TO ASSESS DIETARY KNOWLEDGE, ATTITUDES AND PRACTICES AMONG DIABETIC PATIENTS RECEIVING CARE AT KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL.

A RESEARCH REPORT SUBMITTED TO UGANDA NURSES AND MIDWIVES EXAMINATION BOARD IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DIPLOMA IN NURSING SCIENCES.

BY
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M15/U011/DNE/0037

OCTOBER, 2016
DECLARATION

I hereby declare that the work presented in this proposal is my own and has not been wholly or partially submitted with any other institution before. All sources used or quoted have been fully acknowledged by means of complete references.

Signature of the researcher………………………

Date…………………………………………………

Name ………………………………………………………………

SUPERVISOR APPROVAL.

This report has been produced under my supervision and is ready to be submitted with my own approval.

Signature ………………………………

Date ………………………………………

Name …………………………………………………
ACKNOWLEDGEMENT.

No single mind is capable of completing magnitude project of this caliber without the assistance and vision of many caring people while in school.

Blessed be the almighty God for His grace and measure of life.

Special thanks to Ms. KIKELOMO Julianah, my supervising tutor for her tireless work and constructive criticism during my research project. She analyzed, corrected and gave me direction on how to write my work. I appreciate her professional advice that enabled me organize sense out of this study.

I am greatly indebted to acknowledge my parents and family members at large for the financial, spiritual and moral support rendered to me during academic pursuit. Finally, thanks goes to nursing school staff members and my fellow students especially Joshua, Jonathan, Arthur, Tony and Wine who assisted me in various ways during the course of my study.
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AUTHORIZATION

SUPERVISOR’S APPROVAL

This research report titled: “To assess dietary knowledge, attitudes and practices among diabetic patients receiving care at Kampala International University Teaching Hospital” was done under my supervision and has been forwarded for consideration with my approval.

AUTHOR:

SIGNATURE: ……………………………DATE……………………………

NAME: ………………………………………

SUPERVISOR’S APPROVAL

SIGNATURE: ___________________________ DATE: ________________

MS. JULIANAH KIKELEMO YASOWA

KAMPALA INTERNATIONAL UNIVERSITY WESTERN CAMPUS

DEAN’S APPROVAL

SIGNATURE: ___________________________ DATE __________________

MS. KABANYORO ANNET.

(DEAN SCHOOL OF NURSING)

KAMPALA INTERNATIONAL UNIVERSITY WESTERN CAMPUS
DEDICATION
This research work is dedicated to my beloved parents, Mr. Murangira Evarist and Mrs. Nyirabeza Hope for their tireless efforts, hard work and encouragement throughout my studies; and to my brothers Nfitumukiza Pascal, friends like Augustus, Bakija, Joshua, Tushabe Sarah Abwooli among others. Finally to the family of Mr. &Mrs. Oscar for the maximum assistance rendered to me and my beloved wife Kukunda Olivia plus my baby Skylar.
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LIST OF ACRONYMS

KIU-TH: Kampala International University Teaching Hospital.

NDSS : National Diabetic Association

IDF: International Diabetic Federation

NCDs: Non communicable diseases.

WHO: Word Health Organization.

REC: Research Ethical Committee.

DDHS: director District Health Services

NICE: National Institute for Health and Clinical Evidence
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ABSTRACT

The study to assess dietary knowledge attitudes and practices among diabetic patients was conducted at Kampala international university teaching hospital in Ishaka Bushenyi municipality, in western Uganda. Uganda is one of the 32 countries of the IDF African region. 415 million people have diabetes in the world and more than 14 million people in the AFR Region; by 2040 this figure will be more than double. [National adoption of the global monitoring framework NDCs 2015. The objectives of study were assess dietary knowledge, attitudes and practices among diabetic patients. 60 respondents were selected from a total of population of diabetic patients receiving care at Kampala international university teaching hospital. During the period of data collection, primary data were collected from the respondents with the aid of structured questionnaire and was analyzed using descriptive statistics. The study revealed that more than half of the respondents were female, this is because women consult doctors more frequently on average than men, it is commonly assumed that they consult more for all symptoms and conditions. The level of literacy was about 66.6% in the post primary level. More than half of 66.6% did not have knowledge about bitter food substances in management of diabetic, only 46.6% of diabetic patients avoiding too much carbohydrates while 60% limited their too much sugar intake. Interestingly, the more rigid eating practices such as eliminating sugar, limiting carbohydrates and decreasing dietary fats play important role in diabetic management. 66.6% had negative attitudes towards diabetic diet they believe it is a burden to them. 60% believe that all level of economic class could afford diabetic diet, 60% responsible for their choice of diet, 29% doctors recommend and 18% said their family responsibility. Furthermore the study stressed that 46.6% had good practice of eating smoked meat regularly, 40% practiced eating green vegetables daily, 33.3% used to eat snacks once a day. 20% twice and 46.6% could not eat snacks which was not a good practice. 53.3% could eat fruits once a day, 26.6% twice and 6.6% on every meal still practice not satisfactory. 46.6% could eat green vegetables weekly, 40% daily 13.3% monthly. Of healthy food, fruits consumed on daily basis while green vegetables were less consumed.
CHAPTER ONE

1.1 Introduction

Diabetes is the name given to a group of different conditions in which there is too much glucose in the blood. The pancreas either cannot make insulin or the insulin it makes is not enough or cannot work properly. Without insulin doing its job, glucose builds up in the blood leading to high blood glucose levels which cause the health problems linked to diabetes. [NDSS.COM 2015]

There are two main types of diabetes, type 1 is less common usually affecting children and young adults but it can occur at any age, type 2 is a lifestyle disease affecting 85–90% of all people with diabetes. It usually occurs in adults but younger people and even children are now getting this lifestyle disease. The body needs a special sugar called glucose as its main source of fuel or energy. The body makes glucose from foods containing carbohydrate such as breads, breakfast cereals, rice, pasta, potatoes milk, yoghurt and fruit. When the glucose goes above a certain level, some has to move out of the blood into the body tissues to supply the energy; the cells need to keep your body working properly. When the glucose level drops too low, some of the glucose stored in the liver is released into the blood to bring the level back up again. Insulin is a hormone made by the pancreas allows the glucose to move from the blood into the cells where it can be used for energy. This process is called glucose metabolism.

Diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. [National Diabetic Service Scheme 2015]

International diabetes federation’s report described that 382million had diabetes in the year 2013 and it was estimated to reach 592 million in the year 2035.[Ravi Kant Vinita Thapliyal 2014]
Diabetes is the seventh leading cause of death in United States of America. Diabetes in blacks is 1.7 times likely to develop diabetes than whites; the prevalence of diabetes among blacks has quadrupled during the past 30 years. Among black people, 20 years and older, about 2.3 million have diabetes – 10.8 percent of that age group. Death rates for blacks with diabetes are 27 percent higher than for whites and leading cause of death in the United States [American Diabetic Association].

Uganda is one of the 32 countries of the IDF African region. There were 400,600 cases of diabetes in Uganda in 2015.[Uganda Diabetic Association IDF].

According to Dr Christine Ondoa’s report on the first East African Diabetes Summit held at Munyonyo last year, 10.2 million Ugandans were pre-diabetic. Currently, two million Ugandans are diabetic.[By vision reporter 2013]

A diet for diabetes should contain a good balance of carbohydrates. Nutrition therapy in diabetes addresses not only glycemic control but other aspects of metabolic status as well as dyslipidemia and hypertension - major risk factors for cardiovascular disease. Individuals who have diabetes should receive individualized diet as needed to achieve treatment goals, preferably provided by a dietitian familiar with the components of diabetic diet.

Individualized meal planning for diabetes should include. Optimization of food choices to meet recommended dietary allowance carbohydrate intake is a primary strategy for achieving good glycemic control in both type 1 and type 2 diabetes. There is little evidence for the ideal carbohydrate composition in the management of hyperglycemia in diabetes.

Meal and snack carbohydrate intake for diabetes should be consistently distributed throughout the day, on a day-to-day basis, as consistency in carbohydrate intake has been shown to result in improved glycemic control.
This study therefore examines knowledge, attitude and practice on diet among patients receiving care in KIU -TH.

1.2 Problem Statement

Uganda is one of the 32 countries of the IDF African region. 415 million people have diabetes in the world and more than 14 million people in the AFR Region; by 2040 this figure will be more than double. [National adoption of the global monitoring framework for NCDs 2015]

There were 400,600 cases of diabetes in Uganda in 2015. Total adult population (20-79 years) 15,784 number of deaths in adults due to diabetes 11,341 Prevalence of diabetes in adults (20-79 years) (71.8%) 2.5 Cost per person with diabetes (USD) – [Diabetes in Uganda 2015]

Despite all the publicity surrounding new research and new nutrition guidelines, some people with diabetes still believe that there is something called a "diabetic diet." For some, this so-called diet consists of avoiding sugar, while others believe it to be a strict way of eating that controls glucose. Unfortunately, neither are quite right. [Diabetes Information | Diabetes Resource Diabetes & Nutrition » The Truth about the So-Called "Diabetes Diet"] 88% of the population still believes that bitter substances can control diabetes. . Diabetic patients encounter several difficulties in complying with the dietary regime. They exhibit restrictive eating behaviors, they express feelings of dietary deprivation, and rigid dietary control is perceived as the only way to a proper diet and weight management. [KullerLH 2010]

In KIU-TH studies have not been conducted to ascertain dietary knowledge, attitudes and practice among diabetic patients. Therefore this inspired the researcher to carry out a study among diabetic patients receiving care at KIU-TH.

1.3 The purpose of the study.

To assess dietary knowledge, attitudes and practices among diabetic patients at KIU-TH
1.4 specific objectives;
1. To assess patients knowledge on roles of diet in management of diabetes.
2. To examine the dietary attitudes among diabetic patients.
3. To assess dietary practices among diabetic patients

1.5 Research questions
1. What are the patients’ knowledge on roles of diet in management of diabetes?
2. What are the dietary attitudes among diabetic patients?
3. What are dietary practices among diabetic patients?

1.6 Justification of the study
The research information may add to the existing body of knowledge and information generated may be used by KIU-TH administration to formulate strategies to improve on the awareness of diabetic patient and the entire population on the roles of diet in management of diabetes. Findings from the study may help practicing nurses to create awareness to the diabetic patients attending KIU-TH then improve on quality of life of patients. For upcoming researchers the study findings may be disseminated to the hospital which may help to provide quality services and care.
CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction.

Many researches carried out elsewhere have identified low dietary knowledge, attitudes and practices among diabetic patients. In this chapter, the researcher attempt to review the related literature that has been documented by other studies related to knowledge, attitudes and practices.

2.2. Patients knowledge on management of diabetes

Nutrition intervention is an integral part of type 2 diabetes care. Dietary management entails a series of eating behavior changes regarding meal planning, food selection, food preparation, dining out, portion control, as well as appropriate responses to eating challenges. Diabetic patients encounter several difficulties in complying with the dietary regime. They exhibit restrictive eating behaviors, they express feelings of dietary deprivation, and rigid dietary control is perceived as the only way to a proper diet and weight management. However, pressure to conform to nutritional recommendations may render diabetics more prone to dietary under-reporting [Chelleet al2009].

Binge eating, restraint and body dissatisfaction frequently occur among these patients. Diabetic people are routinely advised to adopt a healthful diet; dietary changes include modifications in food habits and meal patterns on a lifelong basis.[Samwuel-Hodget et al 2011]

Nutrition-related knowledge, influence daily diabetes management with regards to meal planning, food selection and preparation, but also behavioral responses to diet challenges, such as eating favorite foods, weight management, portion control and dining out. Mediating variables that impede or facilitate self-dietary care of diabetes may include the level of social support, the degree of self-efficacy and the individual's time management skills. Patients perceive dietary recommendations as restraining and not adapted to diabetes.
individual needs. Interestingly, the more "restrictive" or rigid eating practices, such as eliminating sugar, limiting carbohydrate-containing foods and decreasing total dietary fat, were far more frequently described by diabetics as an important part of diabetes dietary management compared with the more flexible eating patterns of portion control and regular eating [Sovoca and Miller 2009]

The American Diabetes Association gave the following guidelines for:

Type 1 DM

This can achieve much if the following dietary principles are observed; Integrate and synchronize with the time of action of insulin treatment – patient on insulin therapy should eat at consistent time simultaneously with the time of action of insulin Preparation used. This will help to minimize the peak of blood glucose as well as Incidence of hypoglycemia. Reduce saturated fat because diabetics are prone to having coronary heart disease and dietary restriction may reduce the risk. Keep salt intake low: salt intake must be reduced by diabetics because it has high risk of developing hypertension. However, intake of essential nutrients should be adequate among growing patients. [Hawks et al 2008] Exercise: For planned exercise, reduction in insulin dosage may be the preferred choice to prevent hypoglycemia. Additional carbohydrate may be needed for unplanned exercise. Moderate intensity exercise increases glucose uptake by 2–3 mg · kg−1 · min−1. Exercise: For planned exercise, reduction in insulin dosage may be the preferred choice to prevent hypoglycemia. Additional carbohydrate may be needed for unplanned exercise. Moderate-intensity exercise increases glucose uptake by 2–3 mg · kg−1 · min−1 above usual requirements. Thus, a 70-kg person would need 8.4–12.6 g (10–15) carbohydrate per hour of moderate physical activity. More carbohydrate would be needed for intense activity. [Ravi Kant 2013] Metabolic profile: Improved glycemic control with insulin therapy is often associated with increased body weight.
potential for weight gain to adversely affect glycaemia, lipids, blood pressure, and general health, prevention of weight gain is desirable [Diabetes Cookbook 2016 ]

Type 2 DM

A change in dietary regimen has a greater potential to improve type 2 diabetes, therefore, the following guidelines will serve a useful purpose. Because many persons with type 2 diabetes are overweight and insulin resistant, medical Nutrition therapy should emphasize lifestyle changes that result in reduced energy intake and increased energy expenditure through physical activity. Therefore, reducing bodyweight by eating few calories and taking regular exercise. Also, increased physical activity can lead to improved glycaemia, decreasing insulin resistance, and reduced cardiovascular risk factors. People think take sugary foods at home can worsen the disease this due little information patients have on diet in diabetes .[ By Sharon Kyatusiimire, Saturday, January10th, 2015] Twenty-five percent only of the patients reported an increase in their physical activity levels following diagnosis with a mere 3% meeting the recommended guidelines and 76% could not distinguish between low and high carbohydrate glycemic index food items[, Bachar Afandi 2011 ] Consistently eating at the same times every day is important for some people, especially those who take long-acting insulin [, Anderson BJ, Lohrer PA, et al2007]

2.3 Dietary attitudes of diabetic patients

In terms of attitude assessment, the 51.6% of participants with strongly positive attitudes toward lifestyle modification and the 32.7% with positive attitudes jointly constitute a majority 84.3% of the participants with positive attitudes in this study. This is also reflected in other studies, in which the majority of respondents had positive attitudes towards lifestyle modifications. The proportion of participants with very poor lifestyle practices is similar to a study done by Henry [Okonta John B. Ikombele,Gboyega A. Ogunbanjo 2008] Attitudes towards advice to reduce GI varied widely. Food selection changed in accordance with
predefined dietary goals. 'Forgetfulness', 'low availability in lunch restaurant' and 'lack of ideas for cooking' was barriers to adherence [Murata GH, et al 2009] Most people believes usually were often based on medical information. Most of them had good appetite on chocolate and confectionary, while they should never use, although there were some attitudes with cultural origin. “Fried vegetables and boiled eggs are suitable. Instead of sugar, they should use sweet fruits such as date and dried rape with tea. [Diabetes Res ClinPract. 2008 Participants were generally in favor of advice aimed at improving dietary fat quality. Attitudes towards advice to reduce GI varied widely. Food selection changed in accordance with predefined dietary goals. 'Forgetfulness', 'low availability in lunch restaurant' and 'lack of ideas for cooking' were barriers to adherence[Murata GH, et al 2009 ]People with type 2 diabetes can delay and even prevent getting it by following a healthy lifestyle. This includes regular physical activity, making healthy food choices and achieving a healthier body weight.[ Home Publications & Resources > About Diabetes 2008]

2.4 Dietary practices among diabetic patients.

In northern Brazil a total of 16.6% participants were diagnosed with DM and/or SAH. The most frequently consumed unhealthy foods were fried food (51.0%, 95% CI: 48.8–53.5) and soda (57.9% 95%CI: 55.5–60.2). Of healthy foods, fruit was the less consumed on a daily basis (11.1% 95%CI 9.6 12.5). In general, women showed better dietary practices than men. In adjusted analysis none of dietary practices was more frequent among diabetic and/or hypertensive adults compared with healthy individuals, regardless of gender. No differences were found between healthy and unhealthy adults, when the number of dietary practices was assessed Ozcariz et al 2015

According to WHO, there were 98,000 cases of diabetes by 2000 in Uganda, but this figure is estimated to reach 328,000 by 2030. The increase of the disease in the country is attributed to
a changing shift in lifestyle, characterized by eating lots of fatty foods and little or no play at all. Paul Dec 2015

The frequency of dietary practices was low and did not differ between individuals with or without DM and/or SAH. It is fundamental to reinforce the need of healthy dietary practices as one of the essential elements for the control of chronic diseases and their complications.[Ozcariz et al 2015)]

The book, which gives guidance on how to prevent and manage diabetes in Uganda, says that from the outset, patients should eat local Ugandan (African) food because it forms an essential part of their treatment. “Proper local diet is the basis for good control of diabetes. One’s diet or meal plan should include all the food required to supply energy for work, to build and repair body tissues and to regulate body functions. It must have all nutrients needed to maintain good health,” reads part of the book. However, good diet should be matched with doing exercise and medication, he recommends. DrLumu, however, says many diabetic people find it difficult to adjust to local diet that forms an essential part of their treatment. Nandutu 2008.

As per WHO patients those have a BMI between 18.5 -23 kg/m 2 considered normal, those having BMI between 24-27 kg/m 2 were considered overweight and above 27.5 kg/m 2 obese. This leads to more complication among diabetic patients [, IDF Diabetes Atlas 2013; 6th end.]

Most of people had good appetite on chocolate and confectionary, while they should never use, although there were some attitudes with cultural origin. “Fried vegetables and boiled eggs are suitable. Instead of sugar, they should use sweet fruits such as date and dried rape with tea” (60-year-old woman). They mentioned: variation in diet, less quantity with more time-saving during a meal and adjusting to personal nature (Reyhanehet al2015]
Diabetic people are routinely advised to adopt a healthful diet; dietary changes include modifications in food habits and meal patterns on a lifelong basis. However, a significant proportion of patients remain poorly controlled Mediab Observatory. Diabetes Metab.2009
CHAPTER THREE: METHODOLOGY

3.1. Introduction;

This chapter discussed the research design, setting, study population, sample size determination, justification of the sample size, sampling procedure, inclusion criteria, definition of variables, research instrument and validity, data collection procedure, data management, data analysis, ethical consideration, limitations and dissemination of results.

3.2. Study design and rationale;

This study employed a descriptive design to assess dietary knowledge, attitude and practice among diabetic patients receiving care at Kampala international teaching hospital.

The study employed quantitative method of inquiry using descriptive cross-sectional survey design. Across sectional design was appropriate to determine the study design; this would save time and resources for the researcher. Quantitative method was appropriate in obtaining quantifiable data towards Dietary knowledge, attitudes and practice among diabetic patients. The cross-sectional design helped the researcher to obtain information in different contexts at the same time during the study.

3.3. Study setting and rationale;

The study was conducted among selected diabetic patients attending Kampala international university teaching hospital located in Bushenyi district Ishaka municipality in western Uganda along Mbarara - Kasese highway approximately 386kilometres west of Kampala. The hospital being a private hospital in Bushenyi district has different wards in its public wing that is surgical, medical, pediatrics with neonatal section, obstetrics and Gynecology, psychiatric and other different specialist department unit offering different services and other diagnostic services including HIV/AIDS counseling services, maternal and child health.
3.4. Study population;  
The study population consisted of diabetic patients of 18 years and above attending KIU-TH Ishaka Bushenyi municipality.  
3.4.1. Sample size determination:  
Sample size was determined using kish lisle (1965) method in which the sample size was given by the expression:

\[
    n = \frac{Z^2pq}{d^2}
\]

\[n = \text{desired sample size}\]

\[Z = \text{Standard normal deviation at 95% confidence interval (1.96)}\].

\[P = \text{proportional of known characteristics = 50\% (constant) or 0.5}\]

\[q = (1-p)\text{which gives 0.5}\]

\[d = \text{accepted degree of error (0.05) is constant}\]

By substituting we get

\[1.96^2 \times 0.5 \times 0.5\]

\[n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05 \times 0.5}\]

\[n = 384\]

Since the target population was less than 10000, \[nf = n/1+(n/N)\]

Where \(N\) is a target population = 70

\[nf = 384/1+(384/70)\]
=384/6.4 =60
Therefore nf=60 which was the sample size.
The sample size was selected due to the factor that the researcher did not have enough time and money.

3.4.2 Sampling procedure
In selecting the patients, the researcher used purposive sampling where the sample represented others basing on the certain purpose that’s selection was made on grounds of having been diagnosed of diabetes disease.

4.3 Inclusion criteria;
All attending Kampala international university teaching hospital Patients diagnosed of diabetes disease and were above 18 years.
Patients who consented.

3.5 Definition of variables;

Knowledge: The act of knowing something with familiarity gained through experience or association

Attitude: A predisposition or tendency to respond positively or negatively to wards certain ideas

Dietary: The term related to diet and the rules of diet certain ideas

Practice: The act of rehearsing a behavior over and over or engaging in activity again and again for the purpose of improving or mastering

Diabetic: patient suffering from diabetes as a disease

Patient: A person who is receiving medical care or who is cared for by a particular person
3.6. Research instruments and validity

The major research instrument for the study was a questionnaire which was adopted as an interview guide for respondents who could not fill the questionnaire by themselves. The questionnaire contained section ABC and D Section A dealt with the social demographic data status of a patient, Section B with dietary knowledge Section C patients dietary attitudes Section D with patients dietary practices. The validity of the questionnaire was through face and content validity criteria. The questioner was given to experts in the field of nursing and social statistics to assess its relevance and its scope. Questions that were sought to be in appropriate were deleted and others reframed to suit the purpose of the study.

3.7. Data collection procedure;

The researcher used a Self-administered questionnaire to collect data from diabetic patients and confidentiality was ensured. The responses would be written down by the researcher. The period for data collection took two weeks.

3.7.1. Data management:

The data collection instruments were designed and pretested in the field for three days to check validity and reliability of the instrument and adjustments were made accordingly before the actual data collection or distributing the tools.

Validity: The researcher fluent in English and some Runyankole with the help of assistant fluent in Runyankole presented during the interviewing of diabetic patients. The questionnaire was pretested on diabetic patients in the area of the study to determine whether the constructed questions are clear, suitable and easy to understand by the diabetics any unclear questions was modified with the help of a supervisor to yield a better questionnaire.

Reliability: the researcher administered a questionnaire and this did not allow participants to discuss questions with other patients. Collected data was cleaned at the end of each working day.
3.7.2. Data analysis:

Analysis and coding was done using statistical package of Microsoft excel. Presentation of findings was in form of tables, figures and pie chat.

3.8. Ethical considerations;

Approval to carry out this study was got from (REC) Research Ethical Committee KIU-TH faculty of nursing. An introductory letter from the faculty of nursing KIU-TH and it was taken to the out and in patient departmental are offered seeking permission to conduct this study in the department area. All respondents were informed that participation was voluntary and the data collected only will be used for the purpose of the study as well as for the benefit. Respondents consented before being involved in the study. The participants were assured of anonymity, confidentiality and they will be assured of their ability to withdraw from the study at any time.

3.9. Limitation of the study;

The study was anticipated to be limited by the busy schedules of the university programs during the period of collecting data and the area of the study being a learning institution and practice of my course and as a student constraint factors like lack of sufficient funds to collect data at KIU-TH in Bushenyi district. However, adjustments were made to ensure that time specified for research was scheduled and accomplished in the stated period.

3.10. Dissemination of results:

Four Copies of the study findings which were produced and given to;

The Uganda nurses and midwives examination board.

Kampala international university western campus library.

The district director of health services (DDHS) Bushenyi district.

The office medical superintendent Kampala international university teaching hospital
CHAPTER FOUR

DATA REPRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents the study findings which have been analyzed and presented following the objectives of the study in form of tables and figures. Out of 60 respondents interviewed, 60 returned completely field giving response rate of 100%

4.1 Socio-demographic information

Table: I: Socio demographic data of the respondents

<table>
<thead>
<tr>
<th>AGE (YEARS)</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>02</td>
<td>3.3</td>
</tr>
<tr>
<td>25-29</td>
<td>06</td>
<td>10</td>
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<td>30-34</td>
<td>05</td>
<td>8.3</td>
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<td>56.6</td>
</tr>
<tr>
<td>TOTAL</td>
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<table>
<thead>
<tr>
<th>GENDER</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
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<tbody>
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<td>Male</td>
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<td>46.6</td>
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<tr>
<td>Female</td>
<td>32</td>
<td>53.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>60</td>
<td>100</td>
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<table>
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<tr>
<th>RELIGION</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
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<tbody>
<tr>
<td>Christianity</td>
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<td>73.3</td>
</tr>
<tr>
<td>Islam</td>
<td>16</td>
<td>26.6</td>
</tr>
<tr>
<td>Traditional</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Others</td>
<td>00</td>
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</tr>
</tbody>
</table>
Table I presents the socio-demographic characteristics of the respondents. The age distribution of respondents shows that the majority (56.6%) were adults (above 40 years) while 3.3% were the minority in the age category of (18-24). The table shows that more than half of the population studies 53% were female and the remaining 47% were male. Religion indicated that Christianity dominated with 73.3% and Islamic were 26.6%. As obvious from

<table>
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<td>Bakiga</td>
<td>08</td>
<td>13.3</td>
</tr>
<tr>
<td>Banyarwanda</td>
<td>08</td>
<td>13.3</td>
</tr>
<tr>
<td>Baganda</td>
<td>08</td>
<td>13.3</td>
</tr>
<tr>
<td>Others</td>
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<table>
<thead>
<tr>
<th>EDUCATION STATUS</th>
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<tr>
<td>Tertiary</td>
<td>20</td>
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<tr>
<td>Secondary</td>
<td>20</td>
<td>33.3</td>
</tr>
<tr>
<td>Primary</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>None</td>
<td>08</td>
<td>13.3</td>
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<td>TOTAL</td>
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<table>
<thead>
<tr>
<th>OCCUPATION</th>
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<tr>
<td>Self employed</td>
<td>20</td>
<td>33.3</td>
</tr>
<tr>
<td>Formal employment</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Others</td>
<td>10</td>
<td>16.6</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
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</table>
the table majority of the respondents were Banyankore 60%, and Bakiga, Banyarwanda and Baganda had uniform percentage of 13.3% no other tribe was presented in the study population. Education levels shows that the majority had reached tertiary and secondary with equal percentage of 33.3% respectively and 13.3% had no western education. As reflected on the table, half of the respondents 50% had formal employment, 33% were self-employed, while 16.6 were un employed.

4.2. Dietary knowledge in management of diabetes.

Table ii showing dietary management of diabetes

<table>
<thead>
<tr>
<th>Management of diabetes</th>
<th>response</th>
<th>Frequency(n=60)</th>
<th>Percentage (%)</th>
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<tbody>
<tr>
<td>Bitter substances</td>
<td>Yes</td>
<td>20</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>40</td>
<td>66.6</td>
</tr>
<tr>
<td>Avoid too much carbohydrates</td>
<td>Yes</td>
<td>28</td>
<td>40.6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>32</td>
<td>53.3</td>
</tr>
<tr>
<td>Avoid too much table sugar</td>
<td>Yes</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>Outcomes of un controlled blood sugars</td>
<td>Yes</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>Example of food that can be eat when you realize sign of un controlled sugars</td>
<td>Yes</td>
<td>28</td>
<td>46.6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>32</td>
<td>53.3</td>
</tr>
</tbody>
</table>

Table ii showed various dietary management of diabetes 66.6% claimed that they did not have knowledge that bitter food substances manage diabetes while 33.3% had knowledge that bitter substances could manage diabetes. Majority of 53.3% did not know that to avoid too much carbohydrates could manage diabetes and only 46.6 knew. The table also shows that
60% could avoid too much table salt in attempt to manage diabetes while 40% did not know. The table also shows that more than half of 60% of respondents did not know outcomes of uncontrolled blood sugars and the remaining 40% knew this shows some levels of knowledge deficit. The table shows that more than half of 53.3% did not know example of food to eat when realize some signs of uncontrolled blood sugars and the remaining 46.6% knew.

4.3. Dietary attitudes among diabetic patients.

Figure i: showing whether diabetic diet was a burden to patients.

From the figure above more than half of 67% thought that diabetic diet was a burden to them in management of their condition and 33% said it was not a burden to them.

Table iii: showing whether they liked fried and highly fried food (n=60)

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>40</td>
<td>66.6</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
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<td>100</td>
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</tbody>
</table>
In the above table 66.6% liked eating fried and highly spiced foods which was not a good habit in dietary management of diabetes and 33.3% knew that it was good not to eat highly fried and spiced foods. This showed poor attitudes.

**Figure: ii showing whether diabetic diet could only be afforded by rich people**

![Pie chart showing attitudes towards diabetic diet affordability](image)

From the above 24 (40%) knew that diabetic diet could be afforded by rich people and 36(60%) thought that diabetic diet could not only be afforded by rich people.

**Figure iii: who was responsible for choosing diabetic diet?**

![Pie chart showing responsibility for choosing diabetic diet](image)

From the figure above more than half of 53% of the respondents believed that it was their responsibility to choose the diabetic diet, 29% doctors would choose for them while 18% thought it would be their family relatives.
Table iv: showing whether diabetic patients followed their diet.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency(n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

From the above table shows that 36 (60%) of the respondents did not follow diabetic diet regimen while only 24(40 %) followed their diabetic diet in attempt to manage their condition.

4.4. Dietary practices among diabetic patients.

Table v: showing how often patients would eat snacks (n=60)

<table>
<thead>
<tr>
<th>Period</th>
<th>Frequency(n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a day</td>
<td>20</td>
<td>33.3</td>
</tr>
<tr>
<td>Twice a day</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Never snacks</td>
<td>28</td>
<td>46.6</td>
</tr>
<tr>
<td>Total</td>
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<td>100</td>
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</tbody>
</table>

In the above table indicated that the majority 46.6% of the respondents could never eat snacks 33.3% and 20% of the respondents also said that they ate snacks once and twice in a day respectively.
Figure IV: showing how often people would eat smoked meat

Figure above indicated that 28 (46.6%) claimed that they consume smoked meat regularly, while 16(26.6%) smoke once a month and 16(26.6%) could not eat smoked at all.

Figure V: showing how often diabetic patients eat fruits

The above figure indicates that 32(53.3%) eat fruits once a day while 16(26.6%) could eat fruit twice a day and 4(6.6%) could eat fruits on every meal in trying to practice dietary management of diabetes.
Figure VI: showing how often diabetic patients eat greens vegetables

Figure above shows that majority 28(46.6%) eat greens vegetables weekly, while 24(40%) eat on a daily basis. and 8(13.3%) could eat once a monthly.
CHAPTER FIVE

DISCUSSION, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter interprets and discusses the findings objectively in relation to the study background information, problem statement, relevant literature review to answer research questions, suggest recommendations and finally conclusions.

5.2.1 Demographic data.

Data on personal characteristics of diabetic patients showed that high concentrations of the respondents were aged. 56.6% of the respondents were aged 40 years and above, 21.6% aged between 35-39 years 10% aged between 25-29 years 8.3% aged between 30-34 years and those aged between 18-24 years were 3.3%. This indicated that most of the respondents were mature people this made interaction easier because people seemed to understand whatever question posed to them according to the field survey observation. This showed that the disease affected all age group but majorly the matured people being the most common. It was also found out that female were the majority of respondents with 53.3 % and male with 46.6% . This indicated that female were most affected than male. This is because female tend to seek medical services more than men. This is often as a given that men (under – use) health care services are more reluctant to seek help. As men under usage of the health care system is constructed as a social problem , there is a danger that contrasting presumption that women over use health care consulting sooner and more often amenable self management is reinforced , sometimes for trials symptoms which are self-limiting amenable to self-management is reinforced .Hurt K 2010.
Since the majority (86.6%) had a form post primary education, they stand the good chance to communication with only a minor proportion of 13.3% had no form of western education. This was observed that 50% were civil servants. The other related category 33.3% were independent self-employed. Likewise some category 16.6% engaged in other activities like farming.

Christians were the majority with 73.3%. This was probably because the facility is surrounded by many churches and Christianity dominates the study area followed by Islamic with 26.6% traditional and other religions were not represented. Banyankore dominated the study with 60% sixty percent but this was become perhaps they are the natives of the study area. Bakiga, Baganda, Banyarwanda and other tribes had equal percentages of 13.3%. Tribe would be important to note since their beliefs do not eat some of fatty meals and even do not access some of the greens which would help in dietary management of diabetes. Almost all the respondents have at least level of western education. Majority had tertiary and secondary levels with 33.3% respectively. This would possible attribute then to eat ‘crimed’ dishes. This could also due to the fact that the study area was situated in urban setting which suited these occupations only 16.6% engaged in other activities like farming.

5.2.2 Dietary knowledge in management of diabetes mellitus.

It was found that 66.6% knew that biter substances were not need in dietary management of diabetes and 33.3% knew that biter substances played a big role in dietary management of diabetes. These were disagreeing with the statement made in the book called diabetes resource and nutrition. This was perhaps there was some much sensitization about diet in diabetes however there is no source of that provides it. 53.3% of respondents did not know that avoiding too much of carbohydrates could help in dietary management of diabetes and 40.6% knew avoiding too much carbohydrates would manage diabetes this was in line with Sovoca and Miller 2009. This showed a lot of knowledge gap in dietary management of
However, 60% knew that avoiding consumption of too much table sugar would control diabetes and 40% did not know the effect of too much sugar in the diet. On assessing whether participants had prior knowledge on the outcome of uncontrolled blood sugars. It was found that the majority of 60% of respondents knew the outcomes of uncontrolled blood sugars. Only 40% did not know the outcomes. These were because majority of the respondents had some level of education and they studied some of the effects of much table sugar on the human health. There is much disagreement regarding what this diet should consist of since carbohydrates is micronutrient which raise blood glucose levels most significantly, the greatest debate is regarding how low in carbohydrates the diet should be. This is because although lowering carbohydrates lead to reduced blood glucose levels. This conflicts with the traditional establishment view that carbohydrate should be the main source of calories.

The study finding shows 53.3% could not know examples of foods which could be eaten when show some signs of uncontrolled blood sugars and only 46.6% knew examples of foods which would help them in case such happened. This indicated not only respondents had poor knowledge deficit on dietary management of diabetes but also diabetes as a condition.

5.2.3 Dietary attitude among the diabetic patients

While assessing the attitudes of diabetes diet among diabetes patient it shows that 67% still believed that diabetes diet was a burden to them and 33% believed that diabetes diet was not a burden. This showed that people had poor attitude and might be associated with lack of sensitization from the health care providers. 66.6% liked highly fried and spiced food whereas 33.3% shows little interests. This is because the majority of respondents were civil servants which perhaps affected their life style and eating habits leaving the traditional way of life.
it was found that 40% believe that diabetic diet could be only would afforded by rich people however, 60% believed that diabetic diet would be afforded by all people irrespective of social economic class. It was reflected that 53% believed that it was their responsibility in choosing the diabetic diet 29% also share that doctors were the source of information and relatives also played a big role in the choice of diet. On diabetic diet regimen, it was unfortunately that 60% did comply and only 40% followed their diabetic diet. Recently, diabetes in UK have warned against purchase of products that are specially made for people with diabetes, on grounds that’s they may be expensive, may contain high level of fat and they may confer no special benefit to people who have diabetes. It should also be noted that the national institute for health and clinical evidence (NICE) (based in the United Kingdom) advises doctors and other health professionals to discourage the use of food marketed specifically for people with diabetes (nice 2006) and only 40% were consistent.

5.2.4 Dietary practice among diabetic mellitus patients.

As shows in the table v 33.3% used to eat snacks once a day while 20% twice a day and majority 46.6% never ate snacks in attempt to practice dietary management of diabetes. This could perhaps be attributed knowledge deficit about snacks or since the majority of respondents had formal employment and self-employed could not have time for snacks. Furthermore, on the practice of smoking meat results showed that 46.6% of the total respondents could eat smoked meat regularly whenever they bought, 26.6% could smoke once a month and other 26.6% could not smoke at all. This was because may be since majority of respondents were Banyankole and it is cultural to practice to smoke meat and other have tendency of saying that smoked meat testes better than un smoked one which even a good practice among diabetic patients in dietary management of their condition. On practice of eating fruits once a day it was found out that more than half of the respondents of 53.3% could eat fruits once day this is because there was a variety of fruits in the study area.
26.6% used to eat twice a day and only minor 6.6% could eat fruits on every meal this could also be associated with the class of the respondents since there is tendency of eating fruits as a habit how it was also the obligation of the service provider to teach the diabetic patients the rational of fruits. however not all doctors today recommend diet, instead they are likely to recommend atypical healthy diet. one high in fibres with a variety of fruits and vegetables low in sugars and fats especially saturated fats.

40% could eat green vegetables on a daily basis 46.6% used to eat greens vegetables on weekly and 13.3% could eat every month. Based on the evidence that the incidence of diabetes in lower in vegetarian, some studies have investigated plant based diet tend to be higher in fibres which slows the rate sugar is absorbed into the blood stream. {Jenkins, Kendall, 2006}

**Study limitations**

The university library was not adequately stocked with literature required for these study, lack of access to institutional subscribed research web sites such HINARI. The investigator mainly relied on free access web journals.

The investigator had limited knowledge on use of data analysis computer programs such as SPSS, data analysis was done using MS excel.

Inadequate funding of the research project, the investigator had to rely on use of soft copy drafts to save printing costs, and did type set the work by himself.

The related studies were few since majority of studies done would only concentrate on diabetes only and life style modification in general not specifying.
5.6 Conclusion

Dietary knowledge, attitude and practice among diabetic patients receiving care at Kampala international teaching hospital was low dietary management entails a series of eating behavior changes regarding meals planning, food selection deeming out as well as appropriate response to eating challenges. Diabetic diet also encounters several difficulties in complying with the dietary regimen. Therefore awareness campaigns, orientation programs and routine training sessions should be organized by institutions towards promoting the management. To bridge this gap this should start from the community level.

5.6 Recommendation

5.6.1 To Community members;

It’s important for the community members more especially those suffering and at risk of getting diabetes to improve on the way they eat since eating well balanced and nutritious diet with less carbohydrates does not only control blood sugars but also control other cardiovascular diseases and other related complications. This can be done through changing practices like spicing highly food.

5.61. Future research.

This has been an interesting study because few researchers have shown interests in diet related studies. This has been found out as a concern since most of diabetic patients always get complications due to poor diet

5.62. Government;

the government should employ more skilled people to teach people about diet in diabetes not leaving much work to the health workers alone as it has been. This can even be done through
carrying more studies on diet since there has been little literatures as far as diet in diabetes concerned since most of studies generalizes everything in lifestyle modifications

5.63. Hospital;
Since the hospital already has an established CME/CNE program, it is necessary to include dietary management of diabetes since is becoming a global burden sessions regularly

5.7. Nursing Implications:

5.7.0. To nurses in Practice;
To increase on good dietary knowledge attitudes and practice nurse should know that it their obligations to heath educate vigorously the community and patients about diet as it is part of treatment

5.7.1 To nurse Educators;
Lecturers from the department of nursing KIU-TH should ensure that their students are involved in health education talk’s activities especially to those patient receiving care at KIU-TH mostly about diet in diabetes.
REFERENCES;


Bangladesh groups 2006 to identify barriers to dietary. *Eating behavior among type 2 diabetes women*. [Rev SaudePublica. 2006]


Dawn W Satterfield, Michele Volansky, Carl J Caspersen, Michael M Engelgau, Barbara A Bowman, Ed W Gregg, Linda S Geiss, Gwen M Hosey, Jeannette May, Frank


Jenkins DJ, Kendle 2006. Type 2 diabetes and vegetarian (diset 3 suppl) 610s-616s.


Knowledge, attitude and practices of diabetic patients in the United Arab Emirates. PLoS One 8: e52857. [PMC free article] [PubMed]


Moodley Lushen, Rambiritch V. 2007. An assessment of the level of knowledge about diabetes mellitus among diabetic patients in a primary healthcare setting. South Africa Family Practice; 49(10):16a–16d.]

NICE clinical guide line 2006, CG87 type 2 diabetes: the management of diabetes


DCCT Research Group

APPENDICES

APPENDIX 1: INFORMED CONSENT:

I am NIRINGYIYIMAANA ALLON a diploma nursing student at Kampala international university and i am conducting a study to assess dietary knowledge, attitudes and practices among diabetic patient attending Kampala international university teaching hospital in Bushenyi district. you are requested to participate in this research study and will take at least 30 minutes. You will be asked questions regarding the above topic. Your participation is purely voluntary and you have the right to withdraw from the study at any time. Your identity will not be revealed as names shall not be used. Information given in this questionnaire shall remain confidential. If there is anything that is unclear or you need further information about the topic, you are allowed to ask questions to your satisfaction. Thank you.

Declaration by the participant: I have read this consent form and I have understood the purpose of the study. I have had the opportunity to ask questions and I have been answered to my satisfaction. I have understood that i have the right to withdraw from the study at any time without any effect on my future medical care. I voluntarily consent to participate in this study ................signature of the participant and date................i declare that I explained the information given in this document to..............................she was encouraged and given ample time to ask questions. This conversation was conducted in English and Runyankole ................signature of the researcher (student investigator) date..........................,
APPENDIX II.

QUESTIONNAIRE ON DIETARY KNOWLEDGE, ATTITUDE AND PRACTICES AMONG DIABETIC PATIENT RECEIVING CARE AT KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL.

Instructions; Dear respondent please tick appropriate response.

SECTION A: DEMOGRAPHIC DATA

1 How old are you?

- 18-24 years [ ]
- 25-29 [ ]
- 30-34 [ ]
- above 40 [ ]

2. Gender

- Male [ ]
- Female [ ]

3. Religion

- Christianity [ ]
- Islam [ ]
- Traditional [ ]

Other specify …………..

4. Tribe

- Banyankore [ ]
- Bakiga [ ]
- Baganda [ ]

- Bafumbira/BanySarwanda [ ]
- Others……

5. Education level

- None [ ]
- Primary[ ]
- Secondary [ ]
- Tertiary [ ]
6. Occupation

Self-employed ☐  Formal employment ☐  others (specify)………

SECTION B: DIETARY KNOWLEDGE ON MANAGEMENT OF DIABETES

7. Can bitter food substances cure diabetes?

Yes ☐  No ☐

8. Do you know diabetic can be controlled avoiding carbohydrates such as sweet potatoes and others?

Yes ☐  No ☐

9. Do you know diabetes can be controlled by avoiding too much sugar?

Yes ☐  No ☐

10. Do you know the outcomes of not controlling blood sugars in diabetic mellitus patients?

Yes ☐  No ☐

11. Do you know the examples of foods you can eat when you feel dizzy, headache, not seeing well and feel like falling down?

Yes ☐  No ☐

SECTION C DIETARY ATTITUDES AMONG DIABETIC PATIENTS

12. Is diabetic diet a burden to you?

Yes ☐  No ☐

13. Do you take highly fried and spice foods?
14. Can diabetic mellitus diet be afforded by only by rich people?

Yes □ No □

15. Who is responsible for choosing diabetic diet?

Myself □ Doctor □ Family □

16. Do you follow your diabetic meal?

Yes □ No □

SECTION D ASSESSING DIETARY PRACTICES AMONG DIABETIC MELITUS PATIENTS

17. How often do you take snacks in a day?

Once □ Twice □ Daily □

18. How often do you eat smocked meat?

Whenever I buy □ once a month □ I do not smoke meat □

19. How often do you eat fruits?

Once a day □ twice a day □ whenever I’m having meals □

20. How often do you eat green in your meal?

Daily □ Weekly □ Monthly □
Appendix III: BUDGET

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<td>Will be required during Literature review</td>
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## Appendix IV: WORK PLAN

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</tbody>
</table>
OFFICE OF THE DEAN SCHOOL OF NURSING SCIENCES

TO WHOM IT MAY CONCERN

Dear Sir / Madam

Re: Niringiyumaana Allon DNS/E/0007/152/DU

The above mentioned is a student of Kampala International University undertaking Diploma in Nursing Sciences Extension program and he is in his final academic year.

He is recommended to carry out data collection as a partial fulfillment for the award of the Diploma in Nursing.

His topic is; DIETARY KNOWLEDGE, ATTITUDE AND PRACTICES AMONG DIABETIC PATIENTS RECEIVING CARE AT KAMPALA INTERNATIONAL UNIVERSITY-TEACHING HOSPITAL.

Any assistance rendered to him will be highly appreciated

Thank you in advance for your positive response

[Signature]

Apondi Winfred
Administrator, School of Nursing Sciences

“Exploring the Heights”
APPENDIX VI: MAP OF UGANDA SHOWING LOCATION OF BUSHENYI DISTRICT
Appendix VII: MAP OF BUSHENYI DISTRICT

KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL