



Diabetic Patients Knowledge and Practice Regarding Annual Visual Checking

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ABSTRACT

Background: Diabetes mellitus (DM) is a significant cause of visual impairment; many diabetics do not have regular eye examinations, although it is known that early diagnosis and reduces the risk of blindness. There were many barriers that prevent diabetics from attending eye clinics.

Objectives: To assess knowledge, and practice about ocular complications among diabetic patients and to determine barriers preventing the diabetic patients annual visual checking

Methods: A cross-sectional study involving the interview was conducted among 300 diabetic patients attending out patient in Ibn Al Haitham Teaching Ophthalmology Hospital between November 2017 and June 2018.

Results: The vast majority of patients (95%) believe that; diabetes could affect their eyes. 67% have their eyes checked up after being diagnosed with diabetes, of which only 33% they examined their eyes if vision got poor. Majority of patients believe that; controlling their blood sugar levels can help preserve their vision (84%). 72% of the total has good knowledge of DM effect on the eye.

55% of patients obtained their knowledge from the doctor and only 2% having obtained this knowledge from Television. Unfortunately only 3% of them check their vision annually 37 % they don't know treatments available for diabetic retinopathy.

Conclusion: Diabetic patients' knowledge of ocular manifestations and the practice of diabetic patients towards eye examination were low, thus required to improve practice towards eye care to prevent visual impairment.

Keywords: diabetic patients, Knowledge, retinopathy

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INTRODUCTION

Diabetes mellitus (DM), a multi-systemic disease characterized by hyperglycemia, is on the increase worldwide⁽¹⁾. Diabetic patients suffer systemic complications including ocular disorders⁽²⁾. People living with diabetes are about 25 times more likely of becoming blind compared to the normal population⁽³⁾. The incidence of vision loss or blindness due to ocular complications of diabetes rises⁽⁴⁾. Some other known causes of blindness secondary to diabetes are cataracts, glaucoma, nerve palsies and macular degeneration⁽⁵⁾.

DM is a global epidemic and the prevalence is anticipated to continue to increase. The ocular complications of DM negatively impact the quality of life and carry an extremely high economic burden. While systemic control of blood glucose can slow the ocular complications, especially if clinical symptoms are already present. DM is further classified as type 1 (T1DM), which results from pancreatic beta cell failure such that insufficient insulin is produced to effectively clear blood glucose; type 2 (T2DM), which is defined by a state of insulin resistance whereby target cells fail to effectively respond to the

hormone, insulin; and gestational DM, which occurs when pregnant women develop insulin resistance during pregnancy⁽⁶⁾.

Diabetic retinopathy (DR), microangiopathy affecting all of the small retinal vessels, such as arterioles, capillaries, and venules, is characterized by increased vascular permeability, ocular hemorrhages, lipid exudate, by vascular closure mediated by the development of new vessels on the retina and the posterior vitreous surface. In patients with type 1 and type 2 diabetics with disease duration of over twenty years, the prevalence's of diabetic retinopathy are 95% and 60%, respectively⁽⁷⁾.

Knowledge of the prevention and risk factors of ocular complications is essential to prevent vision loss among DM patients. Although the majority of diabetes patients are aware that diabetes can cause eye diseases, their attitude and practice are not at the desired level, which needs to be improved⁽⁸⁾.

The prevalence of diabetes mellitus is increasing, with an estimated 366 million people affected worldwide by 2030 according to the WHO, among

which more than half will be presumed to be in Asian countries. There are numerous studies on the prevalence and risk factors for DR, but very limited data exist regarding the awareness of diabetic eye problems⁽⁹⁾.

Although many studies conducted about this subject but few of them mention the barriers preventing diabetic patients from regular annual visual checking, studying this subject will help in decreasing the impact of eye complications in diabetic patients.

The objective was to assess knowledge and practice about ocular complications among diabetic patients and to determine barriers preventing the diabetic patients from getting eye screening.

METHODS

A cross-sectional study was conducted with 300 diabetic patients attending Ibn Al Haitham Teaching Eye Hospital, from the outpatient patients, interviewed after taking their consent for participation in this study. The questionnaire was based on the knowledge and practice of patients with diabetes and its possible eyes complications. All the questions were prepared in Arabic. Data was collected and tabulated at the period from 1st of September 2016 to 1st June 2017.

Inclusion criteria were diabetic patients with vision problems aged 21 years and above. While the exclusion criteria were patients with known hypertension, to avoid the mistake of including patient who have eye problems due to hypertension not due to diabetes

Ethical considerations: permission from the head office of outpatient clinics at Ibn Al Haitham Teaching Eye Hospital

Data Analysis: Data were analyzed using simple statistical method; percentage and proportion were calculated of knowledge and Practice.

RESULTS

Out of the 300 diabetics that participated in this study, 136 (45.3%) were females while 164 (54.7%) were males. A (29%) were aged 41-60 years. Only 5% of female were aged (21-40) year as shown in Table (1).

Regarding the assessment of patient's knowledge about the association between diabetes and vision. A majority (95%) of patients believed that; diabetes could affect their eyes.

Concerning the sources of education on the ocular effects of DM, most patients 165 (55%) obtained their knowledge from the doctor and only 7 (2%) having obtained this knowledge from Television. Table (2).

Poor practice about annual visual checking, only (3%) of studied sample diabetics patient checked their eyes annual y. Table (3)

About personal barriers preventing the patients from getting eye screening the results were; neglecting (24%) and lack of knowledge about diabetic effects on eyes (34%) was the biggest, lack of access to eye care (15%), cost (11%), fear of discovery (6%), two or more of the factors mentioned above (4%), Table (4)

Table (1): The distribution of age and gender in the selected patient

Age (year)	(21-40)		(41-60)		(> 61)		Total	
	(No.)	(%)	(No.)	(%)	(No.)	(%)	(No.)	(%)
Male	26	9	88	29	50	17	164	54.7
Female	16	5	84	28	36	12	136	45.3
Total	42	14	172	57	86	29	300	100

Table (2): The distributions of studied sample according to their sources of information

		Male		Female	
		(No.)	(%)	(No.)	(%)
How did you come to know about this/these complication/s	Doctor	135	45	110	42
	Family member	16	5	5	2
	Friends	0	0	0	0
	Relatives with DM	14	5	15	5
	Media	18	6	6	2

Table (3): The studied sample according to their practice person with diabetes undergo an eye checkup

	Every 6 months		Yearly		Two yearly		Only when vision affected	
	(No.)	%	(No.)	%	(No.)	%	(No.)	%
How frequently should a person with diabetes undergo an eye checkup	61	20	8	3	126	42	105	35

Table (4): The studied sample according to personal barriers to compliance with regular follow up

	(No.)	(%)	
What do you think was the biggest barrier for not getting eye screening earlier?	Lack of knowledge	100	33
	Lack of access to eye care	45	15
	Cost	32	11
	Time limitations	35	12
	Fear of discovering something bad	18	6
	Neglecting	70	23

DISCUSSION

This study showed that most of the participant diabetic patients were aware that diabetes could affect their eyes, (95%); a similar study done in Jordan showed the same result ⁽¹²⁾. This is might be due to most of the patients claimed to be familiar or aware of diabetic. In spite of the fact that diabetic retinopathy is the most serious, potentially blinding complication of diabetes in the eye the majority of

the patients were completely unaware of the existence of such an entity.

The current study indicates that the low knowledge of patient regarding diabetic retinopathy. Same result conducted in India ⁽¹⁶⁾.

This study showed most of the diabetic patients was aware that controlling blood sugar levels can help preserve vision. Most diabetic patients seem to know

that regular follow up is necessary for their systemic disease; however, the majority does not know that they need to have a periodic eye checkup to look for ocular complications of diabetes. The facts that diabetic retinopathy is a silently blinding disease, and 'good vision' is not an indicator of the status of the retina in a diabetic patient need to be emphasized to the patient. Same result in El Khatib BA, et al.⁽¹²⁾

Although more than 95% of the patients were aware of diabetes associated with eye disease, only (3%) of eyes checked yearly, opposite result done in Jordan⁽¹²⁾. This result in this study may be due to many barriers in Iraq society. The greatest personal barrier was for not receiving yearly eye examination, the response with the greatest percentage, 34%, was lack of awareness and relishing about the diabetic effect on the eye. This finding similar to the results of a study done in Ireland by Dervan et al. which concluded that the main barrier to receiving adequate eye screening amongst diabetics was the lack of knowledge with regard to the need for ocular examinations⁽¹⁰⁾. Also, this is similar to the results of other studies conducted in South India by Hussain R et al., and Rani PK et al.,^(10,15)

Our study showed that patients had good knowledge of the ocular complications of diabetes; this result disagreed with another study that showed poor knowledge of the ocular complications of diabetes.⁽¹¹⁾ The patients in our study also exhibited low practices regards to eye examination this result agreed with another study that showed poor knowledge⁽¹¹⁾. In this study, most patients 165 (55%) obtained their knowledge from the doctor, the same result showed in⁽¹¹⁾. Goodwin et.al 2013. Diabetic patients are usually more conscious of their general health and therefore more frequently visits their doctors. This may be the reason why most of these patients cited doctor as a source of knowledge on ocular effects of DM.

CONCLUSION

Conclusion Diabetic patients' knowledge of ocular manifestations and the practice of diabetic patients towards eye examination were poor, thus, required to improve practice towards eye care to prevent visual impairment. Patients were aware that diabetes could affect the eye, but not that it could lead to blindness, nor that severe retinopathy could be asymptomatic. Providing more information about diabetic retinopathy.

Recommendations

- Health education programs should target older age groups and them providing more information about diabetic retinopathy.
- The availability and accessibility of eye care services should increase and making eye clinic attendance more convenient for patients may increase the number of diabetics who have regular eye examinations.
- General practitioners, physicians, and optometrists should make aware of the lack of knowledge about diabetic annual visual checking among diabetic patients, and should all involve in the planning and implementation of both hospital-based and community-based patient education strategies.

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