WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE DEPARTMENT OF NURSING

SELF CARE PRACTICE AND ASSOCIATED FACTOR AMONG PATIENT WITH DIABETES MELLITUS AT WKUSH SOUTH WEST, ETHIOPIA: A CROSS SECTIONAL STUDY, 2022/2023 G.C

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A RESEARCH REPORT TO BE SUBMITTED TO WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE DEPARTMENT OF NURSING FOR PARTIAL FULFILLMENT OF BACHELOR DEGREE IN NURSING

AGUST, 2023

Wolkite University

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Abstract

BackGround: Diabetes is a life-long challenge that and adequate self-care practices to keep the illness under control. Self-care practice has multiple domains, including food choices, physical activity, proper medication intake, and blood glucose monitoring as well self-care practice measures to prevent injury at the lower extremitity. Self-carepractice is needed for the prevention of diabetes-related complications. In fact, self-care practice includes a set of dietary behaviors, physical activity, medication use (insulin or oral hypoglycemic agents), self-monitoring of blood glucose foot care, and stress management. In addition to improve self-care prctice plays an important role in decreasing treatment cost and mortality of patients with diabetes. However, studies that document self-care practices of diabetic patients are generally scarce in Ethiopia.

Objective: To assess self-care practice and associated factors among diabetic in Wolkite University Specialized Hospital Ethiopia, 2023.

Methods: An institution-based cross sectional study was carried out among 175 diabetes mellitus patients who were in follow-up at Wolkite University Specialized Hospital from May 17 to June 18, 2023. Simple random sampling technique was applied to administer questionaries. All the data were checked, coded and entered into Package for Social Sciences (SPSS) version 23 for analysis. Bivarite logistic regression analysis was used to check the association between independent variables and dependent variable. Then, those variables, which were found in significant with Bivarite regression were computed using multbivarite Odds ratio and 95% confidence interval (CI) was used to determine the presence and strength of the as nsociation. P-values <0.05 was considered statistically significant.

Result: Out of the total 175 sampled diabetic patients, 169 of them were enrolled in the study giving a response rate of 97 percent. About 86(42.6%) of the patients were taking only OHA. Most of majority 147(87%) had no glucometer at home and Most of respondent 96(56.8%) had type 1 DM . About 91(53.8%) of patient were not cigarete .

Conclussion: The overall self-care practice was poor. Subjects: DM complication, Residance, Duration of DM were associated with self-care practice. Therefore, measures should be put in place to prevent of complications and concerning bodies should support those patients lives in rural area, Develop Complicaion and Short duration of DM :
Key Word: self care practice,Diabetes mellitus,Assosseted factor.

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Abbreviation

DM =Diabetes Mellitus.

OHA=Oral Hypoglycemic Agent..

SMBG=Self-Monitoring of Blood Glucose.

T1DM=Type 1 Diabetes Mellitus.

T2DM=Type2 Diabetes Mellitus.

WHO=WorldHealth Organization

WKUSH= Wolkite University Specalized Hospital

1. INTRODUCTION

1.1 Background of the Study

Diabetes Mellitus is a general term for a group of metabolic disorders that affect the body's ability to process and use of glucose for energy. The three most common forms of diabetes mellitus are Type 1 Diabetes Mellitus, Type 2 Diabetes Mellitus, and Gestational diabetes (1). Self-care practice in diabetes patient is a critical factor to keep the disease under control and about 95% of the disease management is usually carried out by the affected individual or their families (2).

Self-care practices are important for the prevention of complications and improved health outcomes in diabetes patient Self-care practices in diabetes involve healthy eating, medication adherence, blood glucose monitoring, being physically active, and healthy coping (3). Self care of diabetes is essential for control of disease and improvement of quality of patient's life. In the urami the patients' self-care practice was good in 15.1%, moderate in 58.7%, and poor in 26.2% (5). In Africa, International Diabetes Federation [IDF] estimated 24 million adults aged [20-79years] was living with diabetes in 2021, representing a regional prevalence of 4.5%. In Ethiopia, the prevalence of diabetes in adults are 3.3% (6).

In dire dawa patients had poor self-care practices especially dietary practice and self-monitoring of blood glucose which have critical roles in controlling diabetes. Provision of diabetes self-care education and counseling especially on importance of self-monitoring of blood glucose, and dietary practice (4). Despite the high rate of complications among diabetes patients in Ethiopia, the importance of self-care practice is not emphasized (7).

Diabetes self-care includes performing activities such as healthful eating, regular physical activity, foot care, medication adherence, and self-monitoring of blood glucose (SMBG) (3).95% of the self-care is usually provided by the patients or their families. Poor practices among diabetic patients are some of the important variables influencing the progression of diabetes and its complications, which are largely preventable (8) .

Studies show that associated factors which change the outcome are diabetes duration less than10

years, male gender, older age, low income being employed, missed diabetes education in the last year(9).Lower self-efficacy or self-care confidence(9,10). and higher psychological distress and lower social support are determinants of poor diabetes self-care practice (9). Since diabetes is becoming a serious public health problem, it requires the patients' self-management and glycemic control; which can be developed from a thorough under-standing of management challenges (11,12).

1.2 Statement of the Problem

Globally, an estimated 422 million adults were living with diabetes 2021 (8). Two-thirds of the global diabetes population lives in the developing world (4).Un-proportionally, Sub-Saharan Africa (SSA) contributes the heaviest global burden of DM; the region continues to host the big share (13).

Diabetes account for 60% of all deaths worldwide and more than 80% of diabetes deaths occur in low- and middle-income countries Mortality World Health Organization projects that diabetesdeaths will double between 2005 and 2030 (14). When it is not prevented and properly managed, diabetes is one of the major causes of premature illness and death worldwide, which resulted in 5.1million deaths in 2013 (14). Poor self-care practice increases the incidence and prevalence of complications resulting in increased morbidity and mortality (14).

Diabetes being a chronic illness requires continuous self-management practices by sufferers so that they can contribute meaningfully in the management of their lives (15).A situation where diabetes patients visit clinics regularly and their blood glucose levels remain high despite the treatment they receive is problem that calls for attention This is a very common observation in many diabetes patients Severe complications, like gangrene that may lead to amputation and possible premature death, this might be because of lack of appropriate self-management practices (15).

Diabetes mellitus has significant effect on economy of the health system; it costs at least 548 billion dollars in health expenditure in 2013 which is 11% of total health spending on adults (16). In 2017 global healthcare expenditure for diabetes management became US$ 850 billion (17) .In African region only an estimated USD 2.8 billion was spent on healthcare expenditure due to diabetes in 2011. For 2022 we got a source, which states the magnitude of poor self-care

practices was 54 percent Being divorced percent.were associated with poor self care practices Reports are expecting the expenditure to rise by 61% by 2030; mean while the prevalence of diabetes is expected to al most double in the same time period (18).

DM is a life-long challenge that requires behavioral change and adequate self-care practices for better glycemic control. In the absence of appropriate self-care practice, the desired therapy targets are difficult, or even impossible, to achieve (19).Although there was significant variation across countries, self-care practice on diabetes is less than optimal in all countries. More than one-third of US adults with diabetes have poor self-care practices (20). Diabetic's self-care practices in Ethiopia is still low, which is in the range of 39–63.3 % (21).

Factor that make poor self care practice like; complications associated with diabetes management are highly attributable to the failure to comply with self-care recommendations (22). The poor self-discipline, and lack of support from family members and/or physicians, poverty and lack of access to health facility are some of the major for failure to comply (23).

Various strategies were adopted in different countries to help people with diabetes improve their self-care practices like Implementation of a comprehensive patient education program was reported to have enhanced diabetes self-care practices (24). Other tactics have been used in many nations to assist people with diabetes in improving their self-care practices.Improved social support for patients with diabetes has facilitated diabetes self-care and achieve improved glycemic control (25).

Despite the benefits of engaging in a recommended self-management practice, research remains limited on determining recommended self-care practices level and its associated factors among diabetes patients. Researchers have suggested that self-care activities vary extensively according to the nature of the activity itself, with taking of medication often occurring as recommended and exercise frequently falling below recommended levels. Therefore, this study aimed to assess self-care practice and associated factors among diabetic patients in Wolkite University specialized hospital.

1.3 Significance of the Study

This research could be significance for the patients, hospital, community at large and policy makers.This study aimed to assess self-care practice, and associated factors among diabetic patients in Wolkite University specialized Hospital. Since this study determines status self-care practice and its associated factors, diabetes patients might be advantageous regarding identification of their status, adjustment of their treatment plan and counseling to strengthen positive practices and discourage improper practices. The study might be use for researcher who has an interested to conduct further on the issue underway.

2. LITERATURE REVIEW

2.1 Magnitude of Diabetes Self-care Practices

A study done in Umea city Revealed that the self-care practice was good in 15.1% and poor in 26.2 % (5). A study conducted in Nigeria had asserted that how much discrepancy was vividly addressed the whole African region, in which 28.8% only had achieved good self-care practice (27). Across sectional study in West Ethyl show more than half 153(60.7%) had good self-care practice (28).

Across sectional study conducted in Benishangul Gumuz state public hospitals indicated 45.7% had poor diabetes self-care practices (29).A study conducted in university of Gonder Riferal Hospital revealed that 51.86% of patients have poor self-care practice (30) .In Bahir Dar prevalence of desirable self-care behaviors to wards diabetes Mellitus was 28.4% (31).

Results from study of self-care practice of diabetes patients in Harari, revealed that very few patients about 87 (39.2%) practiced the advised self-care practice (32).A study was carried on public hospitals of Dire Dawa Administration indicated that 55.9% had good self-care practice (4). Additional Hospital based cross sectional of study was carried in Harari and Dire Dawa show that The self-care practice of study related good for 38.1 % (4,33).

A crossectional study done in Dilla University Referral Hospital also revealed that 38(76.8%) had good practiced (34). In accordance with cross sectional studies conducted in Nekemte depicted that 45% had poor diabetes self-care practice (35).

2.2. Factors Associated with Self Care Practice .

The study conducted in urban Area of urmia show that, Educational program was believed to be vital in predicting Practice in mitigating self-care practice problems. More over, higher duration of diabetes and marital status who have marriage had influenced better practice of self-care (5). The study in Urban District show that persons who were better educated, those with higher per Capita income were largely found to have better self-care practices (36).

A cross-sectional survey was conducted in Gauteng, South Africa show that, Effective diabetes care requires a comprehensive approach for patients behavioral changes in terms of healthy lifestyle such as physical activity, healthy eating, tobacco cessation, weight management, taking medication, self-monitoring of glucose, as well as prevention of acute and chronic diabetes complications. There was a significant association between education, duration of disease, and treatment intensity and self-care practice of patients (38).

A cross sectional study was conducted in west Ethiopia on Self-care practices patients poor self-care practices were more likely to occur among male patients, patients living in rural area, patients with duration of diabetes < 6 years patients with no access for self-monitoring blood glucose, patients with poor knowledge about diabetes and patients with co morbidities (28) In study conducted on level of self care practice diabetes patients in Ethiopia show that, patient who have good foot-care practice with prevalence of 58% (12).

A cross-sectional study conducted in Gondar on Self-care practice and associated factors among patients with diabetes mellitus reported that Unable to read and write, primary level of education, living in rural area, having poor social support, having diabetes related complication and poor socio-economic status were factors significantly associated with poor self-care practice of patients with diabetes (30) .A study conducted in Jimma specialized Hospital show that 18.1% of patient were able to control their Fasting Blood Sugar (FBS) to level below 126 mg/dL(13).

A cross-sectional study conducted in public hospitals of Arsi zone on Self-care practice and its predictors among adults with Diabetes Mellitus on follow up on 301 patients revealed thatYounger age , earning high income ,having family history ,long duration of diagnosis, not having diabetic complications and having glucometer were significantly associated factors with good diabetic self are practice (39).

The study done in Ayder Comprehensive Specialized Hospital indicated that having a higher income was significantly associated with diabetic good self-care and Yet taking both insulin and oral hypoglycemic was related with self-care practice (40). The study conducted on level of self care practice among Diabetic patient in Ethiopia show that self-monitoring of blood glucose was a least practice in Ethiopia with prevalence of 28% (12).

2.3 Conceptual Framework

The conceptual framework shows factors associated with diabetes Self care practice developed based on review of different litratures (28–31,35,40,41)

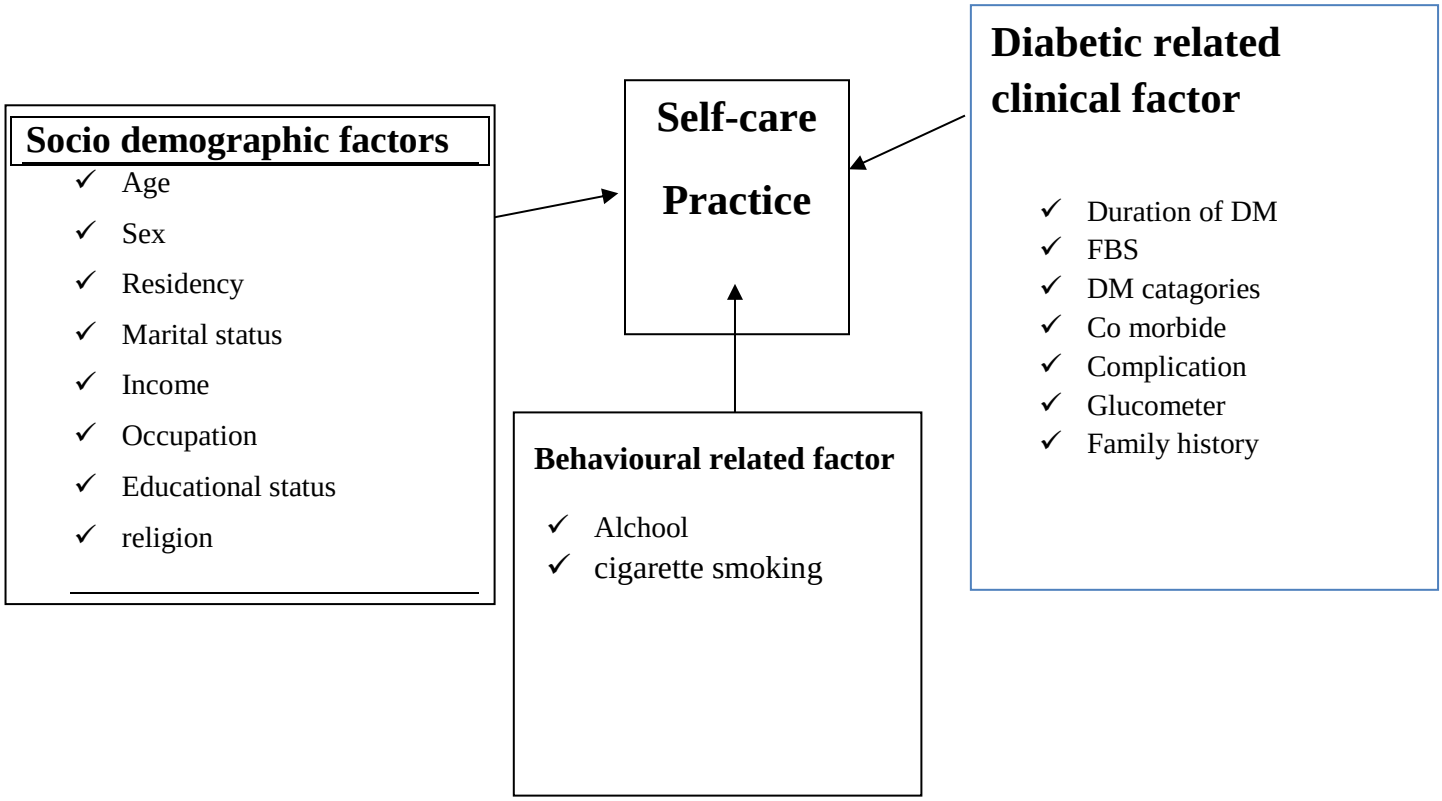


Figure 1: Conceptual framework for the self-care practice among patients with diabetes Mellitus in Wolkite Specialized Hospital, 2023

3. OBJECTIVES

3.1 General objective

To assess self-care practice and associated factors among diabetic patients in Wolkite University Specialized Hospital, Ethiopia, 2023

3.2 Specific objectives

- To determine the magnitude of self-care practice among diabetes mellitus patients in Wolkite University Specialized Hospital.
- Toidentify the factors related with self-care practices among diabetes mellitus patients in Wolkite University Specialized Hospital

4.METHODS AND MATERIALS

4.1 The study area and period

The study was conducted in Wolkite University Specialized Hospital may, 17-June,18, 2023. Wolkite is the largest town among Gurage townsThe town is located at a distance of 158 kms south west of Addis Ababa between 8 degree 16 minutes North latitude and 37 degree 45 minutes East 37 degree 48 minutes' longitude. Its proximity to Addis Ababa, Jimma and Woliso town is a good opportunity for future development.

Wolkite specialized hospital contains medical, surgical, pediatric, gynecological and obstetric also psycatric ward. The total number of the nurse were 119, total number of pharmacy were 43, total number of midwifer were 24, total number of doctor were 42 and total number of specialist were 19. The hospital gives many sevices including patient who have no money but containe book (matema) hospital provide free service for this kind of patient. The number of diabetic patients that follow up in WUKSH currently are 322.

4.2 Study Design

An institution based cross-sectional study was empoyed to conduct this study.

4.3 Populations

4.3.1 Source Population

All diabetic patients on follow up in DM clinic in Wolkite Specialized Hospital

Study Population

The selected patients who were on follow up in DM clinic during the study period Wolkite Specialized Hospital.

4.3 Sample size and sampling procedure

4.3.2 Sample size determination

The sample size was calculated in using a single population proportion formula using the following assumptions.

$$n=Z^2 p (1-p)/D^2$$

Where

Z a/2 (standard value for 95% confidence interval) =1.96

CI (confidence interval) = 95%

D (marginal error) = 0.05

P = 51.8 %(42)

3% = Non-response rate

Therefore, our sample size to be

N= (1.96) 2 (0.518) (1-0.518)/ $(0.05)^2$

N= 384

B y using correction formula the minimam sample size was

N/ (1+ n/N) size = n/ (1+ n/N)

Where n =initial sample size =384

N=estimated number of DM patiants has follow up at Wolkite University specialized hospita**l=322**

384/ (1+384/322)=175

The final sample size was 175.

4.3.3 Sampling procedure

Simple random sampling technique was conducted by using lottery methed we give for patient that follow up in WKUSH until the final sample size fulfilled.

4.4 Eligibility criteria

4.4.1 **Inclusioncriteria:** All diabetic patient followup on WKUSH

4.4.2 Ex**clusioncriteria:** those who are critically ill, known mental illness and patients who are unable to communicate.

4.4. Study variables

4.4.3 **Dependent variables:** self care practice include good and poor self care practice

4.4.4 **Independent variables:**

- **Socio demographic variables**: (Age, Sex, Residency, Marital status, Income, Occupation, Educational status, Religion)
- **Diabetic related clinical variables:** (Duration of DM, FBS, DM category, Co-morbidity, Complication Family history, type of DM, type of drug).
- **Behavourail related variable**:(Alcohol, Cigaret smoking)

Data collection tools and procedure

4.4.5 Data collection tools

Data was collected using relevant recorded medical information about the patients and interviw questionnaire was employed, it consists of three parts. Section one: contain socio-demographic variables. Section two: includes clinical characteristics. Section three: contain the summary of diabetes self-care activities (SDSCA) questionnaire, which was adopted from a validated SDSCA (43). The SDSCA tool is frequently used to measure the domains of diabetic self-care practices: general diet, exercise, medication, SMBG, foot care, other part contain behavoural related questionnaire include alcohol and cigarette smoking. The overall mean score was calculated by summation of the mean score of each domain divided by the sum of the number of questions under each scale.

4.4.6 Data collection procedure

After differentiating Diabetes Mellitus patients, data was collected from record review/patient identification cards and interview questionnaire of the study participants. Data was gathered by taking 3 nursing student. The questionnaire was prepared in English, translated to the Amharic language then back translation to English to ensure validity of translation.

4.5 Operational definitions and definition of terms

Self-care: The SDSCA diabetes self-care practice scale was used to measure participants' diabetic self-care practices, which included food, physical activity > 30 min/day, selfblood glucose testing, and foot care practices in the sevendays before the study (44).

Good self-care practice: These four domains were used to assess participants, and the frequency of each self-care practice was recorded. The above mean from the total self-care practice measurement items was considered a good self-care practice.(45).

Poor self-care practice: These four domains were used to assess participants, and the frequency of each self-care practice was recorded. The less than mean from the total self-care practice measurement items was considered a good self-care practice (43).

Physical activity: The minimum physical activity level will be determined as 30 minutes, moderate activity for at least 3 days per week (46).

Foot care: Good foot monitoring/ care should be on a daily basis, adherence to the proper care of the foot including nail and skin care and selection of appropriate foot wear at least 3 days a week (47).

Adherence with dietary regimen: adherence recorded when the patient strictly follows the prescribed dietary regimen and non-adherence when he/she did not follow the regimen at all or follow for less than 3 days per week.(47).

Adherence with anti-diabetic drugs: assessed by the extent of adherence of the diabetic patients to prescribed doses of medications. Adherence recorded when diabetic patient took all medication, done all self- management in accordance with prescription (47)

Adherence with self-management of blood glucose: the number of days the patient practiced the recommended self-management within the last week. Poor adherence 0-3 days and good adherence 4-7 days.

4.6 Data quality control

In order to ensure the quality of the data, a pre-tested data collection instrument was used and one-day training was given for data collectors. One week before the actual data collection time, the pretest was conducted Attat Hospital. During data collection Completeness and consistency were checked for each collacted data. The collected information was rechecked for its completeness and consistency by the supervisor and the principal investigator before transferring into computer software.

4.7 Data Processing and Analysis

The data was coded and entered to SPSS (Statistical Program for Social Sciences Version 23.0). Descriptive statistics such as frequency, percentage, standard deviation, and mean was computed. The relationship between self-care practices and explanatory variables seen using binary logistic regression. In binary logistic regression, the variables with P-value <0.25 was candidates for multivariable logistic regression. The strength of association was checked and variables with a P-value of <0.05 was used to declared as statistical significance.

4.8. Ethical consideration

The ethical clearance was obtained from College of Medicine and Health Science additional permission was obtained from the Wolkite University and Specialized Hospital administrative and department heads. Confidentiality was guaranteed by excluding names or any other personal identifiers from data gathering sheets and reports. The identifier for each eligible subject placed by a code, Participants of this study informed about the aim of the study, the benefit of the research, and their rights even to stop in the middle of the procedure.

4.9.Dissemination of finding

The repercussion of this study will be disseminated to Wolkite University, Wolkite Town and to surrounding the community. Above all, the result of this research will be also submitted to the department of Nursing, Wolkite University library through hard and soft copy. The finding of this study would be published in a scientific peer-reviewed journal.

5 RESULTS

5.1 Socio-demographic characteristics of respondents

Out of the total 175 sampled diabetic patients, 169 of them were enrolled in the study giving a response rate of 97 percent. The mean age of participants' was 52.24 (±11.0 SD) year and more than half 102 (60.4%) of them were femel,Majority of the respondents 74 (43.8) were below age 29. Of all participants 85 (50.9 %) were married, From respondents 55 (32.5%) were Muslim, Majority of the respondents 89 (51.7%) were merchant, Majority of respondents 77 (45.6%) were get >1500birr, majority of respondents 103(60.9%) were living in urban area, From respondent 40 (23.7) were illiterate (**Table 1).**

5.2 Clinical characteristics of respondents

About 86 (42.6%) of the patients were taking only OHA 56 (33.7%) were taking insulin .Maority of the respondents 105 (62.1%) had family history of diabetes. Majority of them 69 (40.8%) lived with disease for >10 year, Majority of respondent 147 (87%) had no glucometer at home, Majority of respondent 96 (56.8%) had type 1 DM, majority of the patients have 121 (71.6%) blood glucose level which is <140 mg /dl , Majority of respondent 101 (69.8%) had DM complication, Majority of respondent 95 (56.2%) were not come on appointment day and Majority of respondent 97 (57.4%) had no co morbid . (**Table 2)**

5.3 Behevioural characteristics of respondents

About 91(53.8%) of patient were not cigarette smoker and 78(46.2%) were cigarette smoker.

From respondent 108(63.8%) were not drink alchool and 61(36.%) were drink alcohol.(**Table 3)**

Variable	catagory	Freyquncey	percentage
Sex	Male	67	39.6
	Female	102	60.4
Age	<29	74	43.8
	30-39	39	23.1
	40-49	22	13
	50-59	20	11.8
	>/=60	14	3.8
Marital stutes	Single	85	50.3
	Married	76	45.3
	Divorced	2	1.2
Place of residence	Urban	103	60.9
	Rural	66	39.1
Level of education	Illiterate	40	23.7
	Grade 1-8	36	21.3
	Grade 9-12	38	22.5
	College and above	55	32.5
Religion	Protestant	30	17.8
	Orthodox	41	24.3
	Muslim	55	32.5
	Catholic	32	19.2
	Pagan	11	6.5
Monthly income	<500ETB	56	33.1
	500-1500ETB	36	21.3
	>/=1500	77	45.6
Occupation	Farmer	16	9.5
	civil servant	43	25.4
	marchent	89	51.7
	house wife	11	6.5
	no job	5	3

Table 2 diabetic related clinical factor among diabetic patient follow up on WKUSH (2023 G.C)

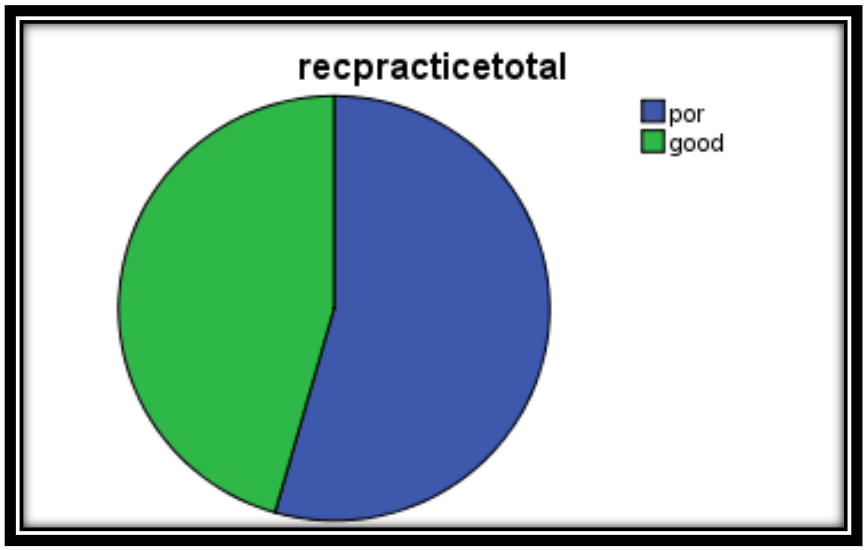
Variable	Category	Frequnce	Percentage
Duration of dm	<5years	56	33.1
	5-10 years	36	21.3
	>10	77	45.6
FBS	<140	121	71.6
	>140	48	29.4
Dm complication	No	68	40.2
	Yes	101	69.8
Type of drugs	OHA	86	50.9
	Insulin	56	33.7
	OHA + insulin	27	16
Type of DM	Type 1 DM	96	56.8
	Type 2 DM	73	43.2
Presence of comorbid	Yes	72	42.6
	No	97	57.4
Having own glocometre	Yes	22	13
	No	147	87
Family history of DM	Yes	105	62.1
	No	64	37.9
Coming on Appointement day	Yes	74	43.8
	No	95	56.2

Table 3 Behavoural chartersics among diabetic patient follow up WKUSH (2023G.C)

Variables	Category	Frequency	Percentage
Smoke cigarette	Yes	78	46.2
	No	91	53.8
Drink alcohol	Yes	61	36.1
	No	108	63.8

5.4 Magnitude of self-care practice

In this study from 169 patient 77(45.6) was good self care practice. from 169 patient: 30(17.7)were adhered to diatery practice ,36(21.3) were adhered to physical activities, 37(21.9) were adhered to blood sugar test , 32(18.9) were adhered to Foot care and 34(20.1)were adhered to medication.



The over all self care practice of respondent among diabetic patient follow up WKUSH (2023G.C)

5.4 Factors associated with diabetes self –care practice

In binary logistic regression: residence, level of education, DM complication, Duration of DM, sex, Smoking Cigarette, drink alcohol and own glucometery candidates using multivariable logestic regression variables like: DM Complication, residence and Duration of DM are statically significant predictors association with sef care practice.

Patients who live in urban areas were 4 times more likely to have good self care practice than patients who lives in rural area (AOR= 4.301:95% CI, (1.118-15.128) For respondents who did not develop complication were 2 times likely to have good self care practice than those who developed complication (AOR= 2.194; 95% CI 1.007-4.783). Patient who lived 5-10 Years with DM 75.7% less likely to have good self care practice than these who were live for >10 year (AOR=0.243;95% CI, 0.091-0.647).

Table 4 Factors assosated with self care practice among Diabetic patient follow up on WKUSH Ethiopia,(2023)

Variables	Self-care practice		COR(95% CI)	AOR(95%CI)	P-value
	Poor(%)	good(%)			
Residance					
urban	45(43.7%)	19(28.8%)	3.188(1.648-6.168)	4.230(1.183-15.128)	**0.027***
rural	47(71.1%)	58(56.3%)	1	1	
Level of eduction					
Illiterate	31(77.5%)	9(22.5%)	0.260(0.105-0.648)	0.493(0.170-1.429)	0.193
Grade 1-8	14(38.9%)	22(61.1%)	1.409(0.600-3.309)	2.902(1.013-8.312)	0.214
Grade 9-12	21(55.3%)	17(44.7%)	0.726(0.316-1.166)	0.866(0.342-2.192	0.762
Collage and above	26(47.3%)	29(52.7%)	1	1	
DM compication					
no	50(49.5%)	51(50.5%)	1.648(0.881-0.800)	2.194(1.007-4.783)	**0.048***
yes	42(61.8%)	26(38.2%)	1	1	
Duration of DM					
<5years	25(46.3%)	29(53.7%))	1.063(0.521-2.171)	0.778(0.297-2.037)	0.609
5-10years	34(73.9%)	12(26.1%)	0.324(0.144-0.270)	0.243(0.091-0.647)	**0.005***
>10years	33(47.8%)	36(52.2%)	1	1	
Sex					
Male	42(52.7%)	26(37%)	0.(0.305-1.074)	0.625(0.281-1.390)	0.250
Femel	42(62.7)	52(5.1%)	1	1	
Smoking cigarette					
No`	48(52.7%)	43(47.3%)	1.955(0.911-4.195)	1.345(0.634-2.854)	0.441

Yes	44(56.4%)	34(43.6%)	1	1	
Drink alchol no yes	 45(51.7) 47(7.3)	 42(48.3) 35(42.7)	 2.648(0.943-7.424) 1	 0.964(0.471-1.974)	 0.921
Own Glucometery No Yes	 84(57.1% 8(36.4%)	 63(42.9%) 14(63.6%)	 2.333(0.922-5.902) 1	 2.161(0.733-6.376)	 0.163

CHAPTER SIX: DISCUSSION

This study was conducted to assess the magnitude of self-care practice and its associated factor among diabetes mellitus patients on follow up at Wolkite University specialized hospital. The study showed that good self care practice was 45.6% (95% CI 40.68-51.13) This finding was similar with the results of the studies conducted in Gonder referral hospital which were 48.2.%(95%CI 43.32-54.02%) (30) . However, the finding of this study was lower than the study conducted in Addis Ababa were 60.2% (95%CI 54.10-67.4%) (21) . This discrepancy may be due to Socio- cultural variation, life–style, strip test, level of education and inadequate access to glucose monitor machine .

Additional this study was lower than a study conducted in medical collage and Hospital chennia India indicated the study population had self care practice was 52.4% (95% CI, 45.74-58.72) (26).this discrepance may be due to the difference in access to health care facilities and level of education of general public could be the reason for the difference.

In this study. Patients who live in urban areas 4 times more good self care practice than patient live in rural area.(AOR=4.230, 95% CI, 1.183-15.128). This also supported by study conducted SsSSdue to more opportunities for exposure to information about diabetes self-care through the mass media, books and internet in urban areas. And access to diet which are recommende and information about self-care would be deficalt in the rural area.

DM complication also predicter for self care practices. In our study patient who didn't develop DM complication have 2.1 times more good self care practice than patient who have DM complication(AOR=2.194 ,95% CI ,1.007-4.783). This study supported by A study conducted in Arsi no history of Diabetes complication were (AOR=3.87,95% CI 2.002-7.148) (39). and A study conducted in Gonder say that odd having good self care practice was 2.20 times higher (AOR=95% CI; 1.12-4.30) (30) .This is might be due to self-care practices are associated with good metabolic control and reduction of complication.

Duration of DM had statical significance association with self care practice. In our study patient who lives with DM for 5-10 have less likely to experience Good self care practice when compered with patient who lives for>10 year. (AOR=0.243 ,95% CI,0.091-0.647) This finding is supported by a study conducted in public hospitals of Arsi zone which revealed long duration of

dibetes (AOR=5.55 95% CI=2.229,1.344) were important predictor of good self care practice. (39). This might be due to regular interaction with health care profetional, who may have learned crucical knowledge to advanced self care practice.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

7.1 conclusion

The overall self-care practice was poor. Factors like; DM complication, Residance,and Duration of DM were associated with self-care practice. Therefore, measures should be put in place to prevent of complications and concerning bodies should support those patients lives in rural area, Develope Complicaion and Short duration of DM.

7.2. Recommendations

Therefore, in order to improve diabetes self-care practice; different stakeholders includingWKUSH should reinforce the diabetic patients on follow up to improve knowlage. By giving health education or awerence about disese process, complication, main symptom of deasese.

Healthcare professionals should use precise and clear ways to provide information for respondents and their families to emphasis on dietary management, physical activates, SMBG, Foot care and medication. Considering the patients Develop complication, place of residence and Duration of DM

Policy decisions for improving diabetes outcome should target barriers to health care access and focus on developing programs to encourage health promotion for patients who develop complication, live in rural area, who have short duration of DM . Non-governmental organizations also recommended putting their efforts by funding for the specific program.

Interventional studies are recommended to determine the outcome of the information provided on diabetes self-care practices of adults with diabetes.

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APPENDICES

Annex A: English version participant information sheet and consent form

Structured questionnaire for assessing self-care practice among diabetic patients at Welkite Specialized Hospital.

Greeting:

My name is _____ I am currently under graduate student in Welkite University, College of Health Science, Department of Nursing. Objective of the study is to assessself-care practice among diabetic patients at Welkite Specialized Hospital.

This could help to improve our community health based on your answers to our questions. You were asked to fill a questionnaire that could help in investigating the issues. And also we request your willingness. Your co-operation was very helpful. Your name would not be written on the questionnaire and all the information you provided wasbe kept strictly confidential.

You would not be facing no harm by participating and you were also not obliged to answer any question you didn't wish to answer. To fill the questionnaire 15-20 minutes was required.

Consent Form

Considering the information you got from the general information sheet, we would be Thankful if you spent some time with us solving questions related to the issues. Are you Comfortable to participate in this study?

1. If yes, continue to next page

2. If no, skip to other participant

Informed consent certified by

Questionnaire collector: Code_____ Name_____ Signature_____ Date_____

Checked by: Supervisor Signature_____

Questionnaire identification number_____

Address: city/Sub city _____ Woreda _____Medical Card Number_____

Annex B: English version Questionnaires

Part I: Socio demographic and health status data

R.N			
1	Sex of the respondent's	Male	1
		Female	2
2	Age (years)	----------	
3	What is your marital status?	Single	1
		Married	2
		Divorced	3
		Widowed	4
		Other specify ----------	5
4	Where is your place of residence?	Urban	1
		Rural	2
5	What is your last level of education?	Illiterate	0
		Grade 1-8	1
		Grade 9-12	2
		College and above	3
6	What is your current occupation?	Farmer	0
		Civil servant	1
		Merchant	2
		Housewife	3
		No job	4
		Other specify…….	5

7	What is your Ethnicity?	Qabena	0
		Enamore	1
		Chaha	2
		Oromo	3
		Amara	4
		Other Specify--------	5
8	How much income you earn monthly? (Ethiopian Birr)	----------	
9	Distance in Km from home to hospital	---------	
Diabetes related Clinical Factors			
10	Duration of diabetes	---------	
11	Is there anyone who is diagnosed for diabetes mellitus in your family?	Yes	0
		No	1
		I don't know	2
12	Fasting blood sugar value	Visit I ------	
		Visit II-------	
		Visit III-------	
13	What medication currently you have taking?	No Medication	0
		OHA*	1
		Insulin	2
		OHA + insulin	3
14	Diabetes complication	No complication	0
		1 complication	1

		2 complication	2
15	Types of diabetes Mellitus	Type I	0
		Type II	1
		Other specify--------	2
16	Presence of comorbidity	No	0
		Yes	1
17	Currently do you have your own glucometer at home?	Yes	0
		No	1
18	What was your age during diagnosis?	--------	
19	Do you come on day of appointment?	Yes	0
		No	1

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**
15	How many of the last SEVEN DAYS have you followed a healthful eating plan?								
16	On average over the past month, how many DAYS PER WEEK have you followed your eating plan?								
17	On how many of the last SEVEN DAYS did you eat five or more servings of fruits and vegetables?								
18	On how many of the last SEVEN DAYS did you eat high fat foods Such as red meat or full fat dairy products?								

19	On how many of the last SEVEN DAYS did you space carbohydrates evenly through the day?								
	Physical Activity								
20	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)								
21	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 p art of your work?								
	Blood sugar testing								
22	On how many of the last SEVEN DAYS did you test your blood sugar?								
23	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								
24	On how many of the last SEVEN DAYS did you check your feet?								
25	On how many of the last SEVEN DAYS did you inspect the inside of your shoes?								
26	On how many of the last SEVEN DAYS did you								

	wash your feet?								
27	On how many of the last SEVEN DAYS did you soak your feet?								
28	On how many of the last SEVEN DAYS did you dry between your toes after washing								
	Medication								
29	On how many of the last SEVEN DAYS did you take your recommended diabetes mellitus?								
30	On how many of the last SEVEN DAYS did you take your recommended insulin injections								
31	On how many of the last SEVEN DAYS did you take your recommended number of diabetes pills								
	Part IIISmoking and Alcohol								
32	Have you smoked a cigarette, even a puff in the past SEVEN DAYS?								
33	Have you drink alcohol in the last SEVEN DAYS								

Annex C: Self-Care Practice Amharic Version Questionnaire for Welkite Specialized Hospital

ሆስፒታልውስጥ የስኳር ቁጥጥር ራስ እንክብካቤ እናተያያዝልምምድንበተመለከተለመገምገምየተዘጋጀመጠይቅ

ተ.ቁ	ክፍል I: ማህበራዊና ስነሕዝብ አወቃቀር ባህሪዎች ተያያዥ መረጃዎች	የምላሽ ምደባ	መልሰ(ኮድ)
1	የመልስ ሰጪዎች ፆታ	ወንድ ሴት	1 2
2	እድሜ (በአመት)		
3	የጋብቻ ሁኔታዎ ምንድነው?	ያገቡ	1
		ያላገቡ	2
		አግብተውየፈቱ	3
		የትዳርአጋራቸውየሞተባቸው	4
4	የመኖሪያቦታዎየትነው? -	ከተማ ገጠር	1 2

5	የመጨረሻውየትምህርትደረጃዎምንድነው?	ማንበብና መፃፍ የማይችሉ ክፍል 1-8 9-12 ኛክፍል ኮሌጅ እና ከዚያበላይ	1 2 3 4 5
6	የአሁኑሥራዎምንድነው?	ገበሬ	1
		የመንግስት ሰራተኛ	2
		ነጋዴ	3
		የቤት እመቤት	4
		ስራ የለም	5
		ሌላ ይግለጹ	6
7	ሃይማኖትዎ ምንድን ነው?	ፕሮቴስታንት ኦርቶዶክስ ሙስሊም ሌላ ካለ ይግለጹ -------	1 2 3 4
8	በየወሩ ምን ያህል ገቢ ያገኛሉ? (በኢትዮጵያብር)		--------
9	ከቤትዎ እሰከ ሆሰፕታል ድረሰ የለው ርቀት በኪሜ		----------
	ከስኳር በሽታ ጋር የተዛመዱ ጥያቄዎች		
10	የስኳርበሽታቆይታ(በአመት)		----------
11	በቤተሰብዎውስጥየስኳርህመምተኛአለ?	አዎ የለም	1 2
12	ከጾምበኋላየደምስኳርመጠን; ሦስትጉብኝት		----------
13	በአሁኑ ጊዜ ምን ዓይነት መድሃኒት እየወሰዱ ነው?	መድሃኒት አልወስድም የሚዋጥ መድኃኒት	1 2

		ኢንሱሊን የሚዋጥመድኃኒትናኢንሱሊን	3 4
14	በህክምና የተረጋገጠ በስኳር ህመም ምክንያት የመጣ የተወሳሰበ ችግር (ስኳር ህመም ኮምፕልከሽን) አሌዎት?	1.የለም 2.አለ	1 2
15	የስኳር በሽታ ዓይነት	ዓይነት I ዓይነት II ሌላ ካለ ይግለጹ -------	1 2 3
16	ተጨማሪ በሽታ ሰለሞኖር	1የለም 2አለ	1 2
17.	በአሁን ጊዜ በቤትዎ የደም ግሉኮስ መጠን የሚለካ መሳሪያ አለዎት?	አዎ የለም	1 2
18.	ህመሙ ሲጀመር የነበርዎት እድሜ		-------
19.	የክትትል ቀጠሮን የከብራሉ	አዎ አላከብርም	1 2

ክፍልII፡ ስኳር ህመም የግል እንክብካቤ ተግባራት መጠይቅ

ከዚህ በታች የተዘረዘሩት ጥያቄዎች ባለፉት ሰባት ቀናት ውስጥ ስለ ስኳር ህመምዎ የግል እንክብካቤ ተግባራትን በተመለከተ ምን እንደሚመስል የሚጠይቁናቸው።ሆኖም ግን ባለፉት 7 ቀናት ውስጥ ታመው ከነበሩና እራስዎ በራስዎ መንከባከብ ካልቻሉ ተጨማሪ 7 ቀናት ወደ ኋላ በመሄድ ጤነኛ በነበሩበት ጊዜ ያደረጉት እንክብካቤ ሁኔታ መውሰድ ይችላሉ።

ተ.ቁ	**ጥያቄዎች**	**የቀናትብዛትአማራጭመልሶች**	**መልስ**

	ስኪር ህመም የግልእንክብካቤ ተግባራት መጠይቅ	0	1	2	3	4	5	6	7	
	አመጋገብንበተመለከተ									
20	ባለፉት 7 ቀናት ውስጥ ምን ያህልቀን/ናት ነው ጤነኛ አመጋገብ እቅድ የነበርዎት?									
21	በአማካኝ ባለፈው ወር ምን ያህል ቀን/ናት በሳምንት ውስጥ ይህን የአመጋገብ እቅድዎን ይከተላሉ?									
22	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት 5 እና ከዚያ በላይ ጊዜ አትክልትና ፍራፍሬ ይመገባሉ?									
23	ባለፉት 7 ቀናተ ውስጥ ምን ያህል ቀን/ናት ከፍተኛ የስብ መጠን ያለው ምግብ ይመገባሉ፣ /ምሳሌ ቀይ ሥጋ ወይም በስብ የተሞላየእንስሳት ተዋጾኦ?/ (ፆም ከመጀመሩ በፊት ያለው ጊዜ ይውሰዱ)									
24	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ቀናት ነው ሀይል ሰጪ ምግብ በአንድ ቀን ውስጥ በእኩል በማመጣጠን የወሰዱት?									
	የአካል እንቅስቃሴ ማድረግ በተመለከተ									
25	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ለ30 ደቂቃ ያክልየአካል እንቅስቃሴ ተሳትፈዋል? (ሁለም እንቅስቃሴ፣ ወክን ጨምሮ፣ጠቅላላ ደቂቃ)?									
26	ባለፉት 7 ቀናት ውስጥ ምን ያህልቀን/ናት በተወሰኑ የአካልእንቅስቃሴ ተሳትፈዋል? ይህም ቤት ውስጥና ስራ ቦታ ከሚያረጉት እንቅስቃሴ ውጭ									

	በደም የስኳር መጠን ምርመራን ማድረግ በተመለከተ									
27	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት የስኳር መጠን መርመራ አካሂደዋል (ቤትም ከቤት ውጭም)?									
28	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት የጤና ባለሙያዎ /ሀኪሞ በነገርዎት ብዛት ልክ የስኳር መጠን ምርመራ አካሂደዋል?									
	እግርና የእግር ጣቶች እንክብካቤን በተመለከተ									
29	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት እግሮችዎና የእግሮችዎ ጣቶች መሀልፍተሻ አድርገዋል?									
30	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት የጫማዎ የውስጥ ክፍልንምልከታ /ፍተሻ አድርገዋል?/									
31	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ ናት ነው እግርዎን የታጠቡት?									
32	ባለፉት 7 ቀናት ውስጥ ምን ያህልቀን/ናት ነው እግሮችዎን የዘፈዘፉት?									
33	ባለፉት 7 ቀናት ውስጥ ምን ያህል ቀን/ናት ነው ከታጠቡ በኋላእግሮችዎን የእግሮችዎን ጣቶች መሃል በለስላሳ ፎጣ እንዲደርቅ የሚያደርጉት?									
	መድኃኒትን በተመለከተ									
34	ባለፉት 7 ቀናት ውስጥ ምን ያህልቀን/ናት ነው የታዘዘሎትን									

	ክኒን በትክክል (መጠን፣ጊዜ፣ሰአት) የወሰዱት?									
35	ባለፉት 7 ቀናት ውስጥ ምን ያህልቀን/ናት ነው የታዘዘሎትን መርፌ በትክክል (መጠን፣ጊዜ፣ሰአት) የወሰዱት?									
	ክፍል III፡አልኮልናሲጋራማጨስን በተመለከተ									
36	ባለፉት 7 ቀናት ውስጥ ሲጋራ አጭሰዋል? ለአንድ ጊዜም ቢሆን?									
37	ባለፉት 7 ቀናት ውስጥ አልኮል ጠጥተዋል?									