

**ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
DEPARTMENT OF NURSING**

**SELF-EFFICACY, DIABETES DISTRESS AND ASSOCIATED
FACTORS AMONG DIABETIC PATIENTS IN SELECTED
TERTIARY HOSPITALS IN EASTERN OROMIA REGIONAL
STATE, ETHIOPIA.**

PREPARED BY:-

LIDIYA TEKLE (BSc IN NURSING)

**A THESIS SUBMITTED TO DEPARTMENT OF NURSING,
SCHOOL OF NURSING AND MIDWIFERY, COLLEGE OF
HEALTH SCIENCES, ADDIS ABABA UNIVERSITY FOR THE
PARTIAL FULFILLMENT OF MASTER OF SCIENCE IN
ADULT HEALTH NURSING.**

JUNE, 2025

ADDIS ABABA, ETHIOPIA.

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APPROVAL BY THE BOARD OF EXAMINATION

This thesis by Lidiya Tekle (BSc Nurse) is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of masters in Adult Health Nursing.

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ABBREVIATIONS AND ACRONYMS

AOR	Adjusted Odds Ratio
BMI	Body Mass Index
CI	Confidence Interval
COR	Crude Odds Ratio
DD	Diabetes Distress
DDS-17	17-item Diabetes Distress Scale
DM	Diabetes Mellitus
PAID-5	Problem Areas In Diabetes
PDSMS	Perceived Diabetes Self-Management Scale
SPSS	Statistical Package for the Social Sciences
T1DM	Type 1 Diabetes Mellitus
T2DM	Type 2 Diabetes Mellitus

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ABSTRACT

Background: Diabetes distress (DD) is a feeling developed due to living with diabetes mellitus (DM), impact of persistent self-care activities, and complications of the disease, which can lower self-efficacy and negatively impacting diabetic patients' health. This study assessed self-efficacy, DD and associated factors in diabetic patients.

Methods: A cross-sectional study was carried out on a total of 371 diabetic patients at Asella Referral and Teaching Hospital, and Adama Hospital Medical College between February 10 and March 07/2025. A systematic sampling technique was used to select the study participants. EpiData 4.2.00 was used for data entry and Statistical Package for the Social Sciences (SPSS) 26.0 was used to perform statistical analysis. Factors associated with self-efficacy and DD were determined by bivariable and multivariable logistic regression analyses.

Result: This study included 371 diabetic patients with a mean age of 43.81 years (SD = 13.76). Among them, 211(56.9%) were females, and 243(65.5%) were urban residents. The level of good self-efficacy was 56.9% [n = 211, 95% CI: 51.06, 61.12]. The prevalence of DD was 72.8% [n = 270, 95% CI: 67.42, 76.51]. Urban residents (AOR = 3.35, 95% CI: 1.42, 7.92), married (AOR = 4.79, 95% CI: 1.82, 12.63), divorced (AOR = 4.70, 95% CI: 1.23, 18.03), healthy weight (AOR = 3.84, 95% CI: 1.73, 8.56), good self-care behavior (AOR = 9.24, 95% CI: 4.62, 18.48) and no DD (AOR = 6.81, 95% CI: 3.07, 15.11) were significantly associated with good self-efficacy. Rural residents (AOR = 4.88, 95% CI: 1.93, 12.29), diabetic complications (AOR = 3.13, 95% CI: 1.35, 7.28) and poor glycemic control (AOR = 7.02, 95% CI: 3.73, 13.22) were significantly associated with DD.

Conclusion and recommendation: Nearly half of the participants had good self-efficacy, while almost three-quarters of them had DD. Urban residents, married, divorced, healthy weight, good self-care behavior and no DD were significantly associated with good self-efficacy. Rural residents, diabetic complications and poor glycemic control were significantly associated with DD. Education on diabetes, its complications, and management needs to be provided to reduce DD and promote individual self-efficacy.

Keywords: Self-efficacy, diabetes distress, diabetes mellitus, associated factors, Ethiopia.

1 - INTRODUCTION

1.1 Background

DM is a disease which occurs due to the pancreas being unable to produce adequate amount of insulin or the body's inability to use the produced insulin effectively (1). Metabolic risks high body mass index (BMI) and behavioral factors (smoking, low physical activity, and inappropriate diet) are significantly contributing factors to the disease burden (2). Individuals with Type 1 Diabetes Mellitus (T1DM) or Type 2 Diabetes Mellitus (T2DM) need consistent engagement in various self-care activities such as, sustaining a healthy diet, taking their medication, and following their blood glucose levels consistently. The persistent need for self-care, along with the fear of potential complications, can be quite challenging for these individuals (3).

DD introduction into the research of psychology was in 1995 and is defined as patients unfavorable emotional experiences that arise from dealing with the daily demands of DM, which are challenging (4). The emotional impact of living with DM involves feelings of guilt, anxiety, and self-doubt in managing the condition. DD includes six domains: social relationships, treatment regimen, complications, hypoglycemia, diet and interactions with health care providers (4,5).

DD is defined as a feeling developed due to living with DM, the daily impact of persistent self-care activities, and the long-term complication of the disease. The signs of DD include unstable blood glucose levels, not attending clinic appointments, being aggressive or passive during appointments, decreased self-care, and poor coping strategies (6). The factors that influence DD development include fear about hypoglycemia, chronic complications, burdens of daily self-care and concern about glycemic control (7).

DD is known to have a negative effect on a patient's life. Therefore, interventions focused on DD are important to enhance the quality of life and clinical status of these individuals (8). DM management should consider psychosocial care as it helps to enhance the quality of life and the health outcome of the patients. Thus, DD assessment being one part of the care must be given attention by the health care provider (9). Self-care behavior is important to reduce DM mortality and morbidity (10). Self-efficacy, and education on self-management have an impact on diabetic

patients to increase their self-management activities (11,12). Maintaining psychological well-being and effective behavior management are crucial approaches to achieve diabetic patients treatment goals (13).

The self-efficacy theory was first explained by Albert Bandura. Self-efficacy is subjective perception of an individual's capability in performing a given task and achieving the desired outcomes (14). Self-efficacy can affect a person's effort towards changing a risk behavior and being able to remain persistent despite setbacks and barriers that may reduce motivation (15). It has importance in 4 areas: these are psychological well-being, adopting a healthy behavior, self-regulation, and psychotherapy (16).

Self-efficacy is important to diabetic patients. For instance, it improves self-care behavior (17–20), diabetes self-management activities (21–25), medication adherence (26), glycemic control (22,24,27), a person's probability to control DM (28), general well-being (27,29), health outcome (30), quality of life (31–33), and decreases the burden of DM (18). Furthermore, it mediates the relation between psychological outcomes and social support (34). Therefore, self-efficacy focused education is important for individuals with diabetes (35).

1.2 Statement of problem

Globally, the mortality rate of DM has increased by more than 50% in a 20-year duration (36). Approximately, 1.5 million deaths are due to DM each year (37). In Europe, 1.1 million people died due to DM in 2021 (38). The mortality rate of DM in Africa in 2022 was 58% (39). In Ethiopia, 26,488.3 deaths due to DM were recorded in 2021 according International Diabetic Federation report (40,41). DM complications include retinopathy, foot ulcers, stroke, heart problems, nephropathy, neuropathy and sexual problems (42).

Globally, about 22% or 1 in 4 of adult diabetic patients experienced DD, which is likely to affect their clinical outcome (43). DD can significantly affect the individual's way of managing the disease, feedback to diabetic interventions, and quality of life (44). In 2024, within any given 18-month timeframe, between one-third and half of individuals with DM have experienced DD (45). T2DM patients, one in five, and one in four T1DM patients are expected to have increased DD level (46). Individuals with T2DM who experience higher levels of emotional distress have a higher likelihood of dying from any cause in the future (47).

DD affects diabetic individuals by negatively influencing compliance to glucose-lowering medications (48), glycemic control (49,50), self-reported adherence to treatment (51), and blood glucose level (52). Furthermore, it has increased the risks of heart disease (53), the probabilities of diabetic neuropathy (49), decreased self-care (54–56) and decreased quality of life (57,58). DD is negatively associated with self-efficacy (59–63), which affects the health of diabetic patients. The study done in Ghana found T2DM individuals experiencing high levels of distress had a less probability for medication compliance than patients with no DD (64). High distress can increase the risk of mortality in diabetic individuals (65).

Self-efficacy can influence an individual's behavior and their capability towards a certain task. An individual with poor self-efficacy has a lower probability of putting in an effort to change a fixed behavior (66). An individual with poor self-efficacy can develop a sense of helplessness and negative thoughts about one's own capability in handling a situation at hand (67). Individuals with poor self-efficacy are at increased risk of having higher hemoglobin A1c level (68), poor glycemic control (69,70) and poor illness perception (71).

Overall, there are limitations of studies that have assessed self-efficacy, DD and associated factors in diabetic individuals. The study that was done in Ethiopia didn't examine self-efficacy

towards diabetes self-management and associated factors, it examined self-efficacy towards glycemic control. Factors associated with DD among diabetic patients were not assessed in the previous studies. Thus, this study assessed self-efficacy, DD and associated factors in diabetic individuals.

1.3 Significance of the study.

The finding may provide a valuable insight for health care providers to consider DD and self-efficacy when providing care to a patient. It could also guide hospitals in developing training programs aimed at the prevention, screening, and counselling of DD. It may be used as a reference for researchers to do further research.

2 - LITERATURE REVIEW

This chapter includes studies that have assessed self-efficacy, factors associated with self-efficacy, prevalence of DD, and factors associated with DD. It also covers the tools used, sampling methods, and outcome variable measurements employed in various articles that have assessed the same topic.

2.1 Level of self-efficacy

A study done in Saudi Arabia, in 2024 among 342 diabetic individuals, the level of good self-efficacy was 47.0%. The authors utilized the Self-Efficacy for Managing Chronic Disease 6-Item Scale questionnaire to measure self-efficacy and they classified the participants as those with self-efficacy(good) ($\geq$ mean score) and those without self-efficacy(poor) ($<$ mean score). However, convenience and snowball sampling methods were used to select the participants (28). A study done in Yazd, Iran, in 2015 in 600 diabetic individuals revealed the level of good self-efficacy towards glycemic control was 52.4% (72).

A study carried out in Western Ethiopia, in 2020 among 398 diabetic individuals, the level of good self-efficacy towards glycemic control was 52.5%. The systematic random sampling technique was used to select the participants. Self-efficacy was measured by a standardized tool called Perceived Diabetes Self-Management Scale (PDSMS) (73).

2.2 Factors associated with self-efficacy

A study done in Macon, Georgia, in 2024 among 148 diabetic patients shows that DD was significantly associated with self-efficacy. The authors measured self-efficacy using a standardized tool, “PDSMS” and 17-item Diabetes Distress Scale (DDS-17) to measure DD (74). A study carried out in Ethiopia, in 2020 among 398 diabetic patients, being married and having good self-care behavior were significantly associated with good self-efficacy. The systematic random sampling technique was used to select the participants. Self-efficacy was measured by a standardized tool called “PDSMS” (73).

2.3 Prevalence of DD

A study carried out in Germany, in 2023 in 1367 diabetic patients, the prevalence of DD was 15.1%. The authors used standardized computer assisted telephone interviews to collect data.

However, the authors measured DD by using the Problem Areas in Diabetes (PAID-5) scale (75). A study done in Macon, Georgia, in 2024 among 148 diabetic patients shows that the prevalence of DD was 41.2%. The authors used standardized tool “DDS-17” to measure DD. However, the authors utilized a convenience sampling technique to select the study participants (74).

A study carried out in Tehran, Iran, in 2021 among 820 diabetic patients, the prevalence of DD was 68.5%. The authors used standardized tool “DDS-17” to measure DD. However the authors used convenience sampling method (76). A study done in Vietnam, in 2020 in 112 diabetic patients revealed that the prevalence of DD was 12.5%. The authors have used standardized tool “DDS-17” to measure DD. However, the authors have used convince sampling method to select the study participants (77).

A study conducted in Parganas, West Bengal, in 2024 among 142 diabetic patients, the prevalence of DD was 36.6%. The study participants were selected using simple random sampling technique. The authors utilized a multistage sampling method. However, the authors used the PAID-5questionnaire to measure DD (78). A study carried out in Riyadh, in 2022 in 157 diabetic patients revealed that the prevalence of DD was 38.2. The authors measured DD by using standardized tool “DDS-17”and they used cutoff points of mean score <2 , between 2–2.9, and ≥ 3 to label as low, moderate, and high distress respectively. However, the authors used purposive sampling (79).

According to study carried out in southeast Nigeria, in 2020 in 110 diabetic patients, the prevalence of DD was 51.9%. The authors used a standardized tool “DDS-17” to measure DD (80). A study carried out in referral hospitals of Amhara national regional state, Ethiopia, in 2019 among 346 diabetic patients, the prevalence of DD was 84.4%. The authors used the lottery method to select the referral hospitals. The authors have used a standardized tool “DDS-17”to measure DD (81). A study conducted in hospitals of Amhara national regional state, Ethiopia, in 2021 among 500 diabetic patients shows that the prevalence of DD was 87.6%. The authors have utilized stratified simple random sampling methods. The authors have used a standardized tool “DDS-17” to measure DD (82).

2.4 Factors associated with DD

A study conducted in Germany, in 2023 in 1367 diabetic patients, younger age (<50), insulin use for treatment, and diabetic complications were significantly associated with DD. The authors

used a standardized computer assisted telephone interviews to collect data. However, the authors didn't assess the association of hemoglobinA1c and residence with DD (75).

A study conducted in Tehran, Iran, in 2021 among 820 diabetic patients, poor glycemic control, treatment by insulin and diabetic complications were significantly associated with DD. The authors used standardized tool "DDS-17" to measure DD. However the authors used convenience sampling method (76). A study done in Vietnam, in 2020 in 112 diabetic patients revealed that age (≤ 60) and hemoglobin A1c ($\geq 7\%$) were significantly associated with DD. The authors have used a standardized tool "DDS-17" to measure DD. However, the authors have used convince sampling method to select the study participants (77).

According to a study done in Parganas, West Bengal, in 2024 among 142 diabetic patients, age < 50 years old and being female were significantly associated with DD. The authors utilized a multistage sampling method. However, the authors used the PAID-5 questionnaire to measure DD and they also didn't assess the association of hemoglobin A1c level with DD (78). According to a study carried out in southeast Nigeria, in 2020 in 110 diabetic patients, younger age, hemoglobin A1C level, use of insulin injection and duration since being diagnosed (longer duration) with DM were significantly associated with DD. The authors used a standardized tool "DDS-17" to measure DD (80).

In summary, from the studies that have assessed the level of good self-efficacy, the highest was reported from the study done in western Ethiopia, that is 52.5% and variables such as being married, DD and self-care behavior were significantly associated with self-efficacy. The highest prevalence of DD was 87.6% in the study conducted in Ethiopia and variables such as age, gender, duration since diagnosed with DM, diabetic complications, treatment by insulin and hemoglobin A1c level were significantly associated with DD.

2.5 Conceptual framework

The figure below was developed after revising the articles showing factors associated with self-efficacy and DD (28,72,73,75,77–83). There were different studies that have examined the association of sociodemographic factors, clinical related factors and self-care behavior with the outcome variables. Variables such as marital status, DD and self-care behavior were significantly associated with self-efficacy. Whereas variables such as treatment by insulin, gender, duration since diagnosed with DM, age, presence of diabetes complications and hemoglobin A1c level were significantly associated with DD.

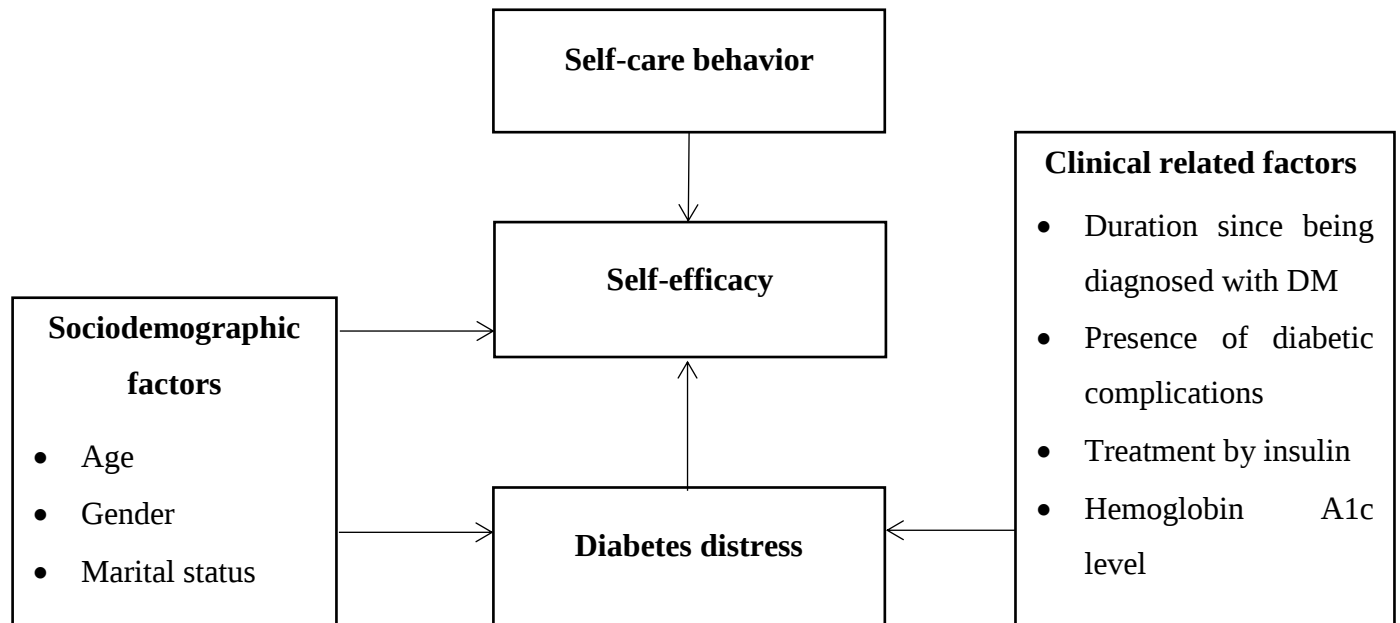


Figure 1: conceptual framework indicating factors associated with self-efficacy and DD in diabetic individuals, 2025.

3 - OBJECTIVES

3.1 General objective

To assess the level of self-efficacy, DD and associated factors among diabetic patients attending a diabetic follow-up clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025.

3.2 Specific objectives

1. To determine the level of self-efficacy among diabetic patients attending a diabetic follow-up clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025.
2. To assess the prevalence of DD among diabetic patients attending a diabetic follow-up clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025.
3. To identify factors associated with self-efficacy among diabetic patients attending a diabetic follow-up clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025.
4. To identify factors associated with DD among diabetic patients attending a diabetic follow-up clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025.

4 - METHODS

4.1 Study area

The study was done at Asella Referral and Teaching Hospital, and Adama Hospital Medical College. Asella town is found in Arsi zone and has a longitude and latitude of 7°57 'N 39 °7'E, with 2430 meter elevation (84). Asella Referral and Teaching Hospital is a tertiary hospital and delivers services for more than 3.5 million people. The hospital includes departments such as Internal Medicine, Emergency Room, Gynecology, Pediatrics, Ophthalmology, Intensive Care Unit, Fistula and Obstetrics Unit Surgery (85).

Adama town is situated in the East Shewa Zone (86). Adama Hospital Medical College has various specialty clinics and provides service to an average of one thousand patients per day. The hospital has 232 beds and six medical case teams (Out Patient Departments) (87).

4.2 Study period

The study was done between February 10 and March 07/2025.

4.3 Study Design

An institution based cross-sectional study was conducted.

4.4 Population

4.4.1 Source Population

All diabetic individuals on a diabetic follow-up clinic at Asella Referral and Teaching Hospital, and Adama Hospital Medical College.

4.4.2 Study Population

All diabetic individuals on a diabetic follow-up clinic at Asella Referral and Teaching Hospital, and Adama Hospital Medical College and fulfilled the inclusion criteria.

4.5 Eligibility Criteria

4.5.1 Inclusion Criteria

Diabetic patients aged 18 to under 79 years old (82).

4.5.2 Exclusion Criteria

Diabetic individuals who were unable to be interviewed due to their illness, as well as those unwilling to be interviewed.

4.6 Sample size determination

Sample size for specific objectives 1 and 2;

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

Where:

$Z\alpha/2 = 1.96$ (Z = score corresponds to 95% confidence level)

P = prevalence

d = margin of error (0.05)

N = total population (2950)

n = required sample size

Specific objective 1: using the level of self-efficacy among DM individuals:

Good self-efficacy score was 52.5% from the study done in western Ethiopia (73).

$$n = \frac{(Z\alpha/2)^2 P(1-P)}{d^2} = \frac{(1.96)^2 * 0.525(1-0.525)}{0.05^2} = 383.20$$

Since the study population is < 10,000

$$nf = \frac{n}{1+n/N} = \frac{383.20}{1+383.20/2950} \times 10\% \text{ for non-response rate, the final sample size was } 374.$$

Specific objective 2: Using DD prevalence in DM individuals:

DD prevalence was 87.6% in the study carried out in Ethiopia (82).

$$n = \frac{(Z\alpha/2)^2 P(1-P)}{d^2} = \frac{(1.96)^2 * 0.876(1-0.876)}{0.05^2} = 166.92$$

Since the study population is < 10,000

$$nf = \frac{166.92}{1+166.92/2950} \times 10\% \text{ for non-response rate, the final sample size was } 174.$$

Epi Info 7.2.6.0 was used to calculate sample size for specific objectives 3 and 4 using double population formula with assumption of 80% for power and 1:1 ratio for (exposed to non-exposed ratio).

Specific objective 3 and 4: using the associated factors

To calculate the sample size, variables such as age (<50), and gender (female) (78) were used. The final sample sizes were **107** for age and **234** for gender.

After comparing all, the final sample size was **374**. During this, the principle of proportional allocation was applied for both selected hospitals. The sample size was **228** for Asella Referral and Teaching Hospital (N = 1800) and **146** for Adama Hospital Medical College (N = 1150).

The study participants were selected using systematic sampling technique, K interval was 7 for both study settings.

$$K = \frac{N}{n} = \frac{1800}{228} = 7$$

$$K = \frac{N}{n} = \frac{1150}{146} = 7$$

4.7 Sampling technique and procedure

Tertiary hospitals, including Asella Referral and Teaching Hospital, and Adama Hospital Medical College were chosen using a purposive sampling method. The list of participants was obtained from the diabetic follow-up clinics of both hospitals. A sampling frame was created using the registration book of the participants. Study participants were selected by systematic sampling technique. Primarily, the first individual was selected by lottery method by picking “one” out of the “seven” pieces of paper where “number two” was selected. Following this, every seventh participants were selected from the sampling frame.

4.8 Study variables

4.8.1 Dependent Variables

- Self-efficacy

- DD

4.8.2 Independent Variables

Sociodemographic variables:- age, gender, marital status, occupation, ethnicity, religion, educational level, income and residency.

Clinical related variables:- duration since being diagnosed with DM, family history of DM, treatment mode, BMI, presence of diabetes complications, presence of another comorbidity, type of diagnosed DM and hemoglobin A1c.

Self-care behavior

4.9 Operational definitions

DD was classified as Yes and No:

DD: participants with a mean of ≥ 2.0 on DDS-17 scale (88).

No DD: participants with a mean of < 2.0 on DDS-17 scale (88).

Self-efficacy was classified as follows:

Good self-efficacy: the participants who answered mean and above (89).

Poor self-efficacy: the participants who answered below the mean score (89).

Self-care behavior was categorized as follows:

Good self-care behavior: participants who scored $\geq$ mean score (90).

Poor self-care behavior: participants who scored $<$ mean score (90).

Glycemic control was categorized as:

Good glycemic control: hemoglobin A1C $< 7\%$ (91).

Poor glycemic control: hemoglobin A1C $\geq 7.0\%$ (91).

BMI was classified as:

Under weight: BMI < 18.5 kg/m².

Healthy weight: BMI 18.5-24.9 kg/m².

Overweight: BMI 25–29.9 kg/m².

Obesity: ≥ 30 kg/m²) (92).

Age was categorized as:

18-40, 41-60 and 61-74 (82).

Duration of diabetes mellitus since diagnosis was categorized as:

≥ 10 , < 10 (93).

4.10 Data collection Tools

The data was obtained through face-to-face interviews and medical records review using structured and validated standard questionnaires. The tool contains of five parts: sociodemographic characteristics of individuals, clinical-related factors, DD, self-efficacy and self-care behavior.

DD was measured by the standardized tool “DDS-17” with Cronbach’s alpha of 0.989, which has been used in various Ethiopian studies (81,82). The DDS-17 includes four domains: emotional burden, physical related distress, regimen related distress, and interpersonal related distress. Each question has six answer choices: (1 = not a problem, 2 = a slight problem, 3 = a moderate problem, 4 = somewhat serious problem, 5 = a serious problem and 6 = a very serious problem) (94).

Self-efficacy was measured by the standardized and validated tool “PDSMS” with Cronbach’s alpha of 0.962, which includes eight items with five answer choices (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree and 5 = strongly agree). “PDSMS” was originally developed by Wallston (89) and it was used in the Ethiopian study (73).

Self-care behavior was measured by the revised “Summary of Diabetes Self-Care Activities” standardized tool with Cronbach’s alpha of 0.920 (95). The tool measures how many of the last seven days did the study participants perform self-care activities. It assesses diet, exercise, blood sugar testing, foot care and smoking.

4.11 Data quality control

Two Bachelor of Science degree nurses worked as data collectors, and one nurses with a Master of Science degree worked as supervisor. The data was collected using both Amharic and Afaan Oromo language questionnaires. For data quality the tool was translated from English to both

Amharic and Afaan Oromo through experts to enhance the understandability of the tools. Data quality was also assured by performing a pretest at Bekoji Hospital on 19 participants. Additionally, it was ensured by providing a half-day training for the supervisor and data collectors about the study instrument, proper data collection techniques and procedures by the principal investigator. Close supervision was conducted by overseeing how data collectors conduct patient interviews.

4.12 Data processing and analysis

Epi-Data 4.2.0.0 was used for data entry and SPSS 26 was used for data analysis after data was exported. The outcome variables were dichotomized and coded as self-efficacy (0 = poor and 1 = good) and DD (0 = no DD and 1 = yes). Variance Inflation Factor had a mean of 1.33 for self-efficacy and 1.28 for DD, which indicates that there was no multicollinearity. Descriptive statistics such as frequency and percentage were carried out for categorical variables, while mean and standard deviation were conducted for continuous variables. The results were presented using tables, figures and text. Both multivariable and bivariable logistic regression analyses were performed to identify association. To show the strength of association both Adjusted Odds Ratio (AOR) and Crude Odds Ratio (COR) with the corresponding 95% Confidence Interval (CI) were calculated. Hosmer-Lemeshow's goodness-of-fit test shows a p-value of 0.718 for self-efficacy and 0.807 for DD, which indicates the model was fit. Finally, variables with p-values <0.05 were statistically significant.

4.13 Ethical considerations

Ethical clearance was obtained from Addis Ababa University Institutional Review Board after this study was approved by the School of Nursing and Midwifery, College of Health Sciences. Following this, an authorized letter was submitted to Asella Referral and Teaching Hospital, and Adama Hospital Medical College to secure permission from these institutions. Before the interview, participants had received a written information sheet, assuring them of the confidentiality of the information collected.

4.14 Dissemination of the results

The study results will be submitted to the Department of Nursing, School of Nursing and Midwifery, College of Health Sciences, Addis Ababa University. Afterwards, a copy of the

findings will be disseminated to Asella Referral and Teaching Hospital, and Adama Hospital Medical College. Furthermore, the results will be presented at various scientific conferences and published in reputable journal.

5 - RESULTS

5.1 Sociodemographic characteristics of participants

371 diabetic individuals with 99.2% response rate had participated. The mean age of the individuals was 43.81 (SD =13.76, minimum = 21 and maximum = 74). 171(46.1%) were aged between 18 and 40 years old. Majority 211(56.9%) were female participants and majority 243(65.5%) were urban residents (**Table 1**).

Table 1: Sociodemographic characteristics of diabetic individuals attending a diabetic clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025 (n = 371).

Variables	Category	Frequency	Percent
Age	18-40	171	46.1
	41-60	144	38.8
	61-74	56	15.1
Gender	Male	160	43.1
	Female	211	56.9
Residence	Urban	243	65.5
	Rural	128	34.5
Marital status	Single	84	22.6
	Married	186	50.1
	Widowed	64	17.3
	Divorced	37	10
Ethnicity	Amhara	123	33.2
	Oromo	150	40.4
	Tigray	98	26.4
Educational status	No formal education	35	9.4
	Primary school	134	36.1
	Secondary school	24	6.5
	Diploma and above	178	48
Occupation	Daily labor	50	13.5
	Merchant	145	39.1
	Farmer	65	17.5
	Governmental employ	111	29.9
Religion	Orthodox	139	37.5
	Muslim	131	35.3
	Protestant	101	27.2
Average monthly income	≥3000	342	92.2
	<3000	29	7.8

5.2 Clinical related factors of participants

According to this study, 165(44.5) use insulin for treatment. 187(50.4%) had healthy weight and 268(72.2%) did not have diabetic complication. More than half of the participants 242(65.2%) were diagnosed with T2DM (**Table 2**).

Table 2: Clinical related factors of diabetic individuals attending a diabetic clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025 (n = 371).

Variables	Category	Frequency	Percent
Duration of diabetes mellitus since diagnosis	≥10	245	66
	<10	126	34
Family history of diabetes mellitus	Yes	151	40.7
	No	220	59.3
Mode of treatment	Oral anti diabetic medication	117	31.5
	Insulin	165	44.5
	Oral and insulin	89	24
BMI	Under weight	17	4.6
	Healthy weight	187	50.4
	Over weight	58	15.6
	Obesity	109	29.4
Diabetic complications	Yes	103	27.8
	No	268	72.2
Presence of comorbidity	Yes	182	49.1
	No	189	50.9
Hemoglobin A1c level	Poor	205	55.3
	Good	166	44.7
Type of diabetes mellitus	T1DM	129	34.8
	T2DM	242	65.2
Smoking	Yes	164	44.2
	No	207	55.8

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5.3 Self-care behavior of participants

The levels of self-care behavior according to this study were; good self-care behavior 202(54.4%) and poor self-care behavior 169(45.6%).

5.4 Level of self-efficacy of participants

The level of good self-efficacy was 56.9% [n = 211, 95% CI: 51.06, 61.12] (**Figure 2**).

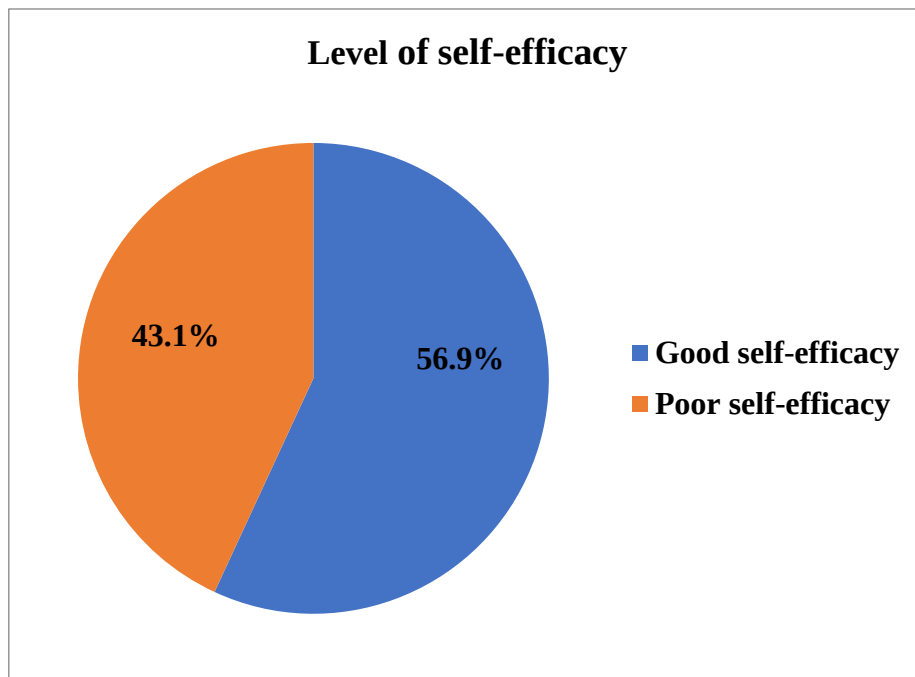


Figure 2: Level of self-efficacy in diabetic individuals attending a diabetic clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025 (n = 371).

5.5 Prevalence of Diabetes distress of participants

Prevalence of DD was 72.8% [n = 270, 95% CI: 67.42, 76.51] (**Figure 3**).

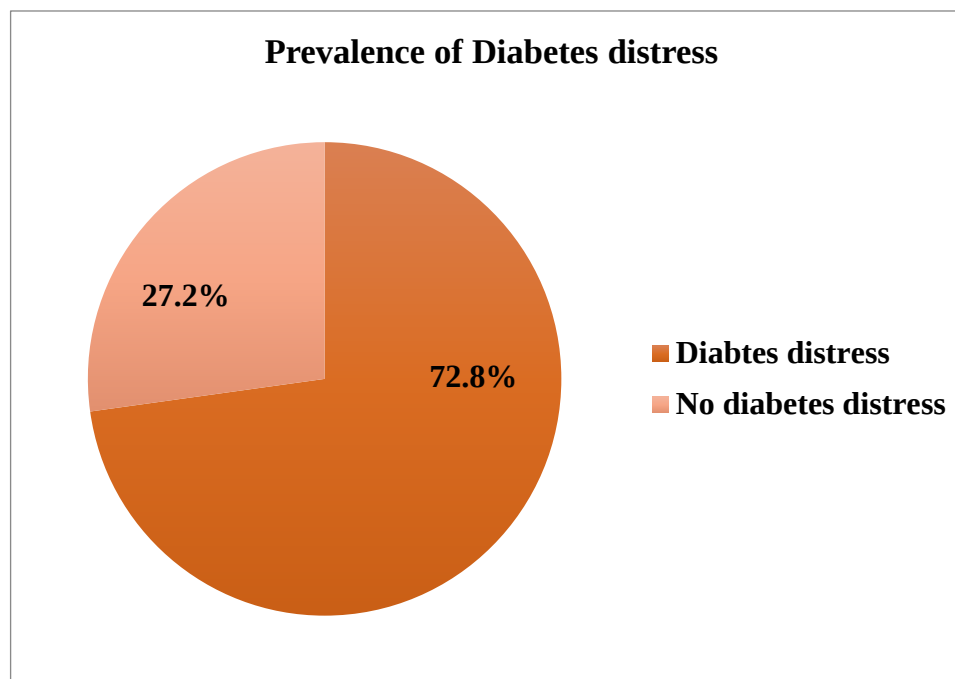


Figure 3: Prevalence of DD in diabetic individuals attending a diabetic clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025 (n = 371).

5.7 Factors associated with self-efficacy

In bivariable logistic regression: age, gender, residence, marital status, educational status, occupation, duration since diagnosis with DM, mode of treatment, BMI, diabetic complications, hemoglobin A1c level, self-care behavior and DD were eligible for multivariable logistic regression. Finally, residence, marital status, BMI, self-care behavior and DD were significantly associated with good self-efficacy.

Diabetic individuals who were urban residents were 3.35 times (AOR = 3.35, 95% CI: 1.42, 7.92) higher to have good self-efficacy as compared to diabetic individuals who were rural residents. The odds of having good self-efficacy in participants who were married and divorced were 4.79 times (AOR = 4.79, 95% CI: 1.82, 12.63) and 4.70 times (AOR = 4.70, 95% CI: 1.23, 18.03) higher than participants who were single respectively. The odds of having good self-efficacy in diabetic patients who had healthy weight was 3.84 times (AOR = 3.84, 95% CI: 1.73, 8.56) higher than diabetic patients who were obese. Diabetic individuals with good self-care

behavior were 9.24 times (AOR = 9.24, 95% CI: 4.62, 18.48) higher to have good self-efficacy than their contrary. The likelihood of having good self-efficacy in diabetic individuals who had no DD was 6.81 times (AOR = 6.81, 95% CI: 3.07, 15.11) more likely than diabetic individuals with DD (**Table 3**).

Table 3: Factors associated with self-efficacy in diabetic individuals attending a diabetic clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025 (n = 371).

Variables	Category	Self-efficacy		COR(95%CI)	P value	AOR(95%CI)	p value
		Good	Poor				
Age	18-40	81(47.4%)	90(52.6%)	1			
	41-60	97(67.4%)	47(32.6%)	2.29(1.45, 3.63)	0.000	1.11(0.51, 2.44)	0.794
	61-74	33(58.9%)	23(41.1%)	1.59(0.86, 2.94)	0.135	1.03(0.37, 2.83)	0.962
Gender	Male	116(72.5%)	44(27.5%)	3.22(2.07, 5.00)	0.000	1.45(0.75, 2.78)	0.268
	Female	95(45%)	116(55%)	1			
Residence	Urban	179(73.7%)	64(26.3%)	8.39(5.13, 13.72)	0.000	3.35(1.42, 7.92)	0.006
	Rural	32(25%)	96(75%)	1			
Marital status	Single	25(29.8%)	59(70.2%)	1			
	Married	144(77.4%)	42(22.6%)	8.09(4.53, 14.46)	0.000	4.79(1.82, 12.63)	0.002
	Widowed	16(25%)	48(75%)	0.79(0.38, 1.64)	0.522	1.06(0.32, 3.46)	0.929
	Divorced	26(70.3%)	11(29.7%)	5.58(2.39, 12.99)	0.000	4.70(1.23, 18.03)	0.024
Educational status	No formal education	14(40%)	21(60%)	1			
	Primary school	76(56.7%)	58(43.3%)	1.97(0.92, 4.19)	0.080	1.34(0.43, 4.22)	0.618
	Secondary school	11(45.8%)	13(54.2%)	1.27(0.44, 3.63)	0.656	0.65(0.14, 3.02)	0.581
	Diploma and above	110(61.8%)	68(38.2%)	2.43(1.16 5.09)	0.019	0.58(0.17, 1.94)	0.378
Occupation	Daily labor	24(48%)	26(52%)	1			
	Merchant	95(65.5%)	50(34.5%)	2.06(1.07, 3.95)	0.030	1.47(0.54, 3.99)	0.452
	Farmer	22(33.8%)	43(66.2%)	0.55(0.26, 1.18)	0.126	1.02(0.28, 3.66)	0.979
	Governmental employ	70(63.1%)	41(36.9%)	1.85(0.94, 3.63)	0.074	2.02(0.65, 6.24)	0.224
Monthly income	≥3000	196(57.3%)	146(42.7%)	1.25(0.59, 2.68)	0.560		
	<3000	15(51.7%)	14(48.3%)	1			
Duration since diagnosis of DM	≥10	156(63.7%)	89(36.3%)	2.26(1.46, 3.51)	0.000	1.44(0.68, 3.04)	0.335
	<10	55(43.7%)	71(56.3%)	1			
Family history of DM	Yes	84(55.6%)	67(44.4%)	1			
	No	127(57.7%)	93(42.3%)	1.09(0.72, 1.65)	0.689		
Mode of treatment	Oral	68(58.1%)	49(41.9%)	0.60(0.34, 1.08)	0.090	0.78(0.33, 1.86)	0.579
	Insulin	81(49.1%)	84(50.9%)	0.42(0.24, 0.72)	0.002	1.21(0.47, 3.13)	0.688
	Oral and insulin	62(69.7%)	27(30.3%)	1			
BMI	Under weight	7(41.2%)	10(58.8%)	1.36(0.48, 3.87)	0.562	0.69(0.16, 2.98)	0.628
	Healthy weight	146(78.1%)	41(21.9%)	6.93(4.09, 11.73)	0.000	3.84(1.73, 8.56)	0.001
	Over weight	21(36.2%)	37(63.8%)	1.10(0.57, 2.15)	0.770	1.65(0.59, 4.53)	0.334
	Obesity	37(33.9%)	72(66.1%)	1			
DM	Yes	34(33%)	69(67%)	1			

complications	No	177(66%)	91(34%)	3.95(2.44, 6.39)	0.000	0.51(0.22, 1.16)	0.106
Presence of	Yes	108(59.3%)	74(40.7%)	1			
comorbidity	No	103(54.5%)	86(45.5%)	0.82(0.54, 1.24)	0.347		
Hemoglobin	Poor	126(61.5%)	79(38.5%)	1			
A1c level	Good	85(51.2%)	81(48.8%)	0.66(0.44, 0.99)	0.048	0.86(0.43, 1.70)	0.660
Type of DM	Type 1 DM	69(53.5%)	60(46.5%)	1			
	Type 2 DM	142(58.7%)	100(41.3%)	1.24(0.80, 1.89)	0.337		
Smoking	Yes	93(56.7%)	71(43.3%)	1			
	No	118(57%)	89(43%)	1.01(0.67, 1.53)	0.954		
Self-care	Poor	54(32%)	115(68%)	1			
behavior	Good	157(77.7%)	45(22.3%)	7.43(4.68, 11.81)	0.000	9.24(4.62, 18.48)	0.000
Diabetes	No	82(81.2%)	19(18.8%)	4.72(2.71, 8.20)	0.000	6.81(3.07, 15.11)	0.000
distress	Yes	129(47.8%)	141(52.2%)	1			

5.8 Factors associated with diabetes distress

In bivariable logistic regression; age, gender, residence, marital status, occupation, income, duration since diagnosis with DM, mode of treatment, diabetic complications, hemoglobin A1c level and type of DM were eligible to enter in to multivariable logistic regression. Finally, residence, DM complications and hemoglobin A1c level were significantly associated with DD.

Diabetic individuals who were rural residents were 4.88 times (AOR = 4.88, 95% CI: 1.93, 12.29) higher to have DD than those who were urban residents. The odds of having DD among diabetic patients who had diabetic complications was 3.13 times (AOR = 3.13, 95% CI: 1.35, 7.28) higher than diabetic patients who had no diabetic complications. The likelihood of having DD among diabetic patients who had poor glycemic control was 7.02 times (AOR = 7.02, 95% CI: 3.73, 13.22) higher than diabetic patients who had good glycemic control (**Table 4**).

Table 4: Factors associated with DD in diabetic individuals attending a diabetic clinic in selected tertiary hospitals in the eastern Oromia regional state, Ethiopia, 2025 (n = 371).

Variables	Category	Diabetes distress		COR(95%CI)	P value	AOR(95%CI)	p value
		Yes	No				
Age	18-40	138(80.7%)	33(19.3%)	1			
	41-60	91(63.2%)	53(36.8%)	0.41(0.25, 0.68)	0.001	0.54(0.26, 1.12)	0.096
	61-74	41(73.2%)	15(26.8%)	0.65(0.32, 1.32)	0.236	0.91(0.34, 2.48)	0.856
Gender	Male	103(64.4%)	57(35.6%)	1			
	Female	167(79.1%)	44(20.9%)	2.10(1.32, 3.34)	0.002	1.45(0.77, 2.71)	0.250
Residence	Urban	153(63%)	90(37%)	1			
	Rural	117(91.4%)	11(8.6%)	6.26(3.19, 12.24)	0.000	4.88(1.93, 12.29)	0.001
Marital status	Single	69(82.1%)	15(17.9%)	1			
	Married	115(61.8%)	71(38.2%)	0.35(0.19, 0.66)	0.001	0.68(0.26, 1.77)	0.426
	Widowed	55(85.9%)	9(14.1%)	1.33(0.54, 3.27)	0.536	0.67(0.20, 2.24)	0.519
	Divorced	31(83.8%)	6(16.2%)	1.12(0.39, 3.17)	0.826	1.27(0.35, 4.54)	0.718

Educational status	No formal education	26(74.3%)	9(25.7%)	1.07(0.47, 2.44)	0.878		
	Primary school	98(73.1%)	36(26.9%)	1.01(0.61, 1.67)	0.984		
	Secondary school	16(66.7%)	8(33.3%)	0.74(0.29, 1.84)	0.514		
	Diploma and above	130(73%)	48(27%)	1			
Occupation	Daily labor	32(64%)	18(36%)	0.72(0.36, 1.46)	0.364	0.62(0.19, 1.97)	0.416
	Merchant	103(71%)	42(29%)	0.99(0.58, 1.71)	0.981	0.82(0.41, 1.61)	0.557
	Farmer	56(86.2%)	9(13.8%)	2.52(1.12, 5.69)	0.026	0.75(0.26, 2.17)	0.596
	Governmental employ	79(71.2%)	32(28.8%)	1			
Monthly income	≥3000	253(74%)	89(26%)	2.01(0.92, 4.37)	0.079	2.15(0.57, 8.13)	0.260
	<3000	17(58.6%)	12(41.4%)	1			
Duration since diagnosis of DM	≥10	188(76.7%)	57(23.3%)	1.77(1.11, 2.84)	0.018	1.59(0.77, 3.29)	0.207
	<10	82(65.1%)	44(34.9%)	1			
Family history of DM	Yes	109(72.2%)	42(27.8%)	0.95(0.59, 1.51)	0.832		
	No	161(73.2%)	59(26.8%)	1			
Mode of treatment	Oral	67(57.3%)	50(42.7%)	0.49(0.27, 0.89)	0.020	1.19(0.52, 2.76)	0.679
	Insulin	138(83.6%)	27(16.4%)	1.89(1.01, 3.52)	0.046	1.12(0.46, 2.73)	0.797
	Oral and insulin	65(73%)	24(27%)	1			
BMI	Under weight	11(64.7%)	6(35.3%)	1			
	Healthy weight	136(72.7%)	51(27.3%)	1.46(0.51, 4.14)	0.482		
	Over weight	40(69%)	18(31%)	1.21(0.39, 3.79)	0.741		
	Obesity	83(76.1%)	26(23.9%)	1.74(0.59, 5.17)	0.318		
DM complications	Yes	92(89.3%)	11(10.7%)	4.23(2.15, 8.30)	0.000	3.13(1.35, 7.28)	0.008
	No	178(66.4%)	90(33.6%)	1			
Presence of comorbidity	Yes	134(73.6%)	48(26.4%)	1.09(0.69, 1.72)	0.718		
	No	136(72%)	53(28%)	1			
Hemoglobin A1c level	Poor	177(86.3%)	28(13.7%)	4.96(3.00, 8.20)	0.000	7.02(3.73, 13.22)	0.000
	Good	93(56%)	73(44%)	1			
Type of DM	Type 1 DM	108(83.7%)	21(16.3%)	2.54(1.48, 4.35)	0.001	1.82(0.79, 4.21)	0.162
	Type 2 DM	162(66.9%)	80(33.1%)	1			
Smoking	Yes	122(74.4%)	42(25.6%)	1.16(0.73, 1.84)	0.534		
	No	148(71.5%)	59(28.5%)	1			
Self-care behavior	Poor	120(71%)	49(29%)	0.85(0.54, 1.34)	0.484		
	Good	150(74.3%)	52(25.7%)	1			

6 - DISCUSSION

Diabetic patients have to deal with the daily burden of diabetic self-management activities. This daily pressure increases the risk of DD which affects the self-efficacy of the patients. This study assessed self-efficacy, DD, and associated factors in diabetic individuals.

6.1 The level of self-efficacy and associated factors

The present study showed that the level of good self-efficacy was 56.9% [n = 211, 95% CI: 51.06, 61.12]. This result exceeded 47.0%, reported by the study from Saudi Arabia (28). The variation could be attributed to tool differences. This result aligns with the studies done in Iran: 52.4% (72), and Western Ethiopia: 52.5% (73).

The likelihood of having good self-efficacy in participants who were married was 4.79 times greater than those who were single. This result aligns with the study carried out in Western Ethiopia (73). It might be because married people have a spouse who can support them both mentally and physically. This support can later enhance the self-efficacy of the patients, as having this kind of support may help them believe in themselves. Diabetic individuals who were urban residents were 3.35 times higher to have good self-efficacy as compared to diabetic individuals who were rural residents. This could be due to urban residents have greater access to education and information as compared to rural residents.

The odds of having good self-efficacy in participants who were divorced were 4.70 times higher than participants who were single. This could be because of divorced individuals have more life experience than single individuals. The odds of having good self-efficacy in diabetic patients who had healthy weight was 3.84 times higher than diabetic patients who were obese. It may be due to people with healthy weight have a better self-esteem than people who are obese.

Diabetic individuals with good self-care behavior were 9.24 times higher to have good self-efficacy than their contrary. This result aligns with the study carried out in Ethiopia (73). It could be due to individuals with good self-care behavior may consistently participate in activities that could improve their disease condition compared to those with poor self-care behavior. The likelihood of having good self-efficacy among diabetic patients who had no DD was 6.81 times higher than diabetic patients who had DD. This result aligns with the study carried out in

Georgia (74). It could be due to patients with DD have a disturbed emotion that affects their insight towards their own selves (96).

6.2 The prevalence of DD and associated factors

The prevalence of DD was 72.8% [n = 270, 95% CI: 67.42, 76.51]. This result was greater than the study carried out in Germany: 15.1% (75). This might be due to variation in the tools used: DDS-17 was used in this study, while the study done in Germany used PAID-5. It was also greater than the study conducted in Georgia: 41.2% (74). The variation could be because of differences in sociodemographic of the participants. This finding was similar with the study carried out in Iran: 68.5% (76).

This result was greater than the study conducted in Vietnam: 12.5% (77). The difference might be because of study conducted in Vietnam was done at a single medical center whereas the present study was done at two study settings. The other difference could be due to a clinically related factor difference. The proportion of poor glycemic control was 55.3%, which was greater than the study carried out in Vietnam, with a proportion of 47.3%.

This result was greater than the study carried out in West Bengal: 36.6% (78). The variation might be because of differences in the data collection tools used: DDS-17 was used in this study, while PAID-5 was used in the study conducted in West Bengal. Another contributing factor could be, the present study was carried out in hospitals, while the study conducted in West Bengal was a community-based study where participants were tested and diagnosed on the spot. This has likely made them less exposed to the burden of daily self-management activities. It was also greater than the study carried out in Riyadh: 38.2% (79), and Nigeria: 51.9% (80). This could be because of variation in sociodemographic the participants.

This result was lower than the study carried out in referral hospitals of Amhara national regional state, Ethiopia: 84.4% (81). The variation could be because of the improvement in diabetic care services. A recent study done in 2024 revealing the evaluation of diabetic care services in Ethiopia shows that there have been improvements in diabetic care services (97). It was also lower than the study conducted in Hospitals of Amhara national regional state, Ethiopia: 87.6% (82). The variation could be because of the present study included two hospitals, whereas the study conducted in Ethiopia included fourteen hospitals. This might have increased the likelihood of capturing the outcome variable across a more diverse group of participants. The

other reason could be because the “standard of care in diabetes-2024” states to give more emphasis on screening protocols to identify DD as early as possible (98).

The odds of having DD among diabetic patients who had diabetic complications was 3.13 times greater than diabetic patients who had no diabetic complications. This result aligns with the studies carried out in Germany and Tehran (75,76). It could be because of a patient with diabetic complications has another burden to deal with, it may affect them emotionally. Diabetic individuals who were rural residents were 4.88 times higher to have DD than those who were urban residents. This might be because of rural residents have limited access to education and information, also have limited infrastructures and services.

The likelihood of having DD among participants with poor glycemic control was 7.02 times higher than their contrary. This result aligns with the studies carried out in Tehran, Vietnam, and Nigeria (76,77,80). This might be because patients with poor glycemic control face both emotional and physical challenges, which add to the burden of their disease.

6.3 Strengths and Limitations

6.3.1 Strengths of the study

- A standardized and validated questionnaire was used.
- The present study has assessed associated factors with the outcome variables that were not assessed in the previous studies.
- It may provide valuable insight on this crucial topic because there were insufficient studies available under this area of study.

6.3.2 Limitations of the study

- Cause and effect relationship cannot be determined.
- There may be recall bias

7 - CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

This study revealed that nearly half of the participants had good self-efficacy, while almost three-quarters of them had DD. Urban residence, being married, being divorced, healthy weight, good self-care behavior and no DD were significantly associated with good self-efficacy. Rural residence, diabetic complications and poor glycemic control were significantly associated with DD.

7.2 Recommendations

To Asella Referral and Teaching Hospital, and Adama Hospital Medical College

It is suggested that healthcare providers working in the diabetic clinic conduct DD screening for diabetic patients, with a primary focus on those from rural areas, individuals who have developed diabetic complications, and those with poor glycemic control. Furthermore, education on diabetes, its complications, and management needs to be provided to reduce DD and promote individual self-efficacy. Lastly, the healthcare providers should offer emotional support as a crucial part of diabetic patients' management. In addition, encouraging support networks such as peer or family support may be beneficial to individuals who have developed DD.

To Arsi Zone and Adama Health Bureau

They should consider encouraging these hospitals to establish a diabetes counselling service to support patients who have developed DD.

For Researchers

A longitudinal study assessing issues that have led to the occurrence of DD is recommended. It would be beneficial to include medication adherence as a contributing factor in future research.

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APPENDIX

Annex I; English version Questionnaires

Information sheet

Hello. My name is..... and I am a data collector for the study titled “Self-efficacy, diabetes distress and associated factors conducted by Lidiya Tekle, a master’s student in Addis Ababa university in the field of adult health nursing. The questions are about sociodemographic, clinical related factors, diabetes distress, self-efficacy and self-care behavior, which were asked in a face-to-face interview. The interview will take 35-45 minute to complete. If you are voluntary your confidentiality will be maintained, and the information that you provide will only be shared with research team.

We would greatly appreciate your participation, as your views are important to us.

Signature of interviewer: ----- **Date:** -----/-----/-----

Consent form

I, _____, am informed about the study titled “Self-efficacy, diabetes distress, and associated factors”. I am voluntarily participating after receiving all the information mentioned above.

Participant's signature for approval: _____

Part I: Sociodemographic information of the study participants

SN	Questions	Response
101	Age in years	
102	Gender	1. Male 2. Female
103	Residence	1. Urban 2. Rural
104	Marital status	1. Single 2. Married 3. Widowed 4. Divorced
105	Ethnicity	1. Amhara 2. Oromo 3. Tigray 4. Other (specify_____)
106	Educational status	1. No formal education 2. Primary school 3. Secondary school 4. Diploma 5. Degree and above
107	Occupation	1. Daily labor 2. Merchant 3. Farmer 4. Government employee 5. Others (specify_____)
108	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Others (specify_____)
109	Average monthly income	_____Ethiopian Birr

Part II: Clinical related factors

SN	Questions	Response
201	Duration since being diagnosed with diabetes (in years)	_____
202	Family history of diabetes	1. Yes 2. No
203	Mode of current treatment	1. Oral anti diabetic medication 2. Insulin 3. Oral and insulin 4. lifestyle modifications
204	BMI (kg/m ²)	_____
205	Presence of diabetes complication	1. Yes 2. No
206	Presence of another comorbidity	1. Yes 2. No
207	Hemoglobin A1c level	_____
208	Type of diagnosed diabetes	1. Type 1 diabetes 2. Type 2 diabetes

Part III: Questions related to diabetes distress

1= Not a problem, 2= a slight problem, 3= a moderate problem, 4= Somewhat a serious problem, 5= A serious problem, 6= A very serious problem

SN	Problems	1	2	3	4	5	6
Emotional burden (ED)							
301	Feeling that diabetes is taking up too much of my mental and physical energy every day.						
302	Feeling angry, scared, and/or depressed when I think about living with diabetes.						
303	Feeling that diabetes controls my life.						
304	Feeling that I will end up with serious long-term complications, no matter what I do.						
305	Feeling overwhelmed by the demands of living with diabetes.						
Physician-related distress (PD)							
306	Feeling that my doctor does not know enough about diabetes and diabetes care.						
307	Feeling that my doctor does not give me clear enough directions on how to manage my diabetes						
308	Feeling that my doctor does not take my concerns seriously enough.						
309	Feeling that I do not have a doctor who I can see regularly about my diabetes						
Regimen-related distress (RD)							
310	Feeling that I am not testing my blood sugars frequently enough.						
311	Feeling that I am often failing with my diabetes regimen.						
312	Not feeling confident in my day-to-day ability to manage diabetes.						
313	Feeling that I am not sticking closely enough to a good meal plan.						
314	Not feeling motivated to keep up my diabetes self-management.						
Interpersonal Distress (ID)							
315	Feeling that friends or family are not supportive enough of my self-care efforts (e.g. planning activities that conflict with my schedule, encouraging me to eat the “wrong” foods).						
316	Feeling that friends or family do not appreciate how difficult living with diabetes can be						
317	Feeling that friends or family does not give me the emotional support that I would like.						

Part IV: questions related to self-efficacy

1=strongly disagree, 2=disagree, 3= unsure, 4= agree, 5= strongly agree

SN	Questions	1	2	3	4	5
401	It is difficult for me to find effective solutions for problems that occur with managing my diabetes					
402	I find efforts to change things I do not like about my diabetes are ineffective					
403	I handle myself well with respect to my diabetes.					

404	I am able to manage things related to my diabetes as well as most other people.					
405	I succeed in the projects I undertake to manage my diabetes					
406	Typically, my plans for managing my diabetes do not work out well					
407	No matter how hard I try, managing my diabetes does not turn out the way I would like.					
408	I am generally able to accomplish my goals with respect to managing my diabetes					

Part V: questions related to self-care behavior

0=None, 1=For 1 day, 2=For 2 days, 3=For 3 days, 4=For 4 days, 5=For 5 days, 6=For 6 days, 7=For 7 days

SN	Questions	0	1	2	3	4	5	6	7
	Diet								
501	How many of the last seven days have you followed a healthful eating plan								
502	On average, over the past month, how many days per week have you followed your eating plan								
503	On how many of the last seven days did you eat five or more servings of fruits and vegetables								
504	On how many of the last seven days did you eat high fat foods such as red meat or full-fat dairy products								
	Exercise								
505	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)								
506	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								
507	On how many of the last seven days did you test your blood sugar								
508	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								
509	On how many of the last seven days did you check your feet								
510	On how many of the last seven days did you inspect the inside of your shoes								
	Smoking								
511	Have you smoked a cigarette—even one puff—during the past seven days								1. Yes 2. No

Annex II: የአማርኛ እትም መጠይቆች

የመረጃ ወረቀት

ሰላም የኔ ስም.....። እና እኔ በሊዲያ ተክሌ በተካሄደው “ራስን መቻል፣ ከስኳር በሽታ ጋር የተያያዘ ችግር እና በስኳር ህመምተኞች የስኳር ህመምተኞች ክትትል ክሊኒክ በአሰላ ሪፈራል እና ማስተማሪያ ሆስፒታል እና በአዳማ ሆስፒታል ሜዲካል ኮሌጅ ኢትዮጵያ 2017” በሚል ርዕስ ለጥናት መረጃ ሰብሳቢ ነኝ። በአዲስ አበባ ዩኒቨርሲቲ በጎልማሶች ጤና ነርሲንግ የማስተርስ ተማሪ። ጥናቱ ስለ ሶሊዮዲሞግራፊ፣ ክሊኒካዊ ተዛማጅ ምክንያቶች፣ ከስኳር በሽታ ጋር የተያያዘ ጭንቀት፣ ራስን የመቻል እና ራስን የመንከባከብ ባህሪያትን ያካትታል፣ ይህም ፊት ለፊት በቃለ መጠይቅ ይጠየቃል። ቃለ መጠይቁ ለማጠናቀቅ ከ35-45 ደቂቃ ይወስዳል። ተሳትፎ በፈቃደኝነት ነው፣ ሚስጥራዊነት ይጠበቃል፣ እና ያቀረቡት መረጃ የሚጋራው ለተመራማሪ ቡድን ብቻ ነው።

የእርስዎ አስተያየት ለእኛ አስፈላጊ ስለሆኑ ተሳትፎዎን በጣም እናደንቃለን።

የቃለ-መጠይቅ አድራጊ ፊርማ: ----- ቀን: -----

የፍቃድ ቅፅ

እኔ፣ _____ ፣ “ራስን መቻል፣ ከስኳር በሽታ ጋር የተያያዘ ጭንቀት፣ እና በስኳር ህመምተኞች መካከል ያሉ ተጓዳኝ ምክንያቶች በአሰላ ሪፈራል እና ማስተማሪያ ሆስፒታል እና በአዳማ ሆስፒታል ሜዲካል ኮሌጅ፣ ኢትዮጵያ፣ 2017” በሚል ርዕስ ስለተደረገው ጥናት ተነግሮኛል። ከላይ የተጠቀሱትን መረጃዎች በሙሉ ከተቀበልኩ በኋላ በፈቃደኝነት እሳተፋለሁ።

ለማጽደቅ የተሳታፊው ፊርማ: _____

ክፍል አንድ፡ የታካሚዎች ማህበራዊ ስነ-ሕዝብ መረጃ

SN	ጥያቄዎች	ምላሽ
101	ዕድሜ በዓመታት	
102	ጾታ	1. ወንድ 2. ሴት
103	መኖሪያ	1. ከተማ 2. ገጠር
104	የጋብቻ ሁኔታ	1. ያላገባ 2. ያገባ 3. መበለት 4. የተፋታ
105	ብሄር	1. አማራ 2. ኦሮሞ 3. ትግራይ 4. ሌላ (ይጥቀሱ)
106	የትምህርት ደረጃ	1. መደበኛ ትምህርት የለም 2. የመጀመሪያ ደረጃ ትምህርት ቤት 3. ሁለተኛ ደረጃ ትምህርት ቤት 4. ዲፕሎማ 5. ዲግሪ እና ከዚያ በላይ
107	ሥራ	1. ዕለት ተዕለት የጉልበት ሥራ 2. ነጋዴ 3. ገበሬ 4. የመንግስት ሰራተኛ 5. ሌላ (ይጥቀሱ)
108	ሃይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ሌሎች (ይጥቀሱ)
109	አማካይ ወርሃዊ ገቢ	_____ የኢትዮጵያ ብር

ክፍል II፡ ክሊኒካዊ ተዛማጅ ምክንያቶች

SN	ጥያቄዎች	ምላሽ
201	የስኳር በሽታ ከታወቀበት ስንት ጊዜ ሆነ (በአመታት ውስጥ)	_____
202	የስኳር በሽታ የቤተሰብ ታሪክ አለዎት	1. አዎ 2. አይ
203	የአሁኑ ሕክምና ዘዴ	1. በአፍ የሚወጥ 2. ኢንሱሊን 3. የአፍ እና ኢንሱሊን 4. የአፍና ለውጦች
204	የሰውነት ክብደት መረጃ ጠቋሚ	_____

205	የስኳር በሽታ ችግሮች አለ	1. አዎ 2. አይ
206	ተጎዳኝ በሽታ አለ	1. አዎ 2. አይ
207	ሄሞግሎቢን A1c መጠን	_____
208	የተረጋገጠ የስኳር በሽታ ዓይነት	1. ዓይነት 1 የስኳር በሽታ 2. ዓይነት 2 የስኳር በሽታ

ክፍል III: ከስኳር በሽታ ጋር የተዛመዱ ጥያቄዎች

1= ችግር አይደለም፣ 2= ትንሽ ችግር፣ 3= መካከለኛ ችግር፣ 4= ትንሽ ከባድ ችግር፣ 5= ከባድ ችግር፣ 6= በጣም ከባድ ችግር

SN	ችግሮች	1	2	3	4	5	6
ስሜታዊ ሸክም (ED)							
301	የስኳር ህመም በየቀኑ ከመጠን በላይ የአዕምሮ እና የአካል ኃይሉን እየወሰደ እንደሆነ ይሰማኛል።						
302	ከስኳር በሽታ ጋር ስለመኖር ሳስብ ንዴት፣ ፍርሃት እና/ወይም የመንፈስ ጭንቀት ይሰማኛል።						
303	የስኳር ህመም ህይወቴን እንደሚቆጣጠረው ይሰማኛል።						
304	ምንም ባደርግ በከባድ የረጅም ጊዜ የስኳር በሽታ ችግሮች እንደምኖር ይሰማኛል።						
305	የ ስኳር በሽታ ፍላጎቶች ከመጠን በላይ የመጨናነቅ ስሜት ይሰማኛል።						
ከሐኪም ጋር የተያያዘ ጭንቀት (PD)							
306	ዶክተሩ ስለ ስኳር በሽታ እና ስለ ስኳር በሽታ እንክብካቤ በቂ እውቀት እንደሌለው ይሰማኛል።						
307	ዶክተሩ የስኳር በሽታዬን እንዴት መቆጣጠር እንዳለብኝ በቂ መመሪያዎችን እንደማይሰጠኝ እየተሰማኝ ነው።						
308	ዶክተሩ ጭንቀቴን በበቂ ሁኔታ እንደማይመለከተው ይሰማኛል።						
309	ስለ የስኳር ህመም አዘውትራ የማየው ዶክተር የለኝም የሚል ስሜት ይሰማኛል።						
ከእገዛዝ ጋር የተያያዘ ጭንቀት (RD)							
310	በደም ውስጥ ያለውን የስኳር መጠን በተደጋጋሚ በበቂ ሁኔታ እየመረመርኩ እንዳልሆነ ይሰማኛል።						
311	በስኳር በሽታ በሚደረጉ ድርጊቶች ላይ ብዙ ጊዜ እየወድቅኩ እንደሆነ ይሰማኛል።						
312	የስኳር በሽታን ለመቆጣጠር በዕለት ተዕለት ችሎታዬ በራስ የመተማመን ስሜት አይሰማኝም።						
313	ከጥሩ የምግብ እቅድ ጋር በበቂ ሁኔታ እየሄድኩ እንዳልሆን ይሰማኛል።						
314	የስኳር በሽታዬን እየተንከባከብኩ ለመቀጠል ያለመነሳሳት ስሜት						

	ይሰማኛል						
	የእርስ በእርስ ጭንቀት (ID)						
315	ጓደኞቼ ወይም ቤተሰቦቼ ለራሴ እንክብካቤ ጥረቴ በቂ ድጋፍ እንደማይሰጡኝ ይሰማኛል (ለምሳሌ ከፕሮግራሜ ጋር የሚቃረኑ ተግባራትን ማቀድ፣ “የተሳሳቱ” ምግቦችን እንድንበላ ማበረታታት)።						
316	ጓደኞች ወይም ቤተሰብ ከስኳር በሽታ ጋር መኖር ምን ያህል ከባድ እንደሆነ እንደማያደንቁ ይሰማኛል።						
317	ጓደኞች ወይም ቤተሰቦች የምፈልገውን ስሜታዊ ድጋፍ እንደማይሰጡኝ ይሰማኛል።						

ክፍል IV፡ ከራስ ብቃት ጋር የተያያዙ ጥያቄዎች

1= በጣም አልስማማም ፣ 2= አልስማማም ፣ 3= እርግጠኛ ያልሆነ ፣ 4= እስማማለሁ ፣ 5= በጣም እስማማለሁ

SN	ጥያቄዎች	1	2	3	4	5
401	ስኳር በሽታዬን በማስተዳደር ላይ ለሚከሰቱ ችግሮች ውጤታማ መፍትሄዎችን ማግኘት ይከብደኛል					
402	በስኳር በሽታዬ ላይ የማልወዳቸውን ነገሮች ለመለወጥ የሚደረጉ ጥረቶች ውጤታማ አይደሉም					
403	የስኳር በሽታዬን በተመለከተ ራሴን በደንብ እይዛለሁ					
404	ከስኳር በሽታዬ ጋር የተያያዙ ነገሮችን እና ሌሎች አብዛኛዎቹን ሰዎች ማስተዳደር እችላለሁ					
405	የስኳር በሽታዬን ለመቆጣጠር በምሰራቸው ፕሮጀክቶች ተሳክቶልኛል።					
406	በተለምዶ፣ የኔን የስኳር በሽታ ለመቆጣጠር እቅዶቼ ጥሩ አይደሉም					
407	የቴንም ያህል ብሞክር የስኳር በሽታዬን መቆጣጠር እንደምፈልገው አይሆንም።					
408	በአጠቃላይ የኔን የስኳር በሽታ መቆጣጠርን በተመለከተ ግቦችን ማሳካት እችላለሁ					

ክፍል V፡ ከራስ እንክብካቤ ባህሪ ጋር የተያያዙ ጥያቄዎች

0=የለም 1=ለ1ቀን 2=ለ2ቀን 3=ለ 3ቀን 4=ለ 4ቀን 5=ለ5 ቀን 6=ለ6 ቀን 7=ለ 7 ቀን

SN	ጥያቄዎች	0	1	2	3	4	5	6	7
	አመጋገብ								
501	ካለፉት ሰባት ቀናት ውስጥ ስንት ቀን ጤናማ የአመጋገብ እቅድን ተከትለዋል።								
502	በአማካይ፣ ባለፈው ወር፣ በሳምንት ስንት ቀናት የአመጋገብ እቅድዎን ተከትለዋል።								
503	ባለፉት ሰባት ቀናት ውስጥ ስንት አምስት ወይም ከዚያ በላይ ፍራፍሬዎችን እና አትክልቶችን በልተሃል								
504	ካለፉት ሰባት ቀናት ውስጥ ምን ያህል ከፍተኛ ቅባት ያላቸውን ምግቦች እንደ ቀይ ስጋ ወይም ሙሉ ቅባት ያላቸው የወተት ተዋጽኦዎችን በልተዋል።								

	የአካል ብቃት እንቅስቃሴ								
505	ካለፉት ሰባት ቀናት ውስጥ በሰንቆቹ ቢያንስ ለ30 ደቂቃ የአካል ብቃት እንቅስቃሴ ተሳትፈዋል? (የእግር ጉዞን ጨምሮ ያልተቋረጠ እንቅስቃሴ ጠቅላላ ደቂቃዎች)								
506	ካለፉት ሰባት ቀናት ውስጥ ምን ያህሉ በአንድ የተወሰነ የአካል ብቃት እንቅስቃሴ (እንደ ዋና፣ የእግር ጉዞ፣ ብስክሌት መንዳት) በቤቱ ዙሪያ ከምትሰራው ወይም እንደ የስራህ አካል ካልሆነ በስተቀር ተሳትፈሃል።								
	የደም ስኬር ምርመራ								
507	ካለፉት ሰባት ቀናት ውስጥ ምን ያህሉን የደም ስኬርዎን ፈትሽዋል።								
508	ካለፉት ሰባት ቀናት ውስጥ ምን ያህሉ የደምዎን ስኬር በጤና እንክብካቤ አቅራቢ የተመከሩትን ጊዜያት ፈትሽው ነበር።								
	የእግር እንክብካቤ								
509	ባለፉት ሰባት ቀናት ውስጥ ምን ያህሉን ቀናት እግርዎን ፈትሽዋል								
510	ባለፉት ሰባት ቀናት ውስጥ ምን ያህሉን ቀናት የጫማዎችዎን የውስጥ ክፍል ፈትሽው ነበር።								
	ማጨስ								
511	ባለፉት ሰባት ቀናት ውስጥ ሲጋራ አጨስሃል - አንድም ፑፍ እንኳ	1. አዎ 2. አይ							

Annex III: Gaffilee Afaan Oromootiin

Waraqaa odeeffannoo

Akkam. Maqaan koo..... akkasumas qorannoo mata duree “Of danda’uu, dhiphina dhukkuba sukkaaraa wajjin walqabatee dhufuu fi wantoota kanaan walqabatan dhukkubsattoota dhukkuba sukkaaraa gidduutti kilinika hordoffii dhukkuba sukkaaraa hospitaala rifaralaa fi barsiisaa Asellaa fi kolleejjii yaalaa hospitaala Adama, Itoophiyaa, 2017”jedhu kan Lidiya Tekle’n gaggeeffameef odeeffannoo walitti qabuudha, Yuunivarsiitii Addis Ababaatti damee narsii fayyaa ga’eessotaatiin barataa mastersii. Qorannoon kun gaaffilee waa’ee hawaas-dimoogiraafii, sababoota kilinikaa wajjin walqabatan, dhiphina dhukkuba sukkaaraa wajjin walqabatu, of-ga’umsaa fi amala of kunuunsuu kan of keessatti hammate yoo ta’u, gaaffii fi deebii fuula-fuulatti taasifamuun ni gaafatama. Af-gaaffiin kun daqiiqaa 35-45 fudhata. Iccitiin kee kan eegamu yoo ta’u, odeeffannoon ati kennitu garee qorannoo qofaaf kan qoodamu ta’a.

Hirmaannaan fedhii keetiin kan raawwatamu yoo ta’u, gaaffii sitti hin tolle kamiyyuu darbuuf ykn yeroo barbaaddetti gaaffii fi deebii dhaabuuf mirga qabda. Ilaalchi keessan nuuf barbaachisaa waan ta’eef, hirmaannaa keessan baay’ee galateeffanna.

Mallattoo gaafataa: ----- Guyyaa: -----/-----/-----

Unka hayyamaa

Ani, _____, waa’ee qorannoo mata duree “Dhukkubsattoota Dhukkuba Sukkaaraa Kilinika Hordoffii Dhukkuba Sukkaaraa Hospitaala Rifaralaa fi Barsiisaa Asellaa fi Kolleejjii Meedikaalaa Hospitaala Adama, Itiyoophiyaa, bara 2017tti hirmaatan biratti, of-gahumsa, dhiphina dhukkuba sukkaaraan walqabatee, fi wantoota wal-qabatan” jedhuun odeeffannoo argadheera. Odeeffannoo armaan olitti ibsame hunda erga argadheen booda fedhii kootiin hirmaachaa jira.

Mallattoo Hirmaataa raggaasisuuf: _____.

Kutaa I: Odeeffannoo hawaas-dimoogiraafii dhukkubsattootaa

SN	Gaaffilee	Deebii
101	Umuriin waggaadhaan	
102	Koorniyaa	1. Dhiira 2. Dubartii
103	Mana jireenyaa	1. Magaalaa 2. Baadiyyaa
104	Haala gaa'elaa	1. Tokkicha 2. Fuudhaa fi heeruma 3. Dubartii abbaan manaa irraa du'e 4. Hiikkaan
105	Sabummaa	1. Amaaraa 2. Oromoo 3. Tigraay 4. Kan biroo
106	Haala barnootaa	1. Barnoota idilee hin qabu 2. Mana barumsaa sadarkaa tokkoffaa 3. Mana barumsaa sadarkaa lammaffaa 4. Dippiloomaa 5. Digirii fi isaa ol
107	Hojii	1. Hojii guyyaa guyyaa 2. Daldalaa 3. Qonnaan bulaa 4. hojjetaa mootummaa 5. Kan biroo
108	Amantaa	1. Ortodoksii 2. Muslima 3. Pirootestaantii 4. Kanneen biroo (ibsi_____).
109	Galii ji'aa giddu galeessaa	_____Birritiyoophiyaa

Kutaa II: Qabxiilee kilinikaa wajjin walqabatan

SN	Gaaffilee	Deebii
201	Yeroo dhukkubni sukkaaraa qabamuu isaa erga adda baafamee booda (waggoota keessatti)	_____
202	Seenaa maatii dhukkuba sukkaaraa	1. Eeyyee 2. Lakki
203	Haala wal'aansa ammaa	1. Afaaniin 2. Insuliinii 3. Afaaniin fudhatamuu fi insuliinii 4. fooyya'iinsa akkaataa jireenyaa
204	indeeksii ulfaatina qaamaa	_____
205	Rakkoon dhukkuba sukkaaraa jiraachuu	1. Eeyyee 2. Lakki

206	Dhukkuba waliin dhufu kan biraa jiraachuu	1. Eeyyee 2. Lakki
207	sadarkaa himoogilobiinii A1c	
208	Gosa dhukkuba sukkaaraa adda baafame	1. hukuba sukkaaraa gosa 1ffaa 2. Dhukkuba sukkaaraa gosa 2ffaa

Kutaa III: Gaaffiiwwan dhiphina dhukkuba sukkaaraa wajjin walqabatan

1= Rakkoo miti, 2= rakkoo xiqqoo, 3= rakkoo giddu galeessa, 4= Rakkoo hamma tokko cimaa, 5= Rakkoo cimaa, 6= Rakkoo baayyee hamaa

SN	Rakkoolee	1	2	3	4	5	6
	Ba'aa miiraa (ED)						
301	Dhukkubni sukkaaraa guyyaa guyyaan human sammuu fi qaama koo garmalee fudhachaa akka jiru natti dhaga'ama.energy every day.						
302	Dhukkuba sukkaaraa wajjin jiraachuu yeroon yaadu aarii, sodaa fi/ykn dhiphinni natti dhagahama						
303	Dhukkubni sukkaaraa jireenya koo akka to'atu natti dhaga'ama.						
304	Waan fedhes hojjedhus, rakkoolee hamaa yeroo dheeraa na mudatannin akkan xumuru natti dhaga'amuu						
305	Gaaffilee dhukkuba sukkaaraa wajjin jiraachuun namatti dhaga'amuu						
	Dhiphina ogeessa fayyaatiin walqabatee dhufu (PD)						
306	Doktarri koo waa'ee dhukkuba sukkaaraa fi kunuunsa dhukkuba sukkaaraa gahaa akka hin beekne natti dhaga'amuu.						
307	Akkaataa dhukkuba sukkaaraa koo itti to'adhu irratti hakiimni koo kallattii gahaa ifa ta'e akka naaf hin kennine natti dhaga'amuu.						
308	Doktarri koo yaaddoo koo akka waan guddaatti akka hin ilaalle natti dhaga'amuu						
309	Doktara waa'ee dhukkuba sukkaaraa koo yeroo hunda arguu danda'u akkan hin qabne natti dhaga'amuu						
	Dhiphina sirna waliin walqabatee (RD)						
310	Sukkaara dhiiga koo yeroo baayyee gahaa ta'ee akkan hin qoratne/madaalle natti dhaga'amuu.						
311	Yeroo baayyee sirna/goocha dhukkuba sukkaaraa koo irratti akkan kufaa jiru natti dhaga'amuu.						
312	Dandeettii dhukkuba sukkaaraa to'achuuf qabu guyyaa guyyaa irratti ofitti amanamummaa natti dhaga'amuu dhabuu.						
313	Karoora nyaataa gaarii tokkotti akkan hin maxxanne natti dhaga'amuu						
314	dhukkuba sukkaaraa koo ofiif too'achaa itti fufuuf kaka'umsi natti dhaga'amuu dhabuu						
	Dhiphina Namoota Gidduu Jiru (ID)						

315	Hiriyoonna ykn maatiin carraaqqii of kunuunsuu koo gahaa ta'ee akka hin deggerre natti dhaga'amu (fkn sochiiwwan sagantaa koo wajjin wal faallessan karoorsuu, nyaata “dogongoraa” akkan nyaadhu na jajjabeessuu).						
316	Hiriyoonna ykn maatiin dhukkuba sukkaaraa wajjin jiraachuun hammam rakkisaa ta'uu akka danda'u akka hin dinqisiifanne natti dhaga'amu.						
317	Hiriyoonna ykn maatiin deeggarsa miiraa ani barbaadu akka naaf hin kennine natti dhaga'amu..						

Kutaa IV: gaaffilee of-gahumsa waliin walqabatan

1=cimsee walii hin galu, 2= walii hin galu, 3= mirkanaa'aa miti, 4= walii hin galu, 5= cimsee walii hin galu

SN	Gaaffilee	1	2	3	4	5
401	Rakkoolee dhukkuba sukkaaraa koo to'achuu irratti uumamaniif furmaata bu'a qabeessa ta'e argachuun natti ulfaata					
402	Wantoota dhukkuba sukkaaraa koo irratti hin jaalanne jijjiiruuf carraaqqiin godhamu bu'aa akka hin qabne nan arga					
403	Dhukkuba sukkaaraa koo ilaalchisee akka gaariitti of nan qabadha.					
404	Wantoota dhukkuba sukkaaraa koo wajjin walqabatan akkasumas namoota biroo irra caalaan bulchuu nan danda'a.					
405	Pirojektoota dhukkuba sukkaaraa koo to'achuuf hojjedhu irratti nan milkaa'a					
406	Akkaataa idileetti, karoori ani dhukkuba sukkaaraa koo to'achuuf qabu akka gaariitti hin milkaa'u					
407	Hammam yaalullee dhukkuba sukkaaraa koo to'achuun akkan barbaadetti hin ta'u.					
408	Walumaagalatti dhukkuba sukkaaraa koo to'achuu ilaalchisee kaayyoo koo galmaan ga'uu nan danda'a					

Kutaa V: gaaffilee amala of kunuunsuu wajjin walqabatan

0=Hin jiru, 1=Guyyaa 1f, 2=Guyyaa 2f, 3=Guyyaa 3f, 4=Guyyaa 4f, 5=Guyyaa 5f, 6=Guyyaa 6f, 7=Guyyaa 7f

SN	Gaaffilee	0	1	2	3	4	5	6	7
	Akaakuu nyaataa								
501	Guyyoota torban darban keessaa meeqa karoora nyaata fayya qabeessa hordofte								
502	Giddu galeessaan ji'a darbe keessa torbanitti guyyoota meeqa karoora nyaataa kee hordofte								
503	Guyyoota torban darban keessaa meeqa irratti kuduraa fi muduraa shan fi isaa ol nyaatte								
504	Guyyoota torban darban keessaa meeqa irratti nyaata cooma baay'ee qabu kan akka foon diimaa ykn oomishaalee aannani cooma guutuu qaban nyaattan								

	Shaakala								
505	Guyyoota torban darban keessaa meeqa irratti yoo xiqqaate daqiiqaa 30 sochii qaamaa irratti hirmaatte? (Waliigala daqiiqaa sochii walitti fufiinsa qabu, deemsa dabalatee)								
506	Guyyoota torban darban keessaa meeqa irratti waan naannoo manaa hojjetu ykn akka qaama hojii keetii hojjetu malee sochii qaamaa murtaa'e (kan akka dambalii, deemsa, biskileetii) irratti hirmaatte								
	Qorannoo sukkaara dhiigaa								
507	Guyyoota torban darban keessaa meeqa irratti sukkaara dhiiga kee qoratte								
508	Guyyoota torban darban keessaa meeqa irratti sukkaara dhiiga kee yeroo ogeessi fayyaa kee si gorse qoratte								
	Kunuunsa miila								
509	Guyyoota torban darban keessaa meeqa irratti miila kee sakatta'e								
510	Guyyoota torban darban keessaa meeqa irratti keessoo kophee keetii sakatta'e								
	tamboo xuuxuu								
511	Guyyoota torban darban keessatti sigaaraa xuuxeettaa, jechuunis sigaaraa tokko illee xuuxxee jirtaa	1. Eeyyee 2. Lakki							

