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The Level of Awareness and Knowledge in Avoiding Complications of Type 2 Diabetes

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Abstract

Purpose: The aim of the study is to assess level of awareness and knowledge among patients with diabetes mellitus (DM) about diabetic complications effects.

Methodology: A descriptive cross-sectional study was conducted targeting all available diabetic patients. Patients with type 2 diabetes aged 20 years or more living in study region. A total of 145 patients were questionnaire.

Finding: Out of the total 145patients with diabetes, 68 (46.90%) were males and 77 (53.10%).49.74 % of patients were bad awareness, and (35.86%) of participants were good aware. Only (14.40 %) of patients were excellent aware of diabetic complications. There was (50.54%) of patients have knowledge, about the diabetic complications.

Unique Contribution to Theory, Policy and Practice: Diabetic patients included in this study were aware of most of the complications of diabetes.

Keywords: *Diabetes Mellitus, Awareness, Knowledge, Complications*

Introduction

Worldwide, diabetes mellitus (DM) is one of the most challenging chronic health problems of the 21st century [1,2], is a common metabolic disorder and one of the fastest-growing global health emergencies. [3,4].

Diabetes causes significant morbidity because of specific microvascular complications such as retinopathy, nephropathy, and neuropathy, and macrovascular complications such as ischemic heart disease, and peripheral vasculopathy. [4,5].

The complications of diabetes mellitus are the major health problem among diabetic populations and it is a significant burden of care on the individual, health care professionals and the wider health system. Individuals with diabetes are 2-4 times more likely to develop cardiovascular disease relative to the general population and have a 2-5-fold greater risk of dying from these conditions [6].

The complications associated with DM may be lifethreatening. Therefore, it can be very well managed if the patients follow proper treatment and control measures. [7,8]. Knowledge and awareness of selfmanagement training and education about diabetes are essential for diabetes care and management. It is essential that people with DM have a comprehensive understanding of the nature of the disease, risk factors, complications, and possible treatment methods to mitigate complications. [9,10].

One of the reasons for occurrence Diabetes Mellitus (DM) complication is lack of knowledge. The common causes of diabetic complications are poor control of diabetes either due to non-adherence, poorattitude towards the disease and its complications, unhealthy diet, and insufficient physical activity, and due to poor management by the health care professionals. On top of these diabetes complications can predispose the patient for different infection. [11].

Information about knowledge on complication of diabetic mellitus is crucial for health planning Diabetes can be controlled and managed with proper self-care behaviors. [12]. Self-care is an influential factor in controlling diabetes [13], and preventing complications, [14], and it has been shown that it can be even more effective than drug interventions. [13].

Most DM complications are highly preventable through increasing awareness [15,16]. Creating awareness about the disease, treatment, and its complications is the first step in managing disease and furthermore to facilitate prevention and control activities [17,16,18]. In addition, adherence to treatment requires awareness about nature and complication of the disease [17,19,20,21].

Methodology

A descriptive cross-sectional study was conducted targeting all available diabetic patients. Patients with type 2 diabetes aged 20 years or more living in study region. A total of 145 patients were questionnaire. Each patient received a brief explanation about the study and the consent was

obtained before enrolment in the study. The questionnaire was translated into Arabic for those who did not understand English. For the participants who were not literate, the questionnaire was verbally explained before their consent was obtained.

The sociodemographic characteristics of the patients were recorded in part one. In part two, the patient's general knowledge of diabetes was recorded. and the specific questions regarding awareness of diabetes complications was recorded in part three, part four descriptive the Distribution of patients' awareness of diabetes complication by their demographic data.

Result: -

Table 1: Sociodemographic data of diabetic patients

Variable	Category	Frequency	%
Gender	Male	68	46.90
	Female	77	53.10
	Total	145	
Age	20- 36	20	13.80
	37-52	37	25.52
	53-68	52	35.86
	>69	36	24.82
	Total	145	
Education	Illiteracy	18	12.41
	Elementary	35	24.14
	Secondary	40	27.59
	High school	30	20.69
	University	22	15.17
	Total	145	
	Marriage	79	54.48

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Marital status	Single	44	30.35
	Widows	22	15.17
	Total	145	
Income	Enough	19	13.10
	Enough to some	55	37.93
	Not enough	71	48.97
	Total	145	

Table 2: Distribution of patients' awareness of diabetes complication by their demographic data

Sociodemographic data	**Awareness level**				**P –value**
	poor		**Good**		
Gender	**No**	**%**	**No**	**%**	
Male	36	52.94	32	47.06	0.455
Female	45	58.44	32	41.56	
Total	81		64		
Ages					
20- 36	12	60	8	40	
37-52	22	59.46	15	40.54	0.003
53-68	27	51.92	25	48.08	
>69	17	47.22	19	52.78	
Total	78		67		

Education					
Illiteracy	10	55.56	8	44.44	
Elementary	18	51.43	17	48.57	
Secondary	22	55.0	18	45.0	0.023
High school	14	46.67	16	53.33	
University	13	59.09	9	40.91	
Total	77		78		
Marital status					
Marriage	10	45.45	12	54.55	
Single	27	61.36	17	38.64	0.000
Widows	45	56.96	34	43.04	
Total	82		63		
Income					
Enough	32	45.07	39	54.93	
Enough to some	26	47.27	29	52.73	0.000
Not enough	9	47.37	10	52.63	
Total	67		78		

Table 3: Diabetic patients' awareness of diabetes complications

Awareness items	**Bad**	**Good**	**Excellent**
	No (%)	No (%)	No (%)

1-How well do you know that complications of diabetes affect the retina and lead to blindness	54 (37.24)	65 (44.83)	26 (17.93)
2-How well do you know that complications of diabetes affect the kidneys and lead to kidney failure?	71 (48.97)	47 (32.41)	27 (18.62)
3-How well do you know that complications of diabetes affect the heart and lead to its failure?	82 (56.55)	47 (32.41)	16 (11.03)
4-How well do you know that one of the complications of diabetes is that it causes nerve damage [neuropathy]?	91 (62.76)	33 (22.76)	21 (14.48)
5-How much do you know about the relationship of complications of diabetes to stroke?	88 (60.69)	31 (21.38)	26 (17.93)
6-How much do you know about the relationship of diabetes to diabetic foot?	46 (31.72)	92 (63.45)	7 (4.83)
7-How much do you know about the relationship of diabetes to skin diseases?	67 (46.21)	46 (31.72)	32 (22.07)
8-How much do you know about the relationship of diabetes to fertility?	78 (53.79)	55 (37.93)	12 (8.28)
Total %	49.74 %	35.86%	14.40 %

Table 4: Knowledge about diabetes mellitus complications:

	Complication Knowledge	**No**	**Yes**
		No (%)	No (%)
1	Are you have knowledge about Hypoglycemic Symptoms	85 (58.62)	60 (41.38)
2	Are you have knowledge about managing Hypoglycemic Symptoms	80 (55.17)	65 (44.83)

3	Are you have knowledge about importance of foot care	67 (46.21)	78 (53.79)
4	Are you have knowledge about effect of dietary modification for diabetic control	81 (55.86)	64 (44.14)
5	Are you have knowledge about effect of exercise for diabetic control	76 (52.41)	69 (47.59)
6	Are you have knowledge about importance of Routine Medical Check-ups	60 (41.38)	85 (58.62)
7	Are you have knowledge about importance of Routine Eye Check-ups	53 (43.49)	92 (56.51)
	Total %	49.46%	50.54 %

Discussion

This study was aimed to assess level of awareness and knowledge among patients with diabetes mellitus (DM), type two about diabetic complications effects. The assessment compares 145 patients, 68 (46.9%) of them was male and 77(53.10%) was female. In the current study, age, educational level, marital status, and income level were significantly associated with awareness of DM complications. This finding, except for sex, is congruent with the study done by [17]. Age was also significantly associated with awareness of DM complications. Those over 69 years old were more likely to have awareness than those with age 53–58 years old, mean that as age increases, they get more counseling and health education during their follow-up at the diabetic clinic. A high school and higher level of education was a significant predictor of better awareness, this finding agree with other studies done by [17,22], also this study found a significant association between marital status and awareness on diabetic complications. Those the marriage patients were aware of DM complications than widows. those with an enough income were aware of DM complications than those with not enough income. As income increases, individuals can access any electronic media, which is one means of gaining information. This result was agreeing with the study done by [22]. Over all demographic data, found that Age, educational level, and income levels, of DM were significant predictors of awareness of DM complications.

We found that 65 (44.83%) of the patients had good awareness levels of diabetes related complications. and about 26 (17.93 %) of the patients had excellent awareness regarding diabetes complications, specifically [the effect of retina that may be led to blindness], also 71 (48.97%) of diabetic patients had bad awareness of kidney failure complications. More than 50% of patients

were bad awareness of heart complications. also, about 91 (62.76) of diabetic patients have bad awareness about causes nerve damage [neuropathy].

Less than half 57 (39.31%) of diabetic patients had good to excellent awareness concerning the about the relationship of complications of diabetes to stroke. about 99 (68.28%) of diabetic patients had good to excellent awareness concerning the about the relationship of diabetes to diabetic foot, while [23], reported it to be most common complication known to 74.2% responders in the diabetic arm of their study, also relationship between diabetes and skin diseases, but about half of diabetic patients had bad awareness the relationship of diabetes complications to fertility. over all we found there was 49.74 % of diabetic patients had bad awareness, but 35.86% have good awareness, and 14.40 % were excellent awareness about diabetes complications.

In our study only 50.54 % patients had good knowledge of complications of DM. In our study 41.38% patients were known that DM is associated with Hypoglycemic Symptoms. About 44.83% were known that DM can lead to Hypoglycemic Symptoms, comparable to the Indian study in which 51.5% knew about hypoglycaemia or hypoglycaemic symptoms. [24]. 53.79% patients were known about importance of foot care. Only 44.14 % have known about effect of dietary modification for diabetic control, for the effect of exercise for diabetic control only 47.59 % were known about that. There was 58.62% were known about Routine Medical Check-ups, the patient's knowledge about importance of Routine Eye Check-ups that can lead to visual problems and blindness were 56.51%, compared to 49.8% reported by. [25].

Conclusion

This study highlights the significance of patient education and awareness of compliance and diabetic control, which is a cornerstone step in avoiding preventable complications and minimizing the patient and healthcare system burden the majority of DM complications can be prevented by improving patients' awareness. However, lack of awareness of diabetes complications contributes to high rates of complications. The overall level of knowledge of diabetes about its risk factors, complications, and prevention was generally higher than that reported by previous studies conducted on different countries in the world. However, a about half proportion of our participants knew that diabetes can affect key. We recommend other researchers to collaborating with local community programs to emphasize the dangers of DM, adding early sessions for schools to improve the knowledge of Diabetes, and putting more effort into establishing an annual day with a comprehensive presentation for the public could also increase the awareness. The study team also recommends that other researchers investigate the areas of attitude and practice related to this study.

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