



**KAMUZU COLLEGE OF NURSING**

**KNOWLEDGE, PERCEPTION AND ATTITUDES OF DIABETIC CLIENTS  
TOWARDS DIABETES MANAGEMENT AT ZOMBA CENTRAL HOSPITAL -  
DIABETIC CLINIC**

**RESEARCH DISSERTATION SUBMITTED TO THE FACULTY OF NURSING  
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF  
BACHELOR OF SCIENCE DEGREE IN NURSING**

**SUBMITTED BY**

**SHYREEN EMMACULATE TAOLOKA CHITHAMBO**

**SUPERVISED BY**

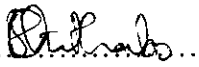
**H.E MALIWICHI (PHYSIOLOGIST)**

**DUE DATE: 30<sup>TH</sup> NOVEMBER, 2010**

## DECLARATION

I hereby declare that this research dissertation is out of my own work. It has not been presented anywhere for degree.

Candidate's name: Shyreen E.T Chithambo

Signature... 

Date... 26/11/10

Supervisor's name: H.E Maliwichi  
Lecturer of Human Anatomy and Physiology  
Kamuzu College of Nursing, Basic Studies Department

Signature... 

Date... 26.11.10

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**DEDICATION**

This dissertation is dedicated to all my family members and my best friend Chifuniro Kandaya for their inspiration, encouragement and untiring support for me to be a God fearing professional nurse.

## **ACKNOWLEDGEMENT**

Firstly I would like to thank God for good health and strength to come up with this research dissertation.

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GOD BLESS YOU ALL!!!!!!!

## ABSTRACT

This was an exploratory study whose purpose was to explore knowledge, perception and attitude of diabetic clients towards diabetes management at Zomba Central Hospital. Specifically the areas of interest were: to assess knowledge of diabetes among diabetic clients, to find out knowledge of complex diabetes management among the diabetics; to assess perception and attitude of the clients towards the complex management and to identify other factors that influence clients' compliance and non compliance to diabetes complex management.

The study was conducted at Zomba Central Hospital- diabetic clinic. A descriptive qualitative phenomenological design was used and 10 diabetic clients- 5 male and 5 female were chosen using non probability sampling including convenience and purposeful sampling. Data was collected through semi structured interview guide and data was then analyzed manually using content analysis.

The findings indicated that diabetic clients have little knowledge in what diabetes is and its complex management however they comply to what they know and what is available in relation to their economic status i.e. drugs and some food. Health workers mostly emphasizes on nutrition only on health education leaving side other parts of the management which in turn makes clients to be less knowledgeable in complex diabetes management. The study also showed that clients perceived the management to be very important because it prolongs life, furthermore the study has revealed that clients are always given not enough drugs for the month and they are always delayed to be reviewed.

The researcher therefore recommends that health workers should be teaching diabetics the whole management of diabetes. In health education the providers should explain the disease process, the goals of management, and strategies to limit complications, use simple explanations, answer questions, and provide written information for the patients. The government and other NGO's should help Diabetes Association of Malawi financially so as to be teaching and encouraging their fellow clients nationwide about the management as well as well telling them importance of management compliance since the association fails to achieve other goals because they don't have sponsors.

## LIST OF ABBREVIATIONS

COM	College of Medicine
DKA	Diabetic ketoacidosis
HBM	Health Belief Model
HHNS	Hyperglycemic Hyperosmolar Nonketotic Syndrome
IFD	International Federation of Diabetes
KCN	Kamuzu College of Nursing
DAM	Diabetes Association of Malawi
IDDM	Insulin Dependent Diabetes Mellitus
MOH	Ministry Of Health
NGO	Non Governmental Organisation
NIDDM	Non Insulin Dependent Diabetes Mellitus
OPD	Out- Patient Department
QECH	Queen Elizabeth Central Hospital
TRA	Theory of Reasoned Action
WHO	World Health Organization
ZCH	Zomba Central Hospital

## OPERATIONAL TERMS

*Diabetes Mellitus*: a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both

*Insulin* : Hormone secreted by the beta cells of the islets of Langerhans of the pancreas that is necessary for the metabolism of carbohydrates, proteins and fats deficiency of insulin results in diabetes mellitus

*Diabetes complex management* : Management of diabetes which involves: nutrition, pharmacological therapy, exercise, monitoring, foot care and education.

*Hyperglycaemia* : elevated blood glucose level—fasting level greater than 110 mg/dL (6.1 mmol/L)

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## **CHAPTER ONE: INTRODUCTION**

### **1.1 Introduction**

Diabetes Mellitus is a chronic disease with no cure as of 2010. Diabetes mellitus is a group of metabolic diseases characterized by elevated levels of glucose in the blood (hyperglycemia) resulting from defects in insulin secretion, insulin action, or both. It is associated with an impaired glucose cycle, altering metabolism. Diabetes mellitus is classified into two: Type 1 which is characterized by loss of the insulin-producing beta cells of the islets of Langerhans in the pancreas leading to insulin deficiency and Type 2 which is characterized by an imbalance between insulin production and use.

Blood sugar control is the central theme of diabetes management, keeping blood within the range helps people to live a long and healthy life. Proper diabetes management prevents long-term complications of diabetes like diabetic retinopathy, coronary heart diseases, kidney damage, peripheral ocular diseases and diabetic neuropathy. The management include carefully managing diet, exercising, taking diabetes oral medication, using some form of insulin, maintaining proper circulation in extremities. The management is very effective if clients have necessary information on the management of the condition. Knowledgeable diabetic clients are less likely to suffer from diabetes complications which can be devastating. Their attitude towards the management plays a big role on the effectiveness. Therefore this study will uncover knowledge, perception and attitude of diabetic patients on its management.

## **1.2 Background**

Diabetes causes about 5% of all deaths globally each year. 80% of people with diabetes live in low and middle income countries. Most people with diabetes in low and middle income countries are middle-aged (45-64), not elderly (65+). Diabetes deaths are likely to increase by more than 50% in the next 10 years without urgent action. According to WHO, 2010 diabetes was estimated at 177 million in 2000 and expected to 366 million in 2030 globally.

Diabetic complications and ensuing death rates have risen in the United States over the past eighteen years (Urden, Stacy & Lough, 2002). The prevalence rate of this chronic disease was estimated at 194 million in 2003 and it estimated that this figure will hit 333 million by 2025 as a result of what health experts say longer life expectancy, sedentary lifestyle and changing dietary patterns.

According to WHO an estimated 7.5 million Africans suffer from this disease which is now ranked as the fourth main cause of death in most developing countries and expected to increase to 18,234,000. The International Federation of Diabetics (IFD) projects that the prevalence rate will shoot up by 95 percent by the end of 2010

In Malawi diabetes was estimated at 55,000 in the year 2000 and expected to increase to 118,000 by 2030. According to Diabetes Association of Malawi (DAM), diabetes in Malawi is a very challenging issue taking consideration that since colonial time Malawi was not taking diabetes issue seriously. They had a wrong mentality saying diabetes is a richman's disease till when the association was formed in 2008. According to DAM 15 to 20 percent of our national population are diabetic although they do not have national statistics as of now but there is high prevalence of diabetes despite management and follow up.

The management of people with diabetes mellitus is complex. Good control significantly reduces the risk of complications, yet studies from around the world consistently demonstrate inappropriate variations in care. Efforts to improve the quality of care should be informed by knowledge of which factors influence care and how they act as barriers or facilitators.

### **1.3 Problem statement**

It is very common here in Malawi for diabetic clients to experience difficulties in adhering to diabetes management as a whole more especially lifestyle modification, nutrition and proper circulation in extremities, most of these patients comply to drugs alone in order to control blood sugar levels. The number of patients is increasing and the subsequent clients are not improving that is to say no control of sugar levels hence being on risk of developing complications, this is according to experience from different hospitals. Despite taking drugs most of these people are developing long term complications of diabetes leading to death because drugs alone cannot control blood sugar levels, the whole management is very important in controlling blood sugar levels (Brunner & Suddarth, 2008).

It is observed most of the health workers especially physicians do not give necessary information on the management instead they just give drugs. Therefore this study is being done to assess diabetes and its management knowledge, attitude and perception of patients towards management of diabetes.

### **1.4 Significance of the study**

This study will help diabetic clients to understand and appreciate the need of using whole diabetes management in controlling sugar levels as it is the goal of diabetes management. it will teach home care givers what diabetic patients need and how to care for them at home since the management is complex as it involves hospital, home and self care.

Health care workers especially doctors, clinicians and nurses will also understand and appreciate the need of giving all necessary information of diabetes and its management. This management is more likely to be successful if all people involved in the care know more about the complex management of diabetes and pay greater attention to it thereby controlling clients' blood levels hence preventing long term complications. Health workers will be assisted in identifying problems diabetic clients face in adhering to management.

The study may also provide baseline data for further study.

## **1.5 Objectives of this study**

### **1.5.1 Broad objective**

To explore knowledge, perception and attitude of diabetic patients on diabetes management at Zomba Central Hospital.

### **1.5.2 Specific objectives**

1. To assess knowledge of diabetes among diabetic clients.
2. To identify knowledge of complex diabetes management among the diabetics
3. To assess perception of clients towards diabetes complex management
4. To determine attitude of clients towards diabetes complex management
5. To identify other factors that influence clients' adherence and non adherence and to diabetes complex management.

## **CHAPTER TWO: LITERATURE REVIEW**

This chapter provides a summary of literature that was consulted and includes the overview of diabetes, its management, studies that were done on knowledge, perception, attitude of diabetics on diabetes and its management as well as factors contributing to management noncompliance. Literature review helps to lay the foundation for a study, and can also inspire new research ideas. A literature review also plays a role at the end of the study, when researchers are trying to make sense of their findings. Provides readers with a background for understanding current knowledge on a topic and illuminates the significance of the new study (Polit & Beck, 08).

### **2. 1 Overview of diabetes mellitus and its management**

Diabetes mellitus is a group of metabolic diseases characterized by elevated levels of glucose in the blood (hyperglycemia) resulting from defects in insulin secretion, insulin action, or both (Brunner & Suddarth, 2008). Insulin, a hormone produced by the pancreas, controls the level of glucose in the blood by regulating the production and storage of glucose. In the diabetic state, the cells may stop responding to insulin or the pancreas may stop producing insulin entirely. This leads to hyperglycemia, which may result in acute metabolic complications such as Diabetic Ketoacidosis (DKA) and Hyperglycemic Hyperosmolar Non ketotic Syndrome(HHNS). DKA is a metabolic derangement in type 1 diabetes that results from a deficiency of insulin and HHNS IS a metabolic disorder of type 2 diabetes resulting from a relative insulin deficiency initiated by an intercurrent illness that raises the demand for insulin; associated with polyuria and severe dehydration. DM is classified into two: Type 1 and type 2

#### **2.1.1 Type 1 diabetes**

Type 1 diabetes is a metabolic disorder characterized by an absence of insulin production secretion from autoimmune destruction of the beta cells of the islets of Langerhans in the pancreas ( Brunner & Suddarth, 2008). Diabetes type 1 is caused by the destruction of enough beta cells to produce symptoms; these cells, which are found in the Islets of Langerhans in the pancreas , produce and secrete insulin , the sing Type 1 diabetes can

affect children or adults but was traditionally termed "juvenile diabetes" because it represents a majority of the diabetes cases in children. I.e hormone responsible for allowing glucose to enter from the blood into cells.

### **2.1.2 Type 2 diabetes**

Type 2 diabetes is a metabolic disorder characterized by the relative deficiency of insulin production and a decreased insulin action and increased insulin resistance. Type 2 diabetes occurs most commonly in people older than 30 years who are obese. Because it is associated with a slow (over years), progressive glucose intolerance, the onset of type 2 diabetes may go undetected for many years.

### **2.1.3 Diabetes management**

The main goal of diabetes treatment is to normalize insulin activity and blood glucose levels to reduce the development of vascular and neuropathic complications, without hypoglycemia and without seriously disrupting the patient's usual lifestyle and activity. There are five components of diabetes management which are :nutritional management, exercise, monitoring, pharmacologic therapy and education ( Brunner & Suddarth, 2008).

#### **Nutrition management**

Nutrition, diet, and weight control are the foundation of diabetes management, diabetics are supposed to food high in carbohydrates, carbohydrates have greatest effect on blood glucose levels because they are digested quickly than other foods (Bruner & Suddarth, 2008), low fat and protein diet is recommendable for diabetics. Diabetics need to take alcohol with caution because taking alcohol in an empty stomach leads to hypoglycaemia and excessive beer impair the patient's ability to recognize and treat hypoglycaemia.

#### **Exercise**

Exercise is extremely important in managing diabetes because of its effects on lowering blood glucose and reducing cardiovascular risk factors. Exercise lowers the blood glucose level by increasing the uptake of glucose by body muscles and by improving insulin utilization. It also improves circulation and muscle tone. These effects are useful in diabetes in relation to losing weight, easing stress, and maintaining a feeling of well-being.



### **Monitoring of glucose and ketones**

Blood glucose monitoring is a cornerstone of diabetes management, frequent blood glucose monitoring enables people with diabetes to adjust the treatment regimen to obtain optimal blood glucose control. This allows for detection and prevention of hypoglycemia and hyperglycemia and plays a crucial role in normalizing blood glucose levels, which in turn may reduce the risk of long-term diabetic complications ( Brunner & Suddarth, 2008)

### **Pharmacological therapy**

Because the body loses the ability to produce insulin in type 1 diabetes, exogenous insulin must be administered for life. In type 2 diabetes, Oral ant diabetic agents may be effective for patients who have type 2 diabetes that cannot be treated by diet and exercise alone and insulin may be necessary on a long-term basis to control glucose levels if diet and oral agents fail.

### **Education**

Diabetes mellitus is a chronic illness requiring a lifetime of special self-management behaviours. Because diet, physical activity, and physical and emotional stress affect diabetic control, patients must learn to balance a multitude of factors. They must learn daily self-care skills to prevent acute fluctuations in blood glucose, and they must also incorporate into their lifestyle many preventive behaviors for avoidance of long-term diabetic complications. Diabetic patients must become knowledgeable about nutrition, medication effects and side effects, exercise, disease progression, prevention strategies, blood glucose monitoring techniques, and medication adjustment. In addition, they must learn the skills associated with monitoring and managing diabetes and must incorporate many new activities into their daily routines (Beebe & O'Donnell, 2001).

## 2.2 Knowledge and attitude

Moodley did a descriptive study in 2007 involving 181 patients attending three primary healthcare clinics in KwaZulu- Natal to assess of the level of knowledge about diabetes mellitus among diabetic patients in a primary healthcare setting between Africans and Indians, results showed that a total of 121 of the 181 patients (66.9%) passed the diabetic knowledge test. There was a higher pass in the female group than in the male group, with 69.8% of the female population passing compared to 60% of the male. The overall data across the three clinics indicated a better pass by the Indian than the African population, with 75.9% of the Indian patients passed in comparison to 52.2% of the African patients.

Dinesh et al (2007), knowledge, attitude and practice about DM among diabetes patients in Western Nepal. The knowledge, attitude and practice scores of the patients were low. This suggests the need for educational interventions to improve the knowledge, attitude and practices of the diabetes patients.

Another study on knowledge of DM, its treatment and complications amongst diabetic patients in a tertiary care hospital was conducted by Gulabani. in India (2005) 101 patients were enrolled. Patients' knowledge regarding the treatment and complications of diabetes showed serious deficiencies, more so among women, even though most had been diabetic for years.

This finding was similar to that reported by Vishwanathan *et al*, who conducted a study on the knowledge of diabetic subjects regarding foot problems and care of feet. They demonstrated that a low knowledge score was more common among women than in men. In a study conducted in Chandigarh, it was again shown that knowledge concerning the prevention of diabetes complications was partial amongst diabetics, with only 63.3% of the diabetics taking care of their feet through regular washing.

The fact that 51 (50.5%) patients thought that diabetes is curable, and that only 64 (63.4%) patients correctly said that the treatment continues throughout the life, may

reflect a mentality of patients that once the blood sugars are controlled, they can stop taking their medicines. Only 47 (46.5%) correctly said that diabetes is preventable and only 29 (28.7%) were aware of the causes of diabetes. This indicates a significant lack of the knowledge of primary and primordial prevention of diabetes in the population. This fact along with that 71 of the 101 (70.3%) patients said that they would either definitely or probably have taken preventive measure seriously had they known that diabetes was preventable means that imparting knowledge regarding prevention should be a major thrust in the future.

The same study demonstrated that in Singapore diabetes education had changed the practice among diabetics toward a more effective self-care, this was shown through a study that was carried out. The fact that although 96% of the patients were aware of how often they should have their blood sugars tested, only 60.4% were actually aware of their target fasting and post-prandial blood sugars; this also indicates an overdependence on the physician and a lack of empowerment of the patient.

Sabri et al (2007) conducted a study comparing knowledge of DM among rural and urban diabetics Pakistan. After analyzing the awareness level of both populations, the urban diabetics were found to be more educated about diabetes. The results emphasize the interrelation between demography and awareness of diabetes mellitus. The rural diabetics are far less knowledgeable about DM, its management and its complications. There is an urgent need to improve the awareness level of diabetes mellitus in rural areas. Doing so will give rise to a healthier workforce and a lessened economic burden.

Ulvi (2008) et al conducted a study investigating the awareness level about diabetes mellitus, risk factors and complications in Tarlai- Pakistan. A structured questionnaire was used and 300 adults (age > or = 18 years) were assessed on their knowledge regarding awareness of DM, its risk factors and complications. Out of the three hundred adults subjected to the survey, only 129 (43%) adults had any awareness of DM. Adults with no regular, scheduled exercise were 221 (73.7%) and 256 (85.3%) did not have healthy eating habits. Awareness of risk factors was present in 42 (14%) while awareness of the complications associated with the disease was 65 (22%). Adults which reported as

never going for regular checkups to any clinic or hospital were 232 (77%). Family history of diabetes mellitus was statistically significantly associated with awareness about DM, people who were in contact regularly with health care providers were more aware about diabetes and the associated risk factors than those who were not. Majority of adults were unaware of Diabetes Mellitus itself and associated risk factors. Raising public awareness of the disease through outreach programmes and mass media should be planned and implemented.

### **2.3 Perception**

Peyrot et al (2005) conducted a study on patient and provider perceptions of care for diabetes type 1 and 2 in 13 countries Asia, Australia, Europe and North America. Patients reported that ease of access to care was high, but not without financial barriers. Patients reported moderate levels of collaboration among providers, and providers indicated that several specialist disciplines were not readily available to them. Patients reported high levels of collaboration with providers in their own care. Provider endorsement of primary prevention strategies for type 2 diabetes was high. Patients with fewer socio-economic resources and more diabetes complications had lower access (and/or higher barriers) to care and lower quality of patient-provider collaboration. Countries differed significantly for all outcomes, and the relationships between respondent characteristics and outcomes varied by country.

There is much need for improvement in applying the chronic-care model to the treatment and prevention of diabetes in all of the countries studied. Each country must develop its own priorities for improving diabetes care and comparison with other countries can help identify strengths as well as weaknesses.

A study was done on perceived susceptibility to diabetes and attitudes towards preventing diabetes among a total of 707 college students at a large mid western College by Mohammad et al (2008) This study investigated perceived susceptibility to diabetes and attitudes towards preventing diabetes among a total of 707 college students. 32% of the respondents perceived themselves at risk for developing diabetes whereas 31% didn't. Only 75% believed lifestyles were associated with diabetes onset. Those who were

overweight/obese, who were told as pre-diabetic, or who did not know their blood glucose levels were more likely to perceive an increased risk for developing diabetes than their counterparts when controlling for age, race/ ethnicity, and having a direct family member with diabetes. Increased efforts should be made to enhance college students' knowledge and understanding of diabetes and its prevention. Few studies have focused on risk perception on and attitudes towards diabetes prevention.

Slovic (2001) notes that acknowledging their susceptibility to Type 2 diabetes is a prerequisite for people at a high risk to be motivated to modify their lifestyle for the prevention of diabetes onset.

Lundman et al (2007) did a study on perceptions of well-being: living with diabetes in Sweden, A group of 192 adult IDDM free from manifest late complications were asked. Only a minority of patients reported that the disease caused them considerable problems in daily life. The greatest problems occurred in connection with regularity in daily life (26% of subjects) and diet management (24%). Although a large proportion of the patients were very concerned about retinopathy (45%), other complications were of great concern for only 10 to 25%. Younger age was significantly associated with more problems in daily life and more worries about complications. There also were associations between younger age and feelings of anxiety, lack of freedom, insecurity, and reduced self-esteem. Most of the patients, both men and women, had a general feeling of well-being. Living with IDDM appears to be quite consistent with experiencing well-being and feeling fit provided that no severe complications have developed.

Another study was done on knowledge and perceptions of diabetes in a semi-urban Omani population by Shafee et al (2007). A total of 563 adult residents were interviewed, the questionnaire contained questions on knowledge related to diabetes definition, symptoms, risk factors, complications and preventative measures, as well as risk perception for diabetes, obesity, physical inactivity and a positive family history were found to be risk factors for diabetes. A higher level of education, a higher household income, and the presence of a family history of diabetes were found to be positively associated with more knowledge. This study demonstrated that there is lack of awareness of major risk factors for diabetes mellitus. Level of education is the most significant

predictor of knowledge regarding risk factors, complications and the prevention of diabetes.

#### **2.4 Factors contributing to management noncompliance**

Peyrot et al (2004) did a study to examine patient- and provider-reported psychosocial problems and barriers to effective self-care and resources for dealing with those barriers. Regimen adherence was poor, especially for diet and exercise; provider estimates of patient self-care were lower than patient reports for all behaviors. Diabetes-related worries were common among patients, and providers generally recognized these worries. Many patients (41%) had poor psychological wellbeing. Providers reported that most patients had psychological problems that affected diabetes self care, yet providers often reported they did not have the resources to manage these problems, and few patients (10%) reported receiving psychological treatment. Psychosocial problems appear to be common among diabetic patients worldwide. Addressing these problems may improve diabetes outcomes, but providers often lack critical resources for doing so, particularly skill, time and adequate referral sources.

Albert et al did a qualitative study 2007 based on reflexive ethnography using participant observation, semi-structured interviews of clinicians (10) and group interviews with paramedical staff (4) and patients (12) in three purposively sampled health center was done to discover the main barriers and facilitators to care in the management of diabetes in primary care in a low/middle income country was done in Tunisia. The most common factor was the availability of medication at the health centre. Other factors were the existence of chronic disease clinics and clinicians workload. Cited patient factors were financial issues, patient education and compliance and attendance issues.

Brown et al (2002) did a qualitative study in Malawi (COM) to explore family physicians' issues and perceptions regarding the barriers to and facilitators of the management of patients with type 2 diabetes mellitus. Participants clearly identified type 2 DM as a chronic disease most often managed by family physicians. The findings revealed distinct barriers and facilitators in managing patients with type 2 DM which fell into three

domains: patient factors; physician factors; a systemic factors. There was a dynamic interplay among the three factors. The important role of education was common to each. The interactions of patient, physician and systemic factors have implications for the implementation of a diabetes management model .

Kalyango et al conducted a cross sectional study from February to April 2004 in Mulago Hospital, Uganda to determine the prevalence and factors associated with non-adherence to diabetes treatment. Adherence to diabetic treatment was suboptimal. There is need to improve it through strategies helping patients understand their drug regimens, always availing drugs in the hospital so that they do not have to buy them and giving shorter time between visits to health worker.

Gazmararian et al (2009) conducted a study on Perception of barriers to self-care management among diabetic patients in Atlanta. Results showed that unemployment, lifestyle changes to treat diabetes, stress, frustration, social isolation, interpersonal conflicts, depression, fear, denial, failure to recognize the risks and consequences of an asymptomatic condition were some of the perception of barriers to self-care management. The participants identified needed services, including follow-up and refresher courses, support group discussions, nutrition and medication education, availability of different education modalities, and expanded clinic hours. The results are useful to improve the delivery of care. Based on these results, the current system needs to provide more support and education to patients with diabetes.

Ratsep et al (2009) did a study to assess family doctors' opinions on the patient- and health care system-related factors contributing to non -adherence to diabetes mellitus clinical practice guidelines (CPG) in Estonia. Low awareness of diabetes and its complications as well as patients' low motivation to change their lifestyle were considered to be the biggest difficulties in managing individual patients. Non-compliance with medical regimen, patients' financial problems and their nonattendance were mentioned. The greatest health care system-related barriers to practices providing desirable care were the lack of special diabetes education for nurses and under funding,

and an inadequate number of patients' educational materials. This entails need of diabetes education.

### **2.5 Conclusion**

Literature review has indicated that there is low level of knowledge among the diabetes; this probably is due to inadequate knowledge, non-availability of educational material and improper guidance. This suggests the need for awareness program for the patients emphasizing the importance of following the management so as improve the knowledge regarding diabetes and its complex management. On perceptions of diabetes it has shown that those who perceive are on risk of being diabetic are obese, physical inactive as well as those who have a positive family history diabetes and factors that contribute to management incompliance are low socio economic status, lower quality of patient and provider collaboration, inability to change lifestyles, denial, psychosocial problems, lack of provider's skill, time, and adequate resources. Giving proper guidance and education regarding diabetes care would be able to make significant improvement in their lifestyle which is good for glycemic control. Adequate knowledge will facilitate management compliance of diabetes.



## **CHAPTER THREE: CONCEPTUAL FRAMEWORK**

### **3.0 Introduction**

Health Belief Model (HBM) and Theory of Reasoned Action (TRA), (Figures 1 and 2) were used as conceptual models.

Conceptual models were used because they provide a perspective regarding interrelated phenomena. A conceptual model broadly presents an understanding of the phenomenon of interest and reflects the assumptions and philosophic views of the model's designer. Conceptual models can serve as springboards for generating research hypotheses ( Polit & Becker, 2008).

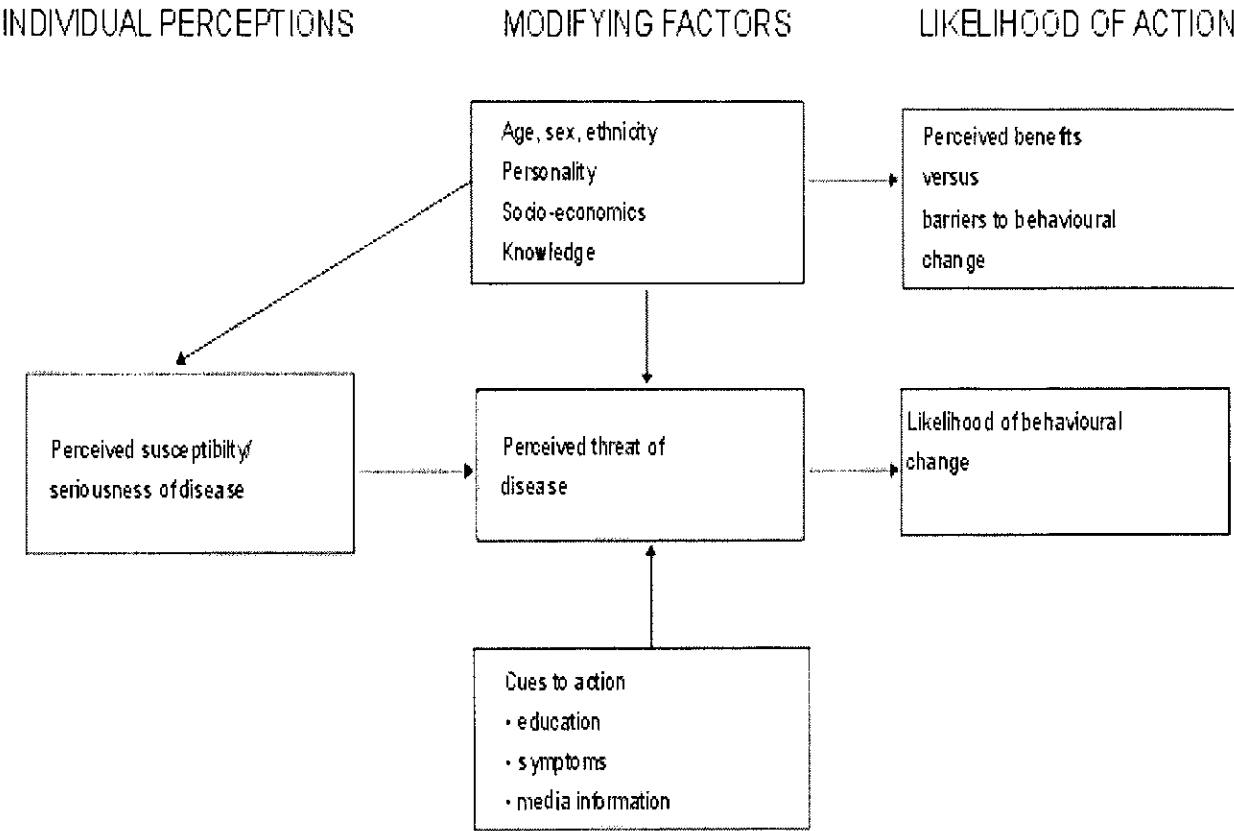
### **3.1 Health Belief Model**

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviours. This is done by focusing on the attitudes and beliefs of individuals (Figure 1).

The model postulates that health-seeking behavior is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat. The major components of the HBM include perceived susceptibility, perceived severity, perceived benefits and costs, motivation, and enabling or modifying factors. Perceived susceptibility is a person's perception that a health problem is personally relevant or that a diagnosis is accurate (Figure 1). Even when one recognizes personal susceptibility, action will not occur unless the individual perceives the severity to be high enough to have serious organic or social implications. Perceived benefits are the patients' beliefs that a given treatment will cure the illness or help prevent it, and perceived costs are the complexity, duration, and accessibility of the treatment.

Motivation is the desire to comply with a treatment. Among the modifying factors that have been identified are personality variables, patient satisfaction, and socio demographic factors (Polit & Becker, 2008). An added concept, cues to action, would activate that readiness and stimulate overt behaviour (Figure 1). A recent addition to the HBM is the concept of self-efficacy, or one's confidence in the ability to successfully perform an action.

Figure 1: Health Belief Model

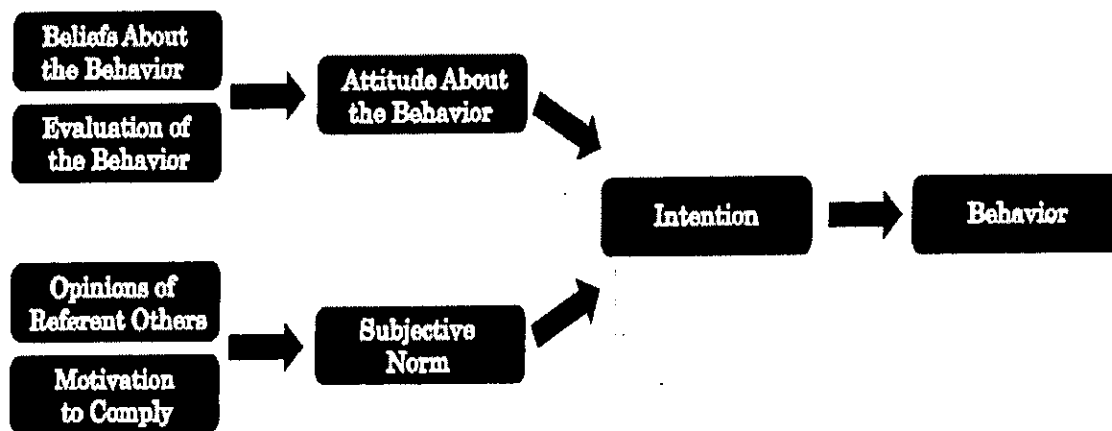


Source: Glanz et al, 2002.

### 3.2 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was proposed by Ajzen and Fishbein (1980). The components of TRA are three general constructs: behavioural intention, attitude, and subjective norm (Figure 2). TRA suggests that a person's behavioural intention depends on the person's attitude about the behavior and subjective norms. If a person intends to do a behaviour then it is likely that the person will do it. Furthermore a person's intentions are themselves guided by two things: the person's attitude towards the behavior and the subjective norm. Behavioral intention measures a person's relative strength of intention to perform a behavior. Attitude consists of beliefs about the consequences of performing the behavior multiplied by his or her valuation of these consequences. Subjective norm is seen as a combination of perceived expectations from relevant individuals or groups along with intentions to comply with these expectations.

**Figure 2: The Theory of Reasoned Action**



Fishbein-Ajzen Theory of Reasoned Action ,1980

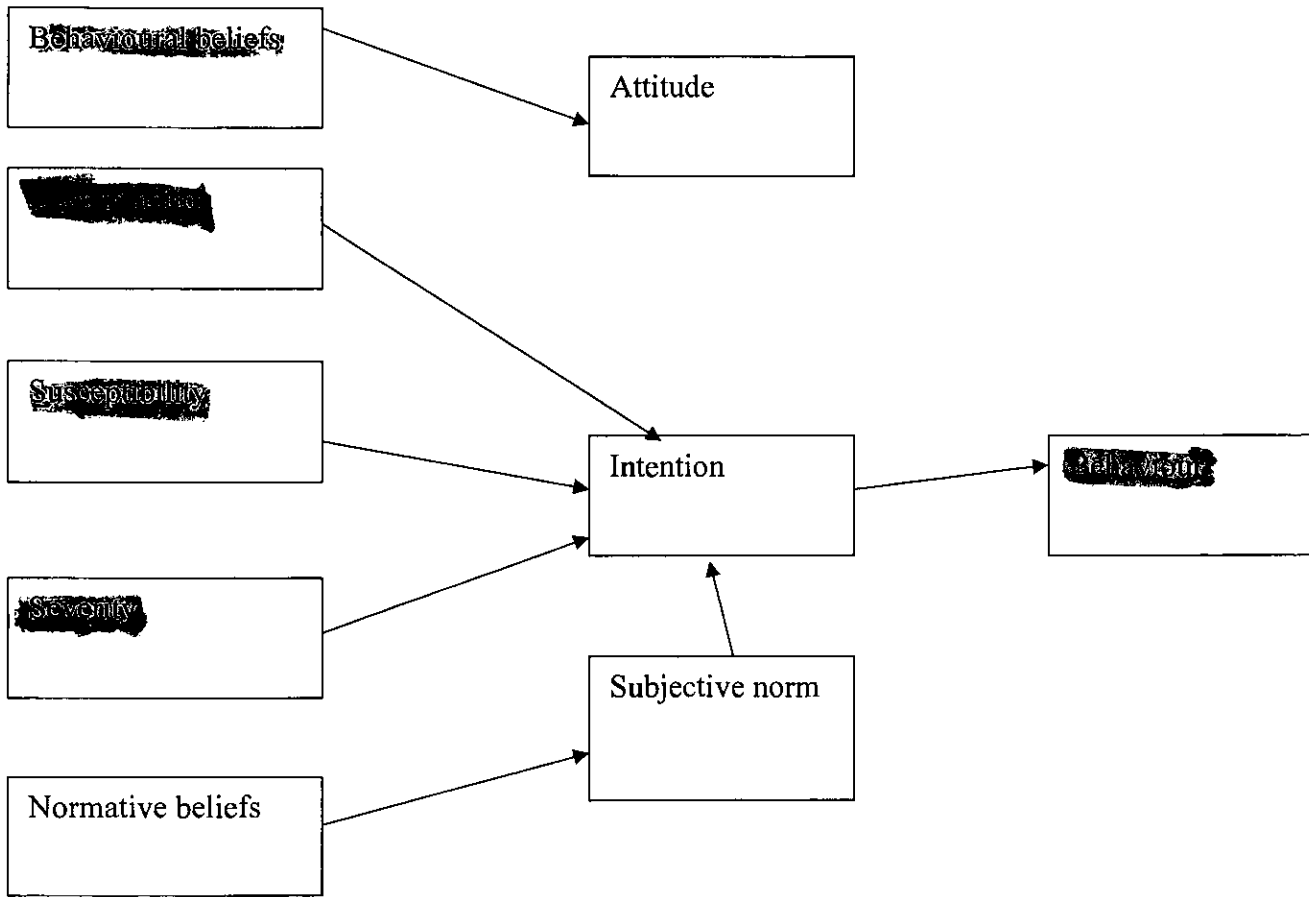
### 3.3 Application of HBM and TRA

The health Belief Model helps us to understand why some people do not respond to health promotion initiatives. According to the HBM, perceived susceptibility is a necessary condition for at-risk individuals to modify their behaviors (Figure 3). If at risk individuals do not see themselves as susceptible to diabetes they can't modify their behaviors, for example educating a client coming from a positive history of diabetes on diet, can do nothing if he sees him/herself not susceptible to the disease.

Clients can perceive that they are susceptible to diabetes or diabetics can know they are susceptible to diabetes complications no action will be taken if the individual perceives the severity to not high enough to have serious organic or social implications. For one to take a health action it requires that perceived benefits of the treatment of diabetes should outweigh the perceived barriers, As such the model helps us understand the perceived barriers and hence help to eliminate them and promote management compliance through health education.

Modifying factors motivate peoples' readiness to taking health actions, for instance, an individual who has knowledge on importance of complex diabetes management is more likely to follow. Then Theory of Reasoned Action suggests that an attitude toward behavior affects behavioral intention which in turn affects health behavior, so attitude towards diabetes management contributes to whether someone will comply or not (Figure 3). In general, people underestimate their risk of acquiring diabetes, i.e., a low perceived susceptibility; although they acknowledge the seriousness of the disease and most diabetics perceive the problem is not severe to take action because they don't want to change some lifestyles.

Figure 3: Combined HBM and TRA



**KEY**

- HBM & TRA
- HBM
- TRA

Source: Polit & Becker, 2008

## **CHAPTER FOUR: RESEARCH METHODOLOGY**

### **4.0 Introduction**

This section explains the methods that were used to carry out the study; it discusses the description of the design, the setting, sampling, pre-testing, data collection instruments data analysis, the ethical considerations in the study.

### **4.1 Research design**

Descriptive qualitative phenomenological study design was used to explore knowledge, attitude and perception of diabetics towards management; descriptive phenomenology focuses on meaning of people's experience in regard to a phenomenon (Polit & Beck, 2008). In phenomenology lived experience gives meaning to each person's perception of a particular phenomenon, the goal of phenomenological inquiry is to fully describe lived experience and the perceptions to which it gives rise and the main data source is in-depth conversations (Polit & Beck, 2008). Therefore this approach enabled clients to fully express their knowledge, perception and attitude towards diabetes and management.

### **4.2 Study setting**

This study was conducted at Zomba Central Hospital (ZCH) in Out Patient Department (OPD) - diabetic clinic. This hospital was chosen because it is one of the referral hospitals where there is a special diabetic clinic and review of patients are done weekly. A letter asking for permission was sent to ZCH for approval (Appendix 1) and permission was granted (Appendix 2)

### **4.3 Sample size**

In this study ten participants were interviewed to obtain a clear understanding of their knowledge, perceptions, and attitudes on diabetes management. This is because in phenomenology research very small samples are used, typically ten or few because the researchers aim is to understand the phenomena. 5 male and 5 female subjects were interviewed age range of 18 to 65 years.

#### **4.4 Sampling**

Non probability sampling including convenience and purposeful sampling was used because samples were clients who were available on the day of data collection day and were hand-picked to be included in the sample based on the researcher's knowledge about the population.

#### **4.5 Data collection instrument**

Semi structured interview guide was used to collect data (Appendices 3a & 3b). In semi structured interview guide questions are designed in such a way to stimulate discussion about the phenomenon (Polit & Becker, 2008). The interview guide was developed in English and translated into Chichewa language (Appendices 3a & 3b) for easy understanding and for them to clarify more on their answers, for example those who don't understand English were interviewed in Chichewa. The interview guide had both open-ended and closed ended questions to allow participants clarify more on what they want to express.

#### **4.6 Pilot study**

Pilot study was conducted at Queen Elizabeth Central Hospital, semi structured interview guide was used to interview five diabetic clients coming for review at the hospital to determine the feasibility and clarity of the interview guide. Pilot study determines the feasibility of a larger study and to ascertain whether a proposed approach shows promise. Pilot studies provide clues about the likely success of the intervention, and about ways in which the intervention can be strengthened or modified. Pilot studies also provide methodologic guidance (e.g. in determining sample size requirements for a full test or strategies for recruiting subjects) (Polit & Beck, 2008). Letter asking for permission was sent to QECH for approval (appendix 4) and permission was granted (Appendix 5).

#### **4.7 Data Collection**

Data was collected in a day. Each interview was approximately 30 minutes and all ten subjects were interviewed in the same day. The researcher interviewed the subjects herself to ensure that quality data is obtained.

Demographic data, data on knowledge, perception, attitude of clients towards management as well as factors contributing to management compliance and non-compliance was collected guided by the interview guide.

#### **4.8 Data Analysis**

Data was analyzed manually using content analysis. Data analysis helps to organize, provide structure to, and elicit meaning from research data (Polit & Becker, 2008).

#### **4.9 Ethical Consideration**

A proposal was submitted to the KCN-RPC and a letter asking for permission (Appendix 6), the proposal was approved (Appendix 7) and thereafter permission was sought from relevant authorities such as ZCH, QECH (Appendices 1 & 4).

In order to avoid subjecting participants to unnecessary risks or discomfort, participant's rights were protected throughout the research period. This is because researchers have an ethical responsibility to recognize and protect the rights of human research subjects (Burns and Grove 2001). Participants were given true information on the purpose of the research in the consent form (Appendices 8a & 8b) to promote their right to information. Therefore an informed consent (Appendices 8a & 8b) was given to each subject and made sure everyone had understood because participants who are fully informed about the nature of the research and its potential risks and benefits are in a position to make rational decisions about participating in the study. Participants were allowed to sign the consent form accepting to participate and that they have understood everything.

One participant was interviewed at a time and hence maintaining privacy and confidentiality. After conducting an interview the interview guides were carried in a sealed envelope from the site to the college and after analysis they will be kept in a locked locker to maintain confidentiality.



#### **4.10 Limitation of the study**

The study was conducted at one hospital, not to every diabetic client of ZCH as a result the study finding cannot be generalized to the whole Malawi.

#### **4.11 Dissemination of results**

Results will be disseminated through a dissertation whose copies will be sent to KCN library and Zomba Central Hospital.

#### **4.12 Budget**

Total budget of the study has come up to K 29590.00 (Appendix 9) in which stationery for flash disk, pens, papers for printing out drafts, final copies and clearance letters has amounted to K 5860.00. Money for typing and binding dissertations and proposals has come up to K6040.00. Money for transport and communication has amounted to K15000.00 since there will be a need to travel i.e. meeting with supervisor, data collection. To avoid inconveniencies there is a need for contingency planning, this has come up to K 2690.00 (Appendix 9).

#### **4.13 TIMELINE**

Everything concerning this research started in February 2010 and expected to finish in November 2010 (Appendix 10) starting from preparation of research topic and objectives up to dissemination of results.

## **CHAPTER FIVE: PRESENTATION OF FINDINGS**

### **5.0. Introduction**

The study was aimed at exploring the level of knowledge, attitude and perceptions of diabetics towards the whole diabetes management at Zomba Central Hospital . This chapter presents the results of the investigation and comprise of demographic data, knowledge of diabetes, its management, perception and attitude towards the management.

### **5.1. Demographic data**

The participants' age, ranged from 18 to 65years. The table below also reveals that there was 1 (10%) participant who was less than 20 years, none of them was within the age range of 20-30, 3(30%) of them were in the range of 30-40, 1(10%) of 40-50 and 5(50%) were more than 50 years old. 1(10%) have never gone to school, 4(40%) of the participants have gone to school up to primary level,4 (40%) have gone up to secondary school and 1(10%) went up to tertiary education. The findings do indicate that 9(90%) participants were Christians, belonging to various denominations and 1(10%) were islamic. 3(30%) were yaos, 2(20%) were chewas, 4(40%) were lomwes and 1(10%) belonged to other tribes (nyanja), 4 participants were employed with 2 civil servants , 3(30%)are farmers and 2of them 20% conduct small scale business besides to earn a living and 1(10%) was a form three student. The study indicated that 8(80%) were married, none was divorced, 1(10%) is widowed, 1(10%) was unmarried (1<sup>st</sup> students, lastly it was shown 4(40%) of the participants stay less than 5km to the hospital awhile 6(60%) stay more than 5km away from the hospital.

**Table 1: Demographic data table**

<b>CHARACTERISTICS</b>	<b>FREQUENCY</b>	<b>PERCENTAGE(%)</b>
<b>Age range</b>		
▪ Less than 20	1	10
▪ 20 – 30	-	-
▪ 30 – 40	3	30
▪ 40 – 50	1	10
▪ More than 50	5	50
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Denomination</b>		
▪ RC	1	10
▪ CCAP	4	40
▪ SDA	1	10
▪ Islam	1	10
▪ Others	3	30
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Level of education</b>		
▪ Primary level	4	40
▪ Secondary level	4	40
▪ Tertially level	1	10
▪ Never gone to sch	1	10
<b>Total</b>	<b>10</b>	<b>10</b>
<b>Occupation</b>		
▪ Employed	4	40
▪ Business	2	20
▪ Farming	3	30
▪ Student	1	10
▪ Others	-	-
<b>Total</b>	<b>10</b>	<b>100</b>

<b>Tribe</b>		
▪ Yao	3	30
▪ Chewa	2	20
▪ Lomwe	4	40
▪ Other	1	10
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Marital status</b>		
▪ Married	8	80
▪ Divorced	-	-
▪ Widowed	1	10
▪ Unmarried	1	10
▪ Others	-	-
<b>Total</b>	<b>10</b>	<b>100</b>
<b>Residence</b>		
▪ Less than 5km to ZCH	4	40
▪ More than 5km to hospital	6	60
<b>Total</b>	<b>10</b>	<b>100</b>

## 5.2. Knowledge of diabetes

Participants were asked to state what they know what diabetes is that is what happens for someone to be diabetic. Only two participants indicated that they had enough information regarding what diabetes is, as reflected by the following statements;

*'It happens when the body fails to control blood sugar levels in the body'*

*'Diabetes is a body condition caused by malfunctioning of pancreas thereby blood sugar is not controlled'*

Two people said knows nothing concerning what diabetes is as reflected by the following statement:

*'I just know that I have a sugar disease but I don't know anything concerning the disease I was just told that I have a sugar problem and I was given medication and told to be coming for review monthly'*

Another person said

*'Food with more sugar is what makes people to be diabetic like in my case I had to eat sugarcane now and then so the sugars accumulated in the body'*

Six participants had little knowledge on what diabetes is since they mentioned signs and symptoms of diabetes but didn't know what diabetes is, as reflected in these statements:

*'Polyuria, thirsty, blurred vision, general body pains, dizziness and drowsiness are some of the symptoms of diabetes but I don't know what diabetes is'*

## 5.3. Knowledge of complex diabetes management

When asked if they have ever heard about complex diabetes management, all the respondents indicated that they have heard about the management.

All participants showed knowledge of nutrition as reflected in the following statements:

*'I was told to eat food high in carbohydrates, low fat and protein, not to take alcohol and to stop eating food with sugar'*

Two patients indicated knowledge on foot management

*'The nurse taught me to closely attend to minor injuries, always put on proper fitting shoes no too tight not too loose, avoid walking bare footed, daily washing and thorough drying of the feet'*

One patient indicated knowledge exercise in diabetics:

*'I was told to be doing exercises because exercises lower blood glucose levels and reduce cardiovascular risk factors'*

All ten participants said they know about diabetic drugs that they are supposed to be taking and coming for review monthly monitoring:

*'After being diagnosed, I was told to be coming monthly to be reviewed: glucose monitoring and refilling of the drugs'*

*'I was told to be coming monthly although I come here and there'*

*'I was told to be coming monthly to take medication'*

On education, all ten participants said they are taught everytime they come for review but the teachers always teach them about nutrition only

*'Since I started coming for review I have been taught on nutrition, I know other management because am part of the association and I teach my friends how to leave as diabetic patients'*

*'Health workers like teaching us nutrition management because people do not comply'*

#### **5.4. Adherence to management taught and support from relatives**

All the ten participants said they comply with everything they are taught. Some said they comply with difficulties, some said their families help them and others not:

*'I comply but sometimes I really want fried meat but my family supports me'*

*'I comply to everything I have been taught including medication given, to be alive till now it's because of that'*

*'I always try to comply but it's not easy to see your people eating something you were told to stop eating'*

*'I always find difficulties in doing exercises but I try to comply with other management'*

*'My people are so supportive when it comes to adherence, they always make sure I comply to everything I was taught'*

*'No one helps me to comply to management I do everything alone because it's my life'*

They were asked whether they come for review, all ten participants said they come, one participant said she doesn't come every month because of transport problems while the

other nine said they always try their best to come for review despite staying far from the hospital

*'I always make sure I come for review because am seeing a change since I started taking medications'*

*'I have a problem of transport so I don't come monthly but I try, the other problem I stay far away from the hospital'*

### **5.5. Attitude and perceptions of diabetes management**

Participants were asked to express what they think about the complex management. The participants indicated that they feel that complying to the management is very important as one knows whether the blood sugar is high or low, your life is prolonged, almost you come back to normality, as reflected in the following statements:

*'Diabetes management is very important; once you adhere you experience a great change in your body'*

*'Symptoms cease if you comply with management and you prolong your life'*

*'It is very important to come for review because you know your blood sugar levels when its low the doctor reduces the dose which is coming back to normality'*

*'Diabetes management is important it improves your health when you are not lazy'*

They were also asked which part of management is hard to follow. Since most patients knew a lot on nutrition and medication, 5 participants said nutrition, all participants said have no problem with taking medication daily, 1 said exercise and 4 said they do not have any problem with the management since they are used to:

*'Because I stay in the village money is a problem so I just eat what is available at home but sometimes I try especially with locally found food'*

*'Restricting amount of food take is a problem because you get hungry quickly'*

*'Sometimes when I see my relatives eating something that we don't I always want to eat some, but to say the truth sometimes I do just a little'*

*'At first I had a lot of difficulties in controlling my nutrition but now am used to'*

*'Exercise is the problem; I just feel I can't manage'*

*'Taking medication daily is not a problem we are just used to and we comply that's why we come for review to refill the medication'*

Participants were asked to say something on management rendered at Zomba Central Hospital

All 10 participants indicated that the services are good, the health workers are friendly and they teach them before clinic, but they raised few complaints:

*'The health workers are very good, they welcome us well but the problem is medication, we are not given medication for the whole month, we finish drugs before review date, this worry us because we do develop some symptoms because of that'*

*'We come to the hospital to have our blood checked before we take food and it takes time to be reviewed after checking the blood sugar levels and to receive medication'*

*'I always come very early, I leave as early as 4 am so as to be the first, the delay is when we have to meet the doctor and at pharmacy because we combine with general out patients, at the clerk, pharmacy even in the doctors room'*

*'Hypertension patients are also seen on the same day with us but the doctors and nurses are the same so there a lot of people to be seen, not forgetting people coming for general complaints, so the delay is always there'*



## **CHAPTER SIX: DISCUSSION**

### **6.0. Introduction**

This qualitative descriptive study has revealed that most of diabetic clients little knowledge on diabetes including what it is and management. It has also revealed that clients comply to what they know and perceive that complying to management is very important because it normalizes blood sugar levels, hence there is need for health education of diabetes complex management not nutrition only.

### **6.1. Demographic data**

The study revealed that a lot of participants (80%) were 50 years old and above meaning its prevalence increases with age mainly due to degenerating processes in the body. Elevated blood glucose levels commonly appear in the fifth decade of life and increases with advancing age. Possibilities include poor diet, physical inactivity, a decrease in the lean body mass in which ingested carbohydrate may be stored and altered insulin secretion, which increases insulin resistance. Education level plays a big role in the diabetes management as it requires clients to understand what is going on in their body, why are they supposed to do what and why, in this study findings showed that all the participants' level of education was low that is between primary and secondary and only one client went up as far as form 4, which means is difficult for someone to understand importance of following management. Complying to management especially nutrition and proper foot care depends on how much somebody earns and what he/she does because nutrition is full of dos and don'ts and on foot they are supposed to avoid barefoot to avoid injuries but the study showed that some depend on farming and small scale businesses for a living and 40% were employed with 20% civil servants and the other 20% working to other people which make a lot of people compromising what they were taught. The study reveals that most of these people stay far from the hospital (60%), which contributes to clients missing other visits due to transport problems.

## **6.2. Knowledge of diabetes**

The study revealed that diabetic patients have little knowledge concerning what diabetes is, only 20% explained what it means if someone is diabetic, while 80% didn't know what it means to be diabetic many of them just know the signs and symptoms because they experience such things but they don't know what it means, provided they know they are diabetic, the 20% with knowledge were male. The findings are similar with the study done by Gulabani et al in India in which patients' knowledge regarding the treatment and complications of diabetes showed serious deficiencies, more so among women, even though most had been diabetic for years.

The researcher also found out that the rural and uneducated diabetics are far less knowledgeable about diabetes mellitus than the urban diabetics because the 20% who know what diabetes is came from urban Zomba and they were civil servants while the 80% were from rural Zomba. The findings are similar with the study done by Sabri et al (2007) which indicated that urban diabetics are more educated about diabetes while the rural diabetics are far less knowledgeable about DM, its management and its complications hence there is an urgent need to improve the awareness level of diabetes mellitus in rural areas.

## **6.3. Knowledge of complex diabetes management**

There is no known cure for DM. Management of the disease focuses on control of the serum glucose level to prevent or delay the development of complications

On nutrition, the study revealed that all participants (100%) know what to eat, not to eat and how to eat because they are always taught at the hospital at each visit this is important because nutrition is the foundation of diabetes management (Brunner, 2008), despite their knowledge on nutrition, not all of them comply to diabetes nutrition others because of neglecting and others because of food unavailability.

On exercise the study revealed that 90% of the participants were taught nothing on exercise with 10% having been taught the importance of exercises in diabetics yet the person hardly do the exercises, but exercises are extremely important in managing diabetes because of its effects on lowering blood glucose and reducing cardiovascular risk factors (Brunner.2008)

On blood glucose monitoring, the results showed that everyone comes for review monthly although others said they don't come every month because of transport problems but blood glucose monitoring is a cornerstone of diabetes management. Frequent blood glucose monitoring enables people with diabetes to adjust the treatment regime to obtain optimal blood glucose control. This allows for detection and prevention of hypoglycemia and hyperglycemia and plays a crucial role in normalizing blood glucose levels, which in turn may reduce the risk of long-term diabetic complications (Brunner, 2008).

On drugs, the study showed that all participants knew about the need of taking medication daily and further indicated that they comply to the medications and that's one other important thing why they come for review to refill their drugs.

On foot care management only 10% of the participants indicated that she had knowledge on that, this is dangerous because all the participants were on risk of injuries which takes time to heal.

In general the study showed that diabetic clients have little knowledge on diabetes management. According to DAM, one of their objectives is to educate Malawians with diabetes to change their life style in terms of food, exercise and taking medication regularly, but they are finding some challenges because they do not have sponsors but they are trying their best that on 19/11/10 they conducted a big walk from Limbe to QUEEN sensitizing people about diabetes, among other things they were selling glucose monitoring machines to promote glucose self monitoring which is part of diabetes management.

#### **6.4. Adherence to management taught and support from relatives**

The study has showed that all participants comply to management they know although with some problems like lack of income, failure to recognize risks and lifestyle changes to treat diabetes, this finding is similar with the study done by Gazmararian et al (2009) which showed that unemployment, lifestyle changes to treat diabetes, stress, frustration, social isolation, interpersonal conflicts, depression, fear, denial, failure to recognize the risks and consequences of an asymptomatic condition were some of the perception of barriers to self-care management. The study furthermore showed some of them have supportive families in managing diabetes while others do not have. The study also

showed that sometimes clients do not comply management because they always given not enough drugs to carter for the whole month hence finishing drugs before review date, this finding is similar with the study done by Kalyango et al in Uganda which showed that adherence to diabetic treatment was suboptimal, there is need to improve it through strategies helping patients understand their drug regimens, always availing drugs in the hospital so that they do not have to buy them and giving shorter time between visits to health worker.

This indicates that health education is needed for both patients and guardians in Malawi.

#### **6.5. Attitude and perceptions of diabetes management**

The health belief model suggests that one's perception towards something can influence him to seek health services. Most participants said that diabetes management is very important despite it being complex because it prolongs life. Almost each part of management was considered hard to follow except drugs; this is another important area of health education emphasizing importance of following the complex management. The study showed that the care given at Zomba Central Hospital is very good but has some shortfalls which need to be looked into i.e. little medication given, take time to be reviewed because they combine with hypertension clinic as well as patients with general conditions.

## **6.6. Conclusion**

The study has shown that there is low level of knowledge of diabetes and its management among the diabetics; this probably is due to improper guidance of health providers. This suggests the need for awareness program for the patients emphasizing the importance of following the management so as improve the knowledge regarding diabetes and its complex management. It has also shown diabetic clients have positive attitude towards diabetic management perceive it to be helpful, the study furthermore showed clients try to comply to what they know (management) and low socio economic status is a major factor that contribute to management incompliance are, however most of them have supportive families.

## **6.7. Recommendations**

- There is an urgent need to improve the awareness level of diabetes mellitus; this will improve the knowledge, attitude and practices of the diabetes patients.
- Diabetic patients and caregivers should b knowledgeable about nutrition, medication side effects, exercise, disease progression, prevention strategies, blood glucose monitoring techniques, and medication adjustment. In addition, they must learn the skills associated with monitoring and managing diabetes and must incorporate many new activities into their daily routines. In health education the providers should explain all these to clients
- Patients should be provided with written information on management especially nutrition i.e. what to eat, not; amount of food to be taken; frequency.
- Zomba Central hospital has more diabetic patients so they should have their specific clinic day not combining with hypertension clinic and they should have their separate room of review not together with general clients because they come without taking any food so they have to be reviewed in time
- The government through MOH should support DAM financially so as to carry out their activities and to be active in the whole Malawi.
- Clients should be given enough medication to carter for the whole month to avoid complications and incompliance.

### **6.8. Issues for further research**

There is a need for wide nursing research to focus on the following areas:

- Need to conduct the same study on the larger scale i.e. nation wide.
- Prevalence and awareness regarding diabetes mellitus in rural Malawi, since it seems diabetics in rural areas are not knowledgeable of diabetes hence a study is needed to find out.
- Awareness regarding self care among diabetics.

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## APPENDICES

### Appendix 1: PERMISSION LETTER TO ZCH

Kamuzu College of nursing,  
P/BAG 1,  
Lilongwe.

The Director,  
Zomba Central Hospital,  
P.O ,  
Zomba.

Dear Sir/madam,

#### **REQUEST FOR PERMISSION TO CONDUCT A STUDY AT ZOMBA CENTRAL HOSPITAL-DIABETIC CLINIC**

I am Shireen Chithambo, a fourth year student from Kamuzu College of nursing. In partial fulfillment of requirement for the award of a bachelor degree in nursing program, I am required to conduct a research project. I am therefore, asking for permission for me to conduct a research at Zomba Central Hospital titled: **A study on knowledge, perception and attitudes of diabetic clients towards diabetic management.**

The results of this research will help health workers to understand the importance of giving information to clients and guardians on complex management of diabetes, it will also help patients and guardians to appreciate the need and importance of following the complex management after gaining full knowledge of diabetes and its management.

Your consideration will be greatly appreciated.

Yours faithfully,  
Shireen Chithambo  
(099681189)

**Appendix 2: Approval letter from ZCH**

Kamuzu College of nursing,  
P/BAG 1,  
Lilongwe.

The Director,  
Zomba Central Hospital,  
Zomba.

*U. M. M. M.*  
DIRECTOR  
CENTRAL HOSPITAL  
MEDICAL SPECIALIST  
18/10/2010 -10- 21  
P.O. BOX 21, ZOMBA

Dear Sir/madam,

**REQUEST FOR PERMISSION TO CONDUCT A STUDY AT ZOMBA  
CENTRAL HOSPITAL-DIABETIC CLINIC**

I am Shireen Chithambo, a fourth year student from Kamuzu College of nursing. In partial fulfillment of requirement for the award of a bachelor degree in nursing program, I am required to conduct a research project. I am therefore, asking for permission ~~for me~~ to conduct a research at Zomba Central Hospital titled: **A study on knowledge, perception and attitudes of diabetic clients towards diabetic management.**

The results of this research will help health workers to understand the importance of giving information to clients and guardians on complex management of diabetes, it will also help patients and guardians to appreciate the need and importance of following the complex management after gaining full knowledge of diabetes and its management.

*Attached is my approval letter from school.*

Your consideration will be greatly appreciated.

Yours faithfully,

Shireen Chithambo

(0999681189)

*Chithambo*

DIRECTOR  
ZOMBA CENTRAL HOSPITAL  
2010 -10- 21  
P.O. BOX 21, ZOMBA

**Appendix 3a: INTERVIEW GUIDE IN ENGLISH**

**SECTION A: DEMOGRAPHIC DATA**

1. What is your age? .....
2. Sex
  - Male .....
  - Female .....
3. Which tribe do you belong to? .....
4. What is your religion?.....
5. Where do you live?
6. Have you ever gone to school?
7. How far have you gone with your education?.....
8. What do you do to earn a living?.....  
Explain.....
9. Are you
  - i. Married .....
  - ii. Divorced.....
  - iii. Widowed.....
  - iv. Others (specify).....
10. How many children do you have?.....  
Age range of the children.....
11. Apart from your children do you have other dependents?.....  
If yes how many?.....

**SECTION B : KNOWLEDGE OF DIABETES AND FACTORS CONTRIBUTING TO DIABETES MANAGEMENT UNCOMPLIANCE**

12. What do you know about Diabetes

.....  
.....

13. When was diabetes diagnosed?.....

14. Have you ever been taught about whole diabetes management

a. If yes, where?

.....

b. From who?

.....

c. What were you taught on the diabetes management?

.....  
.....  
.....  
.....  
.....

15. Do you comply to everything you were  
taught?.....

If not,

a. Why don't you comply to the management?.....

.....  
.....

b. Which part of management do you manage to  
follow?.....

16. Do you come to the hospital for review?.....

a. If yes, how often .....

b. If no, why?.....

Do you have a supportive family system in relation to diabetes management?

a. If yes, how do they support you?.....

.....

b. If no, what do they do/say?.....

**SECTION C : PERCEPTIONS AND ATTITUDES ON DIABETES  
MANAGEMENT**

17. What do you think about whole management of diabetes?

.....  
.....  
.....

18. Do you think its important for diabetics to follow the whole management of diabetes

.....

a. If yes, why?

.....  
.....

b. If no, why?

.....  
.....

19. Which part of the diabetes management is hardest to follow?

.....  
.....

a. Why?

.....  
.....

20. What can you say on the management of diabetes rendered bythis hospital?

If good, explain

.....  
.....

If not good, explain

.....  
.....

**Appendix 3b: INTERVIEW GUIDE IN CHICHEWA**  
**GAWO LOYAMBA**

1. Muli ndi zaka zingati?.....
2. Ndinu  
Amuna .....
- Akazi .....
3. Ndinu mtundu wanji?.. .....
4. Ndinu achipembedzo chanji?.....
5. Mumakhalira kuti?
6. Kodi mnapitako ku school?
7. Maphunziro anu munalekeza pati?.....
8. Mumachita chiyani kuti mupeze ndalama?.....  
Fotokozani  
.....  
.....
9. Ndinu
  - v. Wa pabanja .....
  - vi. Banja linatha.....
  - vii. Wa masiye.....
  - viii. Zina (tchulani).....
10. Muli ndi ana angati?.....  
a zaka zingati?.....
11. Palinso ena omwe amakudalirani ?.....  
Alipo angati?.....

**GAWO LACHIWIRI**

12. Kodi mukudziwapo chiyani za matenda shuga?.....

13. Matendawa anakupezani nawo liti?.....

14. Kodi munaphunzitsidwapo za ndondomeko ya kasamalilidwe ka matendawa?

a. Ngati eya, kuti?

.....

b. Kwa ndani?

.....

c. Kodi munaphunzitsidwa chiyani za ndondomekoyi?

.....

.....

.....

.....

.....

15. Kodi mumatsatira mwatsatanetsatane ndondomekoyi?

.....

Ngati ayi,

a. Chifukwa chiyani?.....

.....

.....

b. Zomwe mumakwanitsa kutsatira ndi ziti

.....

.....

16. Kodi mumabwera kuchipatala kudzaonana ndi adokotala?.....

b. Ngati eya, kangati?.....

b. Ngati ayi, chifukwa?.....

17. Kodi achibale anu amakuthandizani potsatira ndondomekoyi?



a. Ngati eya, amakuthandizani bwanji?.....

.....  
.....

b. Ngati ayi, amati chiyani pa za matendawa.....

.....  
.....

**GAWO LACHITATU**

18. Kodi mukuganiza bwanji za ndondomeko yonse ya kasamalilidwe ka matendawa?

.....  
.....  
.....

19. Mukuganiza kuti ndi kofunikira kutsatira ndondomeko yonse mwatsatanetsatane?

.....

a. Ngati eya, chifukwa?

.....  
.....  
.....

b. Ngati ayi, chifukwa?

.....  
.....  
.....

20. Ndi njira iti yomwe mumaona kuti ndi yovuta kutsatira?

.....

a. Chifukwa?

.....  
.....

21. Munganenepo chiyani pa za chithandizo chomwe chimaperekedwa pa chipatala pano?

a. Ngati chili bwino, fotokozani.....

.....

b. Ngati si chabwino, fotokozani

.....  
.....  
.....

**Appendix 4: PERMISSION LETTER TO QECH**

Kamuzu College of nursing,  
P/BAG 1,  
Lilongwe.

The Director,  
QECH,  
P.O , Box  
Blantyre.

Dear Sir,

**REQUEST FOR PERMISSION TO CONDUCT A PILOT STUDY AT QECH-  
DIABETIC CLINIC**

I am Shireen Chithambo, a fourth year student from Kamuzu College of nursing. In partial fulfillment of requirement for the award of a bachelor degree in nursing program, I am required to conduct a research project. I am therefore, asking for permission for me to conduct a pilot at QECH titled: **A study on knowledge, perception and attitudes of diabetic clients towards diabetic management.**

The results of this research will help health workers to understand the importance of giving information to clients and guardians on complex management of diabetes, it will also help patients and guardians to appreciate the need and importance of following the complex management after gaining full knowledge of diabetes and its management.

Your consideration will be greatly appreciated.

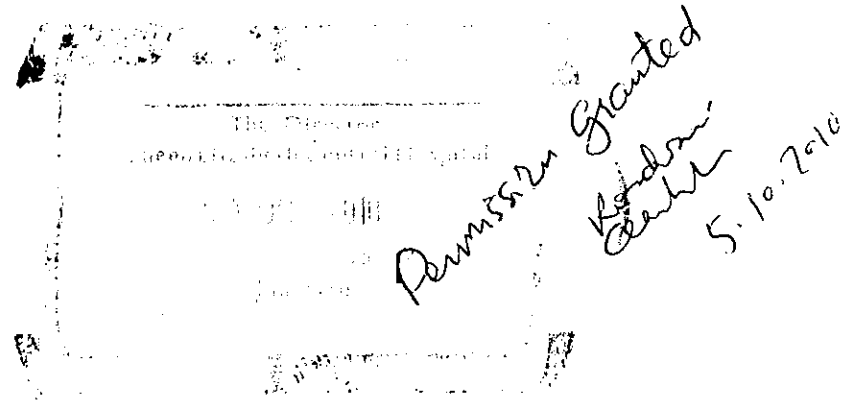
Yours faithfully,

Shireen Chithambo.

Appendix 5: Approval letter from QECH

Kamuzu College of nursing,  
P/BAG 1,  
Lilongwe.

The Director,  
QECH,  
P.O, Box  
Blantyre.



Dear Sir,

**REQUEST FOR PERMISSION TO CONDUCT A PILOT STUDY AT QECH-  
DIABETIC CLINIC**

I am Shireen Chithambo, a fourth year student from Kamuzu College of nursing. In partial fulfillment of requirement for the award of a bachelor degree in nursing program, I am required to conduct a research project. I am therefore, asking for permission ~~for me~~ to conduct a pilot at QECH titled: **A study on knowledge, perception and attitudes of diabetic clients towards diabetic management.**

The results of this research will help health workers to understand the importance of giving information to clients and guardians on complex management of diabetes, it will also help patients and guardians to appreciate the need and importance of following the complex management after gaining full knowledge of diabetes and its management.

Attached is my approval letter from school.

Your consideration will be greatly appreciated.

Yours faithfully,

Shireen Chithambo.

(0999681189)

*S. Chithambo*

**Appendix 6: PERMISSION LETTER TO KCN-RPC**

Kamuzu College of nursing,  
P/Bag 1,  
Lilongwe.

The Chairperson,  
Research and Publications Committee,  
Kamuzu College of Nursing,  
P/Bag 1  
Lilongwe.

Dear Sir/ madam,

**REQUEST FOR PERMISSION TO CONDUCT A STUDY AT ZOMBA  
CENTRAL HOSPITAL-DIABETIC CLINIC**

I am Shireen Chithambo, a fourth year student from Kamuzu College of nursing. In partial fulfillment of requirement for the award of a bachelor degree in nursing program, I am required to conduct a research project. I am therefore, asking for permission for me to conduct a research at Zomba Central Hospital titled: **A study on knowledge, perception and attitudes of diabetic clients towards diabetic management.**

The results of this research will help health workers to understand the importance of giving information to clients and guardians on complex management of diabetes, it will also help patients and guardians to appreciate the need and importance of following the complex management after gaining full knowledge of diabetes and its management.

Your consideration will be greatly appreciated.

Yours faithfully,  
Shireen Chithambo

Appendix 7: Approval letter from KCN-RPC



University of Malawi  
KAMEZI COLLEGE OF NURSING

RESEARCH AND PUBLICATIONS COMMITTEE

APPROVAL CERTIFICATE

TITLE: Knowledge, Perception and Attitudes of Diabetic Clients  
Towards Diabetes Management at Zomba Central Hospital

INVESTIGATOR: SHYREEN EMMACULATE TAOLOKA CHITHAMBO

DEPARTMENT/YEAR OF STUDY: MSc in Nursing

REVIEW DATE:  SEPTEMBER 2010

DECISION OF THE COMMITTEE: Approved

SIGNATURE: *[Signature]* DATE: 27/09/10  
CHAIRPERSON, RESEARCH AND PUBLICATIONS COMMITTEE

cc: Supervisor

DECLARATION OF INVESTIGATOR(S)

*I/we fully understand the conditions under which I am/we are authorized to carry out the above mentioned research and I/we guarantee to ensure compliance with these conditions. In case of any departure from the research procedure as approved, I/we will resubmit the proposal to the committee.*

DATE: 27/09/10 SIGNATURE(S): *[Signature]*

## Appendix 8a: CONSENT FORM IN ENGLISH

Kamuzu College of nursing,  
Private bag 1,  
Lilongwe.

Dear participant,

I am a fourth year student at Kamuzu college of nursing, pursuing a bachelor of science in nursing (generic). In partial fulfillment of the programme, I am required to conduct a research study. The topic of my study is **knowledge, perceptions and attitudes of diabetic clients towards diabetic management**. The aim of this study is to identify the factors that cause these people not to comply to the whole management of diabetes hence helping them to understand the importance of management compliance.

You are asked to take part in the study and hence respond to questions that are in this study. Participation in the study is voluntary; hence, you are not forced to take part in it. You are informed that you can withdraw from the study if you wish to and will not be penalized. There is no direct benefit to the participants, but there will be an improvement in health education at the clinic. There will also be an improvement in the overall uptake of programs concerning management e.g. health education, follow up care, home visiting.

Be assured that privacy and confidentiality will be maintained, as your name will not be written on the interview guides instead numbers will be used. The information regarding this study will not be disclosed to any authorized people except those that are directly involved in the study. Each participant will be interviewed separately and after data collection the interview guides will be put in an envelope and sealed. After data analysis, the guides will be destroyed to maintain privacy and confidentiality. Each interview session will last for approximately 45 minutes.

Thank you.

Declaration

I have understood the contents of the letter. I therefore give consent to participate in the study.

Signature of participation.....Date.....

Signature of the researcher.....Date.....

## Appendix 8b: CONSENT IN CHICHEWA

Kamuzu College of nursing,  
Private bag 1,  
Lilongwe.

Okondedwa wotenga mbali,

Ine ndi wophunzira ku sukulu ya ukachenjede ya unamwino ya Kamuzu college. Ndili mchaka chomaliza, ndipo monga mwa ndondomeko ndili owenera kuchita kafukufuku ngati mbali imodzi ya maphunziro anga. Kafukufukuyu ndi ofuna kudziwa zomwe odwala matenda a shuga amadziwa ndinso amakhulupilira zokhudzana kutsatira ndondomeko ya kasamalilidwe konse kamatendawa pofua kuchepetsa kukwera kwa shuga mthupi . Cholinga chake chakafukufukuyu nchoti tipeze zomwe zimabwenza mbuyo anthu odwala matenda a shuga kukwaniritsa ndondomeko yonse ya kasamalilidwe kamatenda a shuga pochepetsa kukwera kwa shuga .

Mukupemphedwa kuti mulowe nawo mukafukufukuyu ndipo mudza funsidwa mafunso kwa makumi anayi ndi mphambu zisanu. Zokambilana zathu zitsakhala za chinsinsi ndipo izi zidzatheka posa dziwitsa aliyense za zokambilana zathu kupatula omwe akupanganao kafukufukuyu. Zokambilanazi zi dzachitikila pa malo omwe tidzakhale awiri basi. Pomaliza pa zokambilanazo, mapepala a mayankho adzayikidwa mumainivolopu ndiku matidwa ndipo kafukufukuyu akadzatha mapepalawa adza otchedwa. Zokambilana zathu zidzakhala za chinsinsi ndipo dzina lanu silidzalembedwa pa pepala la mayankho mmalo mwake tidzagwiritsa ntchito manamabala. Muli kudziwitsidwa kuti kutenga mbali mukafukufukuyu ndi kosakakamiza ndipo ngati simungathe kupilira nao mukafukufukuyu muli ndiufulu otuluka ndipo simudzalandila chilango chilichonse.

Zikomo.



CHILOLEZO

Ndagwilizana ndi nfuno zomwe ziri mukalatayi ndipo ndikuvomela kulowa nawo mundondomekoyi.

Siginetchala.....Tsiku.....

Wofufuza.....Tsiku.....

## APPENDIX 9: BUDGET FOR RESEARCH

### STATIONERY

ITEM	QUANTITY	COST (MK)	TOTAL COST (MK)
Plain paper (A4) reams	2	K 900.00	K1800.00
Pencils	3	K 20.00	K 60.00
Pens	4	K 25.00	K 100.00
Envelopes(big)	3	K 50.00	K 150.00
Small envelopes	5	K 15.00	K 75.00
Postage stamps	5	K 75.00	K 375.00
Flash disk	1	K3000.00	K3000.00
Large hard cover	1	K 3000.00	K 300.00
<b>Sub total</b>			K 5860

### PRINTING AND BINDING

ITEM	QUANTITY	COST(MK)	TOTAL(MK)
Printing proposal	60pages/3 copies	K 10.00	K1800.00
Binding proposal	3 copies	140/copy	K 420.00
Printing interview guide	15(4 pages each)	K 10/page	K600.00
Typing dissertation	70 pages	K10/page	K 700.00
Printing dissertation	70 pages/3 copies	K10.00	K 2100.00
Binding dissertation	3 copies	K 140.00	K 420.00
<b>Sub total</b>			K 6040.00

## TRANSPORT & COMMUNICATION

			TOTAL (MK)
Transport			K10000.00
Airtime for communicating with supervisor			K500.00
<b>Sub total</b>			K15000.00
Contingency			K2690.00
<b>Grand total</b>			K29590.00

Appendix 10: TIME LINE.

ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Preparation of research topic and objectives		■	■									
Proposal writing and compiling				■	■							
Submitting proposal for approval						■	■					
Conducting a pilot study								■				
Data collection									■			
Data analysis										■		
Presentation of dissertation											■	
Dissemination of results.											■	■