

RESEARCH ARTICLE

KNOWLEDGE AND PRACTICES RELATED TODIABETIC RETINOPATHY AMONG DIABETIC PATIENTS ATTENDING MEDICINE OUT PATIENT DEPARTMENT IN TERTIARY CARE HOSPITAL IN CHENGALPATTU DISTRICT

Dr. Dhivya L., Dr. S. Gnaneswaran and Dr. K. Murugan

Postgraduate In Department Of Ophthalmology At Karpagavinayaga Institute Of Medical Sciences And Research Center.

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Key words:-Diabetes, Diabetic Retinopathy, Retina, Awareness

Abstract

..... Aim: To assess the knowledge and practices related to diabetic retinopathy among diabetic patients attending medicine out patient department in tertiary care hospital in Chengalpattu district **Design:** hospital based cross sectional study

Methods: study was conducted among 202 adult patients with diabetes between June 2021 to December 2021, who attended medicine outpatient department in tertiary care hospital in Chengalpattu district. All patients were surveyed with a questionnaire regarding there Knowlegde and practices related to diabetic retinopathy.

Statistical Analysis: SPSS software, CHI square test

Results: A questionarre based responses was obtained from 202 patients diagnosed with diabetes .Age distribution of diabetes is predominantly high in 40 -60 years .75% of people are treated with oral hypoglycemic drugs .around 61% know that diabetes can cause eve disease .Regular eyecheck up is mandatory in diabetic patients was agreed by 52% patients.only 43% visit ophthalmologist for regular eye checkup in the contrary 83% visit physicians regularly for diabetic control.

Conclusion: Our study emphasises the need for expanded educational programmes about DR, its risk factors, available treatments, and follow-up. In our study, the role of physicians was frighteningly minimal, which has to be emphasised.

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Introduction:-

The development of Diabetic Retinopathy is a significant contributor to visual impairment in India. By 2025, it is predicted that there will be 57 million people living with diabetes in India, from 19 million in 1995. [1, 2, 3] India is now home to 9-12 million blind persons worldwide, or around one-fourth of all blind people. [2] People with diabetes, especially those who have had the disease for more than 35 years, are at a greater risk of losing their vision. [4] More than 98% of vision loss and blindness caused by severe DR can be avoided with the current treatment techniques provided action is taken in a timely manner.[4,5,6,7,8] However, lack of awareness, inadequate medical referrals, a lack of knowledge about alternative treatment options, and People's carefree attitudes have resulted in inadequate use of these facilities.

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Corresponding Author:- Dr. Dhivya L.

Address:- Postgraduate In Department Of Ophthalmology At Karpagavinayaga Institute Of Medical Sciences And Research Center.

Despite numerous campaigns to raise awareness about diabetes in general public, thereneeds to be more awareness should be created about Diabetic retinopathy in diabetics. Unlike earlier studies that were conducted on the general population, our investigation was conducted on a small group of 202 people who had already diagnosed with diabetes.

Materials And Methods:-

A hospital based ,cross sectional study was conducted among 202 adult patients with diabetes between June 2021 to December 2021, who attended medicine outpatient department in tertiary care hospital in Chengalpattu district. All patients were surveyed with a questionnaire regarding there Knowlegde and practices related to diabetic retinopathy.

From All participants written, fully informed consent was obtained and the study was carried out in conformity with the principles outlined in the Declaration of Helsinki. The institutional ethics committee gave its approval to the study's protocol.

A questionarre based on demographic details, literacy levels, knowledge and practices about diabetic retinopathy was designed to record the information. The questionnaire was initially developed in English and translated tamila common language used in this region. The questionnaire was interviewed by single investigator

Statistical Analysis

SPSS software 16 version ,the chi square test was done to look for significant associations between various variables with knowledge and practices. probability (P) less than 0.05 was considered as clinically significant.

Results:-

we received responses from 202 patients diagnosed with type 2 diabetes attending medicine out patient department in the hospital. Age distribution of diabetes is predominantly high in 40- 60 years (61%) and differ across the genders.Among the study group 105(52%) was male and 97(48%) was females .literacy rate is 60% among the study group 40% was illitrate.Around 71 patients had family history of diabetes and 131 did not have any family history.All the patients are under the treatment for diabetes 16% is on both oral hyopoglycemic drugs and insulin ,9% patients is on insuin only,75% patients is on only oral hypoglycemics(fig 2). Duration of diabetes among the patients (fig 1)was from newly diagnosed to 20 years of duration of which 10% was newly diagnosed,33% was less than 5 years duration ,48% was less than 15 years duration and 9% was 16 to 20 years duration.(table1)

Variables		n	Percentage
n = 202			
Age Categories			
	21 - 40 Years	19	9
	40 - 60 Years	122	61
	Above 60 Years	61	30
Gender			
	Male	105	52
	Female	97	48
Education Level			
	Graduate and above	30	15
	High School	91	45
	Illeterate	81	40
Family History on Diabetes			
	Yes	71	35

Table	1:- General	Characteristics	of Study.
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	No	131	65
Treatment on Diabetes			
	Insulin and OHA	32	16
	Insulin	19	9
	OHA	151	75
Duration on Diabetes			
	Newly Diagnosed	20	10
	Less than 5 Years	66	33
	6 - 10 Years	73	36
	11 - 15 Years	25	12
	15 - 20 Years	18	9









Table 2 shows knowledge about diabetic retinopathy. The results regarding the knowledge was 124(61%) know that diabetes can cause eye disease. 101(50%) know that timely treatment can prevent the eye damage. Around 104(52%) agreed that diabetic patients should go for regular eye checkup. In the event of eye problem 185(92%) said that they are aware that they should consult an ophthalmologist. According to 79(39%) are aware that control of diabetes is the treatment option for diabetic retinopathy. 37(18%) said that no treatment available but around 68(34%) are not aware of any treatment options. Awareness about blood sugar control which may reduce the vision loss was with 114(56%) patients .93(45%) are aware about diabetic retinopathy can lead to blindness.93(45%) agreed with visiting the doctor even if the diabetes is in control. The knowledge about frequency of eyecheck up of diabetic patient should be once in six months among 32(16%), once in a year 35(17%), depends on eye condition 48(24%) and 74(37%) does not know about the eye checkup. with no vision problem 112 (55%) said that a diabetic patient neednot visit the eye docter for screening for diabetic retinopathy. The mainsource of information about diabetic retinopathy (fig 3) was doctors followed by relatives and media.

s.N	Variables		n	Percenta
0				ge
	n=202			
1	Do you know that the diabetes can cause eye disease?			
		Yes	12 4	61
		No	78	39
2	Do you know timely treatment can prevent/delay damage due to diabetes in eyes?			
		Yes	10	50
			1	
		No	10	50
			1	
2				
3	Persons with diabetes should go for regular eye check-up.	A	10	50
		Agree	10	52
		Disagraa	4	40
		Disagree	90	47
4	Who should you consult in the event of eve problem?			
-				
		Opthalmologist	18	92
		opulationogiot	5	
		Optometrist	10	5
		General Physician	6	3
5	What are the treatment options available for diabetic retinopathy?			
		Surgery	10	5
		Life Style Modification	6	3
		Control Of Diabetes	79	39
		Laser	2	1
		No Treatment	37	18
		Don't know	68	34
6	Are you aware that blood sugar control may reduce the risk of vision loss?			

Table 2:-	Knowledge	about	diabetic	retinonathy	7
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		Yes	11	56
			4	
		No	88	44
7	Are you aware that diabetic retinopathy can lead to blindness?			
		Yes	93	45
		No	10	55
			9	
8	Do we need to visit the eye doctor if diabetes is in control?			
		Yes	93	46
		No	10	54
			9	
9	If yes how frequently should a diabetic person go for an eye check-			
	up?			
		Once in six months	32	16
		Once in a Year	35	17
		Once in a two years	12	6
		Depends on eye	48	24
		condition		
		Don't know	75	37
10	If both eyes are good, screening for diabetic retinopathy is not needed.			
		Agreed	11	55
		-	2	
		Disagreed	90	45
11	Main source of information about diabetes mellitus and diabetic retinopathy?			
		Doctors	12	61
			4	
		Relatives	14	7
		Media	18	9
		Free eye campus	8	4
		D 1/1	\mathbf{c}	1.2



Table 3 is about practices in patients with diabetes 171(85%) check blood sugar regularly.168(83%) visit physician regularly after checking there blood sugar. Around 173(86%) take medications regularly for blood sugar control.91(43%) visit ophthalmologist for regular eyecheckup and screening for diabetic retinopathy.(fig 4)

Table 3:- practices about diabetic retinopath	ıy.
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S.No	Variables		n	Percentage
	n = 202			
1	do you check your blood sugars regularly?			
		Yes	171	85
		No	31	15
2	do you visit physician for checking your blood sugars regularly?			
		Yes	168	83
		No	34	17
3	do you take medications regularly for diabetes control?			
		Yes	173	86
		No	29	14
4	Do you have difficulty in vision?			
		Yes	70	35
		No	132	65
5	If so, have you visited the eye doctor?			
		Once in 6 months	31	15
		Once in 1 year	43	21
		Once in 2 years	15	7
		Don't visit	111	55



Table 4 is determinants of knowledge about diabetic retinopathy .the predictors on likewood of knowlegede about diabetes retiopathy were gender, age, litracy, duration of diabetes. Educated patients are more aware about diabetic retinopathy than uneducated patients asp value =0.0326 which is less than 0.05 which is significant.

Table 4:- Chi square test	knowledge about	diabetic retinopathy	among various predictors.
Tuble 1. Chi byuure test	Know leage about	and other roundputting	among various predictors.

variable	total	yes no		p value
gender				
female	97	50	47	0.62491
male	105	64	41	
literacy				
literate	121	85	36	0.032614
illiterate	81	45	36	
age				
30-50 years	63	47	16	0.012198
51-70 years	139	78	61	
duration of diabetes				
< 10 yrs	154	92	62	0.69051
>10 yrs	48	32	16	

P value is significant < 0.05.

Discussion:-

The knowledge about eyes can be affected by diabetes was known to 61% of the subjects which was less compared to 88% in the study done by cetin EN et al^{10.}

The knowledge that diabetes causes a decrease in vision was known to 56% of patients in the present study which is more compared to 37.1% in Rani P K study and 46.6% by Thapa R et al study^{11,12}.however Rani PK study included general population but in the present study diabetic popupation was included. Diabetic patients are expected to be more aware than non diabetic people.

Only 16% of community members knew that uncontrolled diabetes was a risk factor for DR, according to a study by Namperumalsamy et al. More than 50% of respondents were unaware of the risk factors for DR. [3] In the current study, 56% of participants were aware of the significance of blood sugar control on diabetic retinopathy.

In contrast to our study, which found 1%, 5% and 39% respectively, Rani PK et al. reported that 50.1%, 38.2%, and 53.2% of participants knew about diabetes treatment options such laser, surgery or blood sugar control. [10] Poor informational methods contributed to the shockingly low awareness of available treatments. The majority of the scant knowledge was learned by word-of-mouth from family members or friends who also have diabetes. According to Namperumalsamy et al. and Rani PK et al.[3,11], and compared to 80% and 93.3% in the current study, the awareness about yearly eye examination was 17% only.

Keeping blood sugar levels under control was thought to be sufficient by nearly 55% of respondents in the current study to avoid seeing an ophthalmologist. However, 36.5% of respondents in the study conducted by Rani PK et al had this opinion, while 43.5% of those surveyed by Namperumalsamy et al about visiting an ophthalmologist. [3,11]

Because doctors didn't refer patients to us, our results may have been below average compared to those of other research. At the time of first diagnosis, the doctor must emphasise the importance of yearly eye exams and followup. If information is not available, the patient may consult an ophthalmologist relatively late in the course of the illness or after vision-threatening problems have developed or become permanent.

Among 202 patients in the present study 124 only know that diabetes can cause eye disease. inspite of the fact that diabetic retinopathy can cause serious complications in the eye, the majority of patients are unaware of the existence of such a disease entity. This indicates that poor state of patients education regarding diabetic retinopathy as this is the same sub group who take regular checkup and regular medication for diabetes.

The variation in samples may have contributed to the disagreement between different research. In contrast to the population-based investigations undertaken by Namperumalsamy et al. and Rani PK et al., our study was carried out on diabetes patients in a hospital setting.

Upon receiving a diabetes diagnosis, a baseline dilated fundus examination must become mandatory. The next step should be a yearly eye checkup, or more often if the ophthalmologist recommends it. Patients must be made aware of the significance of maintaining rigorous blood sugar management, which is crucial for halting the progression of their condition and the emergence of complications.

Our study emphasises the value of the part performed by doctors in making an early referral to an ophthalmologist. Our investigation demonstrated that there is a lack of understanding regarding the risk factors and possible treatment alternatives.

Urban patients had higher rates of family history of diabetes, co-morbid hypertension, and literacy, which raises questions about the role stress and urban lifestyle play in the prevalence of diabetes in these people.(9)

Additional research is required in this area to determine the cause and effect link.

In conclusion, this report affirms the necessity of DR awareness campaigns in our nation. Despite numerous suggestions and standards for detecting DR in diabetic patients, there hasn't been much progress due to lack of implementation. To stop the growing threat of visual morbidity brought on by DR, a significant awareness and motivation push is required on a global scale.

Limitation

Due to survey based study and which was done in medicine out patient department the study was done as a cross sectional study. Hence detailed fundus examination was not done to diagnose diabetic retinopathy in the diabetic patients.

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Ethical consent

Obtained from institutional etihics committee

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Conflict of interest

Nil.

Reference:-

1. King H, Aubert RE, Herman WH. Global burden of diabetes, 1995-2025: prevalence, numerical estimates and projections. Diabetes Care 1998;21:1414-31.

2. Narendran V, John RK, Raghuram A, Ravindran RD, Nirmalan PK, Thulasiraj RD. Diabetic retinopathyamong self-reported diabetics in southern India: A population-based assessment. Br J Ophthalmol2002;86:1014-18.

3. Namperumalsamy P, Kim R, Kaliaperumal K, Sekar A, Karthika A, Nirmalan P K. A pilot study on awareness of diabetic retinopathy among non-medical persons in South India. The challenge for eye care programme in the region. Indian J Ophthalmol 2004;52(3):247-51.

4. Dandona L, Dandona R, Naduvilath TJ, McCarty CA, Rao GN. Population based assessment of diabetic retinopathy in an urban population in southern India. Br J Ophthalmol1999;83:937-40.

5. Rohan TE, Frost CD, Wald NJ. Prevention of blindness by screening for diabetic retinopathy: A quantitative assessment. BMJ 1989;299:1198-201.

6. Ferris FL. How effective are treatments for diabetic retinopathy? JAMA 1995;269:1290-91

7. Ferris FL. Issues in management of diabetic retinopathy. Hospital Practice 1993:79-89.

8. Agardh E, Agardh CD, Hansson-Lundblad C. The fiveyear incidence of blindness after introducing a screening programme for early detection of treatable diabetic retinopathy. Diab Med 1993;10:555-59.

9. Mridula Prabhu et al. A hospital based study on awareness of diabetic retinopathy in diabetic individuals based on knowledge ,attitude and practices in a tier 2 city in south india. Indian journal of clinical and experimental ophthalmology ,Julysep 2015;1(3):159-163

10. Cetin EN, Zencir M, Fenkci S, Akin F, Yildirim C. Assessment of awareness of diabetic retinopathy and utilization of eye care services among Turkish diabetic patients. Prim Care Diabetes 2013 Dec;7(4):297-302.

11. Rani PK, Raman R, Subramani S, Perumal G, Kumaramanickavel G, Sharma T. Knowledge of diabetes and diabetic retinopathy among rural populations in India, and the influence of knowledge of diabetic retinopathy on attitude and practice. Rural Remote Health 2008;8:838.

12. Thapa R, Joshi DM, Rizyal A, Maharjan N, Joshi RD. Prevalence of risk factors and awareness of diabetic retinopathy among admitted diabetic patients at a tertiary level hospital in Kathmandu. Nepal J Ophthalmol 2014;6(11):39-45.