

**Influence of education levels of women on their feeding habits: a case of
Nangabo Sub-county, Wakiso District, Uganda**

By

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DECLARATION

I Rovincer Martha Mwegereko do declare that this is my own work, and has not been presented in any university for the award of any degree or diploma.

Signed_____ Date_____

Supervisor: Dr Oonyu Joseph

Signed_____ Date_____

DEDICATION

This work is dedicated to my mother Nalongo Yayeri Mwegereko of Mayanja Kyanyonyi in Rakai district, who was in good condition at the beginning of this programme, but is now totally disabled by Alzheimer's disease. **I love you mum!**

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THE ABSTRACT

This research investigated the influence of education levels on the feeding habits of women in Nangabo Sub-county, Kyadondo County, Wakiso District in the Central Region of Uganda in the Buganda Kingdom. This research was carried out in 2008; and the purpose of this study was to establish how the education levels of women influenced their feeding habits. Investigation into the feeding habits of women was instigated by the unhygienic food conditions which prevailed in Nangabo Sub-county. Swarms of flies were a common sight on meat in butcheries and on fruits. In addition to this cooked food was prepared and sold in dirty food kiosks and in dusty and filthy places along the road sides. Despite such appalling conditions, people still bought the prepared food. Furthermore, eating of roasted meats, drinking of alcohol, overweight and obesity were common in many people in this area.

This research focused on women since women play a vital role in the feeding of their families. It looked at three levels of education: women who had attained education at diploma level and above, women who had secondary education but had not reached diploma level, and women who did not have secondary education; including those who had not been to school at all. In order to gather more information on the feeding habits of women, medical persons from the two government health centers in the region and local council women leaders were also interviewed since these two groups were in common touch with the women in their areas; and thus they knew the problems which were faced by women in their area.

The objectives of this research were:

1. To establish the feeding habits exhibited by women of different education levels.
2. To examine how the education levels of women influence their feeding habits.

The study was carried out by using quantitative and qualitative approaches. The descriptive cross-section survey method was used to gather quantitative data and the interview, observation and document review methods were used to collect qualitative data.

Sampling was done by simple and stratified randomization, and by purposive sampling. The data was collected by using the questionnaire, the interview schedules, the observation checklist and document review schedule.

Data analysis involved establishing proportions and percentages; and then the relationships which existed between feeding habits and the knowledge which was acquired from formal education was determined by using Spearman's Correlation Co-efficiency and $Sp\ Rho=0.126$ showed that the knowledge which was acquired from formal education did not play any significant role in the feeding habits of women in Nangabo Sub-county. The influence of education levels of women on their feeding habits was determined by using the Kruskal-Wallis test; and the findings ($\chi=19.860$, $P=0.000$) showed that women of different education levels were significantly different in their feeding habits. The qualitative data was also analyzed by content analysis. Women of different education levels showed variation in regard to food choice, food procurement, the cultural influence on food and in their knowledge of the common nutrition diseases.

From the findings it was recommended that in order to improve on the feeding habits of women in Nangabo Sub-county there was need to improve on food security, the methods of food procurement and on knowledge which is needed for proper feeding. This can be done through improved formal education as well as by informal education. Education up to senior four was recommended as good enough for proper feeding if it is properly imparted to students so that students can use the knowledge in their feeding habits at the end of their study.

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CHAPTER ONE

INTRODUCTION

1.0: Overview

This chapter consists of background information on the feeding habits of women, statement of the problem, purpose of the study, objectives, research questions, the hypothesis, scope and the significance of the study.

1.1: Background

1.1.1: The origin of feeding habits

According to Food and Agricultural Organization Report (FAO 2003), every society has its likes, dislikes and beliefs about food. What people ate when young is often considered right by most people regardless of its nutritional value. Fieldhouse (1993) observed that in early times of any society, food choice is by trial and error from wild plants and animals until people come up with the right foods to eat. Gradually, feeding habits become established governed by cultural norms and principles. Feeding habits are learned in the early years of one's life, reported Heseke and Beer (2004), and once established feeding habits become automatic, permanent and they tend to be resistant to change. They become accepted by all members of the society and are passed on from one generation to the next by the members of the society through verbal and non-verbal expressions or through examples by the elders. However, Heseke and Beer (2004) also observed that feeding habits are not static. They gradually undergo change due to

environmental forces which act within the context of historical conditions such as the society, culture and education.

1.1.2: The feeding habits of women

Anazonwu-Bello (1987), defined feeding habits as human food ways which include food procurement, food choice, food processing, food preparation, eating patterns and eating styles. In addition, feeding habits also encompass having clean water, fresh and clean surroundings as well as having healthy, well coordinated and happy families.

Good feeding habits lead to a balanced diet which is needed for normal growth, good health, prosperity and general happiness of the individual. On the other hand, bad feeding habits lead to malnutrition and the common nutrition diseases; which bring about poverty and misery to an individual, the family and the community, stated Heseker and Beer (2004). This was supported by United Nations Information, Culture and Education Foundation (UNICEF 2005), when it reported that 30% of pregnant women in Sub-Sahara countries are undernourished and they suffer from anemia due to folic acid deficiency; and 10% of them have acute chronic energy deficiency. The Uganda Ministry of Health (MOH 1994), also observed that over 25% of the new born babies in Masaka District had low birth weights because their mothers were undernourished. The Nangabo Sub-county Report (2003) stated that most families in the sub-county get only one main meal a day and women still observe cultural norms and principles including gender roles and food prohibitions. The report also stated that food is prepared, served and eaten in

unhygienic places such as along the road sides; leading to the common nutrition diseases in children, women and the elderly.

1.1.3: Education trends in Uganda

Webster's Dictionary (Collegiate Edition), defines education as a process of obtaining useful information and knowledge which one uses to manage life. Education is used to promote or change social, spiritual or moral attitudes; and it gives an opportunity to individuals and the community to develop intellectually and physically. It also works as a key stimulus for activating development and nutrition in a community.

Clegg and MacKean (1994), observed that education provides knowledge which is required for proper feeding. Education Policy Review Commission (1989) observed that education in Uganda has undergone several changes. In the 1950s and 1960s education aimed at learning intellectual facts as well as effective acquisition of socially relevant and valuable knowledge. At the end of the war turmoil of 1970s and 1980s emphasis was put on facts needed to pass examinations and the number of first grades a school obtained; neglecting the practicability and relevancy of the attained knowledge. Currently there are three distinct educational levels in Uganda: primary education, secondary education {Ordinary Level ('O' Level) and then Advanced Level ('A' Level)}, and then tertiary education. Schools follow prescribed curricula and at the end of each education level students do national examinations. In 'O' Level, biology is a compulsory subject to all students, National Curriculum and Development Center syllabi (NCDC 1996-2001); and the section on nutrition is so important that there is a compulsory practical question on this topic every year in the final 'O' Level biology examinations.

1.1.4: The situational analysis of girls and women in Nangabo Sub-county

Nangabo Sub-county Report (2003) stated that the girl child in the sub-county is traditionally treated with a lower social status than the boy child. Whenever there are financial problems girls are taken out of school in favor of boys leading to women who are less knowledgeable and more financially disabled than men. Women become dependent on men for information and financial needs which encourages male dominancy over women. The literacy level of women in Nangabo Sub-county stands at 38%; and only 30% of all the girls who sit primary leaving examinations continue with secondary education; and 7 % of those in secondary schools pursue tertiary education., Nangabo Sub-county Report, 2003.

Nangabo sub-county Report (2003) also observed that women in the sub-county have bad nutrition. Many homes in the sub-county have food insecurity and food scarcity; and most homes eat only one main meal a day. According to the report, a Muganda, wife is not supposed to serve food before her husband comes back and the wife is expected to serve her husband food and to wait upon him while he is eating. Traditionally, girls are denied some of the most delicious and nutritious foods such as eggs, lung fish, grasshoppers and chicken. In addition women and girls do laborious work to produce, prepare and serve food for the family but they are expected to eat their food after the boys and their male companions, Mugambwa (1998). This often results in inadequate food for women and girls leading to malnutrition and the common nutrition diseases in women. Nangabo sub-county Report (2003), stated that over half of pregnant women in the sub-county suffer from vitamin A deficiency; and incidences of anemia, hypoglycemia and osteoporosis are high in women.

Could these feeding habits of women in Nangabo Sub-county be associated with their education attainment? This research was intended to establish the influence of education levels of women on their feeding habits.

1.2: Statement of the problem

According to Walter and Willet (2003), feeding habits determine the health status of an individual. Proper feeding habits involve having at least three main meals a day and they lead to a balanced diet. A balanced diet provides the body with all the nutrients needed for sufficient energy, normal growth and development; and it keeps the body in good health. On the other hand, poor feeding habits such as unbalanced diet and unhygienic food conditions lead to malnutrition and the common nutrition diseases.

A casual glance at the eating places in Nangabo sub-county reveals bad food habits. Food is sold, prepared and eaten along the road sides where it is dusty and filthy. Ready to eat food such as pancakes, samosas (a type of local pie) and doughnuts is put in unhealthy containers like plastic bags and newspapers; and the cleanliness of food attendants leaves a lot to be desired. It is common practice for a food attendant to blow into the bag before food is packed in the bag; and surprisingly, people accept this as normal behavior and they go ahead to buy the food without any complaints or reservations. On one occasion, the owner of a food kiosk was seen returning leftover food into the saucepan which contained food for selling to other people. Food kiosks and restaurants are equally poorly managed. Usually, ready to eat food is stored in dirty and poorly covering containers; and yet rats and cockroaches are common in all houses. Fly

swarms are a common sight on raw meat, fruits and on heaps of garbage near food. It is not surprising; therefore, that ill- health and the common nutrition diseases such as intestinal worms, upper respiratory infections, diarrhea, typhoid, dysentery, anemia, hypoglycemia, osteoporosis, night blindness and eye diseases are common in the sub-county, Nangabo Sub-county Report, 2003.

Nangabo Sub-county Report (2003) also observed that most families in the sub-county get only one main meal a day; and cultural norms and principles including gender roles and food prohibitions are still observed by many women in the sub-county. According to the report a Muganda, wife is not supposed to serve food before her husband comes back and the wife is expected to serve her husband food and to wait upon him while he is eating no matter what time of the day the husband comes back home. Traditionally, girls are denied some of the most delicious and nutritious foods such as eggs, lung fish, grasshoppers and chicken. In addition women and girls do laborious work to produce, prepare and serve food for the family but they are expected to eat their food after the boys and the male companions, Mugambwa (1998).

With all of this going on, this study wishes to establish how the education levels of women in Nangabo Sub-county relate to their feeding habits.

1.3: Purpose of the study

The purpose of this study is to establish how the education levels of women influence their feeding habits.

1.4: Specific objectives

1. To establish the feeding habits exhibited by women of different education levels.
2. To examine the influence of education levels of women on their feeding habits.

1.5: Research questions

This study was limited to two research questions namely:

1. Do women of different education levels exhibit disparity in their feeding habits?
2. How do education levels of women in Nangabo Sub-county influence their feeding habits?

1.6: Hypothesis

Ho1: There is no disparity in the feeding habits of women of different education levels.

Ho2: Education levels of women in Nangabo Sub-county do not influence their feeding habits?

1.7: Scope

This study was carried out in Nangabo Sub-county in Kyadondo County, Wakiso District in the Buganda Kingdom in the Central Region of Uganda. Nangabo

Sub-county is located fifteen kilometers north east of Kampala City and it covers an area of about 130 sq km, Nangabo Sub-county Report (2003). It consists of nine parishes: four of which are semi-urban and five are rural; and there are 50 Local Councils (L.C.I). This study was carried out in six parishes: three-semi-urban and three rural so as to give a fair representation of both rural and semi-urban environments.

There are about 58000 people in Nangabo Sub-county and, out of these, about 29000 are women. This research dealt with only Baganda women who are the majority in the sub-county. By dealing with only one tribe, the cultural effect was eliminated. It was found necessary to establish the feeding habits of women because women play a vital role in the feeding of their families. Therefore it is hoped that establishing the feeding habits of women might throw some light on the feeding habits of the entire family.

The study looked at three education levels which are recognized by the Uganda Ministry of Education: education at diploma level and above (Diploma teachers) who were secondary school teachers, post secondary certificate holders (Certificate teachers) and these were primary and nursery school teachers; and education below 'O' Level including those who had not been to school at all (women who did not have secondary education). Diploma and certificate education levels used teachers only to eliminate the effect of income due to various employments. This would also ensure that women of a particular education level were fairly uniform as it regards knowledge attained from formal education. Included in this study were six women leaders from schools and local councils; and two medical persons from the two government health centers in Nangabo Sub-county. The study established the feeding habits of women, the role played by

formal education in the feeding habits of women; and the influence of different education levels of women on their feeding habits.

1.8: Significance of the study

It is hoped that this study will work as an eye opener to different people in Nangabo Sub-county and the country as a whole to improve on the feeding habits of women and their families. Social workers, the medical personnel, the local administration, the ministry of education, the local community, parents, teachers, students and women themselves might benefit from this research when dealing with the various challenges connected with education and feeding habits.

The social workers and L.C.I administrators might use this information to improve on the feeding habits of women when they realize that it is important to educate the community before introducing new foods to the people to reduce food ethnocentrism. People would then readily accept new food supplements introduced into their areas as it was recommended by Fieldhouse, (1993). This research might also help the L.C.I administrators to realize the importance of education to girls so that they encourage parents to take their girl children to school. Administrators might also start making policies which are connected to food security such as having food stores and limit the sale of food stuffs for the sake of money which leaves people with inadequate food.

The medical personnel might benefit from this research when they come to know the health problems which are connected with the feeding habits of women in the sub-county so that they can handle and advise women appropriately to reduce the prevalence

of diseases in the region. Parents, women and girls in Nangabo Sub-county would benefit from this research when they realize the importance of education for proper feeding so that the girl child is accorded the same chances to access education as boys have. This would help women to make informed decisions on matters concerning cultural food prohibitions and taboos so that women abandon unfounded food behaviors. This might help to reduce cases of malnutrition and the incidences of the common nutrition diseases among women. Parents might also realize the importance of proper feeding by children of both sexes so that they abandon the taboo which denies girls some nutritious foods. Parents might also come to realize that girls also need good education if they are to have proper knowledge and good employment for better feeding habits. Women who did not have secondary level of education might be encouraged to go back to school or to attend seminars and workshops so that they can get knowledge needed to improve on their feeding habits.

This thesis might be useful to Uganda National Curriculum and Development Center (NCDC), UNEB and teachers so that they re-examine the curricula, syllabi and teaching methods to ensure that curricula, syllabi and examinations are student and community centered in order to stimulate interest in students and to make the obtained knowledge relevant and applicable to students and the community as it was recommended by Barger, 2004. It is hoped too that this research might reveal to the Ministry of Education and Sports (MOE&S) the quality of education provided in schools at different levels of education as far as feeding habits are concerned so that better policies and plans are made to provide students with relevant and applicable knowledge and skills which can be applied in their feeding habits at the end of the course. Finally,

these findings might be useful to the government of Uganda to gauge whether it has achieved its 1995 goal of 'educating women for better life', Vision 2025 (1995). Finally, it is hoped that administrators at all levels of authority in the country would start involving women in decision making policies on matters concerning women including those related to proper feeding.

Chapter two reviews some of the already established literature concerning the role of education on the feeding habits of women.

CHAPTER TWO

LITERATURE REVIEW

2.0: Overview

This literature review examined the findings of other researchers regarding the feeding habits of women. This review concentrated on the factors which influence the feeding habits of women and the role played by formal education in their feeding habits.

2.1: Factors which influence the feeding habits of women

Feeding habits as used in this research refers to human food ways as they were defined by Anazonwu-Bello, (1987). Feeding habits include food procurement, food processing, food preparation, eating patterns and eating styles. In addition to this, feeding habits include having clean water, fresh and clean surroundings as well as having a well coordinated and happy family.

Fieldhouse, (1993), defined food as any solid or liquid substance which, when consumed, is utilized by the body to provide it with the essential nutrients for energy, normal growth and development; and good health. He also noted that different societies show different food preferences; and what one society regards as normal or highly desirable food might be considered revolting or totally inedible by another; leading to the common dictum which states that “*one man’s food is another man’s poison*”. Despite these differences, noted Fieldhouse (1993), every society obtains the nutrients it needs

from its food; and therefore, he sounded a strong warning against unfounded and biased food judgments and prejudice based on cultural differences. He called for cultural relativism as it regards new foods, and he recommended education as the best way of achieving this.

Walter and Willet (2003), observed that food intake is a response to both biological and cultural demands. Apart from satisfying hunger and providing nutritional needs, food is eaten according to social occasions and cultural rituals. Food choice is based on accepted cultural norms such as taboos, superstitions, rituals and sacrifices; and on accepted traditions. In addition, food choice is influenced by individual attitudes, moral attitudes, politics, religion, occasion, time, status, prestige and food availability. Food choice is also based on feasts, festivals and the economic capability of an individual.

World Bank Report (1996) stated that culture is the major factor which determines the feeding habits of any society for culture influences food choice, food procurement, food patterns and the eating habits. People eat according to learned behaviors regarding the etiquette, rituals and the occasion; and the eating style depends on whether it is a meal or a snack, the type of food, food combinations and portion sizes.

In most African cultures, meal time was time for family gathering; and during meal time important information was passed on to other members of the family. At the same time, eating food together as a family helped to instill discipline and good behavior in children by both parents. Unfortunately, observed Anazonwu-Bello (1987), having meals at the same time by all members of the family is dying out in Nigeria because many women are working outside their homes; and thus they may not be in position to

wait for everybody to be around before serving food especially at lunch time. It should also be noted that despite its positive aspects, culture has some negative effects. In some African societies, women and girls are prohibited from eating some delicious and nutritious food stuffs. In most cases, observed Anazonwu-Bello (1987), these food prohibitions are based on unfounded cultural taboos and superstitions which are due to male greed and dominancy over women.

The social status also influenced what women perceived as food. UN Report (2000) stated that educated African women did not want to eat the traditional leafy vegetables, because they considered these species to be of 'low status'. As a result many African leafy vegetables and traditional food crops were displaced from production systems in favor of the less nutritious foreign foods. The World Bank Report (1996) reported a similar problem in Southern Asia where women did not grow local vegetables because they despised them and they preferred the white cabbage which resulted in vitamin A deficiency among the Nepalese women.

Political factors influence the feeding habits of women too. For instance, food supplements of vitamin A and vitamin B-carotene which were given to the Nepalese mothers reduced vitamin A deficiency by 40%. Likewise, since 1992, supplements of micro-nutrients of vitamin A, folic acid and ferrous sulphate tablets have been given out in Niger (1994), Mozambique (1997) and Mali (1999) to post natal women to increase their iron level, World Bank Report (1996). In Nangabo Sub-county women were also given high yielding, vitamin A and protein rich sweet potato vines and Billy goats to increase food security by L.C.I administrators, Nangabo sub-county Report 2003.

Education is another factor which influences the feeding habits of women. Education is a source of knowledge for proper feeding habits; and it influences both cultural and social beliefs about food, Fieldhouse (1993). The World Bank Report (1991) also observed that maternal knowledge on nutrition influences the way she makes decisions on matters concerning the feeding of her family. With reference to Nigeria, the report revealed that those women who did not have the ordinary level of education ('O' Level) tended to have bigger households to feed than those women who had 'O' level. This usually results in food scarcity and food insecurity among those women who did not have 'O' level education; a case which did not usually arise among those women who had 'O' level education.

In Uganda, culture still plays a vital role in the feeding habits of women. Mugambwa (1998) stated that in Buganda the growing of food in the home is mainly a responsibility of women and girls. Women and girls are also charged with fetching water, cleaning all cutleries, utensils and dishes before and after eating food; and they are expected to prepare and serve food in the family. Nangabo Sub-county Report (2003) observed that in Nangabo Sub-county the girl child in Buganda, is traditionally held with a lower social status than the boy child as it regards food. The report stated that there is a tendency by some parents in sub-county to give more food to boys than they do to girls; and girls are denied some of the most delicious and nutritious foods such as eggs, lung fish, grasshoppers and chicken due to traditional beliefs and taboos.

2. 2: Education as a source of knowledge for proper feeding habits of women

According to Clegg and MacKean (1994), knowledge on nutrition is important if one is to have proper nutrition for education works as a source of knowledge for proper feeding; and it influences both cultural and social factors which govern food.

The nutritive value of food is determined by its nutrients. Srilakshami (2001), revealed that altogether there are over 50 macro and micro nutrients which the body needs for energy, normal growth and development, for proper functioning of the physiological and physical functions of the body and for good health. The food which one eats most often makes up his diet, observed Srilakshami (2001); and a good diet should contain all the essential nutrients in their right quality and quantity so as to obtain a balanced diet. These nutrients are provided by the food which one eats and in order for one to get these nutrients one needs to eat a variety of foods for there is no single food which contains all of these nutrients.

According to the World Bank Report (1991), maternal knowledge on nutrition influences the way she makes decisions on matters concerning the feeding of her family. With reference to Nigeria, the report revealed that those women who did not have the ordinary level of education ('O' Level) tended to have bigger households to feed than women who had 'O' level. This usually results in food scarcity and food insecurity among women who did not have 'O' level education; a case which did not usually arise among women who had 'O' level education. Anazonwu-Bello (1987), also reported that educated women in Nigeria usually had enough food at table because they were in position to purchase it for they had employment and thus an income; and educated

women tended to neglect unfounded cultural food prohibitions. On the other hand, women who could not read depended on rumors passed onto them by other people which resulted in their getting distorted information on matters concerning food. The report called upon the developing countries to improve on the education of women so as to improve on their feeding.

In Uganda the MOH (1994), reported that in Masaka District women who had secondary education had more food at table than women who did not have secondary education because educated women had employment and thus income. In addition, educated women bought eggs for their children whereas those women who did have secondary education sold eggs to buy their children cassava pancakes. Consequently, more children of those women who did not have secondary education suffered from kwashiorkor than the children of those mothers who had secondary education. The MOH (1994), called for education of women as the key to solving nutritional problems.

Ken Barger (2004), stated that although science and technology have done a lot to improve food production and food quality worldwide, women lack scientific and technological knowledge and skills to enable them produce enough food for their families. This had been reported by Anazonwu-Bello (1987), when she said that most African women produce their food without any scientific or technological input by subsistence farming using the hand hoe and without applying any fertilizers or improved seeds which leads to low food yields and thus food inadequacy. With proper education, stated Anazonwu-Bello (1987), women would be able to grow enough food on the small pieces of land they have; and those women who live in flats would be able to grow their vegetables and fruits in tins and sacks on their verandas. Women would also be able to

select cheap but nutritious foods from the foods stuffs which are available so as to attain a balanced diet. In Nangabo Sub-county, women who lack knowledge and skills end up getting low paying jobs which provide them with little money to buy the food they need; and they lack the ability to make informed decisions on matters concerning their nutrition, Nangabo Sub-county Report (2003).

Despite the importance of education in improving the feeding habits of women, education has some negative impact, observed Anazonwu-Bello (1987). With reference to Nigeria, Anazonwu-Bello (1987) reported that educated mothers entrust their children to house helpers who prepare and serve food for the children. In addition, children are bottle-fed instead of being breast fed. As it turns out, children come to lack important nutrients found in their mothers' breast milk and they are exposed to unhygienic food conditions which lead to low immunity, diarrhea and vomiting in children. House helpers also tend to instill undesired food behaviors into children. Chapter three examines the various methods which were deployed in Nangabo Sub-county to establish the influence of the education levels of women on their feeding habits.

CHAPTER THREE

METHODOLOGY

3.0: Overview

This chapter gives brief background information about Nangabo Sub-county; and it presents the research designs, sampling procedure, the sample, research instruments, the procedure and data collection. It also examines the validity and reliability of the instruments and it outlines the procedures which were used in data analysis.

3.1: Study area

Nangabo Sub-county is located in Kyadondo County, Wakiso District in the Central Region of Uganda in Buganda Kingdom. It is a semi-urban sub-county (L. C. III) found about fifteen kilometers from the center of Kampala City. It covers an area of about 130 sq km and it consists of nine parishes (L. C. II); four of which are semi-urban and five are rural. There are 50 villages (L. C. I) and each one is headed by a chairperson, Nangabo Sub-county Report (2003).

3.1.1: Population

Nangabo Sub-county has a population of about 58000 people of which 29000 are women, Nangabo Sub-county Report (2003). Due to its proximity to the city center, there are people of different cultures but the majorities are Baganda. Women in Nangabo Sub-

county do different jobs some of which are based on cultural stereotyped beliefs about gender. (Gender as used in this study refers to socially and culturally constructed roles, privileges and relationships of men, women, girls and boys.) There are deep rooted traditional attitudes in the sub-county which encourage male supremacy over women and this leads to unequal treatment of women and children in favor of men. Over 85% of the food used in the family is produced by subsistence farming by women. Despite the hard labor involved in food procurement, women do not own land and they have no say on the produced food. Therefore, men often sell most of the grown food for an income; leaving little food for the family. Accordingly, most people get one main meal a day and many people do not get breakfast, Nangabo Sub-county Report (2003).

3.1.2: Health and nutrition situations

There are two government health centers in Nangabo Sub-county: Kasangati Health Centre IV and Wattuba Health Center III. There is lack of clean water in this area and sanitation and garbage disposal are still poor. The medical reports from the health centers revealed that malnutrition and other common nutrition diseases are widespread among the children, women and the elderly in the sub-county, Nangabo Sub-county Report (2003). Intestinal worms, upper respiratory infections, tropical ulcer, pregnancy complications, diarrhea, skin diseases and eye diseases are the most common diseases in the sub-county.

3.1.3: Social and economic situations

There is no substantial income generating activity in Nangabo Sub-county. Agricultural input is very low and due to lack of proper education, women have few chances of getting well paying jobs. Most employees are low scale civil government office workers or teachers, Nangabo Sub-county Report (2003). Many jobless men and the youth spend most of their time redundant in trading centers leaving the women and children to carry out subsistence farming to produce food for the family. The major food crops are banana plantains, sweet potatoes, cassava, beans and maize; and Robusta coffee is the major cash crop. A few people grow vanilla and omolinga flowers for income. However, most people do not own land but they use hired land on temporally basis which limits the size of cultivated acreage. In addition, some people have sold off their land so as to get income leaving little land for growing food. Only few people keep cattle, chicken and pigs for income.

3.1.4: Climate and water sources

Nangabo Sub-county is found within Lake Victoria Basin where the rainfall and temperatures are high throughout the year except for relatively short dry spells which last several months. Rain, swallow wells and boreholes provide most of the water used by the people. Running water pipes by National Water and sewerage Co-operation have reached most places in the semi-urban parishes but water does not flow in them most of the time, Nangabo Sub-county Report (2003).

3.1.5: Education

Nangabo Sub-county mission for education during the 2000-2003 Development Plan was: *‘to improve the literacy level and to provide quality and meaningful education to all pupils and students in the sub-county,’* Nangabo Sub-county Report (2003). However, in 2002, only 60% of the education plans were realized in the sub-county; and less than 2% (1.750.000/= Uganda Shillings) of the annual revenue was spent on education. The literacy level for women stood at 38% whereas that of the whole sub-county was 68%. Bad nutrition, unqualified teaching staff and gender discrimination were cited as the major factors which hindered the education of girls in the sub-county.

3.2: Research Design

This research was carried out by quantitative approach using the descriptive cross-section survey and by qualitative approach using the interview, the document study and the observation methods. Miles and Herburman (2005), recommend using both approaches in a research for either of the approach clarifies the findings of another. In this research, the quantitative data was quantified using ordinal numbers to establish the relationships which existed between the feeding habits and the acquired formal knowledge, and to show the influence of education levels of women on their feeding habits. It was descriptive because it was not possible to manipulate the subjects so as to get the information from them; and it was cross-section survey because women of different levels of education were used at the same time. The survey method was ideal for Nangabo Sub-county because the sub-county has a large area and a big population as was

recommended by Naoum (2002). Interviews and observations enabled face to face interaction with the clients so that the salient information about the clients, food crops, acreage and their environment could be collected. Documents review solicited more salient information on the health of women and food supplements from the medical records in the government health centers found in the sub-county.

3.3: Sampling procedure

A number of sampling techniques were used in this study depending on the suitability at different stages as recommended by Enon (1995). By using simple stratified sampling the nine parishes in the sub-county were divided into two groups: semi-urban and rural parishes so that a representation of parishes from the two different environments could be achieved. Then proportional stratified random sampling using the ballot method was used to select three parishes from each stratum so as to ensure equal representation of both rural and urban parishes from the two strata. Then by stratified simple sampling the schools in these six parishes were separated into two groups as secondary schools in one group and primary/ nursery schools in another group. Simple random sampling using the ballot method was used to choose schools from each stratum. Randomization helped to eliminate bias in school selection.

With the help of the school administrator, Baganda female teachers were purposively selected from the selected schools. This research used only the Baganda women because the Baganda are the majority in Nangabo Sub-county and by using only one tribe, the cultural effect would be eliminated as recommended by Naoum (2002). In secondary schools, any Muganda female teacher was legible since they all have a

minimum of diploma level of education; but in primary/ nursery schools only those teachers who had a nursery or primary teaching certificate were selected. Choosing teachers was done with the help of head teachers who requested only the Baganda teachers to join the exercise and only those teachers who were present in school at the time of distributing the questionnaires were used.

The third group which comprised of women who did not have secondary education was supposed to be randomly selected but this method could not be used because many women who were not teachers had completed secondary education. Therefore, with the help of L.C.I women leaders, these women were purposively selected to ensure that only those women who did not have secondary education were chosen. The women leaders and the medical personnel were also purposively selected to ensure that the selected people were well conversant with the feeding habits of women. The women leaders consisted of four head teachers and two L.C.I leaders from the visited parishes; and the medical personnel consisted of a Registered Nurse at Kasangati Health Centre and a Comprehensive Midwife at Wattuba Health Centre.

3.4: Sample and sample size

Nangabo Sub-county has a population of about 58000 people of which 29000 are women, Nangabo Sub-county Report (2003). A total of 94 women participants were purposively selected from 17647 women found in the sample parishes. This research used diploma teachers, certificate teachers, and women who did not have secondary education. From

the visited schools 32 diploma and 32 certificate teachers were selected. Thirty (30) women who did not have secondary education were selected purposively with the help of L.C.I women leaders. The sample size of at least 30 participants was based on the recommendations by Enon (1995), to ensure valid and reliable findings.

In addition to ordinary women participants, there were two medical persons: one Registered Nurse from Kasangati Health Center and a Comprehensive Midwife from Wattuba Health Center. There were also six women leaders: four School Administrators and two L.C.I women Chair persons. Women leaders and the medical personnel were included in this study because they were well conversant with the feeding problems faced by women in their areas. The sampling was as reflected in Table 3.1.

Table 3.1 Showing the sampling plan in Nangabo Sub -county

Source of sample	Target population	Sample population	Sample size	Sample type	Total sample
Dispensaries	02	02	02	One Registered Nurse and one Comprehensive Midwife	02 medical persons
Sub-parishes	09	06	06	Women leaders and School administrators	02 women leaders Four (04) Head teachers
Sub-county Population	29000 women	17647 Baganda women	94	Women participants	32 Diploma teachers 32 Diploma teachers 30 women without secondary education

3.5: Research instruments

This research used several instruments which were: the questionnaire, the interview schedules, the observation checklist and the documents checklist.

3.5.1: The Self-administered Likert scale questionnaire for teachers

Kumar (1999), recommends the use of a questionnaire for the literate participants. Therefore, a Likert scale questionnaire (Appendix A), was administered to teachers. The questionnaire consisted of 22 items of which 18 were closed items for soliciting specific information and four were open items to give room for freedom of expression so as to increase the wealth of the gathered information. The questionnaires collected information on the feeding habits of women and the attainment of knowledge for proper feeding from formal education. The questionnaires were administered by the researcher to 66 women participants and collected immediately after being filled in. Two questionnaires did not indicate the education levels of the participants and they were not used in the analysis of the findings.

3.5.2: The Interview schedule for women who did not have secondary education

Using the interview to collect information was found to be an ideal instrument for women who did not have secondary education because some of them could not read or write properly as recommended by Kumar (1999). The interview schedule for women who did not have secondary education (Appendix B) consisted of 24 structured items and four semi-structured. The structured ones looked for specific information whereas the semi-structured ones allowed for freedom of expression by the participants so as to enrich

the findings. Whenever necessary, more questions were asked so as to clarify the findings (as shown in brackets in Appendix B). The interview schedule solicited information on the feeding habits of women and on the applicability of the knowledge acquired from formal education in the feeding habits exhibited by women.

3.5.3: The Interview schedule for medical personnel and women leaders

The interview schedule for medical personnel and women leaders (Appendix C) consisted of 13 semi- structured items which enabled the participants to express their views freely but on a guided scale. It was used to gather information on food security, nutrition problems, the prevalence of the common nutrition diseases, on the food supplements given to women and on the usefulness of formal education in the feeding habits of women.

3.5.4: The Observation checklist used when interviewing women

The Observation checklist (Appendix D) was found useful when it came to extract the salient information from the participants and from the environment; as was recommended by Kumar (1999). It was also used to reduce ambiguity because one came to know what was on ground and thus it became easier to draw conclusions authentically. In this research, non-participatory passive observation was used to gather information on types of food crops, crop acreage estimate, food preparation and processing, food patterns, eating habits and food hygiene. It was also used to note the tone and facial expressions

which were attached to the asked questions. This was particularly useful in the items which were concerned with culture.

3.5.5: The Documents Review schedule for Kasangati and Wattuba Health Centers

Salient information was also solicited by studying the out patients medical records in Kasangati Health Center IV and the medical records for the anti-natal clinic at Wattuba Health Center III by using the documents review schedule (Appendix E). This revealed information on the nutrition problems, the prevalence of the common nutrition diseases and food supplements given to women.

3.6: Procedure and data collection

Data collection was done by the researcher as an individual or in the company of an L.C.I woman representative when visiting the homes of those women who did not have secondary education. There was no station which requested the researcher for the introduction letter and all visited places were very interested in the topic which was being researched on. The research was done during daytime so that observations could be made at the same time. Questionnaires were self administered and collected immediately. Interviews were recorded in the instruments by the researcher. However, no photographs were taken in this research following the advice of the first woman leader who discouraged the idea for fear that the participants would have connected the research to politics.

3.7: Validity of the instruments

Construct Validity was assured by triangulation whereby both qualitative and quantitative designs were used as suggested by Miles and Huberman (2005). It was also determined by correlating the questionnaire with the interview schedule findings with those of the questionnaire using Spearman's Rank Correlation Co-efficient and $Rho=0.85$ at $\alpha=0.05$ was obtained. The observation schedule and the documents checklist findings were used to strengthen the findings of the questionnaire and the interview schedule.

The content validity was determined by the Content Validity Index (CVI); and CVI of 94% was realized. The supervisors examined and graded all items as very relevant (VR), relevant (R), and somehow relevant (SR) and irrelevant (I) before the tools were used in the pilot study.

A number of extraneous factors such as the heterogeneous population, variation in culture and differences in income were likely to affect the findings of a research on people's attitudes like this one, observed Kumar (1999). The following precautions were taken to control them. The internal validity was assured by:

- Cultural effect: by using only the Baganda women in the study
- Social influence: Parishes, schools and L.C. I. were randomly selected.
- Environmental effect: This was assured by creating a good rapport with the respondents and by dealing with the respondents from their homes/places of work. Whenever necessary the area leader accompanied the researcher so as to create relaxed atmosphere. This research was also carried out in only one sub-county; and thus there was no interference due to different environmental factors.

- Economy: Teachers of the same level of education were put together in the same group because they tend to be in the same salary range; and only teachers were used to eliminate differences in income due to different occupations.
- Status: Diploma and certificate holders were all teachers and those women who did not have secondary education were randomly selected.
- The external validity was increase by carrying out the research in Nangabo Sub-county only and by using only women.

3.8: Reliability of the instruments

The external reliability was best achieved by conducting the parallel form of the same test as suggested by Kumar (1999). In this research, this was done by using the questionnaire and the interview guide. The correlation coefficient of the questionnaire and the interview instruments was determined using Spearman's Rank Correlation Co-efficient and it was found to be $Rho=0.85$ at $\alpha=0.05$.

The internal consistency was determined by using Cronbach Alpha Coefficient and $\alpha = 0.74$ was obtained. The reliability of the interview schedules and checklists were done and ascertained by the supervisors.

3.9: Data analysis

The data in this research was analyzed both quantitatively and qualitatively. Quantitative analysis was done by the Statistical Package for Social Science (SPSS) as

recommended by Enon (1995). The findings were quantified by using ordinal numbers. Quantification was done according to the number of alternatives in each item and the nature of the alternatives involved. Frequencies, proportions and percentages were determined. The feeding habits exhibited by women and knowledge acquired from formal education for proper feeding habits were determined. Then the feeding habits and knowledge acquired from formal education were correlated by using Spearman's Correlation Co-efficiency at $\alpha = 0.05$ and $N=94$, as recommended by Naoum (1999), to establish the application and relevancy of the required knowledge in the feeding habits of women. The influence of education levels on the feeding habits of women in Nangabo Sub-county was established by using the Kruskal-Wallis Test with $k=2$ and $\alpha = 0.05$. The Kruskal-Wallis Test was used because the research involved more than two different education levels. The qualitative data was analyzed by content analysis. The findings were as shown in chapter four.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.0: Overview

This chapter presents and analyzes the findings of this research in regard to background characteristics of the participants, the feeding habits exhibited by women and the knowledge which women had concerning proper feeding habits. In addition to this, the findings show how the feeding habits of women related to the knowledge which was acquired from formal education; and the influence of different education levels of women on their feeding habits. This data has been displayed as percentages in Tables 4.1 – 4.26.

4.1: Background information about the participants

This section contains the findings on the marital status, religious affiliation, occupations of women participants; and the occupations of the participants' male companions. These findings are presented in Tables 4.1- 4.4.

4.1.1: The marital status of the participants

Out of 94 women participants 45 (47.9%) lived alone and 49 (52.1%) were married. Those who were married included 15 (46.6%) diploma holders, 18 (56.3%) certificate teachers and 12 (40%) women who did not have secondary education. Table 4.1 displays these findings.

Table 4.1 Showing the marital status of women, N=94

Marital status	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Married	40	56.3	46.9	47.9
Single	60	43.7	53.1	52.1

Among diploma and certificate holders the percentages of married and single women were almost equal; but there were far more single women (60%) than married women (40%). However, the chi square test value ($\chi^2 = 1.640$, $P = 0.440$) indicated that women of different education levels did not show significant difference in their marital status.

4.1.2: The religious affiliation of the respondents

Table 4.2 below shows that 86 (91.48%) women participants were Christians.

Table 4.2 Showing the religious affiliations of women, N=94

Religious affiliation	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Christians	83.33	90.6	100	91.48
Moslems	13.33	9.4		7.44
Others	3.33			1.06

Seven respondents (7.3%) were Moslems and only one respondent (1%) was of another religion (not declared). All diploma holders (100%), 29 (90.6%) certificate teachers and 25 (83.3%) women who did not have secondary education were Christians. Worth noting was the fact that those women who had higher education were mainly

Christians and other religious affiliations were found among those women who had lower education levels; out of the seven women who were Moslems, four of them had not completed secondary education and three women were certificate holders. The single woman who did not declare her religion was one of those who did not have secondary education. The chi square test value ($\chi^2 = 5.566$, $P = 0.062$) indicated that women with different education levels did not show significant difference in their religious affiliations.

4.1.3: The occupations of women respondents

Table 4. 3: Showing the occupations of women respondents, N=94

Occupations of women	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Teacher	6.66	100	100	68.8
Farmer	33.3			11.1
Self employed	20.0			6.66
Others	40			13.33

The results in Table 4.3 show that all those women who had diploma and certificate education were teachers whereas those women who did not have secondary education had a variety of jobs. Out of 30 women who did not complete secondary education, 12 (40%) were housewives, ten (33.3%) were farmers, six (20%) were self employed in small scale businesses such as selling food in the markets or food kiosks; and others owned telephone booths. Only two (10%) women who did not have secondary education were nursery school teachers.

It was also observed that most women without secondary education lived in small houses, and 30% of them produced all their food by subsistence farming on small pieces of land near their homes. The major food crops were banana plants, sweet potatoes and cassava. Some banana plants had turned yellow due to a viral disease called sigatoka. A few homes had a few coffee trees. Only one woman (3.1%) had a dairy cow which she zero grazed in her compound. The chi square test value ($\chi^2 = 45.707$, $P=000$) indicated that there were significant differences in the occupations held by women of different education levels.

4. 1.4: The occupations of the male companions

Table 4.4 Showing the occupations of the male companions, N=93

Occupation of partner	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Teacher	6.7	19.35	21.9	15.7
Farmer	16.7	3.22	3.1	7.67
Self employed	13.3	3.22		4.35
Others	63.3	74.19	75	70.83

Table 4.4 above shows that the male companions had a variety of jobs. Among the companions of diploma holders, 24 (75%) out of 32 companions were employed by government or by big organizations; for instance one was an engineer and another was a medical doctor. Seven (21.88%) companions were teachers and only one (3.1%) was a farmer but on a fairly large scale with cattle and chicken farms. Most companions of certificate teachers were also employed and they too had good jobs for 23 (74.19) out of 31 men were employed in government or big organizations; six men (19.35) were teachers,

one (3.22%) was a farmer and another one (3.22%) was self employed. On the other hand, out of 30 male companions of those women who did not have secondary education only 2 (6.7%) were teachers, 5 (16.7%) were subsistence farmers, 4 (13%) were self employed as casual laborers as motorcycle transporters, one was a builder and another owned a small retail kiosk. Others, 19 (63%), were employed in low paying jobs like being cooks or cleaners in schools near their homes. Interesting to note, though, was that most male companions at all levels of education were not teachers. In addition, there were few male farmers including the companions of those women who did not have secondary education. However, the chi square test value ($\chi^2 = 0.182$, $P = 0.913$) indicated that the occupations held by the male companions in different education levels were not significantly different.

4.2: The feeding habits which were exhibited by women in Nangabo Sub-county

The findings in this section show the feeding habits of women in regard to food procurement, food choice and food processing. They also show food preparation, food patterns and eating habits. These findings are displayed in Tables 4.5- 4.19.

4.2.1: Food procurement

As used in this research, food procurement refers to the various methods which were used by the respondents to obtain their food; that is if the food was grown by women, or bought or donated to the respondents. These findings have been presented in Tables 4.5- 4.8.

4.2.2: The food stuffs which the respondents used most often

Table 4.5 shows that most women (79.53%) used both local and introduced (foreign) foods. This included 30 (96.7%) diploma, 30 (93.7%) certificate teachers and 13 (48.2%) women who did not have secondary education.

Table 4.5 Showing the food stuffs which the respondents used most often, N= 90

Most used foods	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Foreign only	14.8			4.93
Local only	37	6.3	3.3	15.53
Mixed	48.2	93.7	96.7	79.53

The major foods which were listed were matooke (bananas), sweet potatoes and cassava. Other commonly listed food stuffs were posho (maize flour meal) and rice. The interview data showed that Irish potatoes, macron and chapatti were used rarely on special days such as Christmas, Idd, Sundays and Fridays. Groundnuts, beans and the small fish called mukene (*Haplochromis* sp.) formed the main sauces; and they were used by women of all education levels. However, on special occasions the respondents of all education levels used a wide variety of protein rich foods such as beef, chicken and fish. Matooke was taken with such high esteem that even those women, who could not afford eating it on ordinary days, made it a point to have it on the special days.

Unfortunately other local foods from outside Buganda region such as millet and sorghum were not mentioned by the participants except one home economics teacher who said that she often used millet to make porridge. Another diploma teacher said that posho was better quality than the traditional foods and another woman who did not complete secondary education admitted that posho had a nice taste. Posho and rice were

so widely used that many respondents listed them among the local foods. However, most women were so prejudiced against cereal foods that they made statements which showed their total dislike of these foods such as: '*Eyo emere teriika*' meaning that *these foods were not good to eat*. Others argued that they got constipation when they ate millet; and yet other participants associated the eating of cereal foods to being poor and unable to afford other foods. The chi square test value ($\chi^2 = 22.381$, $P = 0.026$) indicated that the factors which determined food choice were significantly different in women of different education levels.

4.2.3: The sources of food for the respondents

Table 4.6 below shows that women at all levels of education used all the three methods to procure food that is: some women bought most of their food, some women grew most of their food themselves and some women bought all their food. Over 80% participants depended partially on agriculture to produce their food and 19.87% bought all their food most of these being women who did not complete secondary education. Thirty five out of 87 (40.63%) women grew most of their food had not completed secondary education, 39.5% participants bought most of their food and this included 60% diploma holders whereas (51.9%) certificate teachers depended on bought food nearly as much as on grown food. It is worth noting that only a few teachers (13.3%) depended entirely on bought food.

Table 4.6 Showing sources of food for the respondents, N=87

Sources of food	Percentages (%) per level education			
	No secondary education	Certificate holders	Diploma and above	Average
All bought	29.6	16.7	13.3	19.87
Mainly bought	18.5	40	60	39.5
Mainly grown	51.9	43.3	26.7	40.63

Teachers also got free food supplements from their schools in form of break tea (milk tea served with bread, or meat pies or eggs) and lunch consisting of both local and foreign foods which were often served with different types of meat. Teachers also got dry food rations which included different items such as milk, eggs, beans and posho. Head teachers reported that diploma teachers were given some cash allowances in addition to their monthly government salaries.

Whereas diploma teachers were highly facilitated by the school administration to ensure proper feeding among the teachers, the reverse was true for women who had not had secondary education. Teachers were given food in the real sense or cash to buy the food, but the women who did not have secondary education were given agricultural materials to grow food or animals to rear by themselves. As it turned out, most women who did not have secondary education refused to plant food materials. Some women argued that the foods were not as tasty as the local ones; and one local council chairlady reported that women thought that the food items were genetically modified crops which the government wanted to use to reduce their birth rates and thus their fecundity. Consequently, women insisted on growing the local sweet potato vines which were low yielding. Exasperated by food scarcity in her parish, one woman leader said, *‘Abakyala baffe wano betaaga seminars kubanga tebagala kukola; ate tebamanyi mugaso gwa kulya bulungi.*’ (‘Women here need seminars because they do not want to work; and they

do not know the importance of proper feeding.’) The woman leader also reported that women in her parish used most of their money to make hair and to buy clothes instead of feeding their family or taking their children to school. The chi square test ($\chi^2 = 0.112$, $P = 0.946$) indicated that there was no significant difference in the methods used by women of different education levels to get their food.

4.2.4: Factors which determined food choice of women

Table 4.7 below shows that a number of factors determined food choice of women in Nangabo Sub-county.

Table 4.7 Showing factors which determined food choice of women, N=87

Factors which determined Food choice	Percentages (%) per education level			
	No secondary education	Certificate holders	Diploma and above	Average
Food availability	20.0	45.2	25.8	30.7
Culture	68.0	3.2	16.1	27.3
Knowledge of food value	12.0	51.6	58.1	42.0

Only thirty seven (42%) out of 94 women said that they used knowledge from formal education to decide on what food they ate. This represented 18 (58.1%) diploma holders, 51.6 % certificate and (12%) women who did not have secondary education. The other factor which determined food choice was food availability; and cultural influence was the least important factor. Surprisingly, food availability was most important among the certificate holders (45.2%) and least important in women who did not have secondary education (20%); whereas culture was most important among women who did not complete secondary education (68%) and it accounted for only 16.1% among diploma holders and only 3.2% in certificate teachers. The chi square test

value ($\chi^2 = 7.270$, $P = 0.026$) indicated that the factors which determined food choice were significantly different in women of different education levels.

During the interview with women participants, women leaders and the medical personnel from Kasangati and Wattuba Health centers, it was established that poverty, poor educational system and lack of enough land for agriculture were some of the factors which led to food scarcity in the sub-county. Local council sighted lack of knowledge as the reason why women rejected the high protein sweet potato vines. Lack of proper knowledge was also cited as the reason why women failed to allocate their financial expenses appropriately. Women leaders also complained of general laziness among women who did not want to do work to earn a living but looked at the government for free things including food. One woman leader pointed out that whenever women were called upon for educative seminars and workshops, they declined to attend unless they were assured of free things such as lunch and attendance allowances. The medical officers, women leaders and some women participants observed that there was need for sensitization of women on proper feeding through seminars, workshops and mass media. They also recommended a minimum of senior four education level for women and the establishment of money generating projects in Nangabo Sub-county if feeding habits of women were to be improved upon.

4.2.5: Food security in the homes of women

Food security refers to getting adequate quantities of food in the right time at least three times in a day. Table 4.8 below shows that the majority of women in all levels of education always had enough food.

4.2.5.1: Food adequacy in the family

Table 4.8 Showing food adequacy in the family, N=94

Did the respondents have enough food all the time?	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No answer	20		3.1	7.7
No	40	12.5	25	25.9
Yes	30	77.4	68.8	58.78
Sometimes	10	9.68		7.6

Only 58.78 % women had enough food all the time. This represented 68.8 % (22) diploma holders, 77.4% (24) certificate teachers and only 30% (9) women who did not have secondary education. About 25 % (24) of all women did not have enough food. This was 40% (12) of those women who did not complete secondary education, 25 % (8) diploma holders and 12.9% (4) certificate teachers. It was noted that 20% (6) of those women who did not have secondary education shunned away from answering this question. However, more diploma teachers had enough food than certificate teachers and more certificate teachers had more food than those women who did not complete secondary education. Since all women did not have enough food all the time it was an indication that there was food shortage in Nangabo Sub-county.

It was also noted that where land for agriculture was available, women who obtained most of their food by digging usually had enough food for their families. When asked whether there was enough food in her home, one old woman (about seventy years old) proudly responded, '*Emmala nokusuula nensuula*'; that is, ('*I get enough and I throw away some of it*'). However, the chi square test ($\chi^2 = 13.844$, $P = 0.001$) indicated that women of different education levels were significantly different in food adequacy.

4.2.5.2: The number of meals eaten per day

Table 4.9 Showing the number of meals eaten per day, N=94

Number of meals	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Two meals	16.7	18.8	16.1	19.6
Three meals	70	78.1	83.9	77.3
No response	13.3	3.1		5.5

The results in Table 4.9 above show that 77.3% of all participants had at least three main meals a day; this included 83.9% (26) diploma holders, 78.1% (25) certificate teachers; and 70% (21) women who did not complete secondary education. Those women who had two meals a day accounted for about 19.6% and they were almost equally distributed in all levels of education. However, some respondents declined to respond to this item; and judging from their expressions, they did not want to disclose their food habits on this issue. The chi square test ($\chi^2 = 1.652$, $P=0.438$) indicated that women of different education levels were not significantly different in the number of meals eaten in a day.

However, during the interview with the women participants, it was noted that there was a general misconception concerning the number of meals they had a day. Many women said that they ate food only once when in fact they had eaten two or three times in a day. The fact was that food was cooked once but in large quantities to keep some which was eaten later. It seemed that the problem was more with cooking fuel, time factor or the cumbersomeness involved in food preparation which made women cook once rather than in food availability.

4.2.6: The nature of foods used for breakfast by women

Table 4.10 Showing the nature of foods used for breakfast by women, N=94

Foods used for breakfast	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No response given	6.7	3.1		3.3
Other types of food	6.7	25	15.6	15.74
Freshly cooked food	20	18.8	12.5	16.7
Left over foods	66.7	21.9	15.6	34.7
Bread		31.3	56.3	29.2

As reflected in, Table 4.10 above the foods used for breakfast varied greatly among women of different educational levels. Leftovers were the most used foods especially among women who did not have secondary education (66.7%) and certificate holders (21.9). Bread was used most by diploma holders (56.3%) and fresh food was mostly used by women who did not have secondary education. Other types of food consisted of ready to eat foods such as fried cassava, *sambusas* and doughnuts. It was important to note that only 31% of certificate holders used bread for breakfast and nobody among women who did not have secondary education mentioned eating bread for breakfast. It was also noted that only two diploma holders mentioned using eggs for breakfast; and no respondent mentioned using exotic foods like bacon, sausages or cereals. The chi square test value ($\chi^2=8.460$, $P=0.015$) indicated that women of different education levels were significantly different in the food stuffs they used for breakfast.

Breakfast is supposed to be the most important meal of the day following many hours after supper. Therefore, it should be eaten in the early hours of the day. However, this was not the case in Nangabo Sub-county for most women did not consider it important to have breakfast in the early hours of the day. Respondents made such

statement as: *'I get my breakfast during break,'* said most teachers; and break time in schools was between 10.30 a.m.-11.30 a.m. Most women who did not have secondary education said that they did not have time to eat breakfast. *'Nze sirina bisera bilya kyankya. Mala kwekolera mirimo gyange nendyoka ndya; eyo kusawa nga mukaaga.'* (*'I do not have time for breakfast. I have to do my work first and then have my breakfast at around noon when I have finished my work'*). It followed, therefore, that although the respondents ate some food as breakfast, it was no longer the right time for breakfast.

4.2.7: The influence of culture on the feeding habits of the respondents

4.2.7.1: Meal schedules

Having strict meal times means that food is eaten at particular times. In most African culture, meal time is time for family gathering; and during this time important information is passed on to family members; and children get the chance of learning from the elders. The findings in Table 4.11 below show that only 45% of all the women always had their meals on schedule. This included 17 (56.7%) diploma holders, 13 (40.6%) certificate teachers and 12 (37.5%) women who did not have secondary education.

Table 4.11 Showing meal schedules, N=94

When did women have meals?	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Did not specify	40	6.3	3.1	16.4
When husband is back	00	34.4	21.9	18.8
Whenever hungry	3.3	9.4	12.5	8.4
On schedule	37.5	40.6	56.7	44.9
when everybody is present		9.4	25	11.5

The findings also showed that only 11.5 % women still had their meals together as a family and these were mainly diploma holders(25%) and 9.4% of certificate holders. It was amazing to note that nobody among women who did not have secondary education said that they had to eat together as a family. Surprising, too was to note that none of those women who did not complete secondary education waited for their male companions before serving food. However, 40 % of those women who did not have secondary education were reluctant to respond to this question; and it seemed that these women considered it demeaning to have to wait for other members of the family, or their male companions, before serving food. Thus they shunned away from responding to this item. The chi square test value ($\chi^2 = 6.150$, $P = 0.046$) indicated that women of different education levels were significantly different in their meal schedules.

4.2.7.2: The eating styles in the home

The findings presented in Table 4.12 below show the sitting arrangements of women participants and members of their family when they were eating their food. These findings showed that people sat in different places.

Table 4.12 Showing the eating styles in the home, N=94

Eating style	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No response	20	6.3	3.1	9.8
Husband from table	40	18.8	9.0	22.72
Everybody sits down	30	18.8	22	23.6
Husband and I sit at table	10	18.8	15.7	14.8
All use table		37.5	50.0	29.2

Half of diploma holders had all the members in the family eat from the table whereas 37.5% (12) certificate holders did so; and among women who did not complete secondary education there was nobody who had all members of their family use the table when eating. Twelve women (40%) who never completed secondary education had only the male companion eat food using the table and 30% sat on the mat with their children. Among certificate holders 37.5 % (6 women) had all members of the family eat their food when using the table. The chi square test value ($\chi^2 = 26.568$, $P=0.000$) indicated that women of different education levels were significantly different in their eating styles.

4.2.7.3: Foods served to male companions

Table 4.13 Showing foods served to male companions, N=93

Is partner served special foods?	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No response	23.3	16.12	12.5	17.3
Yes	6.7	22.58	18.8	16
No	43.3	58	65.6	55.6
Some times	26.7	3.21	3.1	11

The findings in Table 4.13 show that most women (55.6%) did not give their companions special food. This included 65.6% of diploma holders, 58% certificate, and 43.3 % women who did not have secondary education. However, some women at all levels of education still gave their companions different foods from theirs. This included 22.58% certificate holders, 18.8% diploma teachers and only 6.7% women who did not have secondary education. Worth noting, though, was the high percentage of women (17.3 %) who shunned away from answering this question; and this was found among all levels of

education. The obtained chi square test value ($\chi^2 = 1.508$, $P=0.470$) indicated that the food stuffs which were served to the male companions were not significantly different from those eaten by women.

4.2.7.4: To establish whether women should eat eggs

Table 4.14: Showing whether women should eat eggs, N=94

Should women eat eggs?	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No response	46	6.3	3.1	18.5
No	30	3.1		11.0
Yes	23	91.6	96.9	70.5

Table 4.14 shows that the majority of women (70.5%) ate eggs. This was 96.9 % (31) of diploma holders, 91.6% (29) certificate holders and only 23% (7) women who did not complete secondary education. It follows, therefore, that there were more women from higher education levels who ate eggs than those women from lower education levels. However, 46% of those women who did not have secondary education shunned away from responding to this item; and it seemed that they did not wish to show that they defiled the cultural taboo which prohibits them from eating eggs. The chi square test value ($\chi^2 = 5.052$, $P=0.080$) indicated that women of different levels of education were not significantly different in their view regarding the eating of eggs by women. They agreed that women should eat eggs.

4.2.7.5: Observation of cultural food prohibitions by women

A back up question to establish whether women were still bound by food prohibiting traditions revealed mixed responses as shown in Table 4.15.

Table 4.15 Showing observation of cultural food prohibitions by women, N=94

Do you have taboo foods which you do not eat?	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No response	33.3	3.1		12.1
No	16.7	50%	40.6	35.8
Yes	50	46.9	59.4	52.1

The participants had varying stands concerning this matter. About 52% of all women said that they no longer observed cultural food prohibitions. This included 59.4% (19) diploma holders, 46.9% (15) certificate holders; and 50% (15) women who did not have secondary education. However, this culture was still strong in 35.8% women, the majority of whom were certificate holders (50%), followed by diploma holders (46%) and those who did not have secondary education constituted only 17%. About 33.3% (10) women who did not have secondary education did not respond to this item; and judging from their facial expressions they were embarrassed to reveal their stand on this issue. The chi square test value ($\chi^2 = 5.191$, $P=0.075$) indicated that women of different education levels were not significantly different in their view concerning the eating of culturally taboo foods.

4.2.7.6: Taboo foods which were eaten by women

A back up question to ascertain whether women ate taboo foods revealed that chicken, eggs, lung fish and grasshoppers were some of the foods which were not eaten by women because they are forbidden by culture. The findings show that the majority of women listed some taboo foods which they did not eat; indicating that the cultural taboo concerning food prohibition was still strong in women as shown in Table 4.16 below.

Table 4.16 Showing taboo foods which were eaten by women, N=87

Listed taboo foods	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
None listed	65.22	59.4	40.6	55.1
Listed	34.78	40.6	59.4	44.9

Whereas 44.9 % women were able to list the taboo foods they now eat, 55.1 % of all women failed do so. Out of 32 participants, 19 (59.4 %) diploma holders, and 13 (40.6) of certificate holders and only 8(34.78) % of those women who did not have secondary education were able to list the taboo foods which they now eat. The chi square test value

($\chi^2 = 4.081$, $P = 0.130$) indicated that women of different education levels were not significantly different in their view regarding the eating of taboo foods. They had mixed feelings regarding the eating of taboo foods. Those who supported the idea of maintaining the cultural food taboos were not significantly different from those who did not support it.

4.2.7.7: Reasons given by women for eating taboo foods

The aim of this item was to establish whether after attaining formal education, women had come to critically analyze the cultural food prohibitions so that they made decisions whether or not to eat these foods basing it on knowledge from formal education. As Table 4.17 below shows, women of all education levels gave a variety of reasons as to why they had to eat these foods.

Table 4.17 Showing the reasons given by women for eating taboo foods, N=83

Reasons given for eating taboo foods	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Other reasons different from those below	46.7	40.6	59.4	48.9
Culture	10	25	18.8	17.9
Sensitization	36.7	9.4	3.1	16.4
Education	6.7	25	18.8	16.8

Gender equity, was cited as the main reason (48.9 %) why women ate taboo foods. Gender was most important among women who had diploma education 19 (59.4%), followed by 14 (46.7%) women who did not have secondary education and 12 (40.6%) certificate holders. This was followed by culture with 17.7%; and it was most prominent among certificate holders and least important in women who did not have secondary education. Knowledge from formal education was found to be useful in only 16.7% women the majority of whom were certificate holders and least important among women who did not have secondary education. Sensitization through seminars was responsible for only 17% of all women and it was most useful among women who did not have secondary education and least important in diploma holders. The obtained chi square test value

($\chi^2 = 1.991$, $P=0.370$) indicated that women of different education levels were not significantly different regarding the reasons why women ate taboo foods.

4.3: Establishing what the respondents knew concerning proper feeding habits

4.3.1: The role of education in food choice

Table 4.18 below presents the findings of a back up question to ascertain whether knowledge obtained in formal education was used by women when choosing what they ate.

Table 4.18 Showing the role of education in food choice, N=92

Is your food choice based on knowledge of food value?	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
No idea	3.44	6.3	3.2	4.32
no	17.24	12.5	3.2	10.9
Only sometimes	27.58	31.3	53.1	37.87
yes	51.72	50	38.7	46.9

The findings showed that only 44 women (46.9%) used knowledge from formal education to select what they ate. This accounted for 16 (51.6%) certificate holders, 15 (50%) women who did not have secondary education and only 12 (38.7%) diploma holders. Some 36 women (37.87 %) used formal knowledge only sometimes. This consisted of 54.83% diploma holders, 31.3% certificate teachers and 27.58% women who did not have secondary education. Ten women (10.32%) admitted that they did not apply any knowledge at all whereas four women (4.2 %) were not sure if they did. The chi square test ($\chi^2 = 0.209$, $P = 0.901$) indicated that the role played by education in food choice was not significantly different in women of different education levels.

4.3.2: Eating from the same container at same time

Table 4.19 below shows that most women (83.8%) did not support the idea of many people eating from one common container at the same time. This included about 87.5% certificate holders, 87.1% diploma holders and 76.7% women who did not have secondary education.

Table 4.19 Showing whether women eat from same container at same time, N=93

Do you usually eat from one container with other family members at the same time?	Percentages (%) per of education			
	No secondary education	Certificate holders	Diploma and above	Average
Yes	3.33		3.2	2.2
No	76.7	87.5	87.1	83.8
Sometimes	20.0	12.5	9.6	14.0

Facial and verbal expressions regarding this item reflected total disgust and disagreement of the whole idea. When asked the reasons why they did not support this idea, most women said that it was unhygienic. Some respondents said that some people usually had sores and wounds in the mouth or on their body and as such, they would not like to eat with sick people from the same container. Most women said that they would not be able to ascertain that everybody was satisfied for people eat at different speeds. Only 11.7% of all participants agreed that sometimes they ate from the same container at the same time. No participant mentioned the possibility of getting tuberculosis if people ate together in the same container. However, the medical personnel in Kasangati Dispensary expressed concern over the increasing number of tuberculosis cases in Nangabo Sub-county; and this was attributed to unhygienic food practices in the area. The chi square test indicated that women of different education levels were significantly different ($\chi^2 = 35.626$, $P=0.000$) in their views concerning eating from the same container.

4.3.3: Knowledge for proper feeding habits

In order to establish the effect of levels of education on the eating habits of women, it was necessary to find out whether women of different education levels had the required formal knowledge for proper feeding habits. This information was sought on food hygiene, knowledge of the common nutrition diseases, time allocated to the teaching of nutrition in schools, knowledge on the balanced diet, proper food processing and food preparation so as to reserve the nutrients in the food; and the availability of safe clean water needed to reduce chances of the common nutrition diseases caused by dirty water. The findings were displayed in Tables 20-25.

4.3.4: The eating places

Table 4.20 Showing the eating places, N=93

Eating places	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Only at home	44.82	31.3	40.6	38.9
Also buy food from street vendors	10 .34	3.1	9.4	7.6
Also from bars	27.58	6.3		11.29
From restaurants	13.79	56.3	50	40

The findings in table 4.20 show that women of all levels of education ate from many different places. Most women (40%) preferred to eat their food from restaurants. This consisted of 16 (50%) diploma holders and 18 (56.3%) certificate teachers and only 13.79% women who did not have secondary education. Those women who only ate food from their homes were 38.9% and they included all education levels although the majority (44.8%) were women who did not complete secondary education. However, more women

who did not complete secondary education (27%) often ate from bars compared to 6% certificate holders and none from diploma teachers. Most women expressed total disgust over buying street food and they made such expressions as ‘mmmmh!’ and ‘eeeh’ showing total disapproval of the whole idea. Only 7.6% of all women agreed that they bought food from street vendors; and these were women from all levels of education. The chi square test showed that women of all levels of education were not significantly different ($\chi^2 = 4.416$, $P = 0.110$) in their eating places.

In an interview with the medical personnel of Kasangati Dispensary, it was observed that the medical personnel were against both street and kiosk foods because of the unhygienic conditions in these places. The medical personnel attributed the increasing number of tuberculosis patients in the health center to rampant eating places in the area. Local Council I women leaders were also against ready to eat foods sold on the streets but they were in favor of food kiosk. When this research was being conducted, it was noted that women prepared and sold food in dirty places along the road side and food kiosks and shops were also not clean enough. Many plates, cups and cutlery were often washed in the same water without changing the water. At one occasion the kiosk owner was seen returning food which remained on the customer’s plate in the saucepan which had food for sale to other customers.

4.3.5: Knowledge on typhoid as a common nutrition disease

This item aimed at finding out whether women knew that typhoid was caused by bad feeding habits. The findings are as shown in Table 4.21 below.

Table 4.21 Showing knowledge of typhoid as a common nutrition disease, N=94

Named common nutrition disease	Percentages (%) per education level			
	No secondary education	Certificate holders	Diploma and above	Average
None named	10	6.3	15.6	10.4
Malaria		9.4	6.3	5.2
HIV/ AIDS	6.7	6.3		4.2
Typhoid	83.3	78.1	78.1	80.2

Over 80% of all women participants were able to identify typhoid as a common nutrition disease. This consisted of 25 (78%) diploma teachers, 25 (78%) certificate holders and 25 (83%) women who did not complete secondary education. The chi square test indicated that women of different education levels were not significantly different ($\chi^2 = 0.398$, $P = 0.820$) in their knowledge concerning typhoid as a nutritional disease.

4.3.6: Other common nutrition diseases

A back up question to investigate further into the level of knowledge which women participants had concerning nutrition diseases gave a different picture from that shown by typhoid. Whereas most women (80.2%) were in position to identify typhoid as a common nutritional disease, this was not so with other nutrition diseases as shown in Table 4.22.

Table 4.22 Showing other common nutrition diseases, N =94

Listed common nutrition diseases	Percentages (%) per education level			
	No secondary education	Certificate holders	Diploma and above	Average
No responses	16.6	9.4	6.3	10.78
mixed	13.33		3.1	5.47
Non-nutritional	23.33	15.6	9.4	16.11
Nutritional	46.66	75	81.3	67.65

About 67% women were able to list all diseases which were actually due to nutrition; and this included (26) 81.3% diploma holders, 24 (75%) certificate teachers and only 14 (46.3%) women who did not have secondary education. Other women (5.47%) gave a mixture of nutrition and non-nutrition diseases; and others (16.11%) listed only non-nutrition diseases. Most women (6.3%), especially those who did not have secondary education, failed to respond to the questions saying that they did not know any nutrition diseases. Generally, the knowledge which women had concerning nutrition diseases decreased with a decrease in the level of education. The following common nutrition diseases were listed: marasmus, ulcers, cholera, night blindness, scurvy, and diarrhea; skin rash, intestinal worms and dysentery and the common cough. The chi square test indicated that women of different education levels were significantly different ($\chi^2=9.823P=0.007$) in their knowledge concerning the common nutrition diseases.

Findings from the medical records in the two health centers revealed that the commonest nutrition diseases among women were helminthes, other intestinal worms and severe anemia in pregnant women. In addition, Wattuba Health Center reported an increase in obesity cases in pregnant women and an increase in overweight newborns. Other diseases reported in health centers were similar to those reported by the participants. The medical officer at Kasangati Health Center added that all the diseases which were reported in the dispensary were due to bad feeding; and his argument was that a poorly nourished body is easily susceptible to diseases. This view was shared by one woman leader (a school administrator) and the home economics teacher.

Interviews with women participants, women leaders and the medical personnel revealed that women lacked enough knowledge on proper feeding habits. Over 79% of all

the participants recommended a minimum of secondary education if women were to have proper feeding habits. Women leaders and the medical personnel recommended that there should be regular seminars and workshops on nutrition so as to increase the knowledge of women on proper feeding.

4.3.7: Sources of clean water

There are many water sources in the sub-county. Some homes are connected to clean piped water from the National Water and Sewerage Co-operation, others use bore holes, some use swallow wells and rain water is mainly used in the rainy season except for a few people who can harvest it.

Table 4.23 Showing the sources of water, N=88

Sources of water	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Rain water	8.3	6.3	6.3	6.7
Swallow well	20.8	3.1	12.4	11.2
Borehole	41.7	37.5	31.3	38.2
Piped water	29.2	53	50	44.9

Table 4.23 above shows that, of all women in Nangabo Sub-county; only 44.9% had access to piped water. This included 50% diploma holders, 53% certificate teachers and only 29.2% women who did not complete secondary education. However, the participants reported that piped water by the National Water and Sewerage Co-operation was very unreliable. Therefore, although pipes had been laid and some homes already brought the water into their premises, many homes failed to get water most of the time

simply because there was no reliable supply from the central point. Therefore, 32 (38.2 %) women got their water from boreholes and ten (11.2%) from shallow wells. Bore holes were used by all education levels and swallow wells by women who did not complete secondary education (20.8%). Despite fairly reliable rainfall throughout the year in Nangabo Sub County, rain water was not seriously harvested and only 6.7% women depended on rain water. The findings gave a chi square test value of ($\chi^2 = 11.639$, $P=0.003$) which indicated that women were significantly different in their sources of water.

4.3.8: The teaching of the topic on nutrition in schools

One of the objectives of 553 ('A' Level) and 530('O' Level) biology syllabi stipulated that the students should be able to apply knowledge and skills at the end of their course. The topic on nutrition is given such importance in schools that there is a practical examination question from this section at the end of senior four every year. Therefore, one would expect to have graduates who are well informed and conversant with nutrition skills. The findings in the Table 4.24 below show the attitude of women on the teaching of the topic on nutrition.

Table 4.24 Showing the teaching of the topic on nutrition in schools, N=86

The teaching of the topic on nutrition in school	Percentages (%) per education			
	No secondary education	Certificate holders	Diploma and above	Average
Never studied nutrition	4.3	12.5		5.64
Not given enough time	12.9	43.75	48.4	35.0 1
Given enough time	82.6	43.75	51.6	59.3 3

As shown above, only 59.3% women agreed that the topic on nutrition was given enough time. This included 51.6% (16) diploma holders, 43.8% (14) certificate teachers

and 82.7 % (19) women who did not complete secondary education. Others (35.1%), that is, (51.6%), diploma holders 43.75% certificate teachers and 12.9% women who did not have secondary education said that the topic on nutrition was not well covered. A university graduate teacher of home science added, *‘The knowledge I got up to the degree level was not useful in my feeding. The knowledge I use now in feeding was obtained when I did my diploma course in catering after my degree course’*. The chi square test value ($\chi^2 = 0.538$, $P = 0.764$) indicated that the teaching of the topic on nutrition was not significantly different among women of different levels of education. On this issue, women participants, women leaders and medical personnel all observed that the present education given to women lacked enough knowledge to enable them have proper feeding habits. A minimum of senior four (‘O’ level) education to all women was recommended if proper feeding habits were to be achieved. Two home science teachers and one women leader suggested that the teaching and examinations in schools should be oriented towards societal needs if education is to achieve its objective of knowledge being applicable by the student to daily life activities after school. The women leaders and the medical persons also suggested intensive informal education and sensitization through seminars, workshops and mass media for women who were already out of school.

4.3.9: Knowledge on a balanced diet

A balanced diet refers to having food which contains the essential nutrients in their right quantity and quality. Knowledge of food value is essential when selecting what to eat so as to have a balanced diet.

Table 4.25 Showing knowledge on a balanced diet, N=91

Do you know how to work out a balanced diet?	Percentages (%) per education			
	No secondary education	Certificate holders	Diploma and above	Average
No	43.3			14.44
Not sure	3.3	16.1	10	9.67
Did not study nutrition at all	36.7	16.1	10	20.93
Yes	16.7	67.74	80	54.9

The findings in Table 4.25 above show that 54.9% women could work out a balanced diet. This consisted of 80% (24) diploma holders, 67.74% (21) certificate teachers and 16.7% (5) women who did not have secondary education. Over 43 % (13) women who did not have secondary education agreed that they did not know how to work out a balanced diet; whereas 20.93% were not sure whether they knew how to work out the balanced diet. The chi square test value ($\chi^2 = 32.245$, $P=0.000$) indicated that women of different education levels were significantly different in their knowledge concerning the balanced diet.

4.3.10: Methods used to cook vegetables

The food value of vegetables can be easily destroyed by the method which is used to prepare them. Table 4.26 below shows the various methods of cooking vegetables.

Table 4.26 Showing the methods used to cook vegetables, N=94

Methods used to cook vegetables	Percentages (%) per level of education			
	No secondary education	Certificate holders	Diploma and above	Average
Other	3.3	9.4		4.2
Mixed	10	9.4	18.8	12.5
Boiling	16.7	18.8	46.9	29.2
Steaming	50	46.9	21.9	38.5
Frying	20	15.6	12.5	15.6

Steaming was generally the most popular method (38.5%) especially among certificate holders (46.9%) and women who did not complete secondary education (50%). Boiling was the second most popular method at 29.2% and it was used mainly by diploma holders (46.9%). Frying and mixed methods were used rarely by all women. However, no participant indicated the cooking time or admitted the eating of any raw vegetables. The types of vegetables used by different levels of education were also different. Diploma and certificate holders mainly used cabbage and *nakati* whereas women who did not have secondary education used pumpkin leaves, *jobyo* and dodo (*Amaranthus sp.*). It was also noted that diploma and certificate teachers despised the eating of the local vegetables and they associated the pumpkin leaves to women in the village which showed that women did not know that the dark green vegetables have more mineral salts and vitamins than the white cabbage. It was observed too that women who did not have secondary education used vegetables most often of all women. However, judging from their expressions, women who did not have secondary education looked at eating vegetables with low esteem and they were embarrassed when they were asked to mention the vegetables they ate most often. It should be noted that fruits and vegetables were eaten only when in season because they were not grown in most homes by women

but women depended on those which grew wild or semi-wild in their plantations. The chi square test indicated that women of different education levels were not significantly different ($\chi^2 = 4.579$, $P=0.101$) in the way they prepared their vegetables.

Table: 4. 27 Showing summary of score points in different education levels, N=94

Education level	Overall Total				Feeding habits				Formal knowledge acquired			
	Total	Mean	Minimum	Maximum	Total	Mean	Minimum	Maximum	Total	Mean	Minimum	Maximum
Diploma	1629	50.90	32	59	704	22	16	27	925	28.90	15	34
Certificate	1600	50	39	60	673	21.03	14	29	927	28.96	23	34
No S. S. education	1366	44.53	34	56	573	19.1	5	33	763	25.43	18	33

Table 4.27 is a summary of all the scores obtained in this research finding. The findings show that total scores for diploma holders were 1629, for certificate holders they were 1600 and for women who did not have secondary education it was 1336 giving the chi square value ($\chi^2 = 19.860$, $P=0.000$) which showed that women of different education levels were significantly different in the feeding habits. When diploma teachers were compared with certificate teachers the chi square test value ($\chi^2 = 0.560$, $P=.454$) was obtained indicating that diploma and certificate teachers were not significantly different their feeding habits. However, when certificate teachers were compared with women who did not have secondary education, the chi square test value ($\chi^2 = 11.372$, $P=0.001$) indicating that these two groups were significantly different in their feeding habits. The chi square test value ($\chi^2 = 3.785$, $P= 0.151$) also revealed that women of different education levels were not significantly different in their knowledge concerning proper feeding habits. However,

Spearman's Correlation Co-efficiency ($SpRho=0.126$) showed that knowledge acquired from formal education did not have a significant influence on the feeding habits of women. Chapter five presents a discussion of the findings, the conclusions which were drawn from the findings and the recommendations for further studies.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0: Overview

This chapter presents a discussion on the findings of this research and the conclusions which have been drawn. It also gives some recommendations and suggestions which might be considered in order to improve on the feeding habits of women.

5.1: Discussion

5.1.1: The factors which might have contributed to the feeding habits of women

The various feeding habits which were exhibited by women in Nangabo Sub-county could be attributed to a variety of factors which included: lack of relevant knowledge from formal education, people's attitudes and prejudices towards food and cultural background. In addition food availability, the economy, environmentalism, occasions and social status all influenced the feeding habits of women in the sub-county.

Food is required in the body for providing energy and other metabolic needs for normal growth, development and for good health and the food stuffs which people use most often form the staple foods of that community, Heseke and Beer (2004). The findings show that in Nangabo Sub-county, food choice was mainly determined by the knowledge which was obtained from formal and informal education concerning the value of food; and this was particularly so among diploma and certificate teachers. U.N. (2000), had achieved quality dietary among the Philippines by using both formal and informal education using mass

media, community workers, and massive campaign by top administrators. Anazonwu-Bello (1987), reported that culture was the main factor which influenced food choice among women in Nigeria, but this was not so in Nangabo Sub-county. Although women in all education levels depended on culture for their food choice, culture was most important in women who did not have secondary education. In Nangabo Sub-county food choice based on food availability was third in importance showing that these findings were different from what had been reported by Cook-Fuller (1998), when she reported that food availability was the main factor which determined food choice in the society.

Matooke, sweet potatoes and cassava were the main staple foods in Nangabo Sub-county and this was not surprising for most people in the sub-county are Baganda; and these foods form the staple foods of the Baganda. The fertile soils and favorable climate throughout the year, favor the growing of matooke all the year round in Nangabo Sub-county. Matooke mainly contain carbohydrates and water, but due to its palatability, it forms the most favorite staple food in Buganda Kingdom. It is so palatable that women in Masaka District often prepare matooke with little or no sauce at all which leads to malnutrition diseases in both adults and children, MOH Uganda (1995). Other commonly used foods were posho and rice which are foreign foods but because they are quite cheap they are used so often that women mentioned them among the local food stuffs.

Financial capability of women played an important part in food choice too. In Nangabo Sub-county those women who had diploma and certificate education mainly used local foods whereas those women who did not have secondary education used local foods almost as much as they used posho. Local foods especially matooke are usually more

expensive to buy than the non-traditional foods such as rice and posho. Therefore, teachers who had a regular income were in a better position to use the local foods more often than women who did not have secondary education. However, matooke was taken with such high esteem that all women ate it on special occasions.

The effect of income was also reflected by the types of food used for breakfast. Whereas left over foods were used by those women who did not have secondary education, the certificate teachers usually used freshly cooked food and diploma teachers used bread. This was in line with what was reported by Vision 2025 (1999), when it observed that in Uganda low education levels affect income and food security because food procurement, food production, food availability and access to basic necessities are directly or indirectly affected by income.

Social factors, such as the need for socialization also affected food choice of women. On special occasions, women of all levels of education used similar foods which included traditional and foreign foods; and food was served with a wide variety of expensive animal proteins which were rare on other days. Eating for socialization might have risen from the cultural desire for social recognition for the Baganda have a dictum which says that, 'Oluganda kulya'; which means that good relationship is sealed by food. Eating for socialization was reported by UN (2000) when it observed that in Niger, Mozambique and Mali women of all calibers often served elaborate meals on special occasions as a sense of recognition by other members in the community.

Most women said that they mainly used knowledge of food value as the main factor which determined their food choice, but the foods they ate most often did not reflect that

they had the required knowledge when choosing what to eat. Women preferred matooke and rice to cereal foods such as posho, millet and sorghum which are rich in nutrients; and some women were so prejudiced against cereal foods that they made such statements as: '*Eyo emere teriika*' (meaning that cereal foods were not good to eat); which indicated total dislike for the cereal foods. Some women argued that local cereals were not tasty; others claimed that they got constipation whenever they ate these foods; and others said that these foods were for the villagers. This was also observed when it came to local vegetables. Women despised the local vegetables on the assumption that they were for village people who were poor. Women who did not have secondary education also showed facial embarrassment when naming the local vegetables as part of their diet. One lady said that she ate jobyo and dodo because she did not have money to buy cabbage which indicated lack of knowledge on the high nutritive value found in the dark green vegetables.

In Uganda, science subjects which incorporate knowledge on nutrition are taught in schools right from the primary section. One of the objectives of the UNEB Syllabi (1996-2000) was to ensure that knowledge obtained from school was used by the students in their daily life activities at the end of their course. However, this was found not to be the case. Factors such as gender and social influence, knowledge from informal education by sensitization and culture played more important roles in food choice than knowledge from formal education. Similar observations were reported by Fieldhouse (1993), when he said that most people do not make their food choice basing it on the biological rationale of good nutrition. However, the findings differed from those reported by Fieldhouse (1993), in that food choice in Nangabo Sub-county was not mainly governed by culture as was the case in Fieldhouse's findings. However, these findings are similar to what was reported by UN

(2000) in South Asia where people neglected the growing of native crops such as pulses and they resorted to buying foreign foods which were more expensive and of poorer quality which led to lack of the essential micro-nutrients among women in South Asia. U.N. (2000) called for both formal and informal education of women so as to make women change their attitudes towards food.

Women at all levels of education used various methods to get their food but the majority, over 87%, depended either partially or entirely on subsistence farming. This was in agreement with what was observed by Nangabo Sub-county Report (2003) when it reported that 80% women in the sub-county depended on agriculture for their food. Some women especially those women who did not have secondary education, depended entirely on subsistence farming for their food source whereas many teachers produced some food on small farms so as to supplement the buying of food. This was in agreement with what was observed by Muwanga Musisi (2001) in Nakawa Division, when he reported that most homes supplemented their food source by growing much of their food which enabled them to get enough food for their families. Diploma and certificate teachers bought most of their food because they had a regular income and as such they could afford to buy food. Teachers boosted their food security by free food supplements given to them by their school administrators in form of break tea, lunch, dry food rations and / or cash allowances. Pregnant women were also given food supplements in form of iron tablets in Wattuba Dispensary to boost their blood levels. In Nangabo Sub-county women who had not completed secondary education were given food supplements in form of vitamin A sweet potato vines to grow and Billy goats for rearing, (Nangabo Sub-county Report 2003). UN (2000), had also given out Vitamin A bananas and vitamin B carrots supplements to

Nepalese women to reduced micro-nutrient deficiency diseases by 40%; and supplements of folic acid and ferrous sulphate tablets were given to women in Niger, Mozambique and Mali which boosted the iron levels in their blood. However, women in Nangabo Sub-county rejected the sweet potato vines for fear of side effects a case which had been observed in Nigeria when free food supplements were given to women. Anazonwu-Bello (1987), observed that free food supplements in Nigeria proved futile but when a small price was attached to these foods people started buying them and using them. Fieldhouse (1993), also noted this anomaly and he recommended that before introducing new food in the society, people need to be sensitized on that food so as to avoid rejection of the introduced food.

In Buganda region food items can often be obtained at quite cheap prices which enable most women to get the food they need. In Nangabo Sub-county most women (over 70%) had at least three main meals a day and about 58.7 % women had enough food all the time. More diploma teachers had enough food than certificate teachers; and more certificate teachers had enough food than the women who did not have secondary education. The teachers had a stable income to buy the food they needed but the women who did not have secondary education were employed in low paying jobs or they were not employed at all which made it difficult for them to get enough food. In addition, the medical personnel attributed food shortage in homes to big families which are not easy to feed properly. This observation was also made by the World Bank (1991), when it reported that in Nigeria, the fertility rate of women who did not have secondary education was twice that of educated women; and as a result these big families were difficult to feed which resulted in food shortage among people who had not completed secondary education. The Uganda MOH (1994), had also observed that in Masaka District women who had

secondary education did less laborious work but they had more food at table than those women who did not attain secondary education. The ministry had attributed this to availability of funds which enabled educated women to buy the food they needed.

Since women in all levels of education did not have enough food all the time, it is an indication that there is food shortage in Nangabo Sub-county. Food shortage might have been a result of the poor farming methods whereby yields are low due to subsistence farming and without any scientific or technological input as was reported by FAO (2000) in Sub-Saharan. Anazonwu-Bello (1987), also noted that women in Nigeria suffered from food scarcity and nutrition diseases because women lacked the right knowledge to grow their food; for if women had the knowledge they needed they could easily grown fruits and vegetables in sacks and tins on their verandas.

Lack of scientific input was clearly illustrated by the effects of the banana disease called sigatoka which had infested and killed a lot of the banana plants in many homes. In addition to this, homes did not process or store food stuffs for future use. Therefore, during the favorable conditions, a lot of food was usually produced but the surplus could not be stored as revealed by one old woman who when asked whether she always had enough food, she proudly responded, '*Emmala nokusuula nensuula*', meaning that she always had enough food and she threw away some of it. This indicated that she did not keep the remaining food for future use. This problem had also been reported earlier by M.O.H. (1994), when it revealed that lack of appropriate technology had led to poor agronomic practices, poor food processing, and lack of storage facilities; and thus they led to food scarcity in Masaka District.

It was noted that there was a general misconception concerning the number of meals a day which the families had. Many women reported that they ate food only once a day when in fact they had eaten food several times in a day. The fact was that a lot of food was often cooked at one go and some was kept to be eaten later on. This seemed to be an evolving food habit especially among those women who did not have secondary education who toiled a lot during the day to make ends meet. It could also be due to cooking fuel problems, time factor and cumbersomeness involved in food preparation rather than with food availability. In connection to this one woman said, '*Nze sida mu muka mirundi ebiri*' meaning that she could not go back to cook food in a kitchen full of smoke twice.

Only 43% of all women often had their meals on a set time table; and these were mainly teachers. Teachers had to have their food on time because they were governed by school time schedules. Anazonwu-Bello (1987), had also made similar observations among those women who formed a working class in Nigeria. She said that the working women were time bound and thus they always had their meals on schedule. This was mainly so for breakfast (break tea) and lunch which most teachers had from their schools. On the other hand, those women who were not having a regular employment did not have to abide by specific meal schedules as did the teachers; and thus they were least concerned with eating their food on schedule. In fact some women were found having breakfast at around eleven o'clock after coming back from their farms; and they said that their lunch would be at around four o'clock.

The findings of this research have also shown that for most women 'meal time' was no longer time for family gathering as it had been reported by Fieldhouse (1993). This might

be due to the fact that most women were employed and therefore they bought the food themselves and thus they did not feel that they were obliged to wait for their companions. Secondly, the teachers had to stick to school time schedules and they were often away from home for lunch. According to the findings, those women who did not have secondary education did not abide with this culture either. Therefore, they did not wait for their companions before serving their food. However, a big percentage of these women shunned away from answering this item which indicated that these women were not straight forward in their responses.

Most African cultures prohibit women from eating nutritious and tasty foods such as eggs, chicken, grasshoppers, the Nile perch and the lung fish. This research has established that women in Nangabo Sub-county had various stands concerning eating taboo foods. The chi square test indicated that women of different education levels were not significantly different as it far as eating taboo foods was concerned. However, about half the women declined to respond to this item and this included women from all levels of education. The fact that women shunned away from answering the question indicated that they were sensitive on the information connected with food taboos and they did not want to show their stand on this issue.

Women in Nangabo Sub-county exhibited various eating habits which were attributed to a number of factors. According to the Kiganda culture, a woman and her children sit on the mat when eating food, Kirwana Ssozzi (2000). Consequently there were some women who sat down on the floor when eating even if they had tables. It is also common among the Baganda as a sign of respect for the husband, for the man (head of the

family) to eat his food using the table when the wife and children are sitting down on the mat. However, food habits change; and therefore in some homes all members of the family including women and children used the table when eating. Some women could not use the table simply because they did not have tables; and in this case food was put on plates for individuals and then they ate their food when sitting anywhere including outside.

As it regards the eating places, most women ate their food from their homes probably because it is usually cheaper to eat from home than to eat out. Taking into account that those women who did not have secondary education were mainly low income earners, it was always cheaper for them to eat from homes than to buy food from eating places. Even for teachers it was cheap for them to eat from their homes; after all, most teachers resided on the school compound. On the other hand, there were more diploma women who ate from drinking places than other women of lower education levels. The diploma women had a regular income and thus they were capable of buying expensive foods and drinks. However, those women who did not have secondary education might have found it difficult to eat outside for many of them did not have a steady income. This confirmed what was reported by Anazonwu-Bello (1987), that educated women in Nigeria were capable of buying any food they wanted including exotic foods and drinks because they had the money to do so. It was also observed that on the whole few women ate from drinking places. This might have been governed by the Kiganda culture for a Muganda woman is not expected to frequent drinking places or else she loses her dignity in the community.

5.2: The effects of formally acquired knowledge on the feeding habits of women

The idea of eating food from the streets was not liked by most women in all education levels. Verbal and facial expressions regarding eating food which was sold along the road sides was strong enough to show that women disliked the idea. The response was generally the same in all levels of education; that is: the food was dirty. This might have been due to the fact that this food was being prepared and sold in very unhygienic places and by unclean vendors. The medical personnel at Kasangati Dispensary were also against both street and kiosk foods and they gave the same reason that the food was dirty and unhygienic. The medical officer in Kasangati Dispensary attributed the endemic intestinal worms in this region to poor food hygiene. Women representatives were in support of kiosk foods but they too discouraged street foods. The observations made in this research were different from those recommended by Hesecker & Beer (2004), when they suggested that street food was good for developing countries because it improved on the diet of the people by providing better and cheaper food; and that it was a good source of income for those women who dealt in this trade. Teachers could have avoided street food so as to protect their status for this food is often considered by the society to be for those people of a low status.

Piped water was found in the homes of diploma teachers more than in the homes of other education levels because most diploma teachers lived in good government houses which had running water systems whereas women of lower education levels lived in small houses which did not have water. It is also possible that diploma teachers had enough money to bring piped water into their premises. It should be noted, though, that piped water was a problem in all homes because of the unreliable supply. However, despite fairly reliable

rainfall throughout the year, women in Nangabo Sub County did not harvest rain water. Women who did not have secondary education lacked money to bring piped water or they lacked vision to buy water tank.

Although the majority of women said that nutrition as a topic was well tackled in schools, the items which were concerned with knowledge application did not indicate so. This could have been due to inaccurate information concerning this item; and indeed this was so for some women who had not been to school at all had responded to this item as if they had been in school. As for certificate and diploma teachers this might have been due to the teaching of the topic on nutrition in schools as was observed by Fieldhouse, (1993). According to Fieldhouse students know facts concerning nutrition very well; and they pass examinations with good grades but they fail to put what they have learnt into practice. He stated that in schools more emphasis is usually put on factual fact which would enable the students to pass examinations with good grades rather than on the relevancy and the applicability of the gained information.

This anomaly was expressed by a university graduate teacher of home science when she said, *‘The knowledge I got up to the degree level was not useful in my feeding. The knowledge I use now was obtained when I did my diploma course in catering after my degree course’* (personal communication to home science teacher, September 27th, 2007). Similarly, the information gathered on the balanced diet showed that the women did not have the proper knowledge they needed to be able to work out a balanced diet for only 54.9% of all women could work out a balanced diet. The knowledge which was acquired from formal education did not influence the feeding habits of women probably because it

was irrelevant. However, the levels of education influenced the feeding habits of women; for the education level determines the type of employment and income which one can get.

Lack of proper knowledge for good feeding might be due to the curricula, syllabi and examination systems which are followed in schools. Oluka (2002), observed that the curriculum as prescription (CAP) format which is followed in Uganda schools is constructed in a de-contextualized and de-embodied manner by non academic staff without taking into consideration the ability of the learner and the capability of the implementers. Therefore, the curricula and syllabi are often theoretical and impracticable and teachers are incompetent and de-motivated. Oluka (2002), called for community oriented curricula constructed by the implementers and the community so as to stimulate interest in students and to ensure applicability after school.

As it regards the teaching of the topic on nutrition, the majority of women participants, all women leaders and the medical personnel all observed that schools and colleges did not give enough knowledge to students to enable them have proper feeding habits. Two home science teachers and one women leader suggested that the teaching and examinations in schools should be oriented towards societal needs if education is to achieve its objective of being applicable by the student to their daily life activities after school. Sjøberg (2002), had observed that there was a general decline in the number and quality of science students and teachers worldwide. He reported that the teaching methods used in class, the capability and influence of the teachers, the environment at home and in schools, as well as the job opportunities after school all lead to a decline in the interest for science. Sjøberg (2002), recommended student centered teaching so as to ensure relevancy and to

stimulate interest in students. Women leaders and the medical persons suggested that there is need for intensive informal education and sensitization through seminars, workshops and mass media for those women who were already out of school; and most participants in this study recommended a minimum of senior four ('O' level) education for women if proper feeding habits were to be achieved. This was supported by the findings of this study which showed that diploma and certificate teachers were not significantly different in their feeding habits whereas the feeding habits of women who did not have secondary education were significantly different from those of certificate holders.

Steaming and boiling were the most popular methods and these were the recommendations made by Cook-Fuller (1997/98) as the best methods for preserving the nutrients in the vegetables. The sequential choice of these methods by women was a result of informal education by sensitization on the radios and televisions. Informal education through sensitization in seminars and workshops was used by U.N. (2000) to improve on the feeding habits of women in the Philippines.

The types of vegetables used by different levels of education were also different. Diploma and certificate holders mainly used cabbage and nakati which were bought from the markets whereas those women who did not have secondary education used pumpkin leaves, jobyo and dodo (*Amaranthus sp.*). When asked whether they ate traditional vegetables such as pumpkin leaves the teachers made signs of disgust; and some added that those vegetables were for old people and the villagers. This was in agreement with the observations made by Fassil et al (U.N. 2000) when they reported that most African women did not want to eat the traditional leafy vegetables, because “.... *many of these species are*

considered to be of 'low status'. On the other hand, the women who did not complete secondary education ate traditional, dark green vegetables simply because these plants grow easily as wild or semi wild plants but not because of their nutritive value. Women in Nangabo Sub-county made facial expressions which reflected embarrassment when they associated themselves with the eating of local vegetables. Women who did not have secondary education rarely ate cabbage and nakati probably because they could not afford buying them. However, they ate vegetables more frequently than certificate and diploma holders because, as they put it, *they could not afford buying other types of vegetables or sauces.* This indicated that the women did not know that dark green vegetables were important for good nutrition.

The time for breakfast also showed that women did not know that breakfast is one of the most important meals in a day following many hours of not eating any food, Ricketts (1987). Breakfast should be of good quality and in enough quantity and it should be eaten early in the morning. Unfortunately, this was not so in Nangabo Sub-county. Respondents made such statement as: 'I get my breakfast during break when I get break tea' (teachers). Break time in schools is between 10.30 a.m.-11.30 a.m. Some said, 'There is no time to waste on eating breakfast' (from all levels of education); and others said, '*Nze sirina bisera bilya kyankya. Mala kwekolera mirimo gyange nendyoka ndya; eyo kusawa nga mukaaga*' ('I do not have time for breakfast. I have to do my work first before having breakfast at around noon when I have finished my work'). These sentiments showed that the respondents did not know that it is important to have breakfast in the right time.

The foods used for breakfast varied greatly probably because of the different levels of income in women. Diploma holders mainly used bread for breakfast, women who did not have secondary education mainly used leftover foods or freshly prepared food and certificate holders used all the methods. Nobody among those women without secondary education mentioned bread for breakfast and only two respondents, both diploma holders, mentioned using eggs in their breakfast. However, no respondent mentioned exotic foods like bacon or sausages for breakfast; probably due to the high costs involving these foods.

Various reasons were put forward to justify why women should not eat eggs; among which were that a woman would be sterile if she ate eggs. Others said that if a woman ate eggs the children she would get would make much noise as do chicken; and yet others said that if a woman ate eggs it indicated lack of motherly feelings towards the off springs of chicken. However, education is expected to change the views for women would come to know the truth and thus decide wisely. The findings showed that the number of women who did not eat eggs declined with the decline in the level of education. This might be attributed to formal education which enabled educated women to make informed decisions concerning food as was the case in Nigeria. Anazonwu-Bello (1987), reported that educated women tended to neglect unfounded cultural food prohibitions. Regarding the eating of taboo foods, this research has shown that much was learned through sensitization in seminars and workshops. This was in support of the observations made by U.N. (2000) among the Philippines where informal education by using mass media, community workers, and massive campaign by top leaders was used to sensitize women on matters connected to proper feeding. However, women who did not have secondary education ate the taboo food because of gender equity but not because of knowing the nutritional value of these foods. It

is important to note too that even among those women who had diploma and certificates education, culture was still effective and as such some women still did not eat taboo foods including eggs.

The idea of eating from the same container was not supported by most women due to unhygienic conditions which could lead to diseases. Teachers reflected knowledge of communicable diseases whereas those women who did not have secondary education were afraid that different members of the family ate at different speed which would result in some members not having enough to eat; which indicated that there was not enough food for everybody. Some women especially, those who did not have secondary education did not raise any fear of eating from one container. This could be due to the cultural effect because among the Baganda members of the same family often eat together from one container as a sign of brotherhood. It could also be due to ignorance of communicable diseases which could be passed on to other family members.

Regarding the identity of typhoid as a common nutrition disease, most participants knew that it is caused by bad feeding habits (poor hygiene). This might have been due to frequent informal education in mass media, seminars and by the local administration concerning the water born diseases which frequently break-out in Kampala City and its suburbs during heavy rains. However, a backup question to investigate further into the level of knowledge which the women participants had concerning other common nutrition diseases the findings gave a different picture from that of typhoid. The findings showed that whereas most women (80.25%) were in position to identify typhoid as a common nutritional disease, only 67% women were able to list other common nutrition diseases. generally, the

knowledge which women had concerning other nutrition diseases decreased with a decrease in the level of education to indicate that this knowledge was obtained from formal education.

Interview interactions with women respondents, women leaders and the medical personnel showed that women of different education levels suffered from the similar diseases. The commonest nutrition diseases among women were *Helminthes sp*, other intestinal worms and severe anemia (especially among pregnant women), ulcers, diarrhea, obesity, dysentery and respiratory infections. Similar diseases had also been reported by the Uganda Ministry of Health (MOH1994), among pregnant women in Masaka District. In addition, Kasangati Health Center reported an increase in tuberculosis cases and the medical personnel related this increase to unhygienic food practices in food kiosks and drinking places where containers were used by many people and yet the containers were not cleaned properly. The medical personnel in Kasangati Health Center said, ‘All diseases reported here are caused by poor feeding.’ One woman leader (a school administrator) and a home economics teacher also said that all diseases were a result of poor feeding. The argument of all these people was that a poorly nourished body is easily susceptible to disease. Lack of clean water and lack of knowledge concerning the causes and prevention of these diseases might also have contributed to the diseases found among women in Nangabo Sub-county; as was the case among women in Masaka. As reported by M.O.H. (1994). Most women participants, women leaders and the medical personnel recommended the education of the public through seminars as one of the ways which should be used to reduce the prevalence of these diseases.

5.3: Conclusions

This study has established that women of different education levels in Nangabo Sub-county were significantly different in their feeding habits. Women exhibited a variety of feeding habits which were determined by many factors but knowledge from formal education did not significantly influence the feeding habits of women.

5.3.1: The feeding habits which were exhibited by women of Nangabo Sub-county

- Women of different education levels were significantly different in their feeding habits. The certificate teachers were not significant difference from diploma holders but those women who did not have secondary education were significantly different from the teachers. The feeding habits were governed by many factors such as culture, education, the economy and the environment. The main differences were reflected in food procurement, food choice, knowledge application and cultural influence. Teachers also had food supplements from their working places which resulted in having different types of food.
- The findings showed that most women (87%) in Nangabo Sub-county got most of their food by subsistence farming. Matooke, Sweet potatoes, cassava were the main foods which were grown on small farms. Posho and rice were also commonly used. Traditional cereals were not popular for food. Food scarcity and food insecurity were common among women for only 54% women had enough food all the time and only 78% had three meals a day.

- Cultural influence was declining as it regards taboo foods, eating patterns and eating habits due to knowledge which was acquired by both formal and informal education and by gender equity sensitization. Cultural influence was still strong among all women especially those women who did not have secondary education.
- The common claim by women that they ate only one main meal a day was not necessarily correct in most cases. Women ate food several times a day but they cooked a lot of food at one go and they kept some food to be eaten later on. A new food culture seemed to be emerging especially among those women who did not have secondary education where women preferred to cook a lot of food at once due to fuel problems rather than food scarcity. It also seemed to be influenced by the desire to reduce on the hard work involved in food preparation.

5.3.2: The influence of the acquired knowledge on the feeding habits of women

- The knowledge acquired from formal education did not influence the feeding habits of women; and most participants said that the teaching of the topic on nutrition was neither done adequately nor efficiently.
- The levels of education influenced the feeding habits of women in Nangabo Sub-county. This could have been due to financial capability for the working women had money to meet their food demands and to bring piped water into their homes. It was noted that knowledge on common nutrition diseases was poor especially among those women who did not have secondary education who suffered more from the common nutrition diseases than the teachers. These women also lacked piped water

which contributes more to the prevalence of the common nutrition diseases among these women.

5.4: Recommendations

The following recommendations aim at improving the feeding habits of women by improving on their knowledge concerning proper feeding and by changing the approach to proper feeding by the administrators.

5.4.1: The feeding habits exhibited by women of Nangabo Sub-county

- It is important that the government and all those concerned with the welfare of women to look into the types, quality and quantity of food eaten by women. Women need sensitization so that they incorporate cereal foods from other parts of the country and local green vegetables in their diet so as to improve on their feeding habits.
- In order to encourage women to start using the high quality food supplements which are rejected and miss-trusted by women, a small fee could be attached to these food supplements. This fee would reflect the importance of these crops and women would start using them. Nigeria solved a similar problem in this manner.
- There is need to improve on food security through scientific and technological methods so as to increase crop yields and crop varieties. In order to improve on food quality, there should be better and more reliable sources of cooking fuel than firewood fuel so that women do not eat only one hot meal a day.

5.4.2: The influence of the acquired knowledge on the feeding habits of women

- There is need for NCDC and UNEB to revise the curricula, syllabi and examinations so as to make them pupil/student and community centered. The syllabi and curricula should also be student centered so that students move at their own pace without fearing to fail or dropping out of school. This could make science more enjoyable to students so that students do not lose interest in science subjects. It could also eliminate cram work which is forgotten soon after examinations; and education would achieve its objective that students should be able to apply the acquired knowledge in the daily life activities after school.
- Teaching in schools, practical work and examinations should aim at enhancing the pupils' reasoning, problem solving and applicability to local situations instead of reproducing the already established materials which are found in textbooks. This would be a long way in making school science: science!
- There is need for better trained teachers to handle the teaching materials efficiently and effectively; and those teachers in the field should get refresher courses to reduce dependency on outdated methods and textbooks. The teaching and examinations in schools should be oriented towards societal needs if education is to achieve its objective of the student being able to apply the acquired knowledge in the daily life activities after school.
- It would also be beneficial to the community and the country as a whole if seminars and workshops are intensified to sensitize those women who are already out of school on proper feeding habits. The following suggestions have been specially singled out to ensure that women of different education levels attain proper feeding habits.

- There is need to improve on the knowledge which women have concerning proper feeding through both formal and informal education in order to provide more information on proper feeding. This might involve changing the present education system and making the syllabi and examinations more relevant to individual and community needs.

5.5: Suggested areas for further studies

From this study, it was realized that more it would be a good idea if more research is done in the following areas.

- The quality and quantity of food eaten by women
- The existence of diet related diseases in women.
- The teaching of biology in schools.

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APPENDIX: A QUESTIONNAIRE FOR WOMEN ON THE FEEDING HABITS OF WOMEN

Title: Influence of Educational Level of Women on their Feeding Habits: The Case of Nangabo Sub-County, Wakiso District.

1.0: Introduction

As part of my requirements for the award of a Master of Education in Science Education, I am carrying out a research on the feeding habits of women so as to establish whether the level of education plays an important role in determining their feeding habits. Therefore, I am requesting you to fill in this questionnaire to enable me get the necessary information. Please answer the questions to the best of your knowledge. All information is useful and confidential.

June, 2007

Identification number.....

SECTION A: Background Information: Please fill in the blank spaces

1. Are you living alone or with a male companion?

.....

2. What is your religion?

.....

3. What is your occupation (job)?

.....

4. What is the occupation of your partner?

.....

5. What is your highest level of education?

.....

SECTION B: To establish whether women have the required knowledge for proper feeding habits? Please put a tick (✓) in the square next to the alternative of your best choice.

6. List five foods which you use most often in the family

7. How do you obtain your food?

A	It is mainly home grown
B	It is all home grown
C	It is mainly bought
D	It is all bought

8. Do you always have enough food?

A	Yes
B	No

9. How many meals a day do you usually have?

A	At least three meals a day
B	Two meals a day

10. Which one of these foods do you use most for breakfast?

A	I usually buy Bread
B	I usually prepare fresh food
C	I usually eat left-over food
D	I do not usually have breakfast

11. When do you eat your food at home?

A	When my husband/ Daddy is back
B	Whenever it is time for eating food even if my partner has not come back
C	When all members of the family are present
D	When I am hungry I eat my share

12. How is food eaten in your home?

A	Everybody eats from the table
B	My husband /Dad and I eat from the table but children sit down
C	Everybody sits down
D	Only my husband/Dad eats from the table

13. Does your partner eat different foods from yours?

A	Yes
B	No
C	Some times
D	No response

14. Is there any food you eat which culture forbids?

A	Yes
B	No

15. If yes, which one?

.....

.....

16. Give reasons for your answer above

.....

.....

SECTION C: To establish the feeding habits of women in Nangabo Sub-county

17 Should women eat eggs?

A	Yes
B	No

18. Do you eat or drink from one common container with other people at the same time?

A	Yes
B	No
C	Not any more

19. 17. Do you use the knowledge from school when choosing what to eat?

A	Yes
B	No
C	Only sometimes

20. How well was nutrition as a topic tackled in school?

A	The topic of nutrition was given enough time
B	The topic of nutrition was not given enough time
C	This topic has never been taught to me.

21. Which one of these diseases is caused by bad feeding habits?

A	Typhoid, anemia, goiter
B	AIDS , measles, tetanus
C	Malaria , sleeping sickness

22. What diseases can you get if you do not feed properly? Name four.

.....

.....

23. Do you know how to work out a balanced diet?

A	Yes
B	No
C	Not sure

24. If you do not eat at home, where do you eat from?

A	In a restaurant
B	In a bar
C	I buy food from food vendors on the street
D	I do not eat outside my home

25. What is your source of water?

A	Piped water
B	Borehole
C	Rain water
D	Swallow well

26. Do you know how to work out a balanced diet?

A	Yes
B	No
C	Not sure

27. Do you know how to work out a balanced diet?

A	Yes
B	No
C	Not sure

28. How do you cook your vegetables?

.....

.....

THANK YOU FOR WORKING WITH ME!

**APPENDIX: B. INTERVIEW GUIDE ON THE FEEDING HABITS
OF WOMEN FOR WOMEN PARTICIPANTS**

**Title: Influence of educational of women on their feeding habits: The case of Nangabo
Sub-County, Wakiso District.**

Location.....Respondent's number.....

SECTION A: Background information: Answer the questions below:

1. Are you married or single?
2. What is your religion?
3. What is your occupation (job)?
4. What is the occupation of your partner?
5. What is your highest level of education? (What level of education should a woman have
in order to feed well?)
.....

SECTION B: The feeding habits exhibited by women in Nangabo Sub-county

6. Name five foods which you use most often in the family (What sauces do you use?)

.....

.....

7. How do you get your food?

.....

.....

8. Do you always have enough food? (If not, why not? Is there any food you would like to have and you do not have it? Which one? Why can you not have it?)

.....

.....

9. How many meals a day do you usually have? (Do you eat the meals at specific times or not

.....

.....

10. What foods do you use for breakfast?

.....

.....

11. Do you eat your food at the same time with other members of the family?

.....

.....

Where do you sit when eating your food?

.....

12a). Do you eat the same food as other members of the family?

.....

.....

b). Is there any food which you do not eat because culture forbids it? (What food is it?)

.....

.....

13. What is your main source of water? (Why do you not have piped water?)

.....

.....

14. After going to school is there any food you eat when culture forbids it? (What foods are they? Why do you eat them?)

.....

.....

15a) Name five foreign foods which you use often (Are these foods as good as your traditional foods?)

.....
.....

15b). What foreign food would you dare not eat even if it is availed to you? (Give reasons)

.....
.....

16. On what occasions do you have special meals? (What foods do you cook on each occasion?)

.....
.....

17. Comment on the ready to eat food sold on the street. (Do you buy this food? What is good/bad about this food?)

.....
.....

SECTION C: To establish whether women have the required knowledge for proper feeding habits

18. What determines the food you are going to eat? (Do you usually consider the nutrients value of food before choosing what to eat?).

.....

.....

19. Do you use knowledge from school when choosing what to eat?

.....

.....

20. How much water do you drink a day?

.....

.....

21. When in school did you learn about feeding? (What did you learn about feeding?

.....

.....

.....

22. In some cases, people eat from one common container. Are you in support of this habit?

(If not, why not?)

.....

.....

23. What diseases can you get if you do not feed well?

.....

.....

24. Where do you eat from if you do not eat at home?

.....

.....

25a). Do you buy ready to eat foods from the roadside?

.....

.....

b). If not, why not?

.....

.....

26. Mention five diseases which you usually suffer from?

.....

.....

27 How do you usually cook your vegetables?

.....

.....

28. How often do you use vegetables and fruits? (What vegetables do you usually eat?)

.....

.....

THANK YOU VERY MUCH!

APPENIDIX C: INTERVIEW SCHEDULE FOR MEDICAL PERSONNEL AND WOMEN LEADERS ON FEEDING HABITS

Title: Influence of educational level of women on their feeding habits: The case of Nangabo Sub-County, Wakiso District.

SECTION A: Background information: Please fill in the blank space

1. What is your religion?

2. What is your designation in this place?

.....

Name.....Signature.....

Designation Place.....

SECTION B: To establish the feeding habits: Please answer the questions below:

3. Do you think the women in this area have good education for proper feeding habits?

.....

4. What educational level do you think is the most suitable for women so as to have proper feeding habits?

.....

5. Do women in this area have proper feeding habits?

.....

6. What problems do women have concerning their feeding habits?

.....

7. What food supplements do women get to boost their feeding?

.....

8. Do you think the educational level of the woman influences her feeding habits? (Please elaborate)

.....

9. What are the most common nutritional diseases prevailing among women in this area?

.....

10. In your opinion do women in this area have enough food?

.....
.....

11. What areas related to feeding in this area need urgent attention?

.....
.....

12. Comment on the rampant habit of selling ready to eat food along the roads.

.....
.....

13. What other information you would like to give?

.....
.....

THANK YOU VERY MUCH!

APPENDIX: D. OBSERVATION CHECKLIST

Location/ ParishRespondent Number.....

Date.....

1. What food crops are available in the home?

.....

.....

2. About how much land is cultivated for food?

.....

3. How and when is food eaten?

.....

.....

4. How is food processed?

.....

.....

6. Any other information?

.....

.....

APPENDIX E: DOCUMENT STUDIES CHECKLIST

Dispensary.....Date.....

Type of document(s) studied

.....

1. What are the commonest nutritional diseases?

.....
.....

2. What ages suffer from these diseases?

.....
.....

3. What food supplements are given out to women?

.....
.....

4. What advice on feeding is given to women (pregnant and nursing mothers)?

.....
.....

5. What other information do you have concerning the feeding of women in this sub-county?

.....

.....

.....