ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

DEPARTMENT OF NURSING

SELF-CARE PRACTICE AND ITS ASSOCIATED FACTORS AMONG DIABETIC PATIENTS AT SELECTED PUBLIC HOSPITALS OF EAST-SHOA ZONE, OROMIA, ETHIOPIA 2022.

BY: ASHENAFI TESHOME (BScN)

A RESEARCH THESIS SUBMITTED TO THE NURSING DEPARTMENT, SCHOOL NURSING AND MIDWIFERY, COLLEGE OF HEALTH SCIENCES, ADDISABABA UNIVERSITY IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS SCIENCE IN ADULT HEALTH NURSING

MAY, 2023

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APPROVAL BY THE BOARD OF EXAMINATION

This thesis by **"self-care practice and its associated factors among diabetic patients at selected public hospitals of east-shoa zone, Oromia, Ethiopia 2022"** is accepted in its present form by the board of examiners as satisfying thesis for degree of masters in Adult Health Nursing.

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STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

This thesis is submitted in partial fulfillment of the requirement for a graduate degree from Addis Ababa University at College of Health Sciences, School of Nursing and Midwifery. The thesis is deposited in the Addis Ababa University Digital Library and is made available to the local, national, and international scientific communities. I solemnly declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

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ABBREVIATION AND ACRONYMS

AAU	Addis Ababa University
ADA	American Diabetic Association
AOR	Adjusted odds ratio
BMI	Body mass index
COR	Crud odds ratio
CVD	Cardio Vascular Disease
DC	Data Collectors
DEC	Data entry clerk
DFU	Diabetic foot ulcer
DM	Diabetes mellitus
DSMES	Diabetes self-management education and support
GATS	Global Adult Tobacco Survey
IDF	International diabetic federation
MNT	Medical nutrition therapy
OSSS	Oslo social support
PIs	Principal investigators,
SDSCA	Summary of diabetes self-care activities
SMBG	Self-monitoring of blood glucose
SPSS	Statistical package for social science
T1DM	Type 1 Diabetes Mellitus
T2DM	Type 2 Diabetes Mellitus
VIF	Variance inflation factors

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ABSTRACT

Background Self-care behaviors have been found to be positively correlated with good glycemic control, reduction of complication and improvement quality of life. Even if diabetic self-care have significant impact on progress of diabete, there is gap in implementing self-care in many parts Ethiopia including East Showa zone.

ObjectivesThis study aimed to assess Self-care practice and associated factors among diabetic patients at selected public hospitals East-Showa zone, Oromia, Ethiopia 2022.

Methods Institutional based cross-sectional study was employed to conduct the study and from the total of five hospitals found in East Shoa Zone four (4) were selected using simple random sampling technique and sample was proportionally allocated in each study area and finally, the study participant were recruited using systematic random sampling technique. Data was coded, cleaned, entered to epi data version 4.6.0.6 and was exported to SPSS version 26 for analysis. Variables with a p-value <0.25 on binary logistic regression was subjected to multivariable logistic regression analysis. P-value less than 0.05 was considered as significantly associated. Model fitness was tested using Hosmer-Lemeshow goodness-of-fit and the results was presented in table and odd ratios.

Result This study had 100% response rate with mean age of 48.42±15.24 where 63.6% (218) of the respondents were males. About 37.6% of patients practice good diabetic self-care and factors like income, occupational status, treatment intensity, having family history of Diabetes, owning glucometer and social support showed strong association. Self-care was significantly associated with with no income with [AOR=4.99, 95% CI (1.68-14.81), P-value=0.004], treatment with insulin [AOR=0.28, 95% CI (0.13-0.60), P-value=0.001], owning glucometer [AOR=7.33, 95% CI (3.69-14.59), P-value=0.000], having family history of Diabetes [AOR=0.37, 95% CI (0.21-0.67), P-vlue=0.001] and having strongsocial support [AOR=6.09, 95% CI (2.79-13.27), P-value=0.000].

Conculusion Large number study participant had poor diabetic self-care; improving and monitoring awareness of diabetic patient will improve further.

Recommendation to east shoa zone health professionals, to east shoa zonal health bureau, to researchers

Keywords:-Self-care practice, diabetics mellitus, public hospitals

1. INTRODUCTION

1.1. Background

Diabetes mellitus (DM) refers to an assemblage of common metabolic disorders that share phenotypes of hyperglycemia and can be categorized broadly according to the pathogenic process as type I and Type II. Type II DM is the most common type which mostly occurs in adults (1).

For those who encounter diabetes, it will take several times to develop symptoms mostly on type II. Some of the symptoms of type II diabetes includes polyuria, polydipsia, weight loss, blurred vision, numbness, being tired, sores heal slowly and sustaining more infection than usual [1]. Management of diabetes needs multi-pronged approach to prevent the long-term complication of the disease [2].And there are several cost-effective intrusions that can improve outcomes, irrespective of the type of diabetes [3]. Regardless to medical treatment, effective control of diabetes mellitus requires strict self-care practice which manifested by healthy lifestyle, healthy diet, physical activity, weight control, quitting smoking if it is applicable, self-regular monitoring of blood glucose control and foot care [4]

In settings where it lacks effective policy in favor of supportive environment for healthy lifestyle and quality health care service, result in deprived control of diabetes and leads to horrible consequences including economic devastation [5].This type of situation is common in developing countries mostly in sub-Sahara-Africa as they had poor quality of health care service and health seeking behavior of patients due to lack of awareness [6]. Self-care practices need to be practiced for effective control of diabetes in spites of the settings. [7]

Self-care practice is an activity which need to be successfully prevent the start or progression of the disease, done by those who have diabetes or who are at risk of developing it [8]. In addition to medical care, it highly advised to adhere to self-care practice which comply with steady blood sugar monitoring, dietary good practice, physical mobility, and frequent foot care compliment the management of hyperglycemia [9].

1.2 Statement of the problem

Diabetes is a bit complex disease as its prevention and control request coordinated action from government, health care provider, and the diabetic patients by itself, civil society, food producers, medicine, and technology suppliers [5].In 2019, it is estimated that 463 million peoples have diabetes mellitus globally and this number expected to project to 578 million by 2030 and over 4 million will be expected to die [10].

Africa is a continent with high number of undiagnosed diabetes and 60% of its population doesn't know their diabetic states(2) and the future projection shows this continent will face high burden of DM(3). According to 2019(IDF) international diabetic federation of Africa estimate, with regional prevalence of 3.9%, currently 19.4 million adults aged 20-79 years were living with DM(3) The prevalence of undiagnosed DM in Africa is 4.43% which have high implication on the progress of disease and treatment outcome(4) and considering the quality of data and the level of diagnosis, the current prevalence of diabetes is 3.2% among Ethiopian nations. [3].

Diabetes is too expensive in economic wise and world-wide, it will cost 10 billion dollar each year(5) and this cost is related to health system costs incurred by society in managing the disease, indirect costs resulting from productivity losses due to patient disability and premature mortality, time spent by family members accompanying patients when seeking(6). Improper diagnosis as well as miss management of the disease have direct or indirect social, economic, and political impact on large society [3]. Considering this, diabetic care and management must be patient centered and cost effective(7).

As resources are limited and diabetic management has economic impact, searching for cost effective management is critical(8). Diabetes self-management education and support are critical to preventing acute complications, dropping the risk of long-term complications reducing direct and indirect cost both for the patient and nations at large (9) . However, attaining in continues diabetic self-management to each patient, requires significant improvement to health care system and its provision(10).

Provision of quality health service is poor in resource limited setting which indirectly affect adherence to diabetic self-care practice as the patients had poor awareness on the issue(2) and even though it is known that diabetic self-care practice has significant effect on

management of the disease, the practice was very low than expected(7,11) , and the practice was limited in most African countries in scope, content, and consistency on how they care for their diabetes(12).

In a systematic study conducted among sub-Saharan African country found that diabetic patients rarely monitor blood glucose level, had low frequency and/or duration of physical activity, moderately adhere to recommended dietary and medication, and had poor level of knowledge on diabetic complication and sought traditional/herbal medication(12).

The same true with systematic study done in Ethiopia as it showing ove all pooled prevalence of good diabetic self-care which was below thw mean (49%)(13). Hence this study will be used as input for further expansion of diabectic self-care education and councelling for patients around East Shewa zone and Ethiopia at large.

2 LITERATURE REVIEW

Diabetes mellitus (DM) also known as simply diabetes, is a group of metabolic diseases in which there are high blood sugar levels over extended period.This high blood sugar produces the symptoms of recurrent urination, augmented thirst, and increased hunger. Untreated, diabetes can cause many complications. Off acute complications, diabetic ketoacidosis and non-ketotic hyperosmolar coma are the most common and long-term complications includes cardiac disease, stroke, kidney failure, foot ulcers and eye damage(11).

Referring to the current classification, there are two major types of diabetes and termed as: type 1 diabetes (T1DM) and type 2 diabetes (T2DM). The division between the two types has historically been based on age at onset, degree of loss of β cell function, degree of insulin resistance, presence of diabetes-associated autoantibodies, and requirement for insulin treatment for survival(14)

Diabetes is found in every nations of the globe and in every sections of the world, including rural parts of low- and middle-income countries. The number of people with diabetes is progressively increasing, with WHO approximating that there were 422 million adults with diabetes worldwide in 2014. The age-adjusted prevalence in adults rose from 4.7% in 1980 to 8.5% in 2014, with the tallest rise in low- and middle-income countries compared to high-income countries(15) and the trend is increasing, and it is challenging to ascertain its prevalence due to lack of quality data(2). Thus, the increase in diabetes in developing countries posed huge medico-economic challenges to the economy that already challenged by other communicable diseases(2).

Diagnosing diabetes is a challenge mainly in resource limited setting(16) and poor awareness, a “fatalistic attitude”, and consequent delayed diagnosis, inadequate treatment, and genetic predisposition are some reasons for the high burden of complications(2). So then, increasing patient knowledge regarding the disease and its complications have significant benefits regarding compliance to treatment and decreasing complications associated with the disease by improving their lifestyle(14).

Lifestyle management is a fundamental aspect of diabetes care and includes diabetes self-management education and support (DSMES), medical nutrition therapy (MNT), physical activity, smoking cessation counseling, and psychosocial care(17,18). In accordance with the national standards for diabetes self-management education and support, all people with diabetes should participate in diabetes self-management education and receive the support needed to facilitate the knowledge, decision-making, and skills to mastery necessary for diabetes self-care(7). Patients and care providers should focus together on how to optimize lifestyle from the time of the initial comprehensive medical evaluation throughout all subsequent evaluations, follow-up and assessment of complications and management of comorbid conditions to enhance diabetes care(17).

2.1 Associated factors

Many factors affect the role of self-care practice regarding patients with type 2 diabetes and influence the understanding of self-care practices among diabetes patients(19).

Across sectional study conduct in Bengaluru in 2020 on 400 patient indicates 215(53.75) displayed had an average score of self-care. Self-care was poor in 184 (46%) subjects, and only 1 subject (0.25%) were having good self-care practices. The study conducted by Nazila where they found that majority of patients (63.6%) had poor self-care score due to inadequate blood sugar testing, irregular medication intake and lack of physical activity(20) .and the study conducted in Gonder university found out the level of literacy, residency and having strong social support can determine the level of self-care practice(21). Another study conducted on self-care practice in Tigray regional state found that age at onset, educational status, familial support, owning glucometer, BMI, and duration of DM have strong association with the level of self-care practice(22). In study conducted in North-East Ethiopia, self-care practice was poor among patients with poor diabetic knowledge (66.1%), lower educational status (75.4%) and patients having another comorbidity (65%)(23), And facility based study conducted in Addis Ababa found out, sex, age, marital status, educational status, occupation, monthly income, duration of the diabetes, comorbidity, current treatment modality and owning glucometer significantly associated with self-care(24)

2.2 Self-care practice

Self-care in diabetes has been defined as an evolutionary process of advance of knowledge or awareness by learning to survive with the complex nature of the diabetes in a social context(25).

There are seven vital self-care actions in people with diabetes which forecast upright outcomes. These are medical adherence, good dietary practice, regular exercise, blood sugar monitoring, Diabetic foot care, psychosocial support and Cessation of smoking (7).The study conducted in mexico revealed that 33.5% of study participant showed good-diabetic self care(26) and on the other hand a study conducted in five hospitals in Kenya found out that, the level of diabetic self-care practice was 7.6 out of 14 points which aro und the mean(27) .

Different studies were also conducted different parts of Ethiopia on self-care practice and revealed different level adherence to self-care practice(15). A systematic review Ethiopia found out that, the overall pooled prevalence of good self-care practice was 49%(13)which is below the mean and study conducted in west Ethiopia found out the over all prevalence of good diabetic self care was 60.7%(28). Another study conducted in Gonder university referral hospital on self-care practice revealed, 51.8% of patients had poor self-care practice(21).

Study conducted in Yekatit 12 of Addis Ababa revealed that the level of poor self-care practice was 52%(20) and the same study was conducted in Debre-Birehan hospital also found out the frequency of practicing appropriate self-care was 44.7%(23). In other study conducted in six selected public hospitals of Tigray and Ayder hospital revealed that the prevalence of good self-care practice is 46.7%(22) and 49.5%(29). In study conducted in Diredawa, the level self-care was significantly determined by family support, having own glucometer, level of education, duration of the disease, income and diabetic knowledge(20).

Medical Nutrition Therapy

Medical nutrition therapy (MNT) is a term used by the ADA to describe the optimal coordination of caloric intake with other aspects of diabetes therapy (insulin, exercise, and weight loss)(1) for many individuals with diabetes, the most challenging part of the treatment plan is determining what to eat and following a meal plan. There is not a one

size-fits-all eating pattern for individuals(17) even though MNT is integral component of diabetes self-management education(30). In study conducted in, Bengaluru only 38% of patients followed good dietary behavior (21).

In study conducted in Lagos, Nigeria, only 35% of participant have adequate knowledge on dietary management of diabetes(31) and in systematic and meta-analysis conducted in Ethiopia showed that, the prevalence of good dietary practice among Type-II diabetic patient is 50%(13).

In another study conducted in public hospitals of Tigray regional study, the prevalence of good dietary practice found to be 49.8%(22). On the same type study conducted in North-East Ethiopia found that the prevalence of good dietary practice is 36.3%(23).

Physical Activity

Physical activity is a cheap and strong means for prevention of diseases(32) and by assisting people in achieving their desired lipid profile, body composition, cardio-respiratory fitness, and glycemic goals, regular exercise can enhance health and well-being.(33) Physical activity refers to all energy expended by movement, and is defined as any body movement produced by skeletal muscles that results in energy expenditure above resting level (34) and Aerobic exercise consists of rhythmic, repeated and continuous movements of the same large muscle groups for at least 10 minutes(35). Systemic review in sub-Saharan Africa the degree of compliance with the recommendation varies widely in the some areas observing compliance rate low 46% while in others, especially in the agrarian rural areas, the rate of compliance is high 95%(33).The Third National Wellbeing and Nourishment Examination Study found that most diabetic patients were physically inert (30% no physical movement at all, 40% less than suggested levels) (33). Study conducted in Diredawa states that, 58.1% study participant take part in recommended level of physical activity, around 53.8% participated in at least 30 minute daily physical activity(32). Systematic review in Ethiopia and cross-sectional study done at dilla refferal hospital found out that patients practicing the recommended level of physical activity was 49%and (13,36).

Blood glucose monitoring

Self-monitoring of blood glucose (SMBG) is the standard of care in diabetes management and allows the patient to monitor his or her blood glucose at any time. In SMBG, a small drop of blood and an easily detectable enzymatic reaction allow measurement of the capillary plasma glucose(1). Many glucose monitors can rapidly and accurately measure glucose and most patients using intensive insulin regimens (multiple daily injections or insulin pump therapy) should assess glucose levels using self-monitoring of blood glucose (or continuous glucose monitoring) prior to meals and snacks, at bedtime, occasionally(7). In study conducted in United Kingdom, the prevalence of SMBG was 43% (37), in China, it was found that, the over all prevaance of SBGM was 27.3% (38)and In sub-Saharan Africa demonstrating the feasibility less than 30% reductions in the HbA1c after just 3 months of SMBG provision is still slow(39). In study conducted in Sri Lanka, 19.7% of study participants monitored their blood glucose at least 3 or more over the last 7 days(33).In systematic study conducted among pooled studies in Ethiopia found that, regular blood glucose monitoring was 28%(13) and in study conducted Benishangul Gumuz, study participant who owns glucometer, better practice good diabetic self-care than who don't own(33) and in study conducted in Diredaw, eastern Ethiopia, patients who own glucometer 3 time more likely to their bllod glucose than who don't own(40)

Diabetic Foot care

Adequate foot care and regular foot examinations along with optimal glycemic control are effective strategies to prevent foot ulceration and the lifetime incidence rate of diabetic foot ulceration is 19–34%, with a yearly incidence rate of 2%(41). Epidemiological surveys suggest that sub Saharan Africa has the second highest worldwide prevalence of DFU among diabetics of 7.2% (95%CI: 5.1–9.3)(12). In study conducted in Sri Laka, 43.7% study participant practice poor foot care at least three times per a week(34).In study conducted at Jimma Medical center found that, 92.5% inspect and 82.75 wash their foot once daily and 42.4% never dry between their fingers after washing(42).

Cessation of smoking

According to the Global Adult Tobacco Survey (GATS) in 2016, around 3.4 million tobacco users and 1.9 million adult manufactured cigarette smokers in Ethiopia. World Bank's World Development Indicators, Ethiopia's population with ages 15–64 were estimated at 56.7 million in 2016 and 47.5 million in 2011. The Prevalence rate of 6% for tobacco users and 3% for manufactured cigarette smoking(43). In India, 19% of men smoke cigarette and about 48.8% of them would be counselled to quit(44).

Smokers with diabetes (and people with diabetes exposed to second-hand smoke) have a heightened risk of CVD, premature death, microvascular complications, and worse glycemic control when compared with nonsmokers(17).The routine and thorough assessment of tobacco use is essential to prevent smoking or encourage cessation. Numerous large randomized clinical trials have demonstrated the efficacy and cost-effectiveness of brief counseling in smoking cessation, including the use of telephone quit lines, in reducing tobacco use(7). In study conducted in Tigray region, 36% of study participants were smokers(12).

Medication adherence

Adhering to recommended medication was among critical components of diabetic management and lack of adherence leads to sub-optimal control of the disease leading to different type's diabetic complications(39). In study conducted in Sri Lanka, 80% of study participant showed adherence the recommended medication(45). In study conducted in Saudi Arabia,54.4% study participant often forgot to take their recommended medication(46) and in study conducted in Cameroon, 54% of diabetic patients were non - adherent to recommended medication(47). A study conducted urban area's of Urmia, North west of Iran, showed that being on insulin significantly associated with good diabetic self-care(48) In study conducted at Zeditu hospital of Addis Ababa showed that 54.8% of study participants were non-adherent to the recommended medication(49) and same study conducted at Bahirdar states that, 68.8% of study participants were non adherent to their recommended medication(50).

Psychosocial support

Diabetes mellitus continues to represent a major public health problem both globally and in the United Kingdome. According to United Kingdome report on the provision of psychological support and care for people with diabetes, access to psychological services is poor and estimated that 41% of people with diabetes suffer from poor psychological [11].Complex environmental, social, behavioral, and emotional factors, known as psychosocial factors, influence living with diabetes, both type 1 and type 2, and achieving satisfactory medical outcomes and psychological well-being. Thus, individuals with diabetes and their families are challenged with complex, multifaceted issues when integrating diabetes care into daily life [12].

Overall, diabetes mellitus is chronic disease which affect multiple aspects and its treatment complex which need involvement of multiple actors including the patient by itself. The treatment and its management affected by multiple factors like the economic status, health care system, literacy and knowledge status, social support and many more. So, this study intends to asses factors influencing self-care practice among diabetic patients in east Showa zone and give clue to concerned body on factors significantly affecting the progress of the disease among their clients and take appropriate decision. In study conducted in Gonder revealed that, the odds of having poor diabetic care was lower by 69% on patients having strong social support(21).

2.3 Conceptual Frame Work

This conceptual framework was created by looking over various academic works and observing the relationships between dependent and independent variables. From the aforementioned articles, it is adopted and modified (19,22,29,51,52).

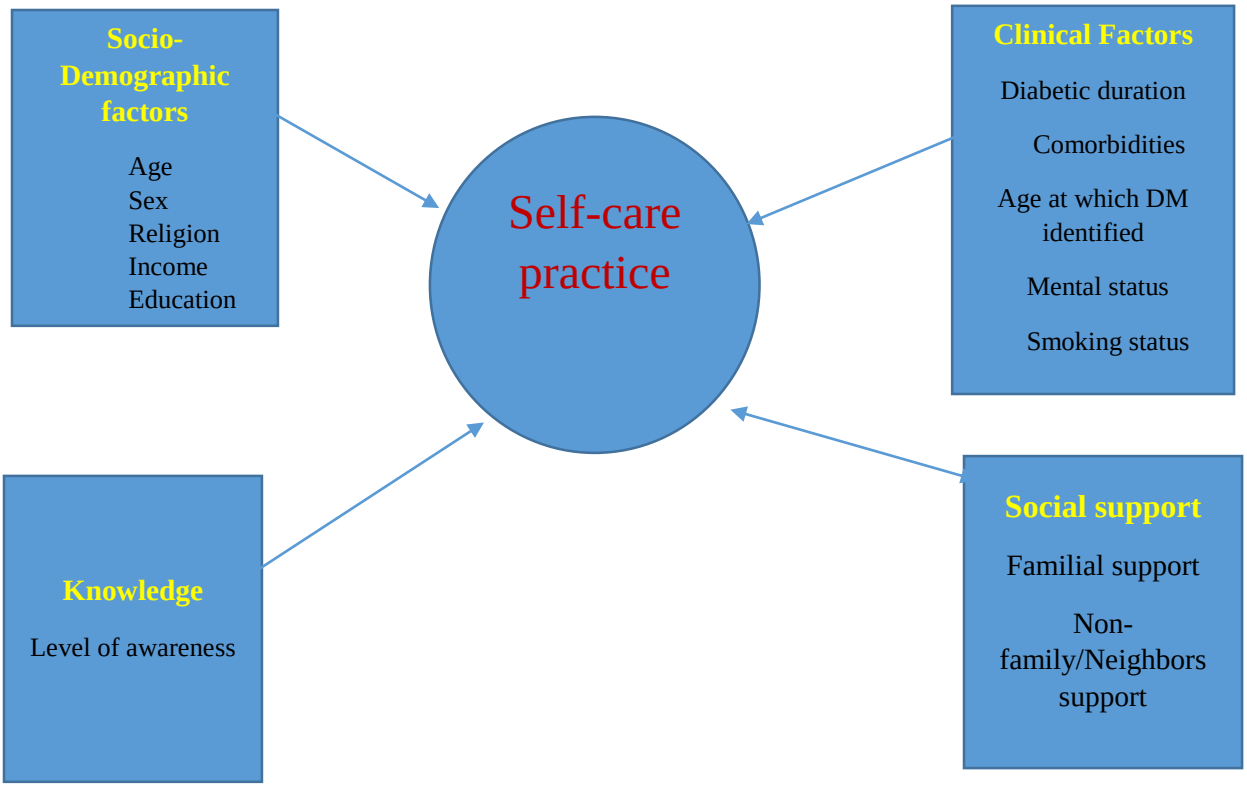


Figure 1:-Conceptual framework showing relationship between different factors (independent variables) and self-care practice (outcome variable)

3. Justification of the study

Diabetes mellitus a chronic disease which will be manifested with high blood glucose level and if it is not controlled well, can have multiple impact on different organs of a body.The majority of Diabetic patients are poorly self-care practices and less knowledgeable about the contributing factors, particularly in developing nations like Ethiopia. Poor self-care habits have a negative effect on diabetic patients' quality of life and present a constant challenge for medical professionals.

To avert or reduce this long-term complication,aperson with diabetes need to practice healthy life style which includes regular monitoring of blood glucose, practice healthy eating, have regular exercise, monitor feet on daily basis, adhere to the medication and cease smoking if applicable.

Even though the prevalence of DM is increasing specially in developing country, peoples are not strictly sticking on health lifestyle and this is letting them to different type's direct and indirect socio-economic crisis.

Strict patient monitoring on lifestyle modification will be expected from health care providers to reduce both short and long-term impacts of DM. To do this, different types of assessment need to be carried out to know patients how well their patients are practicing this lifestyle modification measures.

So, this study intends to know the level self-care practice and its associated factors among adult diabetic patients found in east Showa zone of Oromia region as there is no study in the area to tell how well they are practicing, and this specific study will help stakeholders to take appropriate measures accordingly on the stated location.

4. Significance of the Study

The ability to establish proper measures to prevent diabetic complications, to improve the long-term clinical outcome and survival status of the diabetic patient, depends on the health care professionals' and planners' knowledge of self-care practice and its associated factors among diabetic patients.

The results of this study were inform diabetic patients about their self-care routines and related factors, enabling them to avoid issues and promptly seek medical attention.

The East Shoa Zone health bureau and policymakers will use it as feedback to revise or strengthen their plan on self-care and the factors that are related to it. Additionally, it may significantly lessen the workload for healthcare providers, provide guidance on where to focus, and serve as a valuable resource for upcoming research on related subjects.

5. OBJECTIVE OF THE STUDY

5.1. General Objective

To assess Self-care practice and its associated factors among diabetic patients at selected public hospitals East-Showa zone, Oromia, Ethiopia 2022 G.C.

5.2. Specific Objectives

To assess the self-care practice among diabetic patients of selected public hospitals in East-Showa, Oromia, Ethiopia, 2022 G.C.

To describe associated factors with self-care practice in patients of selected public hospitals in East-Showa, Oromia, Ethiopia 2022 G.C.

6. Methods and materials

6.1. Study area and period

According to the central statistics agency report As a Conesus done in 1999 E.C shows that and controversial factors done in 2014 growth 2.9, East-Showa Zone have a population of **1,671,222.**The study was conducted in selected public hospitals found in East-Showa. The zone's capital city is Adama which located at a distance of 57km (on expressway) from Addis Ababa in the East direction. The study applies to all of the zone's hospitals, which include five public and six private facilities. At Adama Hospital Medical College, Bishoftu General Hospital, Batu General Hospital, and Olenciti Hospital, the study was carried out in the follow-up units. In East Shoa, there were 1666 diabetic follow-ups in a single year. Adama hospital Medical College 600, Bishoftu general hospital 486, Batu general hospital 300 and Olenciti Hospital 280.The study period was from **February 15 to march 15/2022G.C.**

6.2. Study design

Institutional based cross-sectional study was employed

6.3 population

6.3.1Source population

All diabetic patients living in East-Showa zone.

6.3.2 Study Population

All diabetic patients who were attending follow up clinic at public health hospitals East-Showa zone during data collection

6.3.3 Study Unit

All diabetic patients in the hospitals included in the sample who eligable for the study.

6.4. Inclusion criteria and Exclusion criteria

6.4.1 Inclusion criteria

All DM patients who were on follow up for at least the last 6 months [13].

All diabetic patients who are at least 18 years old.

6.4.2 Exclusion criteria

Patients who were severely mentally ill or critically ill and unable to provide the necessary information on their own.

Patients diagnosed with gestational diabetes.

6.5. Sample size determination

The sample size was calculated using single population proportion formula assuming a 95% confidence interval, 5% margin of error (d), and the 49 % percentage of Diabetic mellitus patients with a respectable exercise of diabetes self-care practice, from systematic study conducted in Ethiopia(13).

$$n = \frac{(Z\alpha/2)2\ p\ (1-p)}{(d)\ 2}$$

Where: -

n= sample size

Zα/2=Confidence interval=1.96

P= proportion of diabetic self-care practice=0.49

d= margin of error =0.05

$$no = (1.96)^2\ 0.49(1-0.49) / (0.05)^2 = 384$$

The sample size was calculated to be 384 using the values for each of these variables in the aforementioned formula. Because there were fewer than 10,000 diabetic patients being followed up at East Showa Public Hospital, the following correction formula was used:

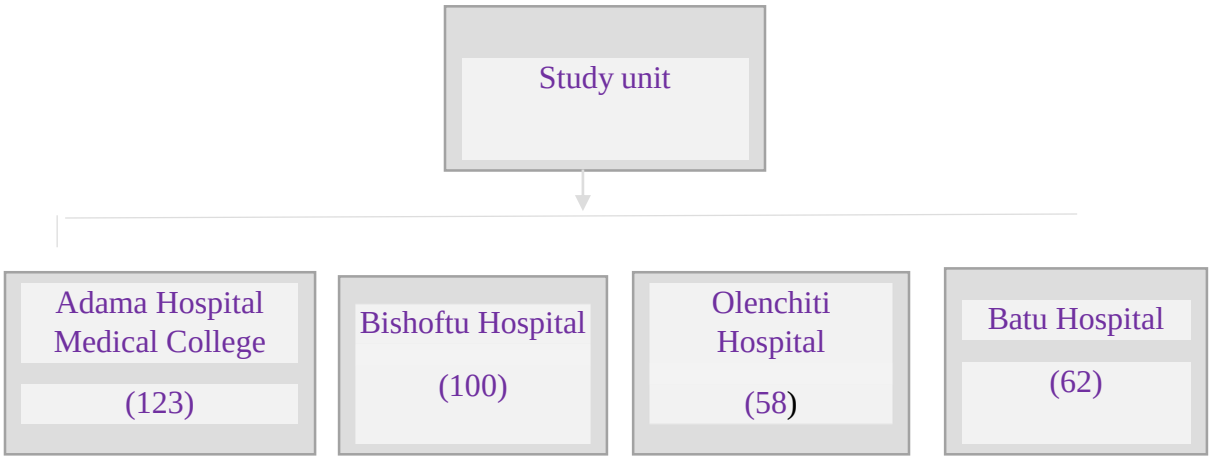
Final sample size will be calculated with: -

$$nf = no/ [1 + no/N],$$

Wherenf = the final sample size, n i = initial sample size 384 and N = estimated annual total diabetic patients from all hospitals (1666).nf= no 1+no /N = 384/ (1+ 384/1666) = 312 considering a 10% non-response rate, the total sample size was: **343.**

From the total of five hospitals found in East Shoa Zone four(4) was selected using simple random sampling technique,and samples was proportionally allocated in each study hospitals accordingly.

The number of diabetic patients registered for follow up is 600 Adama Hospital Medical College, 486 in Bishoftu Hospital, 280 in Olenchiti Hospital and 300 in Batu Hospital. Their percentage of contribution for sample size is 36% for Adama, 29% for Bishoftu, 16.8%for Olenchiti and 18% for Batu Hospital.



Finally, study participants were chosen for interviews over a month by using a systematic random sampling technique among the chosen hospitals. Since N is 1666 and n is 343, K was 4 and every four patients were interviewed according to their appointment using lottery method to select the first participant.

6.6. Sample Technique

The study participants were selected using systematic random sampling technique

6.7. Study Variable

6.7.1 Dependent Variable

- Self-care practice of the patients

6.7.2 Independent variables:

- Socio-demographic characteristics
- Duration of the disease
- Age at which DM was identified
- Complications of diabetes
- Social support
- Smoking status

6.8. Operational definitions

Self-care- All seven components of self-care practice will be graded from 0-7 and participants who scored equal to or greater than mean score were classified as having good diabetes self-care practice and those who scored below the mean were considered as having poor self-care practice. After calculating the overall mean score, it was classified as having "good self-care practice" if the patient scored >3 or "poor self-care practice" if the patient scored < 3. [15].

Physical activity-Advice the diabetic patient to have regular moderate-intensity aerobic physical activity for at least 30 minutes, at least 3 to 5 days a week or at least 150 min/week and encourage resistance training three times per week for type -2 diabetes [16].

Good dietary practice-Make starchy foods the base of all meals and increase the amount of high fiber food items, e.g., vegetables and fruits, cereals and whole grains like wheat, barley, rice, and corn and limit intake of fatty foods (encourage low animal fat) and avoid taking simple sugars [2].

Adherence to diabetic medication - The number of doses missed was calculated based on the patient's medication schedule, which was obtained from their medical records, and self-reports of how patients had been taking medication one week prior to the interview. Adherent patients are those who take 80% of their prescribed dosage. [17].

Self-Blood Glucose Monitoring-The number of SBGM was relative to their specific recommendation of blood glucose monitoring and for this stud 4 and more times per week of SMBG can be considered as adequate [18]

Psychosocial support- refers to a psychosocial resource that is accessible in the context of interpersonal contacts, and one's social network and the OSSS-3 consists of three items assessing the level of social support. The sum score ranges from 3 to 14, and score of 3-8 shows poor social support, 9-11 shows moderate and 12-14 shows strong social support [19].

Diabetic foot care-daily inspection of entire surface of both feet and the inside of the shoes that was worn; wash the feet daily (with careful drying, particularly between the toes); use feet cream; shorten toenail, avoid barefoot walking, shoes with socks regularly [20].

Non-Smoker- is person who is diagnosed with DM and never smoke or who ceased smoking over the last six months [21].

6.9. Data collection procedure

Study units were interviewed face-to -face using pre-tested structured questionnaire and it was prepared in English and was translated to Afan Oromo and Amharic.The data was collected with trained 8 BSc nurse and 2 supervisors continues monitoring and support was given on encountered issues by principal investigator.

6.10. Data collection tool

The adapted tool was contained socio-demographic data, summary of diabetes self-care activities (SDSCA) and Oslo social support OSSS-3 for psychosocial support were used to assess the self-care practice. SDSCA is a self-report measure with seven components of diabetes self-management (diet, exercise, blood sugar testing, foot care, medication adherence, psychosocial support and Non-Smoker) are incorporated. The respondents were asked to rate how many days during the past 7 days did they performed a specific self-care behavior.(53)

6.11. Data Quality Control

At Mojo Hospital, a pretest was conducted on 5% of the total sample size, or 17, to determine whether data collectors would easily understand the checklist item. The study's objectives, the specifics of the questionnaire, interviewing techniques, the value of privacy, and ensuring the respondents' confidentiality were covered in a two-day training session for data collectors and their supervisor. To ensure consistency, the questionnaire was written in English, translated into "Afan Oromo and Amharic," and then returned to English by linguists. Every time data was collected, it was closely supervised; the supervisor and principal investigator went over the questionnaire and made sure it was accurate, consistent, and complete in order to take prompt corrective action. Definition of concepts and terms was made clear to avoid ambiguity during pretest and training.

6.12. Data Processing and Analysis

Epidata 4.6.0.6 software was used to clean, code, enter, and export the data before it was exported into SPSS version 26 for analysis.and Descriptive statistics were calculated, including percentage and frequency tables for categorical data as well as mean, median, standard deviations, and range values for continuous data. The dependent and independent variables were examined for any associations using binary logistic regression analysis. In the bivariate analysis, the Crude Odds Ratios (COR) were calculated with a 95% confidence interval to evaluate the relationship between each independent variable and the outcome variable. Multivariable logistic regression analysis was performed on variables whose p-value on the binary logistic regression analysis was less than 0.25. The Hosmer-Lemeshow goodness-of-fit test was used to assess the fitness of the multivariable logistic regression model. Via the variance inflation factor (VIF), the multi-collinearity between the chosen independent variables was examined. The strength of the association with diabetes self-care practices was estimated using an adjusted odds ratio (AOR) with a 95% confidence interval.

6.13. Ethical Clearance

Ethical clearance was obtained from the Research and Ethics Committee of the Department of Nursing and midwifery of AAU and the official letter was sent to selected public hospitals East Showa Zone. Patients' verbal and written consent to participate in the study was obtained after receiving approval from the hospitals to do so. By holding the interview in a private location and informing the patients that there would be no compensation or harm for their participation in the study, the patients' privacy was maintained. Finally, during the data collection and analysis phases, participant identities were kept secret.

6.14. Dissemination Plan

The findings of the study will be submitted to Addis Ababa University Heath Science College department of nursing and midwifery and the results of this study will be disseminated to at selected public hospitals of East-Showa zone, Oromia, Ethiopia. The findings also will be presented at different seminars and conference. An attempt will be made to publish the findings of this study in reputable national or international journals.

7. RESULTS

7.1 Socio-demographic characteristics

A total of 343 chronic follow-up diabetic patients from four public hospitals in East Shoa Zone who met the inclusion criteria and had a 100% response rate were interviewed for this study. More than half (63.6%) of the participants, as shown in table 1, were men.

All selected study participant take part in the study with mean age of 48.42±15.24 (maximum of 95 and minimum of 21) years of age. Of all participants, 35.3% were found in the category of 49-63 years. Among all participant, 31.2% of them had no icome and 63(18.4%) had estimated income of 2500ETB or higher.and 26.5% of them were illiterate and 24.5 were collage/university graduates, more than half 200(58.3%) of the participants were married. By their religion: 41.7%, 28.6%, 18.4%, 9% and 2.3% were Orthodox, Muslim, Protestant, catholic and others respectively. Of all studuy participant 42.9% were unemployed. (Table1).

Table 1: Socio-demographic characteristics of Diabetic Mellitus patients of selected hospitals of East Shewa zone, Oromia, Ethiopia 2022 (n=343).

Characteristics	Category	Frequency	Percent
Gender	Male	218	63.6
	Female	125	36.4
Age of participant	18-33	69	20.1
	34-48	97	28.3
	49-63	121	35.3
	≥ 64	56	16.3
Monthly income (in ETB)	No income	107	31.2
	below 320	47	13.7
	Medium 320-1500	76	22.2
	Average 1501-2499	50	14.6
	≥ 2500	63	18.4
Level of education	Illiterate	91	26.5
	Primary	77	22.4
	High school	91	26.5

	Collage and above	84	24.5
Relationship	Single	65	19
	Married	200	58.3
	Divorced	44	12.8
	Widowed	34	9.9
Religion	Orthodox	143	41.7
	Muslim	98	28.6
	Protestant	63	18.4
	Catholics	31	9
	Others (Wakefata, Atheist)	8	2.3
Employment status	Employed	87	25.4
	Unemployed	147	42.9
	Merchant	40	11.7
	House servant	23	6.7
	Daily laborers	46	13.4

7.2 Health status

The mean duration of diabetes mellitus was 8.65±7.13 for 44.9% of patients DM was identified between age 20-40 and 33.2a% participants had DM for about 5- 10 years. More than half of the participant (51.3%) had no familial history DM and 44.6%, 38.2% and 17.2% of the participant take insulin, oral glycemic agent or both for their DM respectively. Of all study participant, 35.9% of them own glucometer and 56.9% had diabetic complications. (Table 2).

Table 2: Health status of diabetic patients of selected hospitals of East Shewa zone, 2022 (n=343).

Variable	**Category**	**Frequency**	**Percent**
Age at which DM was identified	1-20	29	8.5
	20-40	154	44.9
	40-60	136	39.7
	60-80	24	7
Duration with DM	<5 years	135	39.4
	5-10 years	114	33.2
	>10 years	94	27.4
Family history of DM	Yes	167	48.7
	No	176	51.3

	Total	343	100.0
Treatment intensity	Oral-hypoglycemic agent	131	38.2
	Insulin therapy	153	44.6
	Both	59	17.2
	Total	343	100.0
owning Glucometer	Yes	123	35.9
	No	220	64.1
	Total	343	100.0
Diabetic Complication	Yes	195	56.9
	No	148	43.1
	Total	343	100.0

7.3. Self-care components

The overall good level of diabetic self-care Practice was 37.6%, and Majority (79%) of participants adhere to good dietary practice, 34.7% take part in physical activity, nearly one-third (32.2%) monitor their blood sugar, and 45.2% undertake good foot, 43.4% adhere to their recommended medication and 64.4% of study participant didn't smoke a single puff of cigarate over the past seven days. Of all study participants, more than half (52.2%), 31.2% and 16.6% study participant had poor, moderate and strong social support respectively (Table 3).

Table 3: Self-care of diabetic patients of East Shewa zone, 2022

Characteristics	Category	Frequency	Percent
Self-care practice	Poor self-care practice	214	62.4
	Good self-care practice	129	37.6
Dietary practice	Poor dietary practice	72	21.0
	Good dietary practice	271	79.0
Physical activity	Poor physical activity	224	65.3
	Good Physical active	119	34.7
Blood glucose checking	poor BG testing	236	68.8

	Good Testing blood sugar	107	32.2
Foot care	Poor foot care	188	54.8
	Good foot care	155	45.2
Medication Adherence	Poor adherence	194	56.6
	Good adherence	149	43.4
Smoking status over the last 7 days	Yes	122	35.6
	No	221	64.4
Social support	Poor	179	52.2
	Moderate	107	31.2
	Strong	57	16.6

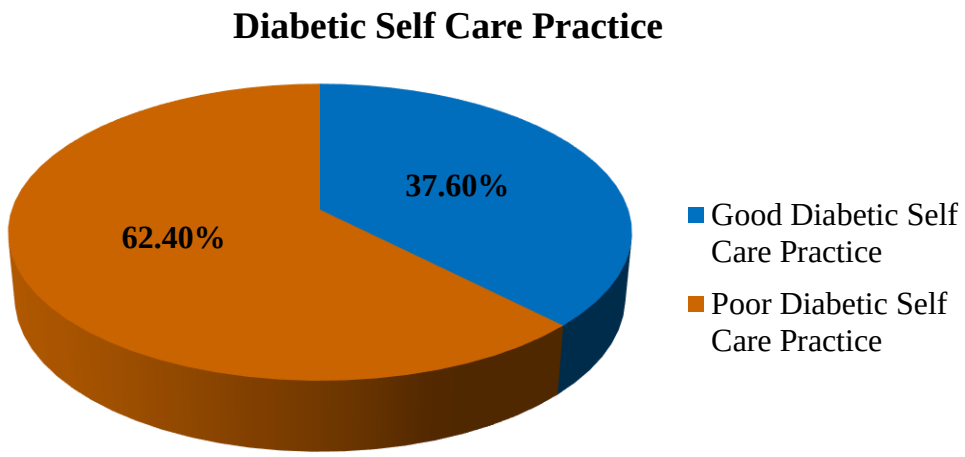


Figure 2: Diabetic self-care status of east Shewa zone, 2022

7.4. Self-care recommendations

Advising on diet, exercise, self-blood sugar monitoring, medication adherence, foot care and smoking had significant impact on awareness and progress of disease. Off all dietary recommendation, follow low fat diet plan was most frequently (18.5%) advised by health care providers and the list was eat very few sweets (13%) over the last seven days. Regarding exercise recommendation, (28.3%) get low level exercise and engage in specific exercise, (17.8%) were among most frequently advices given by service providers. For SMBG, the most frequently advised site for test was fingertip (33.8%) and the list was from urine. among study participant, 47.1% took 1 to 2 shoots of insulin, 46% took pills, and 3.5% of them either take 3 or more shoots of insulin or not prescribed any. Among study participants, nearly two- third (65.3%) were screened for smoking and 15.1% were counselled to stop smoking. Among screened smokers,23.9% of them quit smoking 2 years back, 6.5% quit 4-12 months ago, 1.1% quit within the last 3 month and 3.3% stopped within the month. Among the participant, 11.5% of them smoked on the day of interview (Table4).

Table 4: Frequency and percentage of components of diabetic Management among patients in selected hospitals of East Shewa Zone, Oromia, Ethiopia, 2022

Characteristics	Responses	Frequency	Percent
Dietary recommendation	Follow low fat diet plan	303	18.5%
	Follow complex carbohydrate diet	142	8.7%
	Reduce calorie to lose weight	315	19.2%
	Eat lots of dietary fiber	336	20.5%
	Eat at least five servings of fruits and vegetables per day	323	19.7%
	Eat very few sweets	212	13.0%
	not given any advice by HCP	6	0.4%
	Total	1637	100.0%
Exercise recommendation	Get low level exercise	329	28.3%
	Continues exercise for at least 20 minute 3* peer week	316	27.2%
	Fitness exercise on daily basis	309	26.6%
	Engage in specific exercise duration, type and level	207	17.8%
	Total	1161	100.0%

Blood glucose testing recommendation	Test blood sugar from finger	343	33.8%
	Test blood sugar using machine	322	31.7%
	Test urine for sugar	295	29.1%
	Not received any advice on urine	55	5.4%
	Total	1015	100.0%
Medication recommendation	insulin shoot 1 or 2 times a day	176	47.1%
	Insulin shoot 3 or more a day	13	3.5%
	diabetic pills to control the disease	172	46.0%
	Not prescribed either insulin or pills for DM	13	3.5%
	Total	374	100.0%
Smoking status	Asked about smoking status by HCP	224	65.3%
	If you smoke at last visit, counselled for stopping	96	15.1%
	More than 2 years ago or never smoked	152	23.9%
	One to two years ago	41	6.5%
	Four to 12 months ago	21	3.3%
	One to 3 months ago	7	1.1%
	Within the last month	21	3.3%
	To day	73	11.5%
	Total	635	100.0%

7.5. Factors Associated with self-care practice of Diabetic patients

Bivariable logistic regression analysis revealed, variables like gender, age, estimated monthly income, occupation, level of education, age at which DM was identified, treatment intensity, owning glucometer, diabetic complication, familyhistoryof DiabeticMellitus,and social support were factors statically associated with Diabetic self-care practice with p-value of less than 0.25 candidates for multivariate analysis (Table 5). As table 5 showed that.

In multivariable logistic regression, only 35% of patients who have no income practice good diabetic self care and they are almost 5 times more likely [AOR=4.99, 95% CI= (1.68-14.81)] to practice good diabetic self-care than high in come.

This table also revealed that; 39% unemployed patients stick to good diabetic self care and more than half of patients in this group practicing poor diabetic self care and The likelihood of having good diabetic self-care practice was 73% lower among unemployed study participants than those with daily laborers [AOR=0.27, 95% CI (0.10-0.66)].

Fifty four percent of study participant who was on insulin therapy was practicing good diabetic self-care than who were on both oral hypoglycemic agent and insulin and Similarly, the likelihood of having good diabetic self-care practice was 72% lower among patients on insulin therapy compared with those on both insulin and oral hypoglycemic agent [AOR=0.28, 95% CI (0.13-0.60)].

Furthermore 73% of patients study participant who own glucometer practice good diabetic self-care and they were 7.33 times likely more likely [AOR=7.33, 95% CI (3.69-14.59)] to practice good diabetic self-care practice than those who don't own.

Thirty eight percent of study participants who had strong social support comply with good diabetic self-care and was 6 times more likely[AOR=6.009, 95% CI (2.79-13.27)] to practice good diabetic self-care than those who had poor social support (Table 5).

Fifty seven percent of study participant who had family history of diabetic was practicing good diabetic self-care and Lastly, the likelihood of having good diabetic self-care practice was 63% lower among study participant who had family history of diabetic compared with those who hadn't [AOR=0.37, 95% CI (0.21-0.67)].

Table 5: Bivariable and Multivariable Logistic regression analysis for self-care practice of diabetic patients in East Shewa zone of selected of selected hospitals, 2022 (n=343).

Variables	Categories	Diabetic self-care practice		COR(95% CI)	AOR(95% CI)	p-value
		Good n (%)	Poor n (%)			
Age of Participants	18-33	22 (17.1)	47 (22)	**1**		
	34-48	37 (28.7)	60 (28)	1.31(0.68-2.52)		
	49-63	57 (44.2)	64 (29.9)	1.90 (1.02-3.53)		
	> 63	13 (10.1)	43 (20.1)	0.64 (0.29-1.43)		
Gender	Male	92 (71.3)	126(58.9)	**1**	**1**	
	Female	37 (28.7)	88 (41.1)	0.57(0.36-0.92)	0.54(0.29-1.02)	0.57
Estimated monthly income	No income	35(27.1)	72 (33.6)	0.60(0.32-1.15)*	4.99(1.68-14.81)	**0.004****
	< 320	17 (13.2)	30 (14)	0.70(0.32-1.53)	3.68(1.13-12.01)	0.31
	320-1500	30(23.3)	46(21.5)	0.81(0.41-1.60)	2.25(0.84-5.98)	0.103
	1501-2499	19(14.7)	31(14.5)	0.70(0.36-1.6)	1.43(0.53-3.84)	0.474
	≥2500	28(21.7)	35(16.4)	**1**	**1**	
Occupational status	Employed	49(38.0)	38(17.8)	1.53(0.74-3.14)	1.42(0.53-3.83)	0.488
	Unemployed	39(30.2)	108(50.5)	0.44(0.22-0.88)	0.27(0.10-0.66)	**0.004****
	Merchant	15(11.6)	25(11.7)	0.64(0.26-1.5)*	0.39(0.12-0.20)	0.101
	House servant	5(3.9)	18(8.4)	0.33(0.105-1.04)*	0.38(0.09-1.56)	0.182
	Daily laborer	21(16.3)	25(11.7)	**1**	**1**	
Level of education	Illiterate	18(14)	73(34.1)	0.22(0.12-0.43)	0.38(0.13-1.14)	0.086
	Primary	33(25.6)	44(20.6)	0.68(0.36-1.27)	1.16(0.46-2.92)	0.740
	High school	35(27.1)	56(26.2)	0.54(0.29-0.9)*	0.66(0.29-1.545)	0.344
	Collage andabove	43(33.1)	41(19.2)	**1**	**1**	
Age at which DM identified	1-20	14(10.9)	15(7)	2.80(0.80-9.08)*		
	21-40	55(42.6)	99(46.3)	1.66(0.62-4.44)		
	41-60	54(41.9)	82(38.3)	1.97(0.73-5.29)*		
	61-80	6(4.7)	18(8.4)	**1**		

Treatment intensity (insulin therapy, oral agents, Diet)	Oral hypoglycemic agent	46 (35.7)	85 (39.7)	0.56(0.30-1.04)*	0.50(0.23-1.08)	0.77
	Insulin therapy	54 (41.9)	99 (46.3)	0.56(0.30-1.03)*	0.28(0.13-0.60)	**0.001*****
	Both	29 (22.4)	30(14)	**1**	**1**	
Own glucometer	Yes	73(56.6)	50 (23.4)	4.27(2.67-6.84)	7.33(3.69-14.59)	**0.0001*****
	No	56 (43.4)	164(76.6)	**1**	**1**	
Diabetes complication	Yes	67 (51.9)	128(59.8)	0.72(0.46-1.12)		
	No	62(48.1)	86(40.2)	**1**		
Social support	poor	50(38.8)	129(60.3)	**1**	**1**	
	Moderate	41(31.8)	66(30.8)	1.60(0.9-62.66)	1.38(0.75-2.54)	0.293
	Strong	38(29.4)	19(8.9)	5.16(2.7-9.7)*	6.09(2.79-13.27)	**0.0001*****
Family historyof Diabetes	Yes	57 (44.1)	110(51.4)	0.74(0.48-1.16)	0.37(0.21-0.67)	**0.001*****
	No	72(55.8)	104(48.6)	**1**	**1**	

Note: - COR, Crude odds ratio; AOR, Adjusted odds ratio; CI, Confidence Interval, DM; Diabetus Mellitus **1**=Reference

P-Value: *= p-value < 0.25, **= significant at p-value < 0.05, ***= highly significant at p-value < 0.001.

8. Disscussion

Globally the prevalance diabetes was increasing due life style shifting and other eviromental factors(15) possing health and economicaly burdun to the nations(5). Lifestyle modification is cost effective and pivot in diabetes care and it that includes diabetes self-management support and (11) like good dietary practice, being physically active, routine self-blood glucose monitoring, having good foot care and quitting or not smoking cigarette as this all the progress the disease (6,17). This specific study aimed to identify the level of self-care practice among diabetic patients of public hospitals found in East Shewa zone.

This study revealed that, 37.6% (129) of participants were having good diabetic self-care practice and this result was higher than study conducted in mexico (33.5%) and lower than a study conducted in Gondar (50%), Tigray (46.7%) and Debrebrihan (44.7%) (21–23). The possible difference might be due to sample size, study method and source population. For inistance, study conducted in Gondar and Debrebirehan only done in sigle institution which might have impact in sampling.

This study found out,79% of participants was sticking to recommended dietary practice over the last seven days and this result was lower than study conducted in Sri Lanka (87.3%) (45) but higher than cross-sectional study conducted in Yekatit 12 hospital (54%), tigray 49.8%) and northern part of Ethiopia(13,22,51). The observed difference could be related to social desirability bias, recall bias and food preference, geographical difference, and data collection method.

In this study, self-blood glucose monitoring (SBGM) was 32.2% and the result was lower than study conducted in United Kingdom (43%) (37) and higher than study conducted in china (27.3%)(38). The difference could be sample size, geographical difference, socio-economic diffrence and study method.

This study revealed, 34.7% study participant was involved in 2 to 3 times per week physical activity and the result was lower than a study conducted in Diredawa 53.8%(40), Dilla referral hospital (44.5%)(21) and systematic (49%) done in Ethiopia(13). However this result was higher than third national health and nutrition survey (30%) done in Nepal(33).

This study revealed that, patients who had no income were 5 times more unlikely to practice diabetic self-care than who had higher income it give chance to access any of their need timely and have enough time to care and this result was supported by studies conducted in Nigeria, Gondor, Ayder hospital and Diredawa as patients having enough income have the chance to have adequate supply to monitor and care for themselves(21,27,29,40). The possible difference could be explained by difference in source population and study method.

The odds of having poor diabetic care was 0. 3 times more higher in unemployed study participant than who had empoyement as being employed increases their access to intended resources and better medical care for their diabetes. This result was supported by study conducted in Addis Ababa(24).

In this particular study, patient who was on insulin 0.3 times more likely to practice good diabetic self-care than who are on oral glycemic agent. This result was in line with the study conducted in Iran(48). This similarity might arose due to the fact that patients taking only insulin have less burden and stress that they can stick to sef-care practice.

Having own glucometer will ease and ecourage diabetic patient to monitor their blood glucose apropriatly and will let them to care for them selves. In study conducted in Sri Lanka, 19.7% of study participants monitored their blood glucose at least 3 or more over the last 7 days(45). In this study, the odds of having good diabetic self-care practice was 7 times more higher in patients having their own glucometer than who don't own. Having their own glucometer may also show their level of awareness to care for them selves and this result was supported by studies conducted in west Ethiopia,Addis Ababa, benishangul Gumuz, Diredawa, and Tigray(28).

Diabetic patients having strong social support better practiced good diabetic self-care than who had no or poor social support as (23,52) having strong social support significantly encourages diabetic patients to stick to good diabetic self-care and the result of this study show that, those who had strong social support were 6 times more likely to practice good diabetic self-care than those who had poor social support and this result was in line with studies conducted in India, China, Tigray, Gonder, Beni shangulgumuz, Addis Abba and Ethipia(13,19,22,23,26,38). This factor is crucial as it have significant effect on dietary

recomendation and medication adherence, ceasation of smoking and even physical activity as it ease to share their challenges.

Having prior family history of DM exposes patients to have family based knowledge and even for others to become more familiar with DM. When such patients sustain the disease, they know the value of self-care than who had no history.This study found out diabetic patients who had prior familial history of DM have strong association with diabetic self care and this result was in line with study conducted in India(18), Northern Ethiopia(23) and Addis Ababa(24). Study conducted in Gonder(21), Tigray(22) and Benishangul(51) didn't show any significant association with familial history of DM.

8.1 Strength and Limitation

Strength

This study included four hospitals found East Shoa-zone and believed to better represent the study area and enable generalization. Face-to-face patient interviews were used to gather data from patients, which has allowed me to have access to more thorough data. The confounding effect of variables could be reduced by using multivariable logistic regression analysis. All diabetic patients who received follow-up care at East Shoa Zone public hospitals are also generalized.

Limitations

The study might be exposed to social dirarability bias as it considers some sensitive questions like smoking and dietary practice. The study asks the self-care activities of patients for the past seven days and there might be a recall bias among respondents. The study excluded patients who didn't visit the health facility during the data collection and excluded private health facilities, many of which offer services for diabetic care.

9. Conclusion and Recommendation

9.1 Conclusion

According to this study, having good self-care paractice among Diabetic patients follows up in East Shoa Zone at selected public hospitals was 37.6%. Having glucometer and strong social support was the most associated factor found in the study. Besides this, the

status Estimate monthly income, Occupational status, Treatement intensity, and Family history of Diabetes were statically significant associated with good diabetic self-care practice.

9.2 Recommendation

In light of the study's findings, the following suggestion is made:

To East Shoa Zone health professionals:

- ✓ Health care providers need to motivate and promote owning of glucometer for better monitoring of blood glucose level
- ✓ Heath care providers need remind every patient on available self-care recommendation and assess smoking and counsel on how to quit.
- ✓ Patients need to disclose their status to their family or friends to get support when they are in need.
- ✓ Awareness creation need to done by peer to peer or through associations

To East Shoa Zone health bureau

- ✓ As much as possible expands the accessibility of medical care

To researchers'

- ✓ Including the private health facility that offers follow-up for diabetics and uses a different study design to guard against self-report bias and to ascertain causes and effects.
- ✓ Increases the sample size to increase the likelihood of discovering the issues.

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11. APPENDEX

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

DEPARTMENT OF NURSING

11.1 Annex I: Information sheet

ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE DEPARTEMENT OF NURSING AND MIDWIFERY INDIVIDUAL INFORMATION SHEET FOR THE STUDY ON SELF CARE PRACTICES AND ITS ASSOCIATED FACTORS AMONG DIABETIC PATIENTS AT SELECTED PUBLIC HOSPITALS OF EAST SHOWA ZONE, OROMIA, ETHIOPIA, 2022.

Hello. My name is _____ I am working on behalf of a research conducted by Ashenafi Teshome, a post graduate student from Addis Ababa University, College of Health Sciences, and department of Nursing. You are kindly invited to participate in this study, which involves all types of diabetes patients visiting diabetic center of east Showa zone. The aim of this study is to assess self-care practices and its associated factors among diabetic patients.

As diabetic self-care practices are the fundamentals of diabetic management, strict adherence to those practice is crucial to prevent further complication of the disease and determine progress of the disease. Therefore, this study will provide important clues by collecting evidence about self-care practices status of diabetes patients.

1) Purpose:

To assess of self-care practices and its associated factors among diabetic patients at selected public hospitals of east Showa zone hospitals.

2) Duration:

The study will be conducted from February15 to march 15/2022G.C.

3) Procedures to be carried out:

   Data regarding your socio demographic characteristics, clinical status and self-care practices will be assessed using standardized questioner by trained data collector.

4) Risk and discomfort:

   There is not any risk on your service weather you participate or not on this specific study

5) Expected benefit:

   This specific study will help to generate evidence on the status of self-care practice of east Showa zone and will help decision makers to undertake evidence-based decision.

6) Confidentiality:

   All information you provide for this specific study will be used for this specific study and all your information will be kept confidential.

7) Compensation:

   No compensation will be provided by any one by being participating in this study.

8) Termination of the study:

   Participation in this study is fully voluntary, and failure to take part in this study has no penalty or loss of service for which you are entitled, and all study participants have full right to keep their information; terminate, refuse data.

   Finally, I would like to inform you that this study will be approved by Department of Nursing and mid-wife.

Contact address:

If there are any question or enquiries at any time about the study or the procedure you can contact by using the following address.

Principal Invesgator: Ashenafi Teshome email. ashenafiteshome66@gmail.com

Phone number 0913735573/ 0929242233

11.2 Annex II: Informed consent form

I have read this form or it has been read to me in the language I understand. I have clearly understood the purpose of the research, the procedure, the risk and benefits, issue of confidentiality, the right of participating and the contact address for any queries. As you take part in this study, your name will not be mentioned and any information you give will be kept confidential and only used for this specific study. You have right to refuse and/or to interrupt the interview at any time. The information that you provide is quite useful to generate important evidence for the advancement of self-care practice in the area. By being knowing the pros and cons the study, are you willing to participate in this specific study?

1. Yes---------- Continue with the interview

2. No ---------- (say thanks!)

How long have you visiting Diabetic mellitus Follow –up clinic?

If < 6 months, thank and stop interviewing.

If >6 months, continue interviewing

Thank you for being voluntary to participate in the study

If Yes, by thanking interviewee, proceed the interview.

If the answer is No thank and don't force or reinforce an selected interviewee to participate in the survey. Interview's code_____

Name_____ signature _____

Date of interview_____

Supervisor'sname_____signature_____

Time of interview began_____ time of interview finished_____

Checked on_____ date _____month/2022 G.C Completeness:

1. Complete_____ 2.Incomplete _____ 3.Other (specify) _____

11.3 Annex III: Data collection for English version Questionnaire

Part I – Part I: Socio demographic and health status data: This section is about socio demographic characteristics of the respondent. Tick (√) on the responses from the given alternatives.

No.	Question	Category
101	Gender	Male □ Female □
102	Age (in years)	_____
103	Estimated monthly income (in Ethiopian birr)	1=No income □ 2=low 320 □ 3=medium 320-1500□ 4=Average 1501-2499 □ 5=high 2500□
104	Level of education	1=Illiterate☐ 2= Primary☐ 3= High school ☐ 4= College / university Graduate school ☐
105	Relationship status (marital status)	1= Single □ 2 = Married □ 3 = Divorced □ 4 = Widowed □
106	Occupation / employment:	1= Employed ☐ 2= Unemployed ☐ 3= Merchant☐ 4= House servant☐ 5=Daily laborers ☐
107	Religion:	1=Orthodox ☐ 2= Muslim ☐ 3= Protestant☐

		4=Catholic ☐ 5= Others _____
108	Age at which the Diabetic Mellitus occurred (in years)	_____
109	Duration of disease	_____
110	Family history of diabetes	Yes☐ No ☐
111	Treatment intensity (insulin therapy, oral agents, Diet)	1=Oral hypoglycemic agent ☐ 2= Insulin therapy☐ 3= Both ☐
112	Currently do you have your own glucometer at home?	Yes ☐ No ☐
113	Diabetes complication	Yes ☐ No☐

Part II: Summary of diabetes self-care activities questionnaires: The questions below ask you about your diabetes self-care activities during the past 7 days. If you were sick during the past 7 days, please think back to the 7 days that you were not sick.

	Diet	**Number of days**							
		0	1	2	3	4	5	6	7
201	How many of the last SEVEN DAYS have you followed a healthful eating plan?								
202	On average over the past month, how many DAYS PER WEEK have you followed your eating plan?								
203	On how many of the last SEVEN DAYS did you eat five or more servings of fruits and vegetables?								
204	On how many of the last SEVEN DAYS did you eat high fat foods Such as red meat or full fat dairy products?								
205	On how many of the last SEVEN DAYS did you space carbohydrates evenly through the day?								
	Physical Activity								
20 6	On how many of the last SEVEN DAYS did you participate in at least 30 minutes of physical activity?(total minutes of continuous activity, including walking)								
207	On how many of the last SEVEN DAYS did you participate in a specific exercise session (such as swimming, walking, biking) other than what you do around the house or as part of your work?								
	Blood sugar testing								

208	On how many of the last SEVEN DAYS did you test your blood sugar?								
209	On how many of the last SEVEN DAYS did you test your blood sugar the number of times recommended by your health care provider?								
	Foot care								
210	On how many of the last SEVEN DAYS did you check your feet?								
211	On how many of the last SEVEN DAYS did you inspect the inside of your shoes?								
212	On how many of the last SEVEN DAYS did you wash your feet?								
213	On how many of the last SEVEN DAYS did you soak your feet?								
214	On how many of the last SEVEN DAYS did you dry between your toes after washing?								
	Medication								
215	On how many of the last SEVEN DAYS did you take your recommended diabetes mellitus?								
216	On how many of the last SEVEN DAYS did you take your recommended insulin injections?								
217	On how many of the last SEVEN DAYS did you take your recommended number of diabetes pills?								
	Smoking								
218	Have you smoked a cigarette, even a puff in the past SEVEN DAYS?								

	Social support	
219	How many people are so close to you that you can count on them if you have great personal problems?	1 'none' ☐ 2 '1–2' ☐ 3 '3–5' ☐ 4 '5+' ☐
220	How much interest and concern do people show in what you do?	1 'none' ☐ 2 'little' ☐ 3 'uncertain' ☐ 4 'some' ☐ 5 'a lot' ☐
221	How easy is it to get practical help from neighbors if you should neighbor if you should need it?	1 'very difficult' ☐ 2 'difficult' ☐ 3 'possible' ☐ 4 'easy' ☐ 5 'very easy ☐

Part III: Self-care recommendations

No.	Questions	Category
301	Which of the following has your health care team (doctor, nurse, dietitian, or diabetes educator) advised you to do? Please check all that apply	a. Follow a low-fat eating plan ☐ b. Follow a complex carbohydrate diet ☐ c. Reduce the number of calories you eat to lose weight ☐ d. Eat lots of food high in dietary fiber ☐ e. Eat lots (at least 5 servings per day) of fruits and vegetables ☐ f. Eat very few sweets (for example desserts, non-diet sodas, candy bars) ☐ g. I have not been given any advice about many diets by my health care team ☐ h. Other (specify): _____
302	Which of the following has your health care team (doctor, nurse, dietitian, or diabetes educator) advised you to do? Please check all that apply	a. Get low level exercise (such as walking) daily ☐ b. Exercise continuously for at least 20 minutes at least 3 times a week ☐ c. Fit exercise into your daily routine (for example, take stairs instead of Elevators Park a block away and walk) ☐ d. Engage in a specific amount, type, duration, and level of exercise e. I have not been given any advice about exercise by my health care team ☐ f. Other (specify): _____
303	Which of the following has your health care team (doctor, nurse, dietitian, or diabetes educator) advised you to do? Please check all that apply	a. Test your blood sugar using a drop of blood from your finger and color change ☐ b. Test your blood sugar using a machine to read the results ☐ c. Test your urine for sugar ☐ d. I have not been given any advice about my blood or urine sugar level by my health care team. ☐ e. Other (specify): _____

304	Which of the following medications for your diabetes has your doctor prescribed? Please check all that apply	a. An insulin shot 1 or 2 times a day ☐ b. An insulin shot 3 or more times a day ☐ c. Diabetes pills to control my blood sugar level ☐ d. I have not been prescribed either insulin or pills for my diabetes ☐ e. Other (specify): _____
305	At your last doctor's visit, did anyone ask about your smoking status?	1:Yes ☐ 2: No ☐
306	If you smoke, at your last doctor's visit, did anyone counsel you about stopping smoking or offer? to refer you to a stop smoking program.	1: yes ☐ 2: No ☐
307	When did you last smoke a cigarette?	a. More than two years ago or never smoked ☐ b. One to two years ago ☐ c. Four to twelve months ago ☐ d. One to three months ago ☐ e. within the last month ☐ f. Today ☐

THANK YOU FOR YOUR PARTICIPATION!!!!!!!!

11.4 Annex IV: Data collection for Afan Oromo version Questionnaire

YUNIVARSIITII FINFINNEE

KOLLEEJJII FAYYAA

MANA BARUMSAA NARSINGII FI MIIDWAAYIFERII

DIPPAARTIMENTII NARSIINGII

Odeeffannoo

Akkam bultan? Maqaan Koo----------jedhama ykn gaafataa **Ashannaafii Tashoomaa** bakka bu'aa dha. Inni barnoota digirii lammataa isaa Yunivarsiitii Finfinneetti, Kolleejjii fayyaa, dippaartimentii narsiingii barataa jira. Yoo fedhii keessan ta'e yaada keessan naaf ergisaatii waa'ee mata duree qorannoo isaa isiniifan ibsa.Mataa dureen qorannoo isaa

Yaala off-egannoo fi dhukubsatoota dhebee sukara fi wantoota isaan akka sirriitti hin hordofne taasisan hospitaalota mootummaa godinaa Shawaa Bahaa, Motummaa Nannoo Oromiyaa." kaan qopha'edhaa.

Kun qo'aannoo haala yaala of-eegannoo dhibee sukaraan wal-qabatee jirruu hospitaloota filatamoo gudina Shawaa bahaa kessa jiru hubachuuf isin afeeru dha. Kayyoon qo'aannoo kanaa yaala off-egannoo fi dhukubsatoota dhebee sukara fi sababawwan kana waliin jiran qorachuu ta'a.

Off-eeganoon dhibee sukaara yaaluu kessata murtessa waan ta'eef, waan kana sirriti rawwachuun barbaachisa fi rakkowan hamatoo dhibee kana wajiin dhufan akka hin dhufne bira darbuun adeemsa isaa illee nii murtesa. Kanaafu, qo'aannon Kun ragaawwan haala off-eegano dhibbee sukaraa wallin jiru sasabuun odeefanoo barbaachisoo ta'an qaama dhimi isaa ilaalatuf laata.

1) Kayyoo

Haalayaala off-eegannoo dhibee sukara waliin wal-qabatee jiru hospitaloota filatamoo godina Showaa Bahaa jala jiran sakata'u.

2) Turmaata
3) Qo'annon kuun kaan rawatamu Guraandhala 8-Bitooteessa 6 bara 2014.

4) Haali itti rawwatamu

Odeffanoon hawasummaa, haala fayyaa kesanii akasumas haali off-eegannoo kessani oggessa lenji'een unkaa gaafin waltawaa ta'een nii sakata'ama.

5) Rakkoo na qunama jetan yoo yadan ykn isinitti tolu yoo dide

Isin qo'annoo kana irrati hirmatanis ta'e hirmaachuu baatan, rakkon tokko illee isin irra kaan hin geenye fi tajaajila argachuu maltan irrati dhibaa tokko illee hin fidu.

6) Fayyidaa eegamu

   Q'aannoon kuun ragaa haala off-eeganoo yaala dhibbee sukaraa hospitaalota filatamoo godina shawaa bahaa kessati argaman guruun qamootni dhimi isaan ilaalatu murtee sirrii ta'e akka fudhatan gochuudhaaf.

7) Iccitii

   Oddeefannon isiin qo'annoo hkanaaf kenitan, qo'annoo kanaaaf kaan oolu yemmu ta'u, odeffanoon isin kenitan hunduu icitiin ni qabamu.

8) Kaffaltii addaa

   Qo'annoo kana irrati hirmachuu kessaniif kafaltiin addaa tokkoo illee hin kenamu

9) Qo'aannoo gaggefamaru irraa addaan kutuu

Hirmaanan qo'aannoo kanaa gutuma gutuutti feedhi irrati kaan hunda'eedha akkasumas dhima kana irrati hirmaachuu dhisuu kessaninin adabbiin ykn tajaajila isiinif malu hin dhorkisisu. Hirmaatootni hundu qo; aannoo kana irra addaan kutu, hirmaachuu dhiisu fi didu ni danda'u.

Dhumaratti, qo'annoon Kun kutaa sagantaa midwayifarii fi nursii irraa kaan eyyameefi dha. Yeroo barbaadanittit yaada fi gaaffii kamiyyuu qabdan karaa armaan gadii kanan gaafachuu dandeessu.

Abbaan qorannoo: **Ashannafii Tashoomaa**

E-mail: ashenafiteshome66@gmail.com

Lakka bilbilaa: +251-0913735573/ 0929242233

Foormii Waliigaltee Afaanii:

Yaadooliin waa'ee bu'aa qorannoo kanaa, mirgii fi dirqamni ani qabu, jechuun yeroon barbaadetti gaafatamuu addaan kutuu fi gaaffii ani hin barbanne deebisuu dhiisuu, akkasumas ,Qoonnoo kana irrati hirmachuu dhisuu ykn diduudhaaf yeroo kamiyu mirga guutu qabdu.Yemmuu qorannoo kana irrati hirmatan, maqaan kessan kaan hin barofne fi ragaan isin kenitan hundumtuu iccitiin isaa kaan eegame dha. Odeefanoon isin kenitan wa'ee yaala off-eeganoo dhibee sukaara nannoo kana irra jiranif fayidaa gudaa kaan kenu dha. Fayidaaf midhaa isaa hubachuun, qo'annoo kana irrati hirmachuuf fedhii qabdu?

1. Eyyee --------itti fufi

2. Lakkii-------galaatoomi itti dhiisi

Kanaan dura Horddofii dhiibee sukaaraa hagamiif gotee?

Ji'a jahaa gadiif itti dhiisi/addaan kuti

Ji'a jahaa oliif gaaffii gafachuu itti fufi

Yoo deebiin Eyyee ta'e, galatoomfachuun gaafif deebii itti fufi

Yoo deebiin lakkii ta'e, galatefadhu akkasumas hirmaata filatamee akka ini hirmaatuf dhibaa hin godhin.

Maqaa gaafataa_____Mallattoo_____

Koodii Gaafanno_____

Guyyaa gaafif deebii_____

Maqaa to'ataa_____Mallattoo_____

Sa'aatii gaafif deebiin itti jalqabe_____sa'aatii xummurame_____

Guyyaa itti ilaalame_____ji'a_____bara 2014.

1. Unkii guutudha_____ 2. Guutu mitii 3. Yaada biraa_____

III Unka Gaafif Deebii

Kutaa I Ragaa fayyaafi hawasumaa

lakk	Gaaffilee	Filannoo Deebii
101	Saala	Dhira □ Dhalaa □
102	Umurii waggaadhaan)	_____
103	Galii ji'aa timaaman (birria Etophiyaatiin)	1=Galii hin qabu □ 2=gad-aanaa (320) □ 3=gidduu galeessa (320-1500) □ 4= gahaa (1501-2499) □ 5=Ol-aana (2500ni ol) □
104	. Sadarkaa barumsaa	1=Barumsa kaan hin qabne ☐ 2=Sadarkaa tokkoffaa ☐ 3=Sadarkaa Lammaffaa ☐ 4= Kolleejii/universitiiirraakaan eebifame ☐
105	. Haala Ga'ilaa	1=Kan fuudhe/te ☐ 2= Kan addaan bahan ☐ 3=Kan irraa du'e ☐ 4=Kan hin fudhin/hin heerumin ☐
106	haala hojii	1= Mindefamaa ☐ 2=Hojii kaan hin qabne ☐ 3= Daldaalaa ☐ 4=Hojatuu mana namaa ☐ 5= Hojataa guyyaa ☐

107	Amantaa	1= Muslima ☐ 2=Ortodoxsii ☐ 3= Protestaantii /Pheenxee ☐ 4= Katoolikii ☐ 5= Kan biro_____
108	Umurii dhibbeen sukaara itti argame (umuriidhaan)	_____
109	Turtii dhukubichaa waaliin	_____
110	Maatii keessaa namni dhibee sukaraan hubame ni jira?	1: Eyyee ☐ 2: lakkii ☐
111	qorichi ittin yaalamtan (insuliinii/qoricha lilmoon kenamu, qoricha afaanin kenamu, nyaata qafaan eegachuu)	1=Qorichootaafaanin liqimfaman ☐ 2= Insuliinii/korichalilmoon kenamu ☐ 3= Lammanu ☐
112	Yeroo amaan kana meshaa hanga sukaara ittin ilaaltan qabdu	1: Eyyee ☐ 2: Lakkii ☐
113	Rakkowwan dhibee sukaara waliin wal-qabatanii jiran jiru	1:Eyyee ☐ 2:Lakkii ☐

Kutaa II Gaafiwwan waliin galaa haala yaala off-eegannoo dhibbee sukaara. Gafiwwan armaan gadii jiran haala yaala off-eegannoo dhibee sukaraaf guyyota turban darban keessa isin gotan gafata

Guyyoota 7 darban kessa isin dhukubee beeka? Malloo guyyoota osoo isin hin dhukubin oltan dubati debi'aa yaada.

	Soraata nyaata	**Lakkofsa guyyaa**							
		0	1	2	3	4	5	6	7
201	Guyyatan 7 darban kessati, sirna nyaata fayyaa qabeesa ta'e guyya meeqa soratan?								
202	Gidduu -gallessan, Ji'oota darban kessati yeroo hangamiif haala sangantaa nyaata karorfataniin soratan?								
203	Guyyota 7 darban keessaa, guyyaa meeqaf nyaata kuduraaf muduraa shaniif isaa ol nyaatan?								
204	Guyyotan 7 darban kessati guyyaa meeqaaf nyaata cooma qaban kaneen akka dimina ykn aanan soratan?								
205	Guyyota 7 darban kessati guyyoota meeqaaf nyaata karbohayidireetii kabu haala walfakatuun guyyaa kessati soratan?								
	Soochii qamaa								
206	guyyota 7 darban keessaa guyyaa meeqaaf sosochii qaama daqiiqaa 30 irrati hirmatan (waligala sa'aatii walii galaa sochii irra turtan, lukkaan deemu dabalate)								

207	Guyyoota 7 darban kessati sossochii qaama murta'e tokko irrati hangam hirmatan (Kaneen akka bishaan daaka, lukkaan deemu, saykilii oofuu)?								
	Hanga sukaara ofii beeku								
208	Guyyoota 7 darban gudutti guyyaa meeqa ghanga sukaraa dhiiga kesanii adda bastan?								
209	Guyyoota 7 darban kana guddutti akkata ogessi fayyaa isin hordofu isiinif ka'een yeroo hamamif hanga sukaraa dhiiga keessan safaratan?								
	Kununsa Miilaa								
210	Guyyota 7 darban kessati yeroo meeqaaf mila keessan sakatatan?								
211	Guyyota 7 darban kessati yeroo meeqaf keessa kophee kessanii sakatatan)								
212	Guyyota 7 darban keesa guyyaa meeqaf miila keessan dhiqatan?								
213	Guyyota 7 darban keessa guyyaa meeqaf cubdanii tursitan?								
214	Guyyota 7 darban keessa guyyaa meeqaaf miila erga dhiqatan booda keessa quba keesanii sirriti qoorsitan?								
	Qorrichaa yookiin Dawaa								
215	Guyyoota 7 darban keessa guyyaa meeqaaf qoricha isiniif ajajame seeran fudhatan?								
216	Guyyoota 7 darban keessa guyyaa meeqaaf qorichaa sukaara waranamu (insuliinii) haala ajajameen waraanatan?								

217	Guyyota 7 darban keessa guyyaa meeqaaf qorichaa sukaara afaanin kenamu haala ajajameen fudhata?								
	Tanbboo xuuxxuu								
218	Guyyota 7 darban keessa taboo xuuxxanii beektu, yoo yerroo tokko illeee xuuxxuu tates?								

	Gargaarsa Hawasumaa	
219	Namoota yeroo rakkoo keetii waamuu danddeessu meeqa qabda?	1= Homaa ☐ 2= 1-2 ☐ 3=3-5 ☐ 4=5 ol ☐
220	Namootni si cinaa sigaggaaruf fedha hamammii agarsisu?	1=Homaa ☐ 2=Xiqqoo ☐ 3=Hin tilmamu ☐ 4=hangaa ta'e ☐ 5= Bay'ee ☐
221	221. Gargaarsa qabatamaa ta'ee ola akee dhihoo irraa yeroo ati barbaade hamam argachuu danddeesa?	1=Bay'ee rakissaadha ☐ 2=rakissaadha ☐ 3=Ni danda'ama ☐ 4=Baay'eeni danda'ama ☐

Kutaa III: Gorsa yaala off-eegannoo

lakk	Gaaffilee	Filannoo Deebii
301	Gorsa kaneen armaan gadii tajaajila kessaniin (hakima, nursii, ogeessa sirna nyaata irraa, ykn ogeesa dhibee sukaraa irraa) gorfamtan?	a. Nyaata cooma bay'ee qaban akka hin sorane ☐ b. Nyaata karboohaydreetii qaban sirnaan akka sorattan ☐ c. Ulfaatina hir'isuuf kaalorii soratan akka hir'iftan ☐ d. Nyaata fayiibarii qaban bay'inaan akka soratan ☐ e. Kuduraaf muduraa akka bay'inaan soratn (yoo xiqqaate si'a shaniif) ☐ f. Dhangaawwan mi'awwoo (wantoota nyaata dura nyaataman, lalalafaa, karameelaa...) xiqqoo qofa akka fayyadamtan ☐ g. nyataa madalawan wal-qabatee ogeessa na tajaajilu irraa wa'ee gorsaa hin aragane ☐ h. Kan biroo yoo jirate eeri_____
302	Gorsa armaan gadii eraman keessa isaan kamtu ogeessi isin tajaajilaniin (Hakima, Narsii, ogeesa nyaata, ykn ogeessa sukaaran) gorfamtan?	a. Sochii qaaamaa salphaa (deemsa) aka gootan ☐ b. Sossochii qaama iti fufinsa qabu torbee keessa si'a sadii daqiiqaa digdamaaf ☐ c. Sossochii guyya guyaa kessan kessati sochii qaama akka gootan (fkn. Liftii dhisuun akka gulantaa fooqii irraa deemtan, konkolaataa dhaabuun akka lukaan deemtan. ☐ d. Sossochii qaaman wal-qabatee ogeessa na tajaajilu irraa wa'ee sosochii qaama hin aragane ☐ e. Kan biro yoo jirate eeri_____
303	Gorsa armaan gadii eraman keessa isaan kamtu ogeessi isin tajaajilaniin (Hakima, Narsii, ogeesa nyaata, ykn ogeessa sukaaran) gorfamtan?	a. Hanga sukaara dhiiga keessa jiru dhiiga xiqqoo quba irraa fudhachuun akka ilaltan ☐ b. Mashina safartuu sukaraa fayyadamuun dhiiga keesan lakka'uu ☐ c. finaan keessa sukarri jiraachuu ilaalu ☐ d. Wa'ee sukaara dhiigaa safaruu ykn sukaara fincaan keessa jiru ilaalun wal-qanbate gorsi ani argadhe hin jiru ☐

		e. Kambira yoo jirate eeri_____
304	Qorichoota armaan gadii keessaa qoricha kamtu oggessa isin tajaajilun isiniif ajajame? Malloo waan ilaalatu irrati marii	a. Insuliiniii guyyaati si'a 1 ykn 2 ☐ b. Insuliinii guyyaati si'a 3f isaa ol ☐ c. Kiniina sukaara ☐ d. Kiniinas ta'e insuliinin naaf hin ajajamne ☐ e. Kan biraa yoo jirate eeri_____
305	Hordoffii kee isa dhumaa irrati hakimni si hordofu wa'ee tamboo xuuxxuu sigafateeraa?	1: Eyyee ☐ 2: Lakkii ☐
306	Hordofii kee dhumaa irrati yoo tamboo xuuxxuun kee hubatame, oggeessi akkata dhaabu danddeesu irrati si gorsanii? Akaata dhaabu dandeesuuf ol si dabarsuuf.	1: Eyyee ☐ 2:Lakkii ☐
307	Yeroo dhumaaatiif tamboo Kan xuuxxe yoomi?	a. Wagga 2 dura ykn takkaa xuuxxee hin beeku ☐ b .Waggaa 1-2 dura ☐ c. Ji'a 4-12 dura ☐ d. Ji'a 1-3 dura ☐ e. Ji'a darbe keessa ☐ f. Har'a ☐

HIRMAANNAA KEESSANIIF GUDDAA GALATOOMAA!!!

11.5 Annex IV: Data collection for Amaharic version Questionnaire

አዲስ አበባ ዩኒቨርሲቲ

ጤና ሳይንስ ኮሌጅ

ነርሲንግና ምድዋፊሪ ትምህርት ቤት

ነርሲንግ ክፍል

I: - የመረጃ ወረቀት

ሠላም ፡ስሜ _____ ነው የምሰራው ከአዲስ አበባ ዩኒቨርስቲ በድህረ ምረቃ ተማሪ በጤና ሳይንስ ኮሌጅ እና በነርሲንግ ክፍል አሸናፊ ተሾመ በተካሄደው ጥናት ወክዬ ነው ፡፡ስለ ጥናቱ እና እንደ ጥናቱ ተካፋይ በመመረጥ ለማብራራት ትኩረት እንድትሰጡኝ በአክብሮት እጠይቃለሁ ፡፡ ከፈቀዱልኝ የሚከተሉትን የመረጃ ወረቀት ከተረዱ በኋላ ከ 20 ደቂቃ በላይ የማይወስዲ ጥቂት ጥያቄዎችን መጠየቅ እፈልጋለሁ ፡፡

የጥናት ርዕስ-

የስኳር ህመም ህክምና በመከታተል ላይ ያለ ስለ የግል እንክብካቤ ተግባራት ለማጥናት ቃለ መጠይቅ እያደረግን ነው፡፡ ይህ ጥናት ለስኳር ህመምተኞች የስኳር ህክምና ክትትል ለሚያደርጉ ሰዎች ህክምና አሰጣጥ ሊይ ለውጥ ያመጣል ብለን እናምናለን፤ በምስራቅ ሸዋ ዞን የተመረጡት የህዝብ ሆስፒታሎች፣ኢትዮጵያ 2022 ውስጥ

የጥናቱ ዓላማ

በዚህ ጥናት የስኳር ህመምተኞች ስለግል እንክብካቤያቸው ሁኔታ ማጥናት ነው ፤ በምስራቅ ሸዋ ዞን የተመረጡት የህዝብ ሆስፒታሎች ፣ ኢትዮጵያ 2022 ውስጥ

የአሠራር ሂደት እና የቆይታ ጊዜ-

ለጥናቱ ጠቃሚ መረጃን ለማቅረብ የተዋቀረ መጠይቅ ተጠቅሜ ቃለ መጠይቅ አደርጋለሁ ፡ቃለመጠይቁ 20 ደቂቃ ያህል ይወስዳል ፣ ስለሆነም በትህትና እጠይቃለሁ፡፡

የጥናቱ አደጋ እና ጥቅም-

በዚህ ጥናት ውስጥ የመሳተፍ አደጋ በጣም አናሳ ነው ፣ ጊዜዎን ብቻ ይወስዳል ፡በዚህ ጥናት ውስጥ ለመሳተፍ ምንም ክፍያ አይኖርም ፡፡ነገር ግን ከዚህ ጥናት የተገኙት ግኝቶች ለዞን ጤና ቢሮ አስፈላጊ መረጃዎችን ሊያሳዩ ይችላሉ ፡፡በሌላ በኩል ደግሞ ፡ ይህ ጥናትና የስኳር ህመምተኞች ስለግል እንክብካቤ ሁኔታ በማጥናት በቀጣይ ከፈተኛ አስተዋጽኦ ይኖረዋል፡፡

የተሳታፊዎቹ መብትና ሚስጥሩ

የዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት የሚደረግ ነው ፡በዚህ ጥናት ውስጥ ለመሳተፍ ወይም ላለመሳተፍ የማወጅ መብት አለዎት ፡፡ለመሳተፍ ከወሰኑ በማንኛውም ጊዜ ከጥናቱ የመውጣት መብት አለዎት። ለመመለስ የማይፈልጉትን ማንኛውንም ጥያቄ መመለስ የለብዎትም-ለእኛ የሚሰጡን መረጃዎች።በተለይ እርስዎን የሚለይ መረጃ አይኖርም ፡፡ወደፊት የሚመጣ ማንኛውም መረጃ በግል እንደሚቀመጥ እና ስሙ አይገለጽም

የአጥኑ አድራሻ-

ስለ ጥናቱ ወይም ስለ አሰራሩ በማንኛውም ጊዜ ጥያቄ ካለ የሚከተሉትን አድራሻ በመጠቀም ሊያነጋግሩዋቸው ይችላሉ ፡

የርእሰ መምህሩ መርማሪ አሸናፊ ተሾመ

ኢሜል: ashenafiteshome66@gmail.com

የሞባይል ስልክ ቁጥር: + 251-0913735573/ 0929242233

II-በመረጃ ላይ የተመሠረተ ስምምነት

ይህንን ቅጽ አንብቤዋለሁ ወይም በተረዳሁት ቋንቋ ተነበበኝ ፡፡የምርምርውን ዓላማ ፣ አሰራሩን ፣ ስጋት እና ጥቅማጥቅሞችን ፣ የምስጢራዊነትን ጉዳይ ፣ የተሳትፎ መብትን እና ለማንኛውም ጥያቄ አድራሻውን በሚገባ ተረድቻለሁ. ግልጽ ባልሆኑ ነገሮች ላይ ጥያቄዎችን የመጠየቅ እድል ተሰጥቶኛል ፡፡ከዚያ ጥናት በማንኛውም ጊዜ የማግለል ወይም የማልፈልገውን ማንኛውንም ጥያቄ የመመለስ መብት እንዳለኝ ተገለጠልኝ ፡፡በዚህ ጥናት ውስጥ ለመሳተፍ ፈቃደኛ ነዎት?

ሀ አዎ ------- በቃለ መጠይቁ ይቀጥሉ

ቢ. አይ ---------- አመሰግናለሁ በሉ!

የስኳር ህክምና ክትትል ያደርጉት ምን ያህል ጊዜ ነወ ?

ከ 6 ወር በታች ከሆነ አመሰግናለሁ እና ቃለ መጠይቅ ማቆም።

ከ 6 ወር በላይ ከሆነ ቃለ መጠይቁን ይቀጥሉ

በጥናቱ ውስጥ ለመሳተፍ በፈቃደኝነት ስለሆኑ እናመሰግናለን

የጠያቂው ስም _____ ፉርማ _____

የጠያቂው ኮድ _____

ቃለ መጠይቁ የተካሄደበት ቀን _____ ወር _____ 2014 ዓ.ም

የግምጋሚው ስም _____ ፉርማ _____

የተመረመረበት ቀን _____ ወር _____ 2014ዓ.ም

1. **የተሟለ _____ 2.ያልተሟለ _____ 3. ሌላ ካለ ይገለጽ_____**

ክፍል I: ማህበራዊ ኢኮኖሚያዊና የጤንነት ሁኔታና ተያያዥ መረጃዎ

የሚከተለትን ጥያቄዎች በመጠየቅ አማራጭ መልሶች ፊት ለፊት ባለው ሳጥን ሊይ ምልክት ያድርጉ፡፡ አማራጭ መልስ ላላቸዉ ጥያቄዎች በተሰጠው ክፍት ቦታ ሊይ የተጠየቀውን መልስ ያስቀምጡ፡፡

ተ.ቁ	ጥያቄዎች	አማራጭ መለሶች
101	ፆታ	1. ወንድ ☐ 2. ሴት ☐
102	እድሜ (በአመት)	_____
103	ወርሃዊ ገቢ /በኢ.ብር/	1. ምንም ገቢ የለኝም ☐ 2. ዝቅተኛ ≤320 ☐ 3. መጠነኛ 320-1500 ☐ 4. መካከለኛ 1501-2499 ☐ 5. ከፍተኛ ≥2500 ☐
104	ትምህርት ደረጃ /የትምህርት ሁኔታ	1. ማንበብ መፃፌ የማይችለ ☐ 2. 1ኛ ደረጃ ☐ 3. 2ኛ ደረጃ ☐ 4. ኮሌጅ/ዩኒቨርሲቲ ☐
105	የትዳር ሁኔታ	1. ያገቡ ☐ 2. አግብተው የፈቱ ☐ 3. የትዳር አጋራቸው የሞተባቸው ☐ 4. ያለገቡ ☐ 5. ሌላ ☐
106	የስራ ሁኔታ	1. ተቀጣሪ ሰራተኛ ☐ 2. ስራ የላቸው ☐ 3. የንግድ ስራ/ነጋዴ/ ☐ 4. የቤት ሰራተኛ ☐ 5. የቀን/ጉልበት/ ሰራተኛ ☐

107	ሃይማኖት	1. ኦርቶዶክስ ☐ 2. እስልምና ☐ 3. ፕሮቴስታንት ☐ 4. ካቶሊክ ☐ 5. ሌላ ☐
108	ህመሙ ሲጀመር የነበርዎት እድሜ	_____
109	ህመሙ ከጀመርዎት ስንት ጊዜ ሆነው	_____
110	በቤተሰብ ውስጥ የስኳር ህመም ያለው ሰው አለ?	1. አለ ☐ 2. የለም ☐
111	የሚወስዱትየመድኃኒትአይነት/ህመሙን በምን አይነት ዘዴ ነው የሚቆጣጠሩት/	1. በአፉ የሚወሰድ ክኒን ☐ 2. መርፌ ☐ 3. ሁለቱም ☐
112	በአሁን ጊዜ በቤትዎ በደም የግልኮስ መጠን የሚለካ መሳሪያ አለዎት	1. አለ ☐ 2. የለም ☐
113	በህክምና የተረጋገጠ ማንኛውም አይነት በስኳር ህመም ምክንያት የመጣ ህመም (ስኳር ህመም ኮምፕላክሽን) አሌዎት?	1. አለኝ ☐ 2.የለኝም ☐

ክፍል II: ስኳር ህመም የግል እንክብካቤ ተግባራት መጠይቅ

ከዚህ በታች የተዘረዘሩት ጥያቄዎች ባለፈት ሰባት ቀናተ ውስጥ ስለ ስኳር ህመምዎ የግል እንክብካቤ ተግባራትን በተመለከተ ምን እንደሚመስል የሚጠይቁ ናቸው፡፡ ሆኖም ግን ባለፈት 7 ቀናት ውስጥ ታመው ከነበሩና እራስዎ በራስዎ መንከባከብ ካልቻለ ተጨማሪ 7 ቀናት ወደኋለ በመሄድ ጤነኛ በነበሩበት ጊዜ ያደረጉት እንክብካቤ ሁኔታ መውሰድ ይችለለ፡፡

	አመጋገብን በተመለከተ	**የቀናት ብዛት አማራጭ መልሶች**							
		0	1	2	3	4	5	6	7
201	**ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው ጤነኛ አመጋገብ እቅድ የነበርዎት?**								
202	**በአማካኝ ባለለው ወር ምን ያህል ቀን/ናት በሳምንት ውስጥ ይህን የአመጋገብ እቅድዎን ይከተለሉ?**								
203	**ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት 5 እና ከዚያ በሊይ ጊዜ አትክልትና ፌራፌሬ ይመገባለ?**								
204	**ባለፈት 7 ቀናተ ውስጥ ምን ያህል ቀን/ናት ከፌተኛ የስብ መጠን ያለው ምግብ ይመገባለ፣ /ለምሳላ ቀይ ሥጋ ወይም በስብ የተሞለ የእንስሳት ተዋጸኦ? / (ያም ከመጀመሩ በፉት ያለው ጊዜ ይውሰዱ)**								
205	**ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ቀናት ነው ሀይል ሰጪ ምግብ በአንድ ቀን ውስጥ በእኩል በማመጣጠን የወሰዱት?**								
	የአካል እንቅስቃሴ ማድረግ በተመለከተ								

206	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ለ30 ደቂቃ ያክል የአካል እንቅስቃሴ ተሳትፎል (ሁለም እንቅስቃሴ፣ ወክን ጨምሮ፣ ጠቅሊሊ ደቂቃ)?								
207	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት በተወሰኑ የአካል እንቅስቃሴ ተሳትፎል? ይህም ቤት ውስጥና ስራ ቦታ ከሚያረጉት እንቅስቃሴ ውጭ								
	በደም የስኳር መጠን ምርመራን ማድረግ በተመለከተ								
208	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት የስኳር መጠን መርመራ አካሂደዋል (ቤትም ከቤት ውጭም)?								
209	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት የጤና ባለሙያዎ/ህኪሞ በነገርዎት ብዛት ልክ የስኳር መጠን ምርመራ ያካሂዳ?								
	እግርና የእግር ጣቶች እንክብካቤን በተመለከተ								
210	ባለፈት 7 ቀናት ውስጥ ምን ያህሌ ቀን/ናት እግሮችዎና የእግሮችዎ ጣቶች መሀል ፈተሻ ያረጋለ?								
211	ባለፈት 7 ቀናት ውስጥ ምን ያህልቀን/ናት የጫማዎ ውስጥ ክፈልምልከታ /ፈተሻ ያረጋለ? /								
212	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው እግርዎተን የታጠቡት?								
213	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው እግሮችዎን የዘፈዘፈት?								
214	ባለፈት 7 ቀናት ውስጥ ምን ያህልቀን/ናት ነው ከታጠቡ በኋሊ እግሮችዎን የእግሮችዎን ጣቶች መሃል በለስለሳ ፍጣ እንዲደርቅ የሚያደርጉት?								
	መድኃኒትን በተመለከተ								

215	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው የተዘዘሌዎትን መድኃኒት በትክክል የወሰዱት? ወይም								
216	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው የታዘዘሌዎትን መርፌ በትክክል (መጠን፣ ጊዜ፣ ሰአት) የወሰዱት?								
217	ባለፈት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው የታዘዘሌዎትን ክኒን በትክክል (መጠን፣ ጊዜ፣ሰአት) የወሰዱት?								
	ሲጋራ ማጨስን በተመለከተ								
218	ባለፈት 7 ቀናት ውስጥ ሲጋራ አጭሰዋል? ለአንድ ጊዜም ቢሆን?								

	የህብረተሰብ እርዳታ	
219	በአዳጋ ጊዜ ተጠሪ/ደራሽ/ ምንያክል ሰዎች ማግኘት ይችላሉ?	1= ምንም ☐ 2= 1 - 2 ☐ 3= 3 — 5 ☐ 4= ከ 5 በላይ ☐
220	አጠገብህ ያሉት ሰዎች ለማገዝ ምን ያህል ፍላጎት አላቸው?	1= ምንም ☐ 2= ትንሽ ☐ 3= አይገመትም ☐ 4= የተወሰነ ☐ 5= ብዙ ☐
221	በተጨባጭ አጋዥ ከቅርብ ጎረቤት ምን ያክል ማግኘት ትችላለህ?	1= በጣም አስቸጋሪ ነው ☐ 2= አስቸጋሪ ☐ 3= ይቻላል ☐ 4= በጣም ይቻላል ☐

ክፍል III: ስለ የግልእንክብካቤዎ ምክሮችን በተመለከተ

ተ.ቁ	ጥያቄዎች	መልስ
301	ከዚህበታችከተዘረዘሩትውስጥ በጤና ባለሙያተግባራዊእንዲደረጉ የተመከሩየትኞቹናቸው(የተመከሩትን ሁለ ይምረጡ)	1. ዝቅተኛ የስብ መጠን ያለው የአመጋገብ ☐ 2. ኮምፕላክስ ካርቦነ ሀይድሬት ምግብ መመገብነ ☐ 3. ክብደትን ለመቀነስ የካልሎሪ መጠን ☐ 4.ፊይበር/አሰር መጠናቸው ከፌተኛ የሆኑት ምግቦች ማዘውተር ☐ 5. መጠኑ ከፌተኛ የሆነ አትክሌትና ፌራፌሬ /በቀን እስከጊዜ/ መመገብ ☐ 6. መጠኑ ዝቅተኛ የሆነ ጣፊጭ ምግቦች መውሰድ ☐ 7. ምንም አይነት ምክር አለገኘሁም ☐ 8. ሌላ ካለ ይጥቀሱ ☐
302	ከዚህ በታች ከተዘረዘሩት ውስጥ በጤና ባለሙያ ተግባራዊ እንዲያደርጉ የተመከሩት የትኞቹ ናቸው (የተመከሩትን ሁለ ይምረጡ)	1. በየቀኑ ዝቅተኛ ደረጃ የአካሌ እንቅስቃሴ ማድረግ ☐ 2.ቀጣይነት ባለው ቢያንስ በሳምንት ሶስት ጊዜ/ቀን ለ20 ደቂቃ የአካል እንቅስቃሴ ማድረግ ☐ 3. በእለት ተእለት ተግባራት ውስጥ የአካል እንቅስቃሴ ማካተት. ☐ 4. ምንም አይነት ምክር አለገኘሁም ☐ 5. ሌላ ካለ ይጥቀሱ ☐
303	ከዚህ በታች ከተዘረዘሩት ውስጥ ተግባራዊ እንዲያደርጉት በጤና ባለሙያ የተመከሩት የትኞቹ ናቸው (የተመከሩትን ሁለ ይምረጡ)	1. ከለር ቻርት በመጠቀም ጠብታ ደም ተጠቅሞ ስኳርን መለካት ☐ 2. ግልኮሜትር በመጠቀም በደም የስኳር መጠን መለካት ☐ 3. በሽንትዎ ስኳር መኖሩን መመርመር ☐ 4. ምንም አይነት ምክር አለገኘሁም ☐ 5. ሌላ ካለ ይጥቀሱ ☐
304	ከዚህ በታች ከተዘረዘሩት ውስጥ ተግባራዊ እንዲያደርጉ በጤና	1.የኢንሱሊን መርፌ በቀን 1 ወይንም 2 ጊዜ መውሰድ ☐

	ባለሙያ የተመከሩት የትኞቹ ናቸው (የተመከሩትን ሁለ ይምረጡ	2.ኢንሱሊን መርፌ በቀን 3 እና ከዚያም በሊይ ጊዜ መውሰድ □ 3.የስኳር መጠን ለመቆጣጠር የስኳር ህመም መድኃኒት ክኒን መውሰድ □ 4. ላለ ካለ ይጥቀሱ □ 5. ምንም አይነት ምክር አለገኘሁም □
305	ባለፈው የህክምና ቀጠሮም ጊዜ ስለ ሲጋራ ማጨስ የጠየቅዎት ሰው/ጤና ባለሙያ አለ	1. አለ □ 2. የለም □
306	ሲጋራ የሚያጨሱ ከሆነ ባለፈው ህክምና ቀጠሮ ጊዜ ስለ ሲጋራ ማጨስ ማቆም የመከርዎ ሰው አለ ወይም ይህን ጉዳይ የሚመለከተው ኦፉሰር ወደ ሲጋራ ማጨስ ማቆም ፕሮግራም ሪፈር ያልዎት አለ	1. አለ □ 2. የለም □
307	ለመጨረሻ ጊዜ ሲጋራ ያጨሱት መቼ ነው	1. ከ2 ዓመት በለይ በፉት ወይም አጭሴ አለቅም □ 2. ከ1 እስከ 2 ዓመት በፉት □ 3. ከ4 እስከ 12 ወራት በፉት □ 4. ከ1 እስከ 3 ወራት በፉት □ 5. በባለፈው ወር ውስጥ □ 6. ዛሬ □

ለትብብራቸው ከልብ አመስግናለው!!!!!!!