

**AWARENESS ON SYMPTOMS, COMPLICATIONS AND CARES TO
BE TAKEN ABOUT DIABETES MELLITUS IN DIABETIC PATIENTS
IN JIMMA UNIVERSITY DIABETIC CLINIC, JIMMA TOWN,
OROMIA REGIONAL STATE, SOUTH WEST ETHIOPIA.**

**A RESEARCH PAPER SUBMITTED TO JIMMA UNIVERSITY COLLEGE OF
PUBLIC HEALTH AND MEDICAL SCIENCES IN PREPARATION FOR
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF MEDICINE.**

BY

BETHELHEM MEKASHA (MEDICAL INTERN)

AUGUST, 2014

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ABSTRACT

Background: As there is no cure for diabetes, the overall goal is regulation of their disease rather than cure and the management of diabetes mellitus largely depends on patients' ability to self-care in their daily lives, and therefore, patient education is always considered an essential element of DM management. When diabetes is successfully regulated, the patient is able to avoid or delay complication while continuing to live a normal productive life.

Objective: To assess the awareness on the symptoms, complications and care to be taken about diabetes mellitus among diabetic patients in JUSH diabetic follow up clinic.

Method: A cross sectional study is conducted in JUSH diabetic follow up clinic. The study population will be all diabetic patients who come to JUSH diabetic follow up clinic during data collection time. Convenience sampling technique will be used. Data will be collected by using structured questionnaires. Data will be coded and analyzed by SPSS software.

Work plan and budget: The research will be conducted from April- September 2014. The total budget required is 1067 birr.

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ABBREVIATIONS

CBTP: Community Based Training Program

DCCT: Diabetes Control and Complications Trial

DKA Diabetes Ketoacidosis

DM: Diabetes mellitus

ESRD: End stage renal disease

FBS: Fasting blood sugar

IFG: Impaired Fasting Tolerance

IGT: Impaired Glucose Tolerance

JUSH: Jimma University Specialized hospital

KAP: Knowledge, attitude and practice

SPSS: statistical package for social science

SRP: Student Research program

TB: Tuberculosis

TTP: Team Training Program

USA: United States of America

CHAPTER ONE

INTRODUCTION

Back ground information

Diabetes mellitus is a group of metabolic disorders characterized by hyperglycemia (III). It is associated with abnormalities in carbohydrate, fat and protein metabolism and results in chronic complication, including microvascular, macrovascular and neuropathic disorders (III) that may affect the productivity and quality of life.

Depending on the etiology of the DM, factors contributing to hyperglycemia include reduced insulin secretion, decreased glucose utilization, and increased glucose production. The metabolic dysregulation associated with DM causes secondary pathophysiologic changes in multiple organ systems that impose a tremendous burden on the individual with diabetes and on the health care system. In the United States, DM is the leading cause of end-stage renal disease (ESRD), non-traumatic lower extremity amputations, and adult blindness. It also predisposes to cardiovascular diseases. Currently DM has an alarmingly increasing prevalence worldwide (XVI).

Diabetes mellitus (DM) is classified as type 1, type 2, gestational diabetes and other specific type. The two major categories of DM are type 1 and type 2. Both types of diabetes are preceded by a phase of abnormal glucose homeostasis as the pathogenic processes progress. Type 1 DM is the result of complete or near-total insulin deficiency. Type 2 DM is a heterogeneous group of disorders characterized by variable degrees of insulin resistance, impaired insulin secretion, and increased glucose production. Type 2 DM is preceded by a period of abnormal glucose homeostasis classified as impaired fasting glucose (IFG) or impaired glucose tolerance (IGT). Glucose intolerance developing during pregnancy is classified as gestational diabetes. Insulin resistance is related to the metabolic changes of late pregnancy, and the increased insulin requirements may lead to IGT or diabetes. Other etiologies for DM include specific genetic defects in insulin secretion or action, metabolic abnormalities that

impair insulin secretion, mitochondrial abnormalities, and a host of conditions that impair glucose tolerance.(I)

The worldwide prevalence of DM has risen dramatically over the past two decades. Although the prevalence of both type 1 and type 2 DM is increasing worldwide, the prevalence of type 2 DM is rising much more rapidly, presumably because of increasing obesity and reduced activity levels as countries become more industrialized. (I)

With unregulated DM, the body loses glucose, ketone bodies, electrolytes and water. This will result in dehydration, ketoacidosis and in extreme case may proceed to diabetic coma and death. (IV)

The management of diabetes mellitus largely depends on patients' ability to self-care in their daily lives, and therefore, patient education is always considered an essential element of DM management. Studies have consistently shown that improved glycemic control reduces the rate of complications and evidence suggests that patients, who are knowledgeable about DM self-care, have better long term glycemic control. (XVII)

1.1 Statement of the problem

The worldwide prevalence of DM has risen dramatically over the past two decades, from an estimated 30 million cases in 1985 to 285 million in 2010. Based on the current trends, the International Diabetes Federation project 438 million individuals will have diabetes by the year 2030. (I)

The burden of non-communicable disease is emerging as a major public health problem for developing countries. This is largely attributed to unhealthy life style, unhealthy dietary habit, physical in activity, obesity and smoking (XVII).

Diabetes is common in Ethiopia but the incidence and prevalence of the disease is not well known in the community. Limited studies have shown a significant increase in its prevalence over the last four decades, poor access to diabetes care and high rates of chronic complications. However, diabetes in Ethiopia has never been given the attention it deserves. Glycemic control and management of co-morbid conditions and diabetes complications are alarmingly sub-optimal. Furthermore, the overall disease burden in the country is unknown due to very limited studies in the country.

DM is associated with vascular and non-vascular chronic complication like nephropathy, retinopathy, neuropathy and cardiovascular disease. The risk of chronic complications increases as a function of the duration and degree of hyperglycemia; they usually do not become apparent until the second decade of hyperglycemia. Since type 2 DM often has a long asymptomatic period of hyperglycemia, many individuals with type 2 DM have complications at the time of diagnosis. (I)

The DCCT provided definitive proof that reduction in chronic hyperglycemia can prevent many of the early complications of type 1 DM (I). The DCCT demonstrated that improvement of glycemic control reduced non-proliferative and proliferative retinopathy (47% reduction), micro albuminuria (39% reduction), clinical nephropathy (54% reduction), and neuropathy (60% reduction). Improved glycemic control also slowed the progression of early diabetic complications. (I)

As DM is a chronic disease with no cure, a crucial element is prevention of complication by self-care and self-management of illness at home with proper guidance. Example, adherence to diet and drugs regimen, examination of his/her own urine and where possible blood glucose monitoring, self-administration of insulin, attending regular checkup, recognition of symptoms associated with acute complications. Maintenance of optimum weight, etc. In short diabetic patient must have a working knowledge of DM (XIV).

Education of diabetic patients and the family will optimize the effectiveness of primary health service (VIII).

Thus in developing countries likes Ethiopia where health service coverage is low and lack of diabetic specialist nurses, it is essential to aim at equipping diabetic patients with self-reliance rather than dependent care.

Therefore, the purpose of this study is to assess the extent and magnitudes of self-care deficit among known adult diabetic in Jimma zone and to recommend a more practical and appropriate measures that will help improve the deficit and strengthen self-reliance of the patient.

CHAPTER TWO

LITERATURE REVIEW

DM comprises a group of metabolic disorders characterized by hyperglycemia. Several types of DM exist and are caused by complex interaction of genetics, environmental and life style changes. Depending on the etiology of DM, factors contributing to hyperglycemia may include reduced insulin secretion, decreased glucose utilization and increased glucose production (5). Hospital based studies showed that the prevalence of diabetes has increased from 1.9% in 1970 to 9.5% in 1999. WHO estimated the number of diabetic cases in Ethiopia to be 800,000 by the year 2030. However, due to the widening of social differences in economic status, circumstantial evidences show that the urban population is facing higher level of overweight and obesity. (V)

A research done in diabetic clinic of Tikur Anbessa teaching hospital, Addis Ababa, Ethiopia showed that 28(20.1%) did not attend any diabetic education program and 59(42.5%) attend the diabetic education program more than once. Knowledge on chronic complications was very poor when compared to other areas (2). In developing countries, the majority of people with diabetes are in the age range of 45-64 yrs. In contrast the majority of people with diabetes in developed countries are older (3). In developing countries, the average life expectancy of type 1 DM patient is 20-30 years as compared with 50 years for non- diabetic patients. (II)

Patient with type 1 DM can have a normal life expectancy but on average their life span is several year shorter in developed countries. This is due to proper diabetic care (IV).

Retrospective study done on 69 patients in Metu Hospital from 1980-1981 E.C showed that the prevalence was 1.2/100 with 33% of type 1 DM and 66.7% were type 2 diabetics.

The mean age was found to be 44.5 years and 30% of diabetics were females while the remaining were males. A research done in 2005 showed that among 500 registered diabetic patients, 328 participated in the study. The mean age was 45 ± 16 . Former accounting for 27.4% was the single most affected category, but 44.3% were distributed over variety of miscellaneous occupations. The 50.5% of patient were from Jimma town while 37.5% were from the rural areas around Jimma and the remaining coming from other zones and region of the country (V, VI).

The proportion of type 1 and type 2 patients was 48.8% and 49.1% respectively. The mean systolic blood pressure, diastolic blood pressure, body mass index, fasting blood sugar and cholesterol level were 132 ± 23.6 mmHg, 83 ± 15.9 mmHg, 22.5 ± 4.8 kg/m², 228 ± 114.8 mg/dl, 176.4 ± 56.6 mg/dl respectively.

A study conducted on 100 diabetics patient at Yekatit 12 Hospital, Addis Ababa, Ethiopia average age of death was 50.7 years and average duration of illness was only 10.7 years, only 5% of patients lived for more than 25 years and 46% did not make it to their first decade of diabetes. However, most of death was related to the diabetes state (VII).

In a study conducted on 106 diabetic patients drawn from health center and another 123 from three regional hospitals in Addis Ababa, 89.9% of the patient has regular follow up for their disease. Only 21% of the patient has access for determination of their blood sugar level in some institution. Only 5% and 1.4% of the total number of diabetics were able to do self-blood glucose monitoring and urine sugar determination respectively at home. About 204% of the diabetics had attended diabetic education session and only 32.8% of the patients know that blood sugar control decreases complication of diabetes, 22.8% had a total of 181 admissions, of which 51 admissions were diabetes related causes of admission were uncontrolled diabetes (49.2%) and DKA in 25.5% (IX).

In another study conducted on 217 patients who were an follow up in JUSH diabetic follow up clinic, age, address and type of DM showed significant association with poor glycemic control.

In many developed countries where medical care is readily available, the prognosis for life and death of diabetic patient is now differing longer by the course of the characteristics long term complication of the disease rather than by acute complication, such as DKA and severe infection. In contrast the majority of people with type 1 DM in developing country die early of infection (TB) and acute complication which remains life threatening complications of DM still carrying mortality of 6-10% in well-equipped center. They do not live long enough to develop life threatening chronic complications (IV).

Hypoglycemia is also very hazardous for Ethiopian DM patients. A community based study done on 57 type 1 DM elderly patients related to skill and knowledge of safety of self-management showed that 26% experienced hypoglycemia at least once in a month, 25% had been at hospital with hypoglycemia in the last year, 80% did not know that action to take with hypoglycemia, 46% didn't know hypoglycemia

symptoms, 50% inspected or washed their feet frequently and 40% walked bare foot occasionally. The study showed serious deficiency in the basic education and self-management skill (VIII).

Although diet and exercise are the first step to prevent the progress of diabetes in high risk people, considering this a special device should be given to people who are at risk of diabetes to normalize their blood glucose level as well as body weight through life style modification or glycemic control fundamental to the management of diabetes.

Generally studies revealed that the knowledge, attitude and practice of diabetic patient towards self-care is not satisfactory; this is due to the fact that diabetic education is not conducted on a planned formal education basis for diabetics. Furthermore, education if present at all, did not consider individual socio- cultural background, individual uniqueness, educational status, economic status and assessment for follow up of KAP after program of diabetics education.

Thus considering these views, this research seeks to assess the KAP level of the diabetic patient contributing the self-care deficit.

CHAPTER THREE

3.1 Significance of the study

The information on awareness of diabetic patient about diabetic care is of paramount importance for several reasons; the economic and social effects of the disease would be extreme against back ground of registered health provision and limited resource.

Even though DM is a lifelong disease it is possible to prevent or delay chronic complication and prevent acute complications.

The study will also identify different factors which can affect compliance to treatment that can be utilized by attending clinician to improve the compliance of their patients towards diabetes management.

CHAPTER FOUR

Objectives

4.1 General objectives

To assess the awareness on the symptoms, complications and care of diabetes mellitus among diabetic patients in JUSH diabetic follow up clinic.

4.1 Specific objectives

- To assess the awareness of diabetic patients about the symptoms of the disease
- To assess the knowledge of the diabetic patients regarding the acute and chronic complications of diabetes mellitus and the preventive measures
- To assess patient practice on the cares to be taken during the course of the disease
- To assess the socio- demographic distribution of diabetes.

CHAPTER FIVE

METHODS AND MATERIALS

5.1 Study area

The study is conducted at adult diabetic follow up clinic of JUSH. Jimma University Specialized Hospital is a teaching and referral hospital located in Jimma town, 346 km away from Addis Ababa in Southwest Ethiopia. Jimma University adopt the philosophy implemented by four major ways CBTP, TTP, DTPP and SRP. Diabetes clinic is one of the many chronic follow-up clinics of the hospital occurring twice weekly on Mondays and Tuesdays. The service is rendered by internists, medical residents, medical interns and general nurses. There are 2500 registered diabetic patients on regular follow up at JUSH diabetic clinic.

5.2 Study period

The study is conducted from June 2- 15, 2014 GC

5.3 Study design

Institutional based cross sectional study is conducted to as KAP of diabetic patients towards diabetes at diabetic follow up clinic of JUSH.

5.4 Study population

5.4.1 Source population

The source population is all diabetic patients who are registered and have follow up at JUSH diabetic follow up clinic.

5.4.2 Study population

The study population is all diabetic patients who visit diabetic follow up clinic during the period of data collection.

5.5 Sampling technique

Convenience sampling technique is used during data collection.

5.6 Sampling size

Is calculated using

$$n = \frac{Z^2 p (1-P)}{d^2} \quad Z = 1.96 (95\% \text{ confident interval})$$

$$d^2 \quad d = 0.05 \text{ marginal error}$$

P = Prevalent of KAP of DM patient towards home management of their

Illness

n = minimum sample size

$$n = \frac{(1.96)^2 \cdot 0.5(1.05)}{(0.5)^2}$$

$$(0.5)^2$$

$$n = \underline{384}$$

The minimum sample size for less than 10,000 populations will be

$$N = \frac{n}{1 + \frac{n}{N}}$$

$$1 + \frac{n}{N}$$

Total population

$$N = 384$$

$$1 + \frac{384}{N} = 315$$

$$1753$$

With 10% contingency

$$N = \underline{346}$$

5.7 Data analysis interpretation

Data is coded and analyzed by SPSS window software, subsequently appropriate frequency distribution and cross tabulation for selected variable will be made. Average blood sugar level refers to the average of the last three measures.

5.8 Quality control

To ensure the quality of data, data collectors were selected based on their interests and is adequately oriented. Information provided by patients for doses of drugs, treatment modifications, and clinical evaluations is cross checked from their records for consistency. The collected data is also checked for completeness and internal consistency.

5.9 Ethical consideration

In order to respect patients' will of right, roles and regulations of the hospital where the study will be conducted, the following ethical consideration will be taken in to account.

- Clear and detail explanation will be given as to the objective of the study.
- Confidentiality will be kept by not recording the name of respondents.
- Written consent will be obtained from the respective authorities and formal letter will be written from JUSRP to JUSH diabetic follow up clinic before commencing the data collection process.

5.10 Limitation of the study

The restriction to make conclusion about their glycemic control with a single FBS level records, since FBS of DM patients vary every day.

5.11. Operational definition

1. Knowledge

Understanding of something related to diabetes range of information to words diabetes core. 15 questions of closed ended type ore developed by the principal investigator of this study. The scoring for this knowledge questions will be done as follow.

Knowledgeable: patients who scored at least 85% of the knowledge questions (> 13 out of 15 questions for those who use insulin and > 11 out of 15 for those not using insulin).

Satisfactory: Patient who scored 60-84% of the knowledge questions (9-12 out of 15 questions for those who use insulin and 8-10 out of 15 questions for those not taking insulin).

Poor: Those who scored < 60% of the knowledge questions (< 9 out of 15 questions for those who use insulin and < 8 out of 15 for those not taking insulin).

2. Attitude

The way of feeling out look or behaving towards diabetes five questions of closed ended type are developed. Each of the question has an agree, disagree and neutral options. For those who reacted to an agree option will be given a score of one and those who reacted to disagree and neutral option will be given a score of zero.

Favorable attitude: Those who scored more than 60% of the attitude questions (reacted to agree options for > 3 out of 5 questions).

Unfavorable attitude: those who scored less than 3 out of 5 attitude questions with an agree options.

3 Practice

The action habit which the diabetic patients take or perform with regard to control of DM. Seven question of closed ended type will be developed to assess the practice of patients self-care ability. The respondents will be requested to react to the options given along with the question by saying yes or no.

Good practice: Respondents who reacted to the 'Yes' answer more than 60% of practice questions (≥ 4 out of questions for those using insulin and ≥ 3 out of question for those not using insulin).

Poor practice: Respondents who reacted to the no answers and there with a 'yes' answer with a score of < 4 out of 7 questions for those who use insulin and < 3 out of 7 question for those not taking insulin).

4. Hyperglycemia- raised blood sugar level (FBS >126 mg/dl, RBS > 200 mg/dl) (I)

5. Hypoglycemia- low blood sugar level, <55 mg/dl (I)

5.12 Variables

Independent variables

- Age
- Sex
- Religion
- Ethnicity
- Occupation
- Educational status
- Type of diabetes
- Duration of illness
-

Dependent variables

- Knowledge of diabetic care
- Attitude towards diabetic illness
- Practice of diabetic care
- Blood glucose level

6.Results

6.1. Socio-demographic characteristics

Table 1: Socio demographic characteristics of diabetics in JUSH diabetic follow up clinic, Jimma, South Western Ethiopia, August 2014

Socio demographic characteristics		Male		Female		Total	
		No	%	No	%	No	%
Age in year	15-30	21	62	13	38	34	100
	31-45	60	57	44	43	104	100
	46-55	42	37	69	63	111	100
	>55	53	55	44	45	97	100
	Total	176		170		346	
Educational status	Illiterate	3	30	7	70	10	100
	Can read and write	37	48.7	39	51.3	76	100
	Elementary	73	51.4	69	48.6	142	100
	High school	46	52.9	41	47.1	87	100
	College/University	19	61.3	12	38.7	31	100
Occupation	Student	13	61.9	8	38.1	21	100
	Government employee	67	51.5	63	48.5	130	100
	Farmer	7	77.8	2	22.2	9	100
	Merchant	75	64.1	42	35.9	117	100
	Private worker	13	19.7	53	80.3	66	100
	Others (house wives, no job)	1	33.3	2	66.7	3	100

In this cross-sectional study design a total of 346 diabetic patients were interviewed and all were included in the analysis making a response rate of 100%. The male to female ratio is 1: 0.9. The majority of the respondents were in the age range of 46-55 years (32%). Most of the respondents are at elementary school (41%) and only 3% of them are illiterate. Out of the total respondents 37.6% are employee.

6.2 ASSESSMENT OF KNOWLEDGE

Table 2: distribution at diabetics by knowledge about home management of diabetics with regard to hypoglycemia, hyperglycemia, diabetic diet, exercise and foot care in diabetic patient attending JUSH diabetic follow up clinic, Jimma, South Western Ethiopia, August 2014

Knowledge about		Yes		No		Total	
		No	%	No	%	No	%
Hypoglycemia		321	93	25	7	346	100
Hyperglycemia		311	90	35	10	346	100
Diabetic diet	How diabetic feed	340	98.3	6	1.7	346	100
	Alcohol use by diabetics	283	82	63	18	346	100
Foot care	Need for frequent foot care and inspection	315	91	31	9	346	100
	Wearing properly fitting shoes	315	91	31	9	346	100
Exercise	Use of exercise in controlling diabetes	307	89	39	11	346	100
Acute complications of DM		259	75	87	15	346	100
Chronic complications of DM		280	81	66	19	346	100

Majority of the respondents know about hypoglycemia and hyperglycemia (93% & 90% respectively). Almost of them knows what to feed. Ninety one percent of them have the knowledge about wearing

properly fitting shoes and the need for frequent foot care and inspection. Most of the respondents know about the acute and chronic complications of diabetes mellitus (75% & 81% respectively).

6.3 ASSESSMENT OF ATTITUDE

Table 3: Distribution of diabetics by attitude about home management of diabetes, in diabetics attending JUSH diabetic follow up clinic, Jimma, South Western Ethiopia, August 2014

Attitude about	Agree		Disagree		Neutral		Total	
	No	%	No	%	No	%	No	%
Strict blood sugar monitoring	346	100	-	-	-	-	346	100
Strict adherence to prescribed diet and medications	315	91.1	-	-	31	8.9	346	100
Need of exercise on controlling diabetes	307	88.7	-	-	39	11.7	346	100
Need to have frequent foot care	315	91.1	-	-	31	8.9	346	100
The need of regular health education on diabetes	346	100	-	-	-	-	346	100

All of the respondents believe on strict blood sugar monitoring and the need of regular health education on diabetes. Ninety one percent of them agree on the strict adherence to prescribed diet and medications as well as the need to have frequent foot care. The need of exercise on controlling diabetes mellitus is believed by 88.7% of them.

6.4 ASSESSMENT OF PRACTICE

Table 4: Distribution of diabetics by practice about home management of diabetics in diabetics attending JUSH diabetic follow up clinic, Jimma, South Western Ethiopia, August 2014

Practice about	Yes		No		Total	
	No	%	No	%	No	%
Regular meal time	287	82.9	59	17.1	346	100
Eating diabetics diet	346	100	-	-	346	100
Attending diabetics education	155	44.8	191	55.2	346	100
Self-administration of insulin	147	42.5	199	57.5	346	100
Proper insulin storage	147	42.5	199	57.5	346	100
Missing insulin injection	104	30.1	242	69.9	346	100
Self-blood test for glucose	102	29.5	244	70.5	346	100
Measures taken during state of hypoglycemia	346	100	-	-	346	100
Daily foot care	159	45.9	187	54.1	346	100

All of the respondents know the measures to be taken during the state of hypoglycemia. All of them are eating diabetic diet and among those about 82.9% have regular meal time. Forty four point eight percent of the respondents attend health education about diabetes held in a health facility. All the respondents with type 1 diabetes mellitus have proper insulin storage and they administer it to themselves. Among those who take insulin injection only 30.1% of them have history of missed insulin injection. Twenty nine point five of the respondents do the blood test for glucose by themselves. Those who have a daily foot care accounts for 45.9%.

6.5 DURATION OF DIAGNOSIS, TYPE OF DIABETICS AND VALUE OF FASTING BLOOD GLUCOSE

Table 5: Distribution of diabetics by duration of diagnosis, type of diabetics and value of fasting blood glucose among diabetics attending JUSH diabetic follow up clinic, Jimma, South Western Ethiopia, August 2014

		Number		Total	%
		Male	female		
Duration of diabetes since diagnosis in year	0-4	26	17	43	12.4
	5-9	59	57	116	33.5
	10-14	47	51	98	28.4
	>15	44	45	89	25.7
	Total				100
Type of diabetes	Type 1	82	65	147	42.5
	Type 2	96	103	199	57.5
	Total				100
Value of FBS in mg/dl	<80mg/dl	43	34	77	22.2
	80-120	82	73	155	44.8
	121-200	39	47	86	24.9
	>200	12	16	28	8.1
	Total				100

Among the patients interviewed 57.5% of them are with type 2 diabetes mellitus. Majority of them are diagnosed 5-9 years back. Most of the respondents have fasting blood sugar level less than 120mg/dl.

6.6 COMPREHENSIVE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE

Table 6: Distribution of diabetics by comprehensive level of knowledge, attitude and practice about home management of diabetes in diabetics attending JUSH diabetic follow up clinic, Jimma, South Western Ethiopia, August 2014

Comprehensive level of KAP		Number		Total	
		Male	Female	No	%
Knowledge	Good	86	91	177	51.2
	Satisfactory	73	57	130	37.5
	Poor	17	22	39	11.3
Attitude	Favorable	129	134	263	76.1
	Unfavorable	47	36	83	23.9
Practice	Good	152	157	309	89.3
	Poor	24	13	37	10.7

Among the respondents, 11.3% of them have poor knowledge, 76.1% have favorable attitude and 89.3% have good practice towards the home management of diabetes mellitus.

7.DISCUSSION

The burden of non-communicable disease is emerging as a major public health problem for developing countries. This is largely attributed to unhealthy life style, unhealthy dietary habit, physical inactivity, obesity and smoking (XVII).

Among the total 346 patients interviewed 57.5% of them are with type 2 diabetes mellitus, from which it decreased from the study done in the year 2011 which was 64.4% (xix).

In this cross-sectional study design a total of 346 diabetic patients were interviewed and all included in the analysis making a response rate of 100%. The male to female ratio is 1:0.9, which is comparative with the study done in 2011 in diabetic follow up clinic of JUSH, 1.2:1 (xix). The majority of the respondents were in the age range of 46-55 years (32%). Most of the respondents are at elementary school (41%) and only 3% of them are illiterate, in the study done in 2011, majority of the respondents were illiterates (34%) followed by those with educational status at elementary school (31.9%) (xix). Out of the total respondents of this study, 37.6% are employee, which is comparative with the study done in 2011, 32.2% (xix).

Among the respondents in this study, majority of the respondents have good and satisfactory knowledge towards the home management of diabetes mellitus, which is comparative with the study done in 2011 (xvii).

Regarding the attitude towards the home management of diabetes mellitus, 76.1% have favorable attitude which is a decreased value when compared with a previous study (xvii).

In general in this study 89.3% have good practice towards the home management of diabetes mellitus which is a higher value when compared with a previous study, 85.4% (xvii). All of them are eating diabetic diet and among those 82.9% have regular meal time which is a great improvement when compared with a previous study when about 27.7% of the diabetics have poor practice regarding the choice of food (xvii). Forty four point eight percent of the respondents attend health education about diabetes held in a health facility, which is comparative with the study done in Tikur Anbessa teaching hospital (ii). All the respondents with type 1 diabetes mellitus have proper insulin storage and they administer it to themselves. Among those who take insulin injection only 30.1% of them have history of missed insulin injection. In the previous study held only 9.8% of the diabetic patients lack adherence to the drugs (xvii). Twenty nine point five of the respondents in this study do the blood test for glucose by

themselves. Those who have a daily foot care accounts for 45.9% which is comparative with the previous study (xvii).

8. CONCLUSION

Although majority of the diabetic patients who have follow up in diabetic clinic in JUSH have good knowledge, favorable attitude and good practice towards the home management of diabetes mellitus, still more have to be addressed regarding patient education because of inadequate knowledge in the ability to self-care in daily lives is an essential element in the management of diabetes mellitus. Studies have consistently shown that improved glycemic control reduces the rate of complications and evidence suggests that patients, who are knowledgeable about DM self-care, have better long term glycemic control.

9. RECOMMENDATION

JUSH should take urgent action:-

- ☞ To facilitate regular patient education towards the self-care and home management of diabetes mellitus
- ☞ To increase patient awareness towards the symptoms and complications of diabetes mellitus.
- ☞ To increase the working days that are scheduled for the diabetic follow up clinic.
- ☞ To assign more health professionals in the diabetic follow up clinic.
- ☞ To support those in a very low socioeconomic status with self-blood glucose monitoring equipment

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