

Assessment of Self-Care Knowledge among Type II Diabetics Mellitus Patients at Diabetic Center in Babylon Governorate/ Iraq

Salim k. Hajwal. *, Salma K. J.PhD**

* Community Health Nursing Specialist, MScN, Ministry Of Defense.

** Assistant Professor and Academic Advisor, Community Health Nursing Department/ College of Nursing/ University of Babylon.

Abstract- Study aims: To assess the self-care approach of patients' with type II diabetics mellitus at diabetic center in Babylon Governorate and to determine the relationship between self-care knowledge and demographic characteristics of age, gender, occupation, education and socioeconomic status.

Methodology: A descriptive study is conducted throughout the period of (October 20th 2015 to June 25th 2016) in order to assess the self-care knowledge of the patients with type II diabetics mellitus at diabetic center in Babylon Governorate. A purposive sample of (120) subjects is selected throughout the use of non-probability sampling approach, that include patients' who are diagnosed with type II diabetes mellitus. This sample is visiting diabetic center in Merjan medical city/ Babylon Governorate. The reliability of the questionnaire which is determined through a pilot study and the validity are achieved through a panel of (13) experts. The overall items, which are included in the questionnaire, are (50) items. These items are divided into (2) sections which include patient knowledge about disease and complications and self-care activities. Data are collected through the use of structured interview technique and the questionnaire as means for data collection. Data are analyzed through the application of descriptive statistical data analysis approach that includes, frequencies, percentages, mean of scores, standard deviation and inferential statistical data analysis approach that include Chi-squared test.

Results: The study results indicate that patients are calculated acceptable level of knowledge regarding the disease and dealing with actions that keeping the condition stable and less with some items limited to curability of the disease, some signs of, some sources of food, supplements, and others like one proportion of caring the foot.

Conclusion: The study concludes that the patients are knowledgeable about their chronic state as it needs commitments to changes in the life style and aware about the future of it as long life disease. Also, diabetics level of education had affected their understanding in comparison with other socio-demographic characteristic.

Recommendations: The study recommends that patients with chronic diseases like the current one need to be educated in regard to some misconceptions such as treatment of the illness, appropriate strategies such as give priorities to those very vital factors in controlling blood sugar when teaching patients, and Educational materials or programs designed to assist Patients in practicing some activities to reduce burden of the condition.

Index Terms- Diabetes mellitus, patient, Assessment, self-Care, Knowledge

I. INTRODUCTION

Diabetes is a chronic complex metabolic disorder, characterized by the high sugar in the blood constant caused by a defect in insulin secretion, insulin action, or both. Type II is one of multiple types. The management of type II diabetes disease. Despite this, at least one-third of patients do not take their insulin as prescribed, 20% of adults deliberately skip doses⁽¹⁾. Diagnosed with diabetes type II usually occurs after the age of 40 years but could occur earlier, especially in populations with a high prevalence of diabetes rate. There are increasing reports of children with diabetes type II. The type of diabetes can second still undiscovered, non-symptomatic for the many years, and the diagnosis is most made from association complication or perchance through blood or sugar in the tests urine is abnormally⁽²⁾. Diabetes is a health problem, clinical and public key emerging. According to estimates by the World Health Organization in 2007, and (190) million suffered people from diabetes, and about 330 million are expectation to be diabetic by the years of 2025. It is the major cause of blindness, and amputation of lower border prosthetics worldwide. With regard to mortality and adults who suffer from diabetes and many rates of stroke and death from diseases of the heart, which is about (2) to (4) times higher than adults without diabetes⁽³⁾. The commonness of DM is high among the populations in the countries of Middle East, and patients who are lack the skills and knowledge necessary to managed their own that is concerned with diabetes type II diabetes⁽⁴⁾. Successful self-care with type II diabetes patients depends largely on the response of patients to know they have the disease, and their awareness of their effects, and health behaviors, especially self-care behaviors such as diet, exercise, and weight loss⁽⁵⁾. If patients have the ability to produce effective self-care means they are aware about their condition, this include internal and external conditions of the individual. Maintenance and development of self-care agency and depends on the person's age, marital status, educational level, socio-economic situation. Promote healthy lifestyles (eating a healthy diet, regular exercise, maintaining a normal body weight) is adjusted basic lifestyle in the promotion of public health⁽⁶⁾. All patients if having knowledge about self-care has at the same time must be guidance and education in the field of care, for patients with proper decision able to make substantial improvements in

their lifestyle, that would be helpful in maintaining blood sugar control is good. Lack of patient knowledge about self-care, has been observed that the guidance and communication inappropriately can lead to poor response ⁽⁷⁾.

Objectives :

- 1.To assess the self-care knowledge of patients diagnosed with type II diabetics mellitus.
- 2.To find-out the relationship between the socio-demographic data and the self-care knowledge

II. METHODOLOGY

Design of Study: A descriptive study cross-sectional study design , using assessment approach, is carried out in the present study. That is conducted on diabetic center in Hilla city for the period of October 20th 2015 to June 25th 2016

Setting of the Study: The study is carried out at diabetic center in Babylon Governorate. On patients' who were diagnosed with type II diabetes mellitus visiting diabetic center in Merjan medical city/ Babylon Governorate.

Sample of the Study: A purposive sample of (120) subjects is selected throughout the use of non-probability sampling approach, that include patients' who are diagnosed with type II diabetes mellitus.

Study Instrument: In order to achieve the objectives of the present study. A constructed questionnaire is prepared by the researcher which composed of the following:

Part I: This part contains information about Socio-Demographical Characteristics which consists of (9) sections.

Part II: This part contains information about clinical data which is composed (6) sections include.

Part III: This part is composed of (50) items, and divided into (2) sections: patient's knowledge about disease and its complications, and self-care knowledge. This section includes different numbers of variables illustrate patient's knowledge about diabetes and it's complications which is composed of (20) items, and section two composed of 4 domains, includes domain (A) Diet which is composed of (10) items, domain (B) Exercise which is composed of (7) items, domain (C) Foot Care which is composed of (8) items, and final domain concerning with the other information about self-care knowledge for patients with type II diabetes mellitus which is composed of (5) items. A (3) levels likert scale is used to measure the variables, 3= I know, 2= Not sure, 1= Don't know

III. STATISTICAL ANALYSIS

The statistical data analysis approach by using (SPSS ver. 20) is used in order to analyze and evaluate the data of the study. A descriptive statistical data analysis approach used to describe the study variables : Frequencies and Percentages. Inferential statistical data analysis approach: used by application of the Chi-square test this test is used for determining the association between socio-demographic data and the self-care knowledge. For this study the significant P-value≤0.05

IV. RESULTS OF THE STUDY

Table (1): Distribution of the Study Sample by their Demographic Data

Demographic data	Rating	Frequency	Percent	Cumulative percent
Age /years	<= 20	2	1.7	1.7
	31 – 40	7	5.8	7.5
	41 – 50	38	31.7	39.5
	51 – 60	37	30.8	70
	61+	36	30	100
Gender	Male	52	43.3	43.3
	Female	68	56.7	56.7
Level of education	Not write and reading	46	38.3	38.3
	write and read	9	7.5	45.8
	Primary school	14	11.7	57.5
	Secondary school	26	21.7	79.2
	Institute and college	25	20.8	100.0
Marital status	Single	6	5	5.0
	Married	101	84.2	89.2
	Divorced	1	0.8	90.0
	Widowed	12	10	100.0
Family .size	<= 2	10	8.3	8.3
	3 – 5	32	26.7	35.0

	6 – 8	45	37.5	72.5
	9 – 11	28	23.3	95.8
	More than 12	5	4.2	100.0
Occupation	Employ	35	29.2	29.2
	Un employ	51	42.5	71.7
	House wife	34	28.3	100.0
Monthly income	Enough	41	34.2	34.2
	Enough to some extent	41	34.2	68.3
	Not enough	38	31.7	100.0
Residence	Urban	73	60.8	60.8
	Rural	47	39.2	100.0
	Total	120	100	

Table (1) shows that (31.7%) of the study subjects are within (41-50) years old, (56.7%) are females, (38.3%) are not able to read and write, (84.2%) are married. Regarding to the family size, the study indicate that (37.5%) for (6-8) family

members. In addition, (42.5%) of the study sample are employee, (34.2%) their levels of monthly income is enough to enough to some extent. Moreover, (60.8%) are urban residents.

Table (2): Distribution of the Study Sample(n=120) by their Clinical Data

Clinical data	Scale	Frequency	Percent	Cumulative percent
Height/cm	<= 160	8	6.7	6.7
	161 – 166	35	29.2	35.8
	167 – 172	26	21.7	57.5
	173 – 178	26	21.7	79.2
	179+	25	20.8	100.0
Weight/kg	<= 50	7	5.8	5.8
	51 – 64	14	11.7	17.5
	65 – 78	56	46.7	64.2
	79 – 92	36	30	94.2
	93 – 106	2	1.7	95.8
	107+	5	4.2	100.0
Body Mass Index	Under weight	8	6.7	78.3
	Normal weight	48	40.0	87.5
	Over weight	49	40.8	100.0
	Obese	15	12.5	78.3
Smoking	No smoker	94	78.3	78.3
	Ex- smoker	11	9.2	9.2
	Smoker	15	12.5	100
History of food allergy	Yes	13	10.8	10.8
	No	107	89.2	100
Family history of diabetes mellitus	Yes	53	44.2	44.2
	No	67	55.8	100
Disease duration	<= 5	45	37.5	37.5
	6 – 9	20	16.7	54.2
	10 – 13	27	22.5	76.7
	14 – 17	9	7.5	84.2
	18 – 21	13	10.8	95.0
	22 – 25	4	3.3	98.3
	26 – 29	1	0.8	99.2

	30+	1	0.8	100.0
	Total	120	100	

Table (2) shows that (29.2%) of the study subjects' height is (161-166 cm), regarding the study subjects weight, the study results indicate that (46.7%) of the study subjects' weight is (65-78 kg). also, (40.8%) of the study sample are overweight. In

addition, (78.3%) are not smokers, (89.2%) have no history of food allergy, (55.8%) shows negative family history of diabetes mellitus, and (37.5%) of the study subjects are suffering from diabetes since (5 years or less).

Table (3): Distribution of the Study Sample by their Knowledge about Diabetes and its Complications

Main domain	Rating	Frequency	Percent	M.S	assessment
Overall Knowledge about Diabetes and its Complications	Fail	4	3.3	2.32	Pass
	Pass	116	96.7		
	Total	120	100		

Table(3) shows that (96.7%) of the study subjects' overall responses are pass

Table (4): Distribution of the Study Sample by their Knowledge about Self-Care

Knowledge self-care	Rating	Frequency	Percent	C.P	S.D	M.S	Assessment
Diet							
1-Eat from 175-250 gram carbohydrate (including mostly, bread and rice	Don't know	34	28.3	28.3	0.66	1.58	pass
	Not sure	41	34.2	62.5			
	I know	45	37.5	100.0			
2-I take at list one potato meal daily	Don't know	68	56.7	56.7	0.88	1.46	Fail
	Not sure	34	28.3	85.0			
	I know	18	15	100.0			
3-Unsweetened fruit juice is appropriate to condition	Don't know	78	65	65.0	0.87	1.43	fail
	Not sure	5	4.2	69.2			
	I know	37	30.8	100.0			
4-My diet should be less fatty	Don't know	14	11.7	11.7	00.95	2.39	Pass
	Not sure	1	0.8	12.5			
	I know	105	87.5	100.0			
5-My diet includes dietary fiber .vegetables and fruits like apple	Don't know	31	25.8	25.8	0.68	2.12	Pass
	Not	11	9.2	35.0			

	sure						
	I know	78	65	100.0			
6-Males must be small and multiple(5)meal	Don't know	39	32.5	32.5	0.92	2.17	Pass
	Not sure	28	23.3	55.8			
	I know	53	44.2	100.0			
7-Taking any over counter medication	Don't know	45	37.5	37.5	0.64	2.78	Pass
	Not sure	10	8.3	45.8			
	I know	65	54.2	100.0			
8-Taking any over counter vitamins ,or supplements	Don't know	13	10.8	10.8	0.73	1.30	Fail
	Not sure	107	89.2	100			
9-It is important to read and use food labels as a dietary guide	Don't know	74	61.7	61.7	0.82	1.45	Fail
	Not sure	8	6.7	68.3			
	I know	38	31.7	100.0			
10-Taking diabetes medications. Diabetes pills	Don't know	6	5	5.0	0.93	2.58	Pass
	Not sure	38	31.7	36.7			
	I know	76	63.3	100.0			
Exercise							
11-Bicycling(including stationary exercise bike)10 mint	Don't know	88	73.3	73.3	0.86	1.43	fail
	Not sure	12	10	83.3			
	I know	20	16.7	100.0			
12-Engaging in carrying or lifting heavy loads digging or constructing work for (10) mint	Don't know	21	17.5	17.5	0.89	2.43	Pass
	Not sure	13	10.8	28.3			
	I know	86	71.7	100			
13-Engaging in other physical activities like travelling and shopping	Don't know	34	28.3	28.3	0.88	1.41	Fail
	Not sure	86	71.7	100			
14-Engaging in other sport and fitness (leisure) 10 mints	Don't know	58	48.3	48.3	0.89	1.43	fail
	Not sure	27	22.5	70.8			
	I know	35	29.2	100			
15- Performing other sports and fatness such as walking and swimming	Don't know	55	45.8	45.8	0.76	1.39	fail
	Not sure	24	20	65.8			
	I know	41	34.2	100			
16-Reducing driving	Don't know	28	23.3	23.3	0.94	2.39	Pass
	Not sure	19	15.8	39.2			
	I know	73	60.8	100			

17-Reducing lift using	Don't know	29	24.2	24.2	0.85	2.49	Pass
	Not sure	15	12.5	37.7			
	I know	76	63.3	100			
Foot care							
18-Wash the feet every day	Don't know	49	40.8	40.8	0.82	2.06	Pass
	Not sure	15	12.5	53.3			
	I know	56	46.7	100			
19-Drying up between toes	Don't know	51	42.5	42.5	0.66	1.38	Fail
	Not sure	32	26.7	69.2			
	I know	37	30.8	100			
20-Using moistening cream on feet	Don't know	21	17.5	17.5	0.75	2.53	Pass
	Not sure	14	11.7	28.12			
	I know	85	70.8	100			
21-I reach and see the bottoms of my feet	Don't know	6	5	5	0.63	2.77	Pass
	Not sure	16	13.3	18.3			
	I know	98	81.7	100			
22-Always test water temperature before putting foot in it	Don't know	13	10.8	10.8	0.70	2.76	Pass
	Not sure	3	2.5	13.3			
	I know	104	86.7	100			
23-For Foot care and injury it is important to clean a cut with iodine and alcohol	Don't know	5	4.2	4.2	0.78	2.79	Pass
	Not sure	15	12.5	16.7			
	I know	100	83.3	100			
24-Diabetic take extra care when cutting their toenails.	Don't know	9	7.5	7.5	0.85	2.48	Pass
	Not sure	45	37.5	45			
	I know	66	55	100			
25-Tight elastic hose or socks are bad for diabetics.	Don't know	39	32.5	32.5	0.99	2.04	Pass
	Not sure	37	30.8	61.3			
	I know	44	36.7	100			
Others							
26-Blood sugar must be checked early morning before break fast	Don't know	51	42.5	42.5	0.65	1.45	fail
	Not sure	69	57.5	100			
27-A glucose meter must be available at home	Don't know	23	19.2	19.2	0.70	2.09	Pass
	Not sure	63	52.5	71.7			
	I know	34	28.3	100			
28-Medication is more important than diet.	Don't know	18	15	15	0.58	2.01	Pass
	Not sure	83	69.2	84.2			
	I know	19	15.8	100			
29-Medication is more important than exercise to	Don't know	30	25	25	0.78	2.24	Pass
	Not sure	31	25.8	50.8			

control my diabetes.	I know	59	49.2	100			
30-Keep on appointments and visit the health care facility for follow-up and exposure to health education	Don't know	30	25	25	0.85	2.24	Pass
	Not sure	31	25.8	50.8			
	I know	59	49.2	100			

M.S= Mean of Score Pass (mean of score equal or more than 1.5), fail (mean of score less than 1.5), CP= cumulative percentage, S.D= Standard Deviation

This table shows that the study subjects responses to knowledge about self-care items are pass at all items, except at the items numbers (2,3, 8,9, 11,13,14,15, 19, &26) their responses are fail.

Table (5): Distribution of the Study Sample by their Overall Knowledge about disease, complications and self-care.

Main domain	Rating	Frequency	Percent	M.S	Assessment
Overall patients' knowledge	Fail	21	17.5	2.23	Pass
	Pass	99	82.5		
	Total	120	100		

Table shows that (82.5%) of the study subjects' responses are pass.

Table (6): Relationship between Sociodemographic Data and patient Overall Knowledge assessment.

Demographic Data	χ^2	D.F.	P-Value
Overall Knowledge			
Age / Years	24.86	33	0.845 NS
Gender	1.03	1	0.309 NS
Levels of education	10.94	4	0.027 S
Marital Status	5.42	3	0.143 NS
Family Size	12.20	12	0.43 NS
Occupation	4.87	2	0.087 NS
Monthly income	0.19	2	0.906 NS
Residency	0.14	1	0.703 NS

This table shows that there is a non-significant relationship between the patients sociodemographic data and the Overall knowledge assessment of disease and complications with at p-

value more than(0.05). Except with their level of education, the study results indicate that there is a significant relationship at p-value less than(0.05).

Table (7): Relationship between the Clinical Data and patient Overall assessment Knowledge

Clinical Data Overall Knowledge	χ^2	D.F.	P-Value
History of DM	1.21	1	0.271 NS
Duration of DM	17.71	23	0.773 NS
Body mass index	3.57	3	0.311 NS

This table shows that there is a non-significant relationship between the patient Clinical Data and Overall assessment their Clinical Data at (p-value)more than(0.05).

V. DISCUSSION

Part I: Discussion of the Socio Demographic Characteristics for the diabetic patients

The findings of the present study indicated that the majority of the study subjects are aging over forty, so many studies revealed that as chronic disease this is logical as the trend of the diseases shifted from the communicable to chronic or non-communicable.⁽⁸⁾ Found that mean age was(59 years). In regard to gender it is found that most of the sample are females, those socio-demographic characteristics have been differently explained and justified from one study to another the above study support us, there was a female prevalence. Regarding the level of education, the study findings indicate that most of the study subjects are not able to read and write, educational level of is a vital variable that could correlate to the opportunity of learning and understanding why to adopt a healthy behaviors, most studies show that it is must to recognize the educational level when an investigator study a phenomenon of knowledge and practices because people will interact and deal with that positively and/or negatively.⁽⁹⁾ Confirmed that educating patient is an aim to strengthen his/her ability to cope with the new life-style strategies. The present result is also agreed with ⁽¹⁰⁾ who pointed that his population had a high illiteracy rate at (45%). The study findings also indicate that most of the study subjects are married. Most of the families have (6-8) family members. In addition, there is a good rate of employment. Their levels of monthly income is enough to some extent. Moreover, the majority of the study subjects are urban residents. The above results come in constant with ⁽¹¹⁾ who mentioned that most sample old patients, married and not able to read and write. Also these findings come because that diabetes mellitus most common occurs among patients with an advanced age. And they like to live in a large families due to economic and social circumstances. Concerning personal characteristics the results are supported by ⁽¹²⁾ who concluded that sample found to be with low socio-economic status, but it came same as present study confirmed urban residents. ⁽¹³⁾ found nearly the same result as half of the respondents lived in urban areas, and same percentage sample counted homemakers. Slightly more than half of the respondents belonged to the lower-middle-income group.

Part II: Discussion of the clinical data among Type II Diabetes Mellitus Patients at Diabetes Center

The study findings indicate that most of the subjects' height were over one-fifty cm, regarding the study subjects weight, the study results show that most of them were over sixty kg. Body Mass Index shows sample overweight. Patient weight indicated one of the risk factors when the chronic diseases are mentioned as most of the studies confirmed this fact. ⁽¹⁴⁾ supported the current result when they found out that majority of the study subjects are females old age, and they are overweight. Regarding the history of patient smoking results indicate that most study sample have No history of smoking, and most of them are suffering from diabetes since (5 years or less).and this come in consistent with ⁽¹⁵⁾ who illustrated that his sample were female patients with duration of disease about 1-5 years and they are not smokers. Same time agree with ⁽¹⁶⁾ who found that disease duration is exactly as the above. Regarding history of food allergy results majority indicated negative answers. high percentage of sample had no family history of the disease. The researcherfound the same result about this variable (53.1%) respondents did not have any family members, relatives or friends with diabetes.

Part III: Discussion of the knowledge assessment of disease and complications among Type II Diabetes Mellitus Patients.

The findings of the study reveal that majority of the study subjects' responses for knowledge about Diabetes and its Complications are pass except few items concerning whether the disease is curable, patient needs insulin, patient may have some symptoms like shaking and any problem with circulation of the blood, this is agree with ⁽¹⁷⁾ who confirmed that more than seventy percent of sample passed and scored more than five items out of ten. Also⁽¹⁸⁾ who studied the type II diabetic patients knowledge of self-care practices their results indicated that the overall patients' knowledge was good using the same questionnaire as instrument. This is also agree with ⁽¹⁹⁾ who found that more than half of the sample had acceptable knowledge of diabetes and only few could identify complications. Same results found by ⁽²⁰⁾ only 12.28 % patients believe it a curable disease

Part IV: Discussion of the knowledge assessment of disease self-care among Type II Diabetes Mellitus Patients.

The study findings indicate that the diabetic patients' knowledge about the self-care is scoring pass except in activities related to eating some food that give some energy in a recommended amount such as one meal a day of potato, and other type of food that provide vitamins to patient's body and same time safe to blood glucose for example unsweetened fruit juice, Taking any over counter vitamins ,or supplements and to reading and use food labels as a dietary guide. All these are very essential dietary factors affecting the stability of patient's condition the researcher agree that the positive self-care can affect the level of glycemia, because respondents are aware about a controlled diet and practiced this. Also the results of the present study come in constant with ⁽²¹⁾ who found that the sample who were old patients diagnosed with type 2 diabetes for long duration, especially the females present with good levels of self-care activities..the researcher indicated that majority of patient population were aware of preferable diabetic food. But only 39.91% were aware of diabetic food products available commercially.

In regard to activities like exercising sample found to be lacking the importance of using bike for few minutes, doing some other actions that are within the capability of the patient and not cost much like travel and go for shopping, and performing any sport or fitness exercises especially walking. The researcher found different results, sample maintain regular exercise. The current study is supported also by ⁽²²⁾ who found that exercise was vital priorities among the diabetes mellitus patients, Those behaviors are very interested as well for the care providers to include them in their agenda when providing instructions and health education to their attendances to improve their skills and therefore improving quality of life and reducing disease complications. ⁽²³⁾ indicated that patients have poor adherence the physical exercise.

The other self-care activities which are curial for keeping patient less demanding on others is the knowledge about foot care, to avoid this complication the study sample were asked if they give attention to this, results were acceptable but only with that drying up between to the researcher reported that over half of the diabetic patients in the study had never received information regarding foot care mentioned the same concept when they found that patients have poor adherence to foot care. In regard to other self-care knowledge concerning checking the blood sugar early in the morning which is deciding the patient state, how to manage the level of glucose in the body, what to eat and or otherwise visit any health care facility this study found that patients are failed to answer this item. ⁽²⁴⁾ supported this result and pointed that more than half of surveyed patients are not practiced self -measurement of blood glucose due to many reasons one of them not knowing how.

Part V: Discussion of the relationship between the overall knowledge assessment of sample and sociodemographic Data.

It demonstrated no significant relationship as shown in table(6) at p-value more than(0.05). Except with their level of education, the study results indicate that there is a significant relationship at p-value less than(0.05). The researcher found the same result as statistically significant association between practice levels and educational level (institute and more); (P

value <0.001). while The researcher illustrated this as not significant especially that between the level of knowledge and foot care. Also ⁽²⁵⁾ demonstrated that There is no significant difference observed between male and female regarding different knowledge domain of DM. another study by The researchers summarized the demographic characteristics of respondents, self-care knowledge was associated with level of education (p=0.000) which match the current study.

Part VI: The final result is contributed to the relationship between the Clinical Data and patient Overall assessment Knowledge.

which illustrated no statistical significance between the above variables. at p-value more than(0.05). especially that regarding the years of diagnosis. This is not consistent with ⁽²⁶⁾ who showed that the Years since diagnosis of diabetes and formal education were positively associated with diabetes. One of the significant matter of the disease is the family history of the patient, the present study shows no relationship between this clinical data and the assessment of overall knowledge⁽²⁷⁾ supported this study There was no statistically significant difference in knowledge scores with respect to family history of the disease, p > 0.05.

VI. CONCLUSIONS

The study concluded that the overall level of knowledge of clients are acceptable and fine in the case of the arrangements in the life style taken by them and how to live with it. Also, diabetics educational level had an effects on the understanding in comparison with the left over socio-demographic characteristic.

VII. RECOMMENDATIONS

The study recommended a wide range of educational strategies that can be planned to correct some misconceptions about the self-care of the disease like treatment, giving priorities to the factors that are crucial and vital in controlling blood sugar, and educational materials or programs designed to assist patients in performing the actions that reduce the burden of the condition

REFERENCES

- [1] World health organization (WHO): Diabetes – Factsheet, 2013,p.p.19-32.Retrieved from:<http://www.who.int/mediacentre/factsheets/fs312/en/index.html>.
- [2] International Diabetes Federation (IDF): The Diabetes Atlas 3rd ed., 2006,p.8.Available at:<http://www.diabetesatlas.org/content/economic-impacts-diabetes>
- [3] American Diabetes Association(ADA):Diabetes Care in the School and Day Care Setting (Position Statement). Diabetes Care, 30 (1), 2007, p.p. 66-73.
- [4] Al-Adsani, A.;Moussa, M.; Al-Jasem, L.; Abdella, N. and Al-Hamad, N.: The level and determinants of diabetes knowledge in Kuwaiti adults with type II diabetes. Diabetes metabolism, 2009, Vol. 35, No. 2, Pp.8-121.
- [5] Albright, T.; Michael, P. and Burge, S.: Investigators Predictors of Self-care Behavior in Adults With Type 2 Diabetes. RRNeST Study, 33(5), 2001. p.p. 60-354
- [6] US Department of Health and Human Service (USDHUS): Healthy People Cornerstone for Prevention. 2009. P.15.Retrieved from:<http://www.healthypeople.gov/publication/cornerstone.pdf>

- [7] Badruddin, N.; Basit, A.; Hydrie, M. and Hakeem, R.: Knowledge, Attitude and Practices of Patients Visiting A Diabetes Care Unit. *Pakistan Journal of Nutrition*; 1(2), 2002, p.p. 99-102
- [8] Gesare, B.; Omari, O. and Achieng, L.: Assessments of the Level of Knowledge, Self-Care Practice and Glycemic Control Among Patients With Type 2 Diabetes Attending The Diabetes Clinic At Kenyatta National Hospital. *Diabetic research and clinical practice*, 2014, Vol.103, No.1, Pp. 30
- [9] Anderson, R. and Funnell, M.: Compliance and adherence are dysfunctional concepts in diabetes care. *The Diabetes Educator*, 2000, Vol. 26, No.4, Pp.597-604.
- [10] Al-Adsani, A.; Moussa, M.; Al-Jasem, L.; Abdella, N. and Al-Hamad, N.: The level and determinants of diabetes knowledge in Kuwaiti adults with type II diabetes. *Diabetes metabolism*, 2009, Vol.35, No. 2, Pp.8-121
- [11] Abbas, A and Abd- Alwahed, H.: Evaluation of Health Protective Behaviors for Diabetic Patients (Type II) in AL-Najaf Diabetic Center, Department of Community Health Nursing College of Nursing, University of Baghdad, thesis, 2013, Pp.101-103
- [12] Rajasekharan, E, Susan, L, Norris, MD, Joseph, W, and Smith, M, : Self-Management Education for Adults With Type 2 Diabetes *Journal Diabetes Care*, 2015 Jul; VOL25, NO.7, P.p1159-1160.
- [13] Saleh, Shirin J Mumu, Ferdous Ara, Housne A Begum and Liaquat Ali, Knowledge and self-care practices regarding diabetes among newly diagnosed type 2 diabetics in Bangladesh: a cross-sectional study. 2012, Vol.12., Pp. 3-8.
- [14] Schmitt, A.; Herman, M. and Heak, T.: He Diabetes Self-Management Questionnaire (DSMQ): development and evaluation of an instrument to assess diabetes self-care activities associated with glycaemic control. *Health Quality Life Outcomes*, 2013, Vol. 11, No.138, p.76.
- [15] Jackson, Sarahe. Hampson, PHD, Roselle. E, Impact of Educational Program about Foot Care on Knowledge and Self-Care Practice for Diabetic Adult Patients *Journal of American Science* 2014, Vol.8, No.12, Pp144-44
- [16] Karam Padma1, Samir D Bele2, Trupti N Bodhare2, Sameer Valsangkar3. Kaufman FR: Searching for glycaemic control in pediatric type 1 diabetes: A long way to go. *Journal of Pediatric*, 2001, Vol. 139, No. 53: Pp.174-176.
- [17] Gesare, D, Shrivastava, R, Ramasamy, A, Saurabh, W.: Role of self-care in management of diabetes mellitus, *Journal of Diabetes & Metabolic Disorders*, 2007, VOL.12, NO:14, P.34
- [18] Adibe M, Chinwe U, Okonta J Mathew, Udeogaranya p.: Diabetes self-care knowledge Among type 2 diabetic out patients in south ester Nigeria. *Ine.j.drugdev and res*. 2009, Vol.1, No.1. Pp 85-104
- [19] Khurshid, T. and Othman, S.: Knowledge and practice about diabetes among adult diabetic patients in Erbil, Iraq, *Journal of Medical Science*, 2014, VOL 18, No. 1, P.p.664-665
- [20] Thungathurthi, S. And Kumar, V. : Self-Care Knowledge On Diabetes Among Diabetic Patients In Warangal Region. *International J. Of Life Science And Pharma Research* . 2012, Vol. 2, No. 2, Pp. 16-20
- [21] Deborah J. Toobert, PHD, Sarahe. Hampson, PHD, Russell E. Glasgow, PDH. Summary of Diabetes Self-Care Activities. *Diabetes care* .2000, vol.23, No.7, Pp 943-950.
- [22] Gopichandran, S.; Lyndon, M.; Angel, B. and Manayal, E.: Self-care activity: A community based survey in urban of southern India. *The National Medical Journal of India*, 2012, vol. 25, No.1, P.43.
- [23] Faraja S. Chiwanga and Marina A. Njelekela Diabetic foot: prevalence, knowledge, and foot self-care practices among diabetic patients in Dar as Salaam, Tanzania – a cross-sectional study. *J Foot Ankle Res*: 10.1186/s13047-015-0080-y. . 2015; 8: 20
- [24] -Nadia. M. Saleh, Amany M Shebl, El Sayed Z Hatata, and Mohamed R Refiei. Impact of Educational Program about Foot Care on Knowledge and Self-Care Practice Diabetic Older Adult Patients, *Journal of American Science*. 2012; 8(12) <http://www.jofamericanscience.org>
- [25] Hamoudi, N.; Al Ayoubi, I.; Vanama, J.; Yahaya, H. and Usman, U.: Assessment of Knowledge and Awareness of Diabetic and Non-Diabetic Population Towards Diabetes Mellitus in Kaduna, Nigeria. *Journal of Advanced Scientific Research*, 2012, Vol.3, No.3, P.p. 46-50.
- [26] Arora, S.; Marzec, K.; Gates, G.; Menchine, M.: Diabetes Knowledge In Predominantly Latino Patients And Family Caregivers In An Urban Emergency Department. *Ethnicity & Disease Journal*, 2011. Volume 21, .Pp. 3-5
- [27] Odili V.P.: Patients' Knowledge of Diabetes Mellitus in a Nigerian City. *Journal of Pharmaceutical Research*. 2011, Vol.10,

AUTHORS

First Author – Salim k. Hajwal, Community Health Nursing Specialist, MScN, Ministry Of Defense
Second Author – Salma K. J. PhD, Assistant Professor and Academic Advisor, Community Health Nursing Department/ College of Nursing/ University of Babylon