that many informants have forgotten the skills of food production that were once used by their previous generations. Due to their desperate plight, the informants were keen to learn how to cultivate food for their children. They wanted to relearn old skills and adapt new ones in order to save their children's lives. For this reason, an action research project would be beneficial.

This would involve the study and extension of their agricultural practices. It could include a detailed account of food garden production over an extended period of several seasons and follow through from preparation for planting to harvesting and consumption of agricultural products. A study of this cycle could further investigate the impact on family food security and children's health over an extended period of time.

This research has disclosed that nurses have influenced some Zulu mothers' choice of food for their children with the intention of promoting healthy childhood growth and development, however, there is still a void in the informants' knowledge related to food value, preparation and production that could be addressed by nurses. Further research is required to investigate the obstacles (if any) in order for this information to be provided by nurses. Such areas of investigation could include nursing model and philosophy of nursing practice learned at work and in their nursing training, time constraints and instructions given by their nursing

supervisors. This kind of insight could further assist in the development of IMCI training programmes for nurses across South Africa.

6.4.4 Implications for policy makers

This study provides policy makers at various levels of government in South Africa and abroad, the problems facing NKZN mothers and an insight into the contextual influences on their very limited choice of food. The informants in this study were keen to help themselves but lacked the organisational infrastructure to do so. Bringing mothers, community leaders and policy makers together for dialogue might be the next step in developing infrastructure to attract and utilise government and private sector resources designed to improve childhood nutrition and health.

6.5 CONCLUSION

This study confirms and extends the findings of previous works by nutritionists Labadarios (2000), Steyn (2001) and others. The qualitative methodology used in this NKZN community, previously been untouched by research, has set in motion the ongoing process of "*Triple A cycle*" of assessment, action and analysis, as suggested by UNICEF (2002), required for promoting community health and development.

The intrinsic value of this study is its emic nature in identifying from the perspective of Zulu mothers themselves, the influences in the choice of food for their children. Each of the identified influences has provided nurses, health care workers, policy makers and the NKZN community as a

whole with information that strengthens their knowledge and encourages the building of basic community infrastructures. This “bottom-up strategy” will contribute to improving the children’s health status by helping households to be food secure and providing a far greater choice of food by their mothers.

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Appendix A

PERMISSION FOR RESEARCH



The Salvation Army

SOUTHERN AFRICA TERRITORY
SOCIAL DEPARTMENT (012-787 NPO)

forward 
TOGETHER

TERRITORIAL HEADQUARTERS

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21st August 2002

Victoria University
Human Research Ethics Committee
Australia

(By Facsimile: 61 3 93652832)

To Whom it May Concern

Re- Permission for Research

Dear Sir/madam

The Salvation Army in South Africa presently operates a Mobile Clinic, under the direction of The Salvation Army Mountain View Hospital, in rural Kwa-Zulu-Natal, attending to the Primary Health Care needs of the various communities it services.

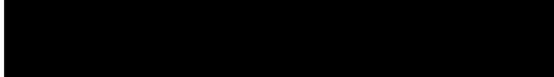
The Salvation Army and the Administrator of Mountain View Hospital is happy to grant permission for Mr. Stuart Faulds, presently studying at your university, to conduct Focus Group Interviews with mothers who attend the Hospital and the Clinics.

The Hospital Administrator will liaise with the local community authorities to inform them of them of the intended Research Study at the Salvation Army Mountain View Hospital and Mobile Clinic sites, with clients to the Hospital and clinics, exploring mother's choice of foods for their children.

It is understood that the research will be conducted in November 2002.

We trust this information will be in order. Queries may be directed to myself at the above contact details.

Yours sincerely,


Rob Hendricks (A/Captain)
Territorial Social Services Coordinator

WILLIAM BOOTH - Founder • JOHN COWANIS - General • ISIDORE L. GANTHEK - Territorial Commander
So in Christ we who are many form one body, and each member belongs to all the others. - Romans 12.5

Appendix B

ETHICS APPROVAL

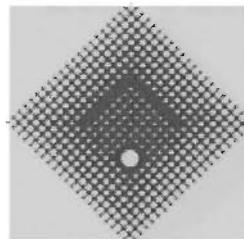
Victoria University of Technology

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Melbourne City (03) 9688 4456
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Footscray Park Campus

Faculty of Human Development
Ballarat Road
Footscray

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Faculty Human Research Ethics Committee

MEMORANDUM

TO: Dr Jenny Cheung, cc: Mrs Dianne Cheung
Student: Stuart Faulds
Principal Investigator
Nursing

FROM: Dr Dennis Hemphill
Chair
Human Research Ethics Committee
Faculty of Human Development

DATE: October 28, 2002

SUBJECT: Approval of application involving human subjects

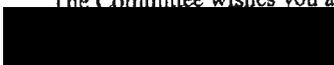
Thank you for your submission detailing amendments to the research protocol for the project titled, *Exploration of Zulu mothers' choice of foods for their children* (HRETH.FHD.065/02).

The proposed amendments have been accepted by the Faculty Human Research Ethics Committee and approval for application HRETH.FHD.065/02 has been granted from 01/11/02 to 31/10/03.

Please note that, the Faculty Human Research Ethics Committee must be informed of the following: any changes to the approved research protocol, project timelines, any serious or unexpected adverse effects on participants, and unforeseen events that may effect continued ethical acceptability of the project. In these unlikely events, researchers must immediately cease all data collection until the Committee has approved the changes.

If you have any queries, please do not hesitate to contact me on ext 4486.

The Committee wishes you all the best for the conduct of the project.


Dr Dennis Hemphill
Chair
Human Research Ethics Committee
Faculty of Human Development

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Appendix C

PLAIN LANGUAGE STATEMENT IN ENGLISH

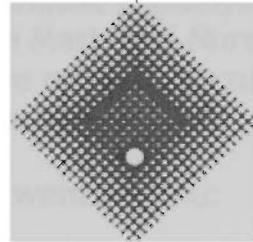
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St Albans

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INFORMATION TO PARTICIPANTS

I, Stuart Faulds, would like to invite you to take part in a research study that I am undertaking for my Master of Nursing degree at Victoria University. This study intends to gain an understanding of the type of food you give to your children.

In order to gain this understanding I will:

Visit you and talk with you in your home during food preparation and mealtime.

Invite you to participate in a two-hour focus group interview with eight other participants, held at Mountain View Hospital to discuss the choice of foods for your children.

An interpreter will accompany me, and the interviews and discussions will be audio taped. Your participation is entirely voluntary and if at any time you feel uncomfortable at any stage during the study it is your choice to withdraw from the research at any time. Professional counselling will be available from the Salvation Army if required. All information you provide will remain confidential. False names will be used and your identification will not be disclosed. No individual will be able to be identified in the collected data or in the final research report.

The information you provide to this study is important because it will give nurses new insight into the factors that influence your selection of foods for your children. This will enable them to develop health education and health promotion that is appropriate and relevant to the needs of your community.

Any queries about your participation in this project may be directed to the research supervisor Dr Jenny Cheung, ph: 613 9365 2150 fax: 613 9365 2832 email: jenny.cheung@vu.edu.au
If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428, and Melbourne 8001 (telephone no: 613 9688 4710).

Appendix D

PLAIN LANGUAGE STATEMENT IN ZULU

ULWAZI/ IMINININGWANE EQONDISWE KULABO ABAZOBAMBA IQHAZA KULOLUCWANINGO.

Mina, Stuart Faulds, ngithanda ukukumema ukuthi uthathe ingxenye kucwaningo lokufunda engilwenzayo lweZiqu zami ze Master of Nursing eNyuvesi yaseVictoria. Lokhukufunda kwami kuhloswe ngakho ukuzuzwa ulwazi nokuqonda ngezinhlobo zokudla enizinika abantwana benu.

Ukuze ngikwazi ukuthola lolulwazi nokuqonda ngizokwenza lokhu:

- Ngizonivakashela ngikhulume nani emakhaya enu ngesikhathi sokulungisa ukudla nangesikhathi sokudla.
- Ngizonimema ukuthi nihlanganyele zingxoxweni ezizothatha amahora amabili nalabo abanye abayisishiyagalombili abazobe nabo beyingxenye yocwaningo, izingxoxo zizoba se-Mountain View Hospital kuyobe kuxoxwa ngokukhetha ukudla kwabantwana benu.
- Ngizobe ngihamba nozochaza, imibuzo nezingxoxo zizobe zifakwa kusiqophamazwi. Ukuhhlanganyela kwakho kulokhu kumele kusuke kuwe uma kzwenzeka noma ngasiphi isikhathi uzizwa ungasathandi ngesikhathi kwenziwa lokhu kuyoba ukuzikhethela kwakho ukuthi uhoxe kulolucwaningo noma yisiphi isikhathi. Usizo lwabezomqondo olusemthethweni luyotholakala kwi Salvation Army uma ludingeka. Ulwazi ozolunikeza luyogcinwa luyimfihlo. Kuyosetshenziswa igama okungelona elakho nobuwena ngeke buvezwe. Akukho namunye oyovezwa ubuyena kucwaningo oluqoqwayo noma kumbiko wocwaningo oluphelele.
- Ulwazi ozolunikeza kulolucwaningo lubalulekile ngoba luzonikeza abahlengikazi ulwazi oluyinqikithi yezimbangela ezenza nikhetha ukudla kwabantwana benu. Lokhu kuzobenza babenohlelo lukufundisa ngezempilo nokwenza ngcono ezempilo ngendlela efanele nangendlela leyo edingekayo emphakathini.

Imibuzo mayelana nokuhlanganyela kulolucwaningo ingaqondiswa kolowo ongamele umcwaningi (Igama: Dokotela Jenny Cheung. Inombolo yocingo ithi 613 9365 2150 noma inombolo yesikhahlamezi ethi 613 9365 2832) Uma unemibuzo noma izikhalazo ngendlela othe waphathwa ngayo, ungathinta unobhala kulelikheli, University Human Research Ethics Committee Victoria University of Technology, P.O. Box 14428 MC. Melbourne 8001 (ucingo 613 .

Appendix E

CONSENT FORM IN ENGLISH

Victoria University of Technology

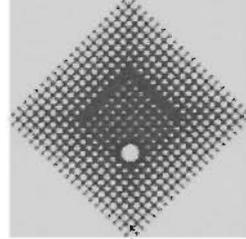
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School of Nursing
McKeechie Street
St Albans

VICTORIA UNIVERSITY

OF
TECHNOLOGY



CONSENT FORM FOR PARTICIPANTS

Certification by Participant:

I,

of

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the research project entitled :

Exploration of Zulu mothers' choice of foods for their children

Being conducted at Victoria University by:

Mr Stuart Faulds

I certify that the objectives of the project, together with any risks to me associated with the procedures listed hereunder to be carried out in the project, have been fully explained to me by: Mr Stuart Faulds

and that I freely consent to my participation, involving the following procedures:

- *Observed and interviewed in my home during food preparation and mealtime.*
- *Participate in a focus group discussion with eight other participants.*

I certify that I have had the opportunity to have any questions answered and that I can withdraw from this project at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed

Witness other than the researcher:

Date

Any queries about your participation in this project may be directed to the researcher supervisor (Dr Jenny Cheung, ph 613 9365 2150 or fax 613 9365 2832). If you have any queries or complaints about the way you have been treated, you may contact the secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MC, Melbourne 8001 (telephone number: 613 9688 4710)

Appendix F

CONSENT FORM IN ZULU

ISIVUMELWANO SOKUZINIKELA KWALOWO OZOBAMBA IQHAZA KULOLUCWANINGO

Ukuzibophezela kwalowo ozobamba iqhaza

Mina,

Wase

Ngiyaqinisekisa ukuthi ngimeminyaka okungenani engu 18 nokuthi ngizivumele ngokwami ukubamba iqhaza kulolucwaningo olumayelana:

Nokutholakala kolwazi ngokudla omama abangaMaZulu abakhetha ukukunika abantwana babo.

Olwenziwa yiNyuvesi yase Victoria ngu:

Mr Stuart Faulds

Ngiyaqinisekisa ukuthi izinjongo zalolucwaningo, kanjalo ingcuphe noma ubungozi obungahlanganisa mina ngenxa yezindlela zenqubo ezibhalwe ngezansi ezizokwenziwa kulolucwaningo, zichaziwe kimina ngokugcwele ngu Mnumzane Stuart Faulds nokuthi futhi ngizivumele ngokwami ukuba yingxenye kuhlanganisa nokuthi ngisetshenziswe ezindleleni zenqubo yocwaningo.

INQUBO:

- Ngibhekwe, futhi kuxoxwe nami ngisekhaya ngesikathi ngilungisa ukudla nangesikhathi sokudla.
- Ngihlanganyele ezingxoxweni ezihlanganisa abanye nabo abanikeza ngolwazi njengami abayisikhombisa kuya eshumini nanye.

Ngiyaqinisekisa ukuthi ngilitholile ithuba lokubuza imibuzo yaphendulwa nokuthi ngingahoxa kulolucwaningo nanini nokuthi ukuhoxa kwami angeke kungenzele nkinga yanoma luhlobo uni.

Ngazisiwe ukuthi ulwazi engizolunikeza lapha luyogcinwa luyimfihlo.

Sayina:

Omunye owufakazi ngaphandle komcwaningi:} Usuku:.....

Imibuzi mayelana nokuhlanyela kulolucwaningo ingaqondiswa kulowo ongamele umcwaningi (Igama: Dokotela Jenny Cheung. Inombolo yocingo 613 9365 2150 noma inombolo yesikhahlamezi ethi 613 9365 2832) Uma unemibuzo noma izikhalazo ngendlela othe waphathwa ngayo, ungathinta unobhala kulelikheli, University Human Research Ethics Committee. Victoria University of Technology, P.O. Box 14428 MC. Melbourne 8001. (Inombolo yocingo: 613 9688 4710).

Appendix G

INTERVIEW GUIDE

Questions to ask mothers in their homes before they prepare a family meal

Can you tell me about yourself and your family?

Questions identifying mothers' choice of food

Can you describe what you are going to feed your children today and can you talk about your reason for choosing this food?

What did you cook for the family yesterday?

What did you cook the day before yesterday?

Can you think of any other food you might feed your children?

What do you consider to be the benefits for giving this food to your children?

Can you talk about food you enjoy cooking or would like to feed your children but are unable to provide them?

Questions identifying possible influences on food choices

Who in your family helps you prepare your family meals for your children?

In what way does that person influence your choice of food for your children?

Is there anyone else who influences what food you give to your children?

Can you identify any food that you do not give to your children and why?

Can you describe any traditional food you give your children and where do you might possibly obtain them?

Can you identify any food that your children only eat on special occasions?

Can you explain what is your understanding of a healthy diet for your children?

What nutritional value does this food have for your children?

Can you explain to me your source of nutritional knowledge?

Can you explain to me the cause of your child's illness?

What food can you give your child to help him/her get better?

Are you aware of any food that is not good for your child's health?

Questions to ask mothers whilst they are preparing the family meal

Where did you learn to prepare and cook this food?

Can you explain why you chose to cook this food?

How often would you give your children this kind of food?

What other food did you give to your children today?

Do you vary these food from day to day?

What are the tasks you have to do in order to prepare for this meal?

Are there any kinds of equipment you would like to own that could assist you in your choice and preparation of food?

FORMAT AND GUIDE QUESTIONS FOR A FOCUS GROUP DISCUSSION

Identifying food mothers' give their children

I will ask each informant to introduce him or herself and then talk about what food they have been giving their children over the last three days?

A list of the most common food mothers gave their children over those three days will be documented and pinned up on the notice board.

Identifying reasons for giving these food to their children

I will encourage the group to discuss why they feed their children this food?

Mothers identifying food they should give their children

I will then give the mothers a copy of the National Food Based Dietary Guidelines and ask them to identify a second list of food they would like to give their children, but had not fed them over the last five days.

Mothers identifying reasons for not giving their children particular types of food

The group will be encouraged to discuss if there is any particular reason for not feeding their children this food.

Mothers identifying ways to increase their children's consumption of dietary appropriate food

The mothers will possibly discuss what can be done to increase the consumption of nutritious food for their children?

ILLUSTRATIONS

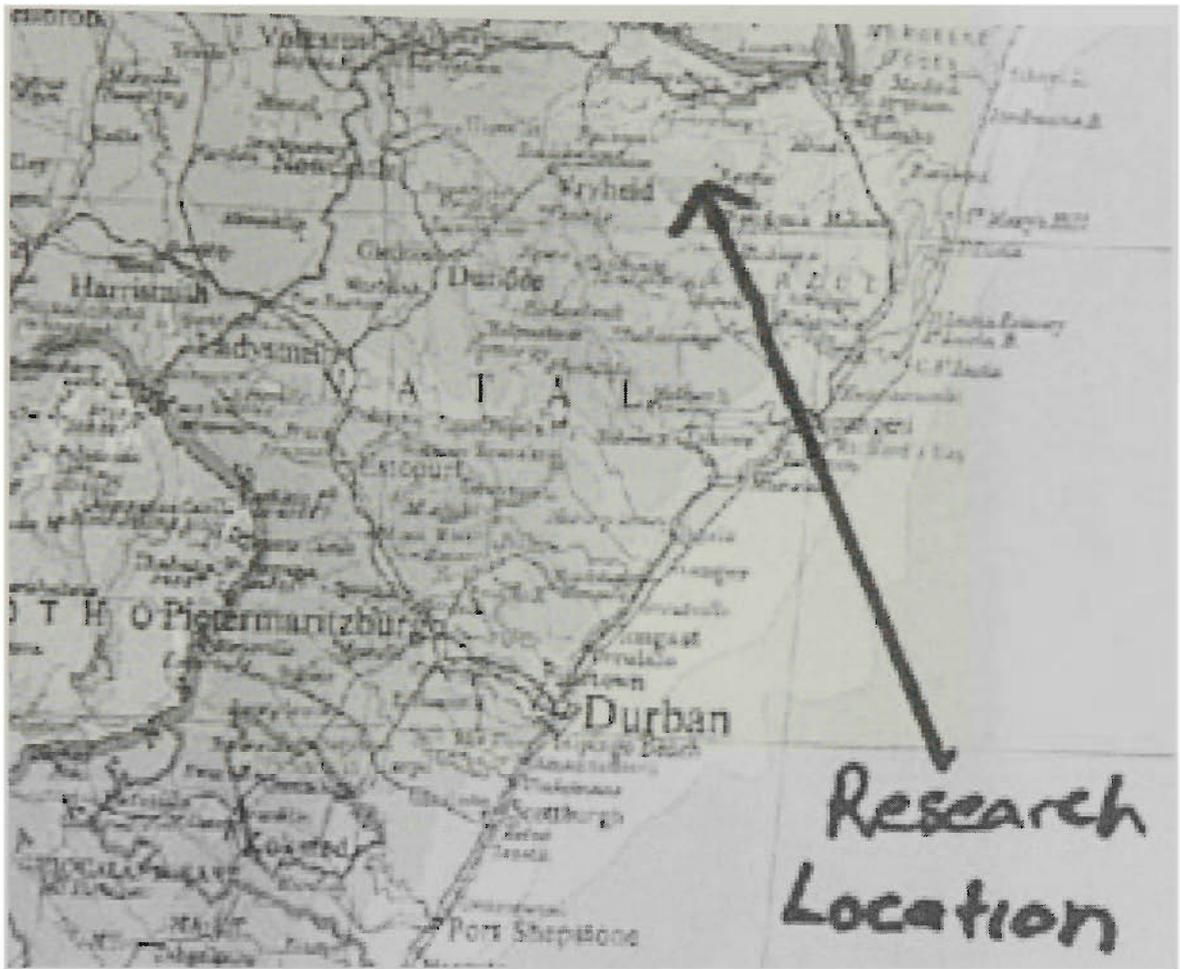


Illustration 1 - Map of South Africa



Illustration 2 - View of North Kwa Zulu Natal



Illustration 3 - Cooking Facilities



Illustration 4 - Food gardens



Illustration 5 - Crops grown in food gardens