

Research article

# SELF CARE PRACTICE AND ITS PREDICTORS AMONG ADULTS WITH DIABETES MELLITUS ON FOLLOW UP AT NEKEMTE HOSPITAL DIABETIC CLINIC, WEST ETHIOPIA.

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## Abstract

**Background:** Diabetes is becoming a serious condition in the world, with increased need for health care. The main goal in diabetes care is good quality of life, good metabolic control and minimization of complications caused by diabetes. Diabetes is a life-long challenge that needs behavioral change and adequate self-care practices so as to

keep the illness under control. However, studies that document self care practices of diabetic patients are generally scarce in Ethiopia and particularly, in the study area. This study therefore aimed to assess self care practices and its predictors among adults with diabetes mellitus at Nekemte Referral Hospital Diabetic Follow up Clinic, East Wollega, Ethiopia.

**Methods:** A cross-sectional study was conducted from February 15 to April 19 2013 in the Chronic Diseases Follow up Clinic of Nekemte Referral Hospital using a structured interview by four trained nurses and a total of 260 diabetic patients were selected using random sampling technique. Data were entered into epi data version 3.1 and analyzed using SPSS for windows program version 16. Odds ratio and 95% CI were calculated and  $P < 0.05$  was considered statistically significant. Finally, multivariable logistic regression analysis was performed to indicate the independent predictors of self care practice.

**Results:** Out of sampled respondents, 119 (46.9%) female and 135 (53.1%) males were interviewed and study showed that 45% the respondents had poor diabetes self care practice and 54.3% of them had diabetic related knowledge were interviewed. In multivariable logistic regression model, Age [AOR= 3.4, 95%CI 1.593, 7.396], Educational status [AOR=.31, 95%CI.164, .570], Occupation [AOR=3.9, 95%CI1.949, 16.128], knowledge level [AOR=.41, 95%CI.235, .710] and years of suffering from diabetes were associated with diabetic self care practices. Finally study showed that nearly half of diabetic patients had poor self care practices and an educational status was associated with self care. An educational program that improves knowledge of diabetic patients about diabetes and importance of self care practices should be given for the patients. **Copyright © WJMMS, all rights reserved.**

**Key words:** Diabetes mellitus, Self care practice, Nekemte Hospital

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## INTRODUCTION

Diabetes mellitus (DM) is metabolic disorder characterized by abnormality of carbohydrate, fat and protein metabolism and high blood glucose level which results from defect of insulin secretion, action or both (1, 2). The World Health Organization (WHO) estimates that diabetes mellitus affects at least 285 million people and causes 3.2 million deaths, six deaths every minute and 8700 deaths every day, and this figure will increase by 70% in developed countries, and by 42% in developing countries by 2030 (3). It was estimated that the prevalence of diabetes in US was 20.8 million in 2005 with an increase of 2.8 million from 2003 estimates (8).

The burden of diabetes has an impact not only on the quality of life of affected individuals and their families, but also on the country's socioeconomic structure because of in low and middle income countries, 29% of diabetes deaths occurs among people under the age of 50, compared to 13% in high income countries (9) which are the active work forces. All forms of diabetes increase the risk of acute and chronic complications which affect virtually every system of the body. The complications include foot problem, renal disease, eye problem, cardiovascular disease and etc. In the western world, DM is the leading cause of blindness, non traumatic amputation and chronic renal failure which are on very much increase. The situation in the developing world, particularly in Africa, is even worse due to late diagnosis and poor access to diabetic care (4).

Diabetes in sub-Saharan Africa greatly increases the risk of serious, costly complications including emotional distress, heart attack, stroke, kidney damage, blindness, neural damage leading to amputation, and also reduced life expectancy (10). In Ethiopia, it is estimated that 268,100 cases of diabetes exist; which is next to Egypt, Sudan, South Africa and Nigeria (1). The cost for patient attendance rates and medical admissions in most hospitals of Ethiopia are rising for diabetic management. Access to diabetes care in the country does not however meet the increments in the incidences and complications of the disease. A conditions where diabetic patients visiting clinics

regularly and their blood glucose levels still remain high despite the treatment they receive is a problem that calls for attention and self-care is the patient responsibility to preserve his/her quality of life (11, 12).

The main treatments goal for patients with diabetes are to prevent or minimize the acute or chronic complications and to reduce serious morbidity and mortality and loss of productivity mainly by following the self care practices which include regular exercise, taking recommended diet, proper intake of prescribed medications, life style modifications and blood glucose monitoring (7, 13).

Self-care is crucial in diabetes to keep the illness under control. Anderson proposes that as much as 95% of the self-care is usually provided by the ill persons or their families. Self-care in diabetes should consist of self-monitoring of blood glucose (SMBG), variation of nutrition to daily needs, insulin dose adjustments to actual needs and taking exercise regularly. It also involves considering the interrelationships among the above activities and implementing appropriate changes in the daily plan when necessary (14, 15). A diabetes self-care activities in older adults were very compliant with taking medication but were only moderately compliant to diet and self glucose monitoring and least compliant to exercise. As well as, people affected with the disease often have inadequate knowledge about the nature of diabetes, its risk factors and associated complications and that this lack of awareness may be the underlying factor affecting attitudes and practices towards its care (16).

Inadequate diabetic self-management remains a significant problem facing health care providers and populations in all settings. Inadequate self management impacts on the patient's morbidity and mortality as well as on an increasing the costs of medication and laboratory tests and cost in time and effort of the care providers. In contrast, patients who have adequate self-management have better outcomes, live longer, enjoy a higher quality of life, and suffer fewer symptoms & minimal complications (17). In a study conducted in Thailand, 66.7% of the study subjects reported that they had people around to encourage them for controlling DM and 91.1% received DM related information from health professionals. In the study, 88.6% had good knowledge about diabetes and its selected self care activities; 14.2% had negative attitude towards diabetes self care; and 87% had good self care practice. Age, current occupation, years of suffering from DM, having family members suffering from the illness and knowledge about the illness were significantly related with the level of self-care behaviors (18).

In another study of Kenya, only 29% of respondents had good knowledge of signs and symptoms of diabetes while 71% had poor knowledge on what diabetes is; 26.1% could correctly identify the probable causes of DM; and 26.4% could identify complications of diabetes. There was a direct relationship between the level of education and knowledge of diabetes. Only 28% of respondents had positive attitude towards the statements relating to willingness to engage in physical activity, changing eating habits and maintaining healthy body weight. Forty one percent had good practices in relation to diabetes prevention; 75% had poor dietary practices; 72% did not participate in regular exercise and over 80% did not monitor their body weights (21).

A study done in Harari, Ethiopia, 73.0% measured their blood glucose level and 23.8% measured their BMI once in a month. Most (61.3%) of those who measured their BMI were in the normal weight category. In the study, 78.4% heard about diabetes self care in the preceding one month, of which, 30.2% heard from health professional. While 45.9% were knowledgeable about diabetes self care practices; 39.3% had good self-care practice, of which, 57.7% followed the recommended dietary intake in three days before the interview. Only 31.1% had exercise for thirty minutes per day; 41.9% measured their blood glucose level once in three days; and 78.4% had taken the prescribed drugs appropriately. Educational status, age and income were significantly associated with self care practice (22).

Similarly, a study conducted in Jimma reported that there was acute diabetic complication in 30.5% patients where Diabetic Keto Acidosis (DKA) was the commonest accounting for 71% followed by hypoglycemia, 19.4%. Fifty two point five percent had one or more of the chronic complication, of which, 15.7%, 29.5%, 33.8% had neuropathy, nephropathy and retinopathy, respectively. Occurrence of these chronic complications increased with increasing age. The longer the duration of DM, the more frequent was the occurrence of the complications (23).

From review of the relevant literature, it is evident that studies in self care practice of diabetic patients are generally limited in Ethiopia and nonexistent in the study area. Besides, the few studies available in the country are limited in addressing all potential factors that influence the self care practice. Therefore, the aim of this study was to assess

self-care practices and its predictors among diabetic patients at Nekemte Referral Hospital diabetic follow up clinic, Ethiopia.

Adequate self care with an addressed main factors can minimize the disease and disease related complications (25). Thus, this study is expected to contribute to the scientific body of knowledge in general and it will specifically provide the necessary information for health care providers and diabetic patients in the study hospital for appropriate interventions to prevent or delay complications of DM. The study will also help as a basis for future similar studies.

## **METHODS AND PARTICIPANTS**

### **Study area and period**

Nekemte Town is located at a distance of 331 km West of Addis Ababa, 110km North East of Gimbi, the principal town of West Wollega Zone and 250 km North West of Jima Zone in Oromia Regional state. Currently it is a capital city of East Wollega Zone of Oromia Regional State with the total land area estimated to be 5480 hectare. Administratively, it is divided in to six sub Towns. A town's altitude ranges from 1960 to 2170 Meters above sea level where as its average annual rain fall is 1854.9mm and the average temperature ranges from 14<sup>o</sup>c to 26<sup>o</sup>c.

The total population of the Town is estimated to be 84, 506, of whom 42,121 were males and 42,385 were females according to the 2007 (CSA) (41).

Nekemte Town has one Hospital, two Health centers, and twenty seven private Clinics, four pharmacies, six drug Shops and five drug Vendors of varying standards of service capacity and quality, distributed throughout the town which was owned by government, nongovernment and private sectors. These few health facilities do not serve only the town's population. But also it serves the surrounding population, particularly the rural districts of East Wollega Zone. Nekemte Hospital is one of the referral Hospitals of Wollega zone of Oromia region and is located in the out skirt of the town, it gives a services for an estimated 2.5 million people. It is one of the teaching hospital in Wollega University and Private colleges and also it is the only referral hospital in the Western part. The hospital is rapidly expanding in terms of services it provides and infrastructures. It provides multidimensional aspects of care to clients who need health service. There are 6 specialty units (internal medicine, surgery, gynecology/ obstetrics, pediatrics, dentistry, and psychiatry) run by the hospital. Besides these, the hospital has many follow-up clinics for both pediatric and adult patients. Diabetic clinic is one of such chronic follow-up clinics run twice weekly (on Wednesdays and Fridays). The service is rendered by physician and nurses and 624 patients registered for follow-up in the previous year .The study were conducted from February 15- April 19/2013.

### **Study design**

A facility based cross-sectional study was conducted using quantitative method at the diabetic follow up clinic of Nekemte Hospital.

### **Populations**

All adult diabetic patients visiting Nekemte Referral Hospital chronic disease follow up clinic. The study population was a sample of adult diabetic patients on follow up at the Hospital. All diabetic patients aged 15 years and older who have been on follow up at least for one year at Nekemte Referral Hospital; and who didn't have serious illness were included in the study.

### **Sample size determination and sampling technique**

The sample size was determined using the single population proportion formula based on the following assumptions: the prevalence rate of good diabetic self-care practice was taken as 45% from a study in JUSH (24); the desired degree of precision was 5%; and 95% confidence interval. Correction was also made to adjust for a finite population. Using a contingency of 10% for non respondent, the final sample size was 260. To identify the participants, a list of diabetic patients was obtained from the clinic and used as a sampling frame. The patients' records were listed in ascending order of the card number. Then, the respondents were selected randomly by lottery method.

### **Measurement, data collection, processing and analysis**

Independent variables were categorized as socio-demographic characteristics, treatment, disease, knowledge and attitude related factors. Age, sex, marital status, educational status, income, occupation, place of residence and BMI were the socio-demographic characteristics. Treatment related factors included blood glucose level, social/family support and types of treatment used. Disease related factors included types of diabetes, duration after diagnosis, presence of diabetic complication and co-morbidity. Knowledge about the nature of the disease and its prevention & management as well as attitude towards diabetes self care practices were also measured as independent variables; while self-care practice was the dependent variable.

### **Operational definitions**

#### **❖ Self-care:**

❖ It is the practice of activities that individual diabetics will initiate and perform on their own behalf in controlling their disease, maintaining life, health and well being.

❖ **Good self care practice:** - respondents were labeled to have "good self care" if they score the mean score of the total or above, on the closed ended questions related to self care practices

**Poor self care Practice:** – respondents were labeled to have "poor self care practice" if they score less than the mean score on the closed ended questions related to self care practices.

**Fasting blood glucose test (FBS)** -blood is tested for glucose at least eight hours after meal.

**Hypoglycemia** – an abnormally diminished concentration of glucose in the blood  
( $< 60\text{mg/dl}$ )

**Knowledge:**-Respondents were labeled to have knowledge of diabetes and self care practices if they score the mean score of the group or above on the closed ended knowledge questions related to information towards diabetes mellitus and self care practice.

**Knowledgeable** – respondents who react to YES answer with score of equal or greater than the mean score of knowledge assessment questions.

**Poor knowledge** – respondents who react to YES answer with score of less than mean score.

Respondents were labeled to have “good self care practices” if they scored the mean score of the total or above, on the questions related to self care practices. Otherwise, they were labeled to have “poor self care practice.” Respondents were labelled to have “good knowledge” of diabetes and self care practices if they scored the mean score of the total or above on the knowledge questions. Otherwise, they were labeled to have “poor knowledge.” Respondents were labeled to have “positive attitude” if they scored greater than the mean score on the total questions related to attitude. Otherwise, they were labeled to have “negative attitude.”

A structured interviewer administered questionnaire was used to collect the data which was adapted from validated sources that have been used in other similar studies (6, 18, 24). The questionnaire was initially prepared in English then translated in to local language (Afan Oromo) by an individual who had good ability of the two languages then it was translated back to English by a different person to ensure consistency. The questionnaire was tested to be reliable with Cronbach’s alpha coefficient of 0.78 for self care practice items showed. A week prior to the actual data collection, the questionnaire was pre-tested on 5% of sample in Jimma University Specialized Hospital chronic disease follow up clinic. The purpose of the pre-test was to ensure that the respondents were able to understand the questions and to check the wording, logic and skip order of the questions in a sensible way to the respondents. Amendments were made accordingly after the pre-test. Data were collected by four trained diploma nurses and one supervisor (BSc nurse).

Data were cleaned, edited, entered in to epi data 3.1 and analyzed by using SPSS for windows program version 16. Descriptive statistics (frequency, mean and standard deviation) were used. Bivariate analysis was conducted to see the existence of association between dependent and independent variables. Those variables that showed significant association with the outcome variable were included in a single model and multivariable logistic regression was performed to see the independent effect of each variable on the dependent variable. Finally only those independent variables that were persistently associated with the outcome variable were used to construct the final model. Odds ratio with its p-value and confidence interval was reported in each logistic regression analysis. A P-value<0.05 was considered statistically significant. Then the results presented in figures and tables.

Ethical clearance was obtained from the Ethical Review Committee of the College of Public Health and Medical Sciences, Jimma University. An official letter was written to the Nekemte Hospital by the University. Objective of the study was introduced to the respondents and informed consent was obtained before the interview. All interviews took place privately at a place chosen by the respondents. Confidentiality was assured through anonymous recording and coding of questionnaire.

## Results

### 5.1. Socio-demographic characteristics of respondents

Out of the total two hundred sixty sampled diabetic patients in Nekemte Referral Hospital, two hundred fifty four of them were included in the study giving a response rate of 98 percent. The mean age of respondents was  $38 \pm 15$ , most of the respondents 58(22.8%) were within 25- 34 age group. Majority of the respondents 119 (47%) were Protestant in religion. Of the 254 respondents, 93(36.6%) were attained grade 7-12. The majority of the study subjects, 168 (66.1%) were married, 168(66.1%); Oromo in ethnicity, 179(70.5%); Protestant in religion, 119(46.9%); and earn monthly income less than 350 Ethiopian Birr, 91(35.9%),(Table 1).Overall, the median average monthly income of the respondents was 500 Ethiopian Birr. Regarding occupation large proportion of the study subjects 58(22.8%) were students followed by merchants 56(22%).

**Table 1:** Socio-demographic characteristics among respondents in Nekemte Referral Hospital, Oromia Region, West Ethiopia, April, 2013

Variables	Categories	Frequency (n=254)	Percent (%)
<b>Residence</b>	Urban	147	57.9
	Rural	107	42.1
<b>Age</b>	15-24	55	21.7
	25-34	58	22.8
	35-44	54	21.3
	45-54	50	19.7
	55-64	24	9.4
	≥65	13	5.1
	<b>Gender</b>	Male	135
Female		119	46.9
<b>Ethnicity</b>	Oromo	179	70.5
	Amara	47	18.5
	Tigre	8	3.1
	Gurage	20	7.9
<b>Marital status</b>	Single	70	27.6
	Married	168	66.1
	Divorced	15	5.9
	Widowed	1	.4
<b>Religion</b>	Protestant	119	46.9

<b>Occupation</b>	Orthodox	69	27.2
	Catholic	24	9.4
	Muslim	30	11.8
	Others*	12	4.7
	Students	58	22.8
	Merchants	56	22
	Farmers	50	19.7
	Government employ	46	18.1
	House wives	34	13.4
	Others**	10	3.9
	<b>Monthly income***</b>	<350	91
350-750		88	34.7
750-1050		25	9.8
>1050		50	19.6
<b>Educational status</b>	Illiterate and/or informal education	38	15.0
	Grade 1-6	81	31.9
	Grade 7-12	93	36.6
	≥12	42	16.5
<b>Living condition</b>	With family members	218	85.8
	Alone	36	14.2

*\*Includes Wakefata and Jevoha Witness; \*\*Drivers, pension, laborer; \*\*\*In Ethiopian Birr*

More than half, (55.1%), of the respondents had type 2 diabetes. Large proportion of the respondents, 69.3%, had no family history of diabetes. Majority, (66.1%), was using insulin; 14.2% were taking one or more oral hypoglycemic agents; and the rest 19.7% used both insulin & oral hypoglycemic agent. Regarding body mass index (BMI), 66.5%



had normal body weight (18.5-24.99kg/m<sup>2</sup>) (table 2). Fasting blood glucose (FBS) was done for 250(98.43%) patients while random blood glucose (RBS) was done for the remaining four. The mean FBS level was 175.12mg/dL ( $\pm$ 43), and the majority, (75.6%), of the patients had FBS level above the target of 126mg/dl. Thirty- six percent of the respondents checked their blood glucose level every two weeks while more than half, (64.17%), checked at every visit (every month or two months).

Table 2: Clinical characteristics of the participants, self care practices and its predictors among adults with DM, Nekemte Referral Hospital Diabetic Follow up Clinic, East Wollega, Ethiopia; April, 2013

Variables	Category	N <sub>0</sub> (n=254)	%
Type of diabetes	Type 1	114	44.9
	Type 2	140	55.1
Family history of DM	Yes	78	30.7
	No	176	69.3
Types of treatment	Insulin	168	66.1
	Tablets	36	14.2
	both	50	19.7
Duration of DM	1-4	87	34.3
	5-9	119	46.9
	10-14	39	15.4
	>15	9	3.5
BMI	Underweight	20	7.9
	Normal weight	169	66.5
	Overweight	52	20.5
	Obese	13	5.1
Co-morbidity	Present	82	32.3
	Absent	172	67.7

## Knowledge about diabetes mellitus

The total mean score for knowledge was (12.74 +(SD5.00035)). One hundred thirty eight, (54.3%), subjects scored above the mean on the total of 26 questions. Participants were asked whether DM was a chronic disease or a curable disease and whether it is possible to control it by interventions, such as a healthy diet, physical exercise, and medications. Accordingly, 232(91.3%), responded that it is a chronic disease; 210(82.7%), said that diabetes is not curable and; 250(98.4%), reported that it is possible to control diabetes. Out of those who said diabetes is manageable; 47.2%, mentioned that it can be managed by healthy diet and medication; 41.3% by healthy diet, physical exercise and medication; 6.1%, by medication; 2% by healthy diet; and 1.6%, mentioned it can be managed by physical exercise.

Furthermore, 47.6% of the respondents knew the importance of physical exercise, of which; 32.3% reported the importance as lowering blood glucose level; and 24.2% did exercise after meal. More than half, (53.9%), knew those food items which are not recommended for diabetic patients. Indeed, majority of respondents, (60.2%), knew the complications of diabetes, of which, 23.6% reported nephropathy. Majority, (73.2%), of the respondents were knowledgeable about the signs and symptoms of hypoglycemia and 189(74.4%), knew what care should be taken in the event of hypoglycemia. However, only 44.5% did know about appropriate precautions for the prevention of hypoglycemia. Overall, 138(54.3%), respondents had good knowledge on diabetes and its self care practices.

### **Attitude towards diabetes mellitus and self care practices**

The total mean score for attitude was 28.77( $\pm$ 3.1) with 68% of the subject scored above the mean. Therefore, majority of the respondents, 173(68%), had positive attitude towards the disease and its self care practice overall. It was also observed that more than half, (54.7%), of the respondents had good self-care practice.

### **Factors influencing diabetic self care practices**

Bivariate analysis showed significant associations between self care practice and educational status, monthly income, occupation, years of suffering from diabetes, knowledge level, attitude level, living condition and age of the respondents. Respondents who had poor knowledge were 61% times less likely perform self care than good knowledge individuals. Some of this association did not exist after adjustment for other variables.

### **Predictors of diabetic self-care practices**

Multivariable logistic regression analysis was done to identify independent predictors of self-care practice among the study subjects. Respondents aged 35-44 were 3.4 times more likely to practice self-care activities as compared to those above the age of 65, [AOR=3.4, 95%CI=1.593, 7.396]. Subjects earning average monthly income of 750-1050 Ethiopian Birr were 5.6 times more likely to practice self care than those earning less than 350 Ethiopian Birr with (AOR=5.6, 95%CI= 1.774, 17.941). Individuals with grade 1-6 educational level were 69% times less likely to perform self care practices than those with above grade 12, [AOR=0.31, 95%CI=0.164,0.57]. With regard to occupation, housewives were nearly 4 times more likely to perform self-care practices than government employees, [AOR=3.92, 95%CI=1.949, 16.128]. Respondents with five to nine years of suffering from diabetes were 4.5 times more likely to perform self care activities as compared with those above fifteen years duration of suffering, [AOR=4.5,95%CI=2.365,8.363]. Regarding knowledge level, of respondents, who had poor knowledge were 59% times less likely perform self care activities as compared to those who were knowledgeable, [AOR=0.41, 95%CI=0.235,0.71] (table 3).

Table 3: Multivariable logistic regression of Predictors of diabetic self-care practices predicting the likelihood of self care practice among adults with diabetes mellitus, Nekemte Referral

Variable category	N <sub>0</sub> (%)	COR(95%CI)	AOR(95%CI)	P value
<b>Age</b>				
15-24	55(21.7)	2.8(1.658,4.648)*	2.9(1.566,5.455)*	0.01
25-34	58(22.8)	4.4(2.365,8.363)*	3.03(1.661,5.526)*	0.01
35-44	54(21.3)	4.6(2.457,8.718) *	3.4(1.593,7.396) *	0.001
45-54	50(19.7)	2.23(1.293,3.830)*	2.8(1.293,6.067)*	0.009
55-64	24(9.4)	2.3(1.007,5.393)*	1.3(.615,2.923)	0.46
≥65 (Ref)	13(5.1)	1	1	
<b>Monthly income</b>				
<350(Ref)	91(35.9)	1	1	
350-750	88(34.7)	0.88(0.363,2.146)	1.2(.463,3.015)	0.73
750-1050	25(9.8)	2.4(1.021,5.458)	5.6(1.774,17.941)*	0.003
≥1050	50(19.6)	2.44(0.961,6.184)	1.6(.912,2.639)	0.11
<b>Educational status</b>				
Illiterate or informal education	38(15)	0.21(0.085,0.529)*	1.49(.671,3.290)	0.227
Grade 1-6	81(31.9)	0.28(0.111,0.715)*	0.31(.164,.570)*	0.004
Grade 7-12	93(36.6)	0.17(0.061,0.471)*	0.42(.248,.713)*	0.032
>12 (Ref)	42(16.5)	1	1	
<b>Occupation</b>				
Government employ(Ref)	46(18.1)	1	1	
Farmer	50(19.7)	2.17(0.957,4.923)	1.7(0.672,4.360)	0.52
Merchant	56(22)	3.32(1.470,7.506)*	3.3(1.929,11.637)*	0.034
House wife	34(13.4)	4.09(1.583,10.587)*	3.9(1.949,16.128)*	0.006
Student	58(22.8)	2.56(0.631,10.373)	2.4(0.961,6.184)	0.061
Others	10(3.9)	1.49(0.674,3.275)	1.3(0.601,2.818)	0.504
<b>Duration of DM</b>				
1-4	87(34.3)	0.14(0.017,1.170)	2.2(1.188,4.109)*	0.01

5-9	119(46.9)	0.15(0.018,0.250)	4.5(2.365,8.363)*	0.009
10-14	39(15.4)	0.15(0.017,1.280)	1.8(0.706,4.484)	0.22
≥15(Ref)	9(3.5)	1	1	
<b>Knowledge level</b>				
Good knowledge(Ref)	138(54.3)	1		
Poor knowledge	116(45.7)	0.39(0.231,0.645)	0.41(0.235,0.710)*	0.002

Hospital Diabetic Follow up Clinic, East Wollega, Ethiopia; April, 2013

\* Statistically significant at  $p < 0.05$

## DISCUSSION

Study assessed predictors and practice of self care among diabetic patients on follow up in Nekemte Referral Hospital and Forty five percent of study participants had poor self-care practices ,54.3% had knowledgeable about diabetes mellitus and 68% of the respondents had positive attitude towards the disease. The finding of this study was different from study done in Jimma University Specialized Teaching Hospital, of which 55% of the participants had poor self care practice (24). And, 60.7% of the studied populations had poor self care practices in Harari (22). Another study conducted in Kenya showed that, 59% of the participants had poor self care practices (21). The result of this study is lower than the other studies. This variation could be due to difference in sample size, different in educational background, and current strength of diabetic association in the study area.

The study conducted in Nigeria showed that , 19.7 % of the patients had poor self care practices (20).Another study conducted in Thailand and Iran showed that only 13 % and 26.2% of the patients had poor self care practices (18, 19), respectively. In contrast, this finding revealed that, 45.3% of the participants had poor self care practices; it is much lower than those findings. This variation could be due to difference in the socioeconomic and socio-demographic characteristics, different in study instrument used, number of study participants, study design used and they may use different technology method which made their patients good in self care practices. An interest in self care is considered as part of the health policy debate over how to allocate resources to maximize the health status of the population and further expansion of the current health care delivery system may not materially affects the nation's health.it is hypothesized that shifting more responsibility for promoting good health to the individual can produce large,favorable change(26).

This study identified that knowledge was statistically significant predictor of self care practices. In this finding, 45.7% of respondents had poor knowledge on diabetes and self care activities. In a study conducted in Harar, 54.1% of studied participants had poor knowledge(22) while study conducted in Jimma university specialized and teaching hospital, showed that 47% of studied participants had poor knowledge (24). Another study conducted in kenya,72.8% of sampled participants had poor knowledge(21).There was a knowledge deficit in those findings when compared with this study. This discrepancy may be due to day to day improved program of Ethiopian diabetic Association, variation in study population, hospital setting situation and study design a researcher used.

In the current study, among studied populations 54.3% of respondents had good knowledge on diabetes and self-care practices. This is low when compared to the results of the survey done in Changhan Hospital Thailand ,88.6% of

respondents those having good knowledge on diabetes self care practices(18),in Nigeria 64.4% of study participants had good knowledge on diabetes and self care practices(20). This variation could be due to different geographical location, different developmental level, different in assertive programs and medias used to create awareness about diabetes and its self care practices, instrument used and ways of administration.

In addition, the current study showed that respondents those having relatively high average monthly income (750-1050 ETB) had the tendency to be the predictor of self care practices. This is similar with a study done in Harari (22), which may show that patients relatively in high income category can get healthy foods that are recommended for diabetic patients. This finding showed that age of diabetes patients was significantly associated with self care activities. Respondents in age group 35-44 were more likely perform self-care as compared to those above the age of sixty five. This study was in line with a study done in Harar Hospital to identify the self care behavior of diabetic patients (22) and study done in Jimma Specialized Teaching Hospital, age is also associated with self care practices (24). Another study conducted in Changhan Hospital Thailand to identify factors influencing self care behavior among adult diabetic patients, age is an independent predictor of self care practices(18).According to Orem's theory of self-care, this may indicate that social interactions and experience sharing among individuals, as they mature, to gain deliberate actions and abilities to meet their self-care needs (27),which may shows that human being took responsibility for his/her healthy to perform self care while in productive age group.

In this study educational status, occupation and years of suffering from diabetes were significant predictors of self care practices. A study conducted in Iran educational level was also associated with self care practices (19) and study conducted in Harari Hospital and Jimma University Specialized Teaching Hospital, educational level was predictor of self care practices (22, 24). From those findings, it may be in the same educational level or in different educational level. This implies that education is the base for diabetic patient to understand the disease process and in to provide own self care practice. As Orem's theory of self care, self care as "learned behavior composed of deliberate goals that direct actions" that are fundamentals by "knowing" and "deciding". In this theory people are viewed as continuously engaging in self-care actions in the process of daily living to meet their healthy (27). In this study, occupation was also predictor of self care performance, being housewives and merchant statistically significant predictors of self care practice. Housewives were nearly 4 times more likely to perform self-care than government employee. Similar with study done in Harari Hospital and Jimma University Specialized Teaching Hospital (22, 24), in the current finding, years of suffering from diabetes (5 to 9) was associated with self care. This is in line with the study done in Changhan Hospital Thailand that years of suffering from diabetes were predictor of self care practices (18).This may be due to prevalence of non-communicable disease as communicable disease with understanding of the disease with experience while information dissemination in the Hospital setting and by media from time to time.

## **Strength and Limitation of the study**

### **Strength**

Simple random sampling was the method used to select participants, for this matter the chance of bias was minimized. And Using pre-tested instruments for data collection and necessary amendment taken.

### **Limitations**

Self-report rather than direct obrvation of patients of self-care practices and Use of mean fasting blood sugar rather than glycosylated hemoglobin to determine the level of glycemic control.

## **CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

This study identified gaps in self care practices of diabetic patients attending Nekemte Referral Hospital. As self care is crucial in diabetes to keep the illness under control because 95% self care is usually provided by the ill persons or their families in order to prevent or minimize complications related to the disease, this study recognized that large proportion of patients had much lower than the recommended self care practices.

Even though the patients had positive attitudes towards diabetes self care, nearly half of the patients had poor knowledge about diabetes and its self care practices, which results in poor self care activities on physical exercise, intake of healthy diet, following prescribed medication and self monitoring of blood glucose level.

In this finding respondents' age, monthly income, occupation, years of suffering from diabetes, educational status, and knowledge level are independent predictors of self care practice.

## **Recommendation**

As for recommendation, it is vital to take into consideration the following facts to improve the situation of diabetic patients:

Regional Health Bureau and Zonal Health Department in coordination with Nekemte Town Health office and Nekemte Hospital Diabetic Association Coordinators should have to develop health information dissemination programmes and strategies that consider the low educational status, occupational background, average low monthly income and different age group to improve the awareness of diabetic patients about diabetes and the importance of self care practices.

Nekemte Hospital Administrators and Nekemte Hospital Diabetic Association Coordinators should reinforce the diabetic patients on follow up and health professionals working in diabetic clinic to improve their knowledge on diabetes and its self care. Prepare routine health information dissemination and should be given by trained and experienced health professional by considering the patients educational background, occupation, age, years of suffering from the disease.

All nurses' workings on diabetes should give strict advice on importance of self care practices for diabetic patients during their follow up schedule and develop educational programmes and activities to educate patients on the prevention and treatment of diabetes, and should not rely on medical intervention only.

To researcher, further study should look into the sustainability of the self care practice and its effect on diabetic related morbidity

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