

The Knowledge, Attitude, and Practices of diabetic retinopathy amongst diabetic patients of Azad Jammu & Kashmir

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Objective: To assess the knowledge, attitude, and practice towards diabetic retinopathy (DR) among diabetic patients of Azad Jammu & Kashmir.

Methodology: Self-administered questionnaires with a total of 14 questions were administered to 130 participants selected using convenient sampling method in an outpatient medical clinic at Shaikh Khalifa Bin Zayed Al-Nahyan Hospital, Rawalakot, Azad Kashmir from April 2017 to May 2018. Their knowledge, attitude and practices towards diabetic retinopathy was assessed and analyzed by the type of response given as either right or wrong. The data were analyzed using SPSS version 23.

Results: Out of 130 patients, 54.61% were male. Diabetes was associated with advanced age as 41.69% of the participants were 31-50 years old with the mean age of 47 ± 11.25 years. There was a

significant relationship between knowledge and attitude, and knowledge and practice ($p < 0.05$). The mean knowledge score was 4 ± 1.95 out of 10, attitude score was 0.55 ± 0.15 out of a score of 2, and mean practice score was 0.52 ± 0.12 out of a maximum score of 2.

Conclusion: The poor knowledge of diabetic patients was correlated with their indifferent attitude and lack of practice regarding DR. Diabetic patients should be educated on the importance of knowledge about diabetic retinopathy to improve their attitude towards DR. Regular check-ups and better practices such as routine follow-ups are recommended for early detection and management of DR. (Rawal Med J 202;46:26-29).

Keywords: Diabetes, retinopathy, KAP study.

INTRODUCTION

Diabetes Mellitus (DM) is a major health problem all over the world affecting about 400 million people a number expected to hit 590 million in the year 2035.¹

⁴In Pakistan's Mirpur and Kotli districts of Kashmir, DM affects 2.37% and 2.69% of the population respectively compared to the national prevalence of 16.98%.^{5,6} Micro vascular complications lead to neuropathy and retinopathy.⁷ Diabetic retinopathy (DR) arises from chronic hyperglycemic states that lead to accumulation of advanced glycation end products (AGEs) and creation of a proinflammatory environment leading to oxidative stress and destruction of newly formed vessels.^{7,8}

DR is a leading cause of avoidable blindness worldwide.⁹ Prevalence of visual impairment related to DR is 10-50% in type I DM and 25.2% in Type II DM.¹⁰ In Pakistan up to 15.8% patients with diabetes suffer from DR as indicated by a recent study.¹¹ Risk of developing DR increases with age and duration of diabetes.⁶ Studies on knowledge, attitude and practice of DR among diabetic patients have

demonstrated varying results depending on variables such as the level of education, age, and gender.¹² A study on the awareness of DR and practices among low income populations of sub-urban Karachi concluded that awareness of DM related eye disease was low in both genders i.e. 24% among males and 20% among females.^{13,14} In this study, we aimed to assess the knowledge, attitude, and practice towards DR among diabetic patients in our area.

METHODOLOGY

This cross-sectional epidemiologic study was conducted in Shaikh Khalifa Bin Zayed Al-Nahyan Hospital Rawalakot from April 2017 to May 2018. Ethical approval and informed consent were secured. The study population comprised of adult diabetic patients of either gender, aged from 18 to 70. Due to variation of prevalence rate in the literature we have assumed a high prevalence rate of 8% to make sure the sample size was adequate. By applying the popular formulae $N = Z^2 * P (1-P) / e^2$, we obtained a sample size of 113 at 95% confidence interval.

Data was obtained using the self-administered questionnaires that contained three sections; one assessing patients' knowledge of DR using ten questions, another assessing the patients' attitude towards DR using two questions and a section assessing various practices on DR using two questions. The questionnaire was phrased in English language and was translated to the participants for ease of understanding. This tool has been validated and has been used in previous KAP studies in Saudi Arabia.¹⁵ The participants gave their responses to each question in various sections. Before starting the main data collection, the appropriateness and clarity were checked through a small pilot study in a sample of 20 participants.

Statistical Analysis: Statistical analysis was performed using SPSS version 23. A chi-square test was used to establish the relationship between knowledge and practice and knowledge and attitude towards diabetic retinopathy.

RESULTS

A total of 130 participants were recruited in the study using convenient sampling method. The age,

gender and duration of diabetes of the studied population are shown in Table 1. The responses to the ten knowledge related questions, two attitude related questions and 2 practice related questions are presented in Table 2, 3, 4), respectively. On the attitude of the participants towards DR, most patients could not draw a relationship between diabetes and eye disease and thus did not see any need of visiting an ophthalmologist.

Table 1. Demographics of the participants.

Gender	Frequency (n=130)	Percentage (%)
Male	71	54.61
Female	59	45.38
Age (years)		
18-30	14	10.76
31-50	62	47.69
51-70	54	41.53
Duration of Diabetes (in years)		
Less than one year	15	11.54
2-5 years	33	25.38
6-10 years	21	16.15
More than 10 years	41	31.54
Don't know	20	15.38

Table 2. Responses to knowledge related questions of diabetes mellites and diabetic retinopathy.

Questions	Right		Wrong	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
1 Do you know that blood sugar/glucose levels are high in diabetes?	108	83.07	22	16.92
2 What are the symptoms of diabetes? *	76	58.46	54	41.53
3 What are complications of diabetes? *	43	33.07	83	63.84
4 Do you know that diabetes can cause eye diseases?	21	16.15	109	83.84
5 Do you know that eye problems due to diabetes can cause blindness?	13	10	117	90
6 Do you know that uncontrolled diabetes increases the risk of diabetic retinopathy?	09	6.92	121	93.07
7 What are the symptoms of diabetic retinopathy? *	07	5.3	123	94.61
8 Do you know that good sugar/glycemic control can delay the progression of diabetic retinopathy?	09	6.92	121	93.07
9 Do you think herbal remedies can prevent diabetic retinopathy?	08	6.15	122	93.85
10 Do people with diabetes mellitus require lifestyle modifications?	118	90.77	12	9.23

Table 3. Responses to attitude related questions regarding diabetic retinopathy.

Questions	Right		Wrong	
	Frequency	Percent	Frequency	Percent
1. Do you think persons with diabetes should visit ophthalmologist regularly?	19	14.61	111	85.39
2. Do you think, there is any need of visiting an ophthalmologist if the diabetes is under control?	16	12.31	114	87.69

Table 4. Responses to practice related questions regarding diabetic retinopathy.

Questions	Frequency (n)	Percent (%)
How often do you visit an ophthalmologist for a regular eye examination? (Without any presenting complain)		
Every 6 months	1	0
Every year	01	0.77
Every 2-3	06	4.61
Never	123	94.61
Who do you visit in case of eye problems?		
Hakim (herbal medicine practitioner)	14	10.77
General Physician	69	53.08
Eye Specialist/ Ophthalmologist	47	36.14

The correlation between knowledge score and attitude was significant ($p=0.001$) whereas the relationship between knowledge and practice was also significant ($p=0.04$). These results show that the respondents had poor knowledge with mean score of 4 which is less than half of the total score of 10. This poor knowledge is directly correlated with casual attitudes regarding screening of visual problems and lack of regular eye checkups irrespective of the glycemic control.

DISCUSSION

The mean age of the participants in our study was similar to a study from Dhaka where respondents had a mean age of 43.45 ± 11.81 years and 55.1% were males or the Saudi Arabian study that comprised of 57.17% males.^{15,16} Chattopadhyay et al carried out a cross-sectional survey involving 526 patients in West Bengal, India¹⁷ and another study on 439 diabetic patients had 57.17% males.¹⁸ This concurs with findings by Hakeem et al who showed only 24% of males and 20% of females were aware that DM causes eye disease.¹³

In contrast, studies from India and Saudi Arabia indicate higher levels of knowledge of DM and DR with 54.2% and 75.6% of patients respectively being aware that DM causes eye disease.^{15,17} The differences could be attributed to the different levels of education of the respondents and the guidance received in clinics. It can also be attributed to the lack of holistic care of diabetic patients which majorly focuses on glycemic control but not on

screening of vision problems, nephropathy, and neuropathy or foot problems.⁷

This contrasted with prior studies that showed good to excellent attitude towards DR. In one study, 73.8% of patients agreed that it was necessary for diabetic patients to have regular ocular examinations.¹⁸ In another study, 33.1% of the patients said it was essential for diabetic patients to have regular eye check-ups.¹⁷ Our study concurs with prior studies on relationship between knowledge about DM and attitude towards DR.¹⁴

In one study, 17% of respondents reported of monthly visits, 10% had 6-month visits, 27% had annual visits and 46% did not recall any visit to an ophthalmologist.¹³ Similarly, in the Saudi Arabian study, 12.07% had monthly visits, 33.94% had 6-month visits, 48.97% had annual visits while 5.01% had never visited an ophthalmologist.¹⁵ Similar practices were observed in studies involving African cohorts, and in a study from Switzerland, with majority of the respondents reporting no hospital visits to the ophthalmologists.¹⁹⁻²¹

The limitations of the study include that it is a single center study so its results cannot be generalized. Another limitation is that level of education, profession and health coverage was not included in data collection which could have affected the current results of the study.

CONCLUSION

Diabetes is a disease associated with patients of advanced age in the Azad Jammu & Kashmir regions of Pakistan. These patients had a poor knowledge about DM and its major sight threatening complication of diabetic retinopathy.

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Conflict of Interest: None declared

Rec. Date: Jan 14, 2019 Revision Rec. Date: Aug 24, 2020 Accept Date: Jan 9, 2021

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