

Research Article

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To determine the prevalence of diabetic retinopathy (DR) in Karachi

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Abstract

To study the prevalence of diabetic retinopathy (DR) in a sample of 150 patients living in different hospitals in Karachi, as well as to estimate the current eye care to the diabetic population. Population based cross-sectional study in which patients with diabetes aged 25 to 60 years in Karachi, Pakistan. This survey was conducted from April to October 2012. All patients known to have diabetes underwent an eye examination by bio-microscope and indirect ophthalmoscope to check for any signs of DR through dilated pupils by + 78 lens. Participants were also interviewed and examined to determine their demographic characteristics, medical conditions and the regularity of their eye visits. Participants received a comprehensive ocular examination in hospital and a grading of DR was done using standard protocols. Physicians then provided us with the systemic and demographic data. The patients with diabetes aged 25 to 60 years in different hospitals of Karachi. **Methodology:** This survey was conducted in hospital of Karachi and checks the patients of diabetes as well as to estimate the current eye care to the diabetic population. **Result:** Among 150 screened patients, 71 had diabetes of them, 71 examined patients with diabetes, and 43 had diabetic retinopathy. Only 16 patients with diabetes had a regular eye examination. **Conclusion:** This suggests the need for regular screening for diabetic retinopathy and aggressive management of modifiable risk factors could reduce the numbers of people who develop vision-threatening retinopathy. This study demonstrated a high prevalence and poor control of DR in Karachi. This suggests the need for adequate prevention and treatment in patients with diabetes.

Keywords: Diabetic retinopathy (DR), Diabetes.

Introduction

Diabetic retinopathy is a complication of diabetes that affects the eyes. It's caused by damage to the blood vessels of the light-sensitive tissue at the back of the eye (retina). The major risk factors for developing DR are duration of diabetes^{1, 2} and severity of hyperglycemia.³ The earliest clinical signs of diabetic retinopathy are micro aneurysms, small out pouches from retinal capillaries, and dot intraretinal hemorrhages. These signs are present in nearly all persons who have had type 1 diabetes for 20 years and in nearly 80 percent of those with type 2 disease of this duration. At first, diabetic retinopathy may cause no symptoms or only mild vision problems. Eventually, however, diabetic retinopathy can result in blindness. Diabetic retinopathy can develop in anyone who has type 1-diabetes or type 2-diabetes. The longer patient has diabetes, and the less controlled his blood sugar is, the more likely he is to develop diabetic retinopathy. Timely intervention by laser photocoagulation can reduce severe visual loss by 90%, according to early treatment diabetic retinopathy study (ETDRS)⁴ and

diabetic retinopathy study (DRS).⁵ Early detection of DR and timely treatment of these patients remains a challenge for health care providers in the country.

Methodology

Participants were interviewed and examined to determine their demographic characteristics and medical conditions in addition to their medications and diet. Required data were collected, including: sex, age, disease duration, type of diabetes and history of diagnosed DR. In addition, to assessed the regularity of ophthalmic assessment by an ophthalmologist and the source of information for patients with regular ophthalmic visits.

Results and Discussion

In order to reduce visual disabilities and improve the quality of life of people with diabetes, information on diabetic retinopathy is crucial. Since the study sample was randomly selected from the all cases it represents the

prevalence rate of diabetic retinopathy of those which are admitted. This suggests a need for promoting management of retinopathy integrated with the treatment of co-morbidities. The use of laser treatment is low compared to the need. This could increase the backlog of untreated retinopathy cases, resulting in more visually disabled people with diabetes. The underlying causes of low use (lack of awareness, lack of access, or lack of resources) should be addressed through a comprehensive approach to improve screening and management of diabetic retinopathy. Results are given in figure 1-3 and table1.

From the survey of different hospitals we observed that: 48.78% male have diabetic retinopathy and 45.58% female had the disease. By comparison of age we found that 31-40 year of age group has high percentage as compare to 20-30 or 41-above age group. If we check the duration we have conclude that 43.66 5 patient suffer in diabetic retinopathy greater than 5 years and 56.33 % patient has duration less than five years. Data are given in table1.

Table 1: Characteristics of examined sample

		Total no. of examined patients	Patients of Diabetic retinopathy	Percentage
Sex	Male	82	40	48.78%
	Female	68	31	45.58 %
Age	20 to 30	40	18	45%
	31 to 40	35	22	62.85%
	41 to 50 or above	65	31	47.69%
Duration	>5 years	71	31	43.66%
	<5 years	71	40	56.33%

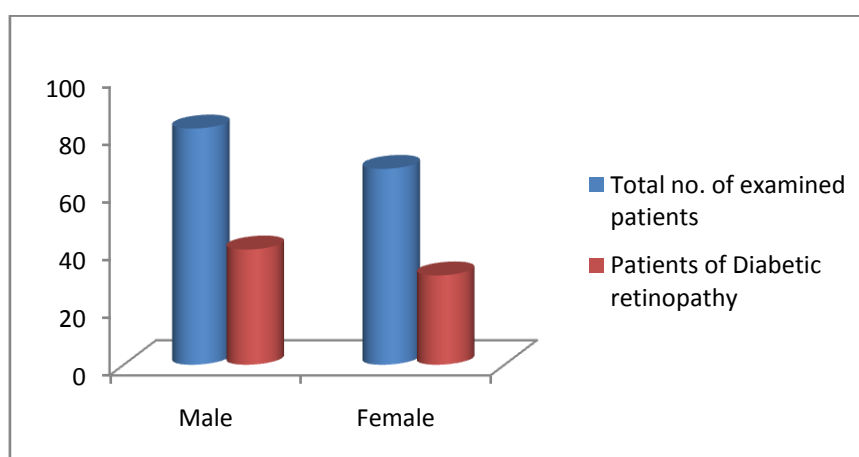


Figure 1: Disease of DR in male and female

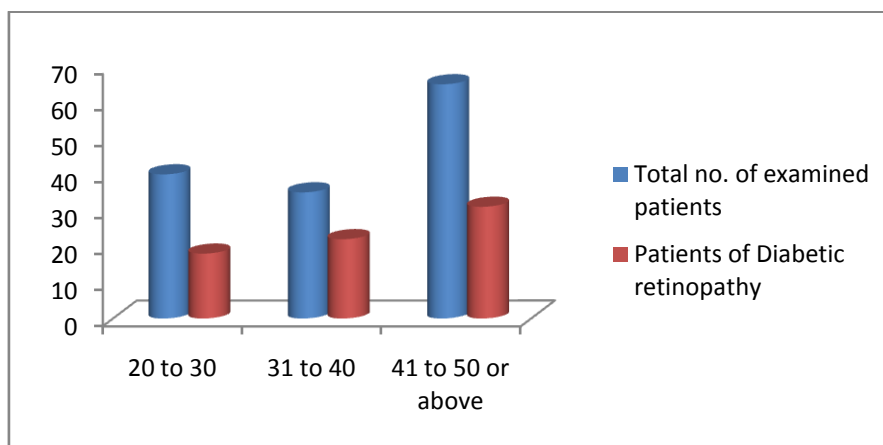


Figure 2: Disease of DR in different age group

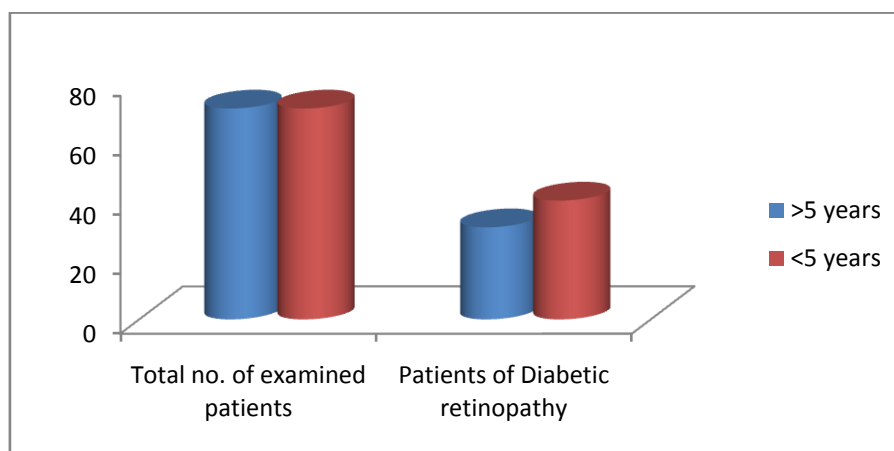


Figure 3: Duration of DR

Conclusion

In Pakistan due to lack of the proper facilities for screening as well as treatment at primary and secondary care level, the chances of the undiagnosed and uncontrolled diabetic patients to become blind is quite high. Pakistan needs DR screening programs for early identification of the condition supported by a hierarchical referral structure to provide appropriate, timely treatment to reduce the burden of blindness due to diabetes. Beside this the role of public awareness campaigns is imperative and shall be utilized to make the ordinary people realize that how hazardous diabetes and its complications could be.

Conflict of interest

None declared.

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