



Awareness of Diabetes and Diabetic Retinopathy among Diabetic Patients, Bangladesh

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Abstract

Diabetes mellitus (DM) is a systemic disease characterized by a chronic increase in blood glucose. Recently, it is a global burden due to its systemic complications that affect different parts of the body. Diabetes mellitus (DM) is one of the world's fastest growing chronic diseases and a leading cause of acquired vision loss. It is estimated that the total number of people with diabetes will double from 171 million in 2000 to 366 million by 2030. (WHO) Diabetes mellitus (DM) is a major cause of avoidable blindness worldwide. People with Diabetic Retinopathy are 25 times more likely to become blind than non-diabetics. It has been estimated that one in four patients with Diabetes in Bangladesh could lose their eye sight due to Diabetic Retinopathy. The awareness of diabetes mellitus (DM) and its complications, especially diabetic retinopathy (DR), is the key to reducing their burden. This study aimed to assess both Awareness of Diabetes and Diabetic Retinopathy among Diabetic Patients and their action towards periodic eye exam. This observational cross-section study was conducted on 300 patients with DM who were visiting the four main hospitals in Bangladesh. The study was conducted using purposive random sampling technique. This study included both type 1 and type 2 diabetic patients. A self-administered questionnaire was used to collect data. It seems that good screening and prompt referral of diabetic patients for full-dilated ocular examinations, appropriate treatment and regular follow up examinations may significantly reduce blindness due to diabetic retinopathy.

Keywords: *Diabetic retinopathy- Diabetes mellitus – Prevalence- Adults –Bangladesh.*

INTRODUCTION

The term Diabetes mellitus describes a metabolic disorder of multiple etiologies characterized by chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action, or both. The effects of diabetes mellitus include long-term damage, dysfunction and failure of various organs. Diabetes mellitus may present with characteristic symptoms such as frequent urination, increased thirst, and increased hunger, blurring of vision, and weight loss. In its most severe forms, ketoacidosis or a non-ketotic hyper-osmolar state may develop and lead to stupor, coma, and, in absence of effective treatment disability and even death. Often symptoms are not severe, or may be absent and consequently hyperglycemia sufficient to cause pathological and functional changes may be present for a long time before the diagnosis is made. The long-term effects of diabetes mellitus include

progressive development of the specific complications of retinopathy with potential blindness, nephropathy that may lead to renal failure, and/or neuropathy with risk of foot ulcers, amputation, Charcot joints, and features of autonomic dysfunction, including sexual dysfunction. People with diabetes are at increased risk of cardiovascular, peripheral vascular and Cerebrovascular disease.

OBJECTIVES OF THE STUDY

Objectives are stated bellow:

1. To assess awareness on Diabetic aand Diabetic Retinopathy among Diabetic Patient.
2. To identify Respondents major symptoms of Retinopathy during diagnosis.
3. To find relationship between Diabetic Retinopathy and Respondents' occupation.
4. To identify the Patients source of awareness regarding Diabetic Retinopathy

METHODOLOGY OF THE STUDY

Study Design

A descriptive cross-sectional study was conducted with diagnosed Diabetes mellitus' defined as having diabetes diagnosed by a physician.

Study Population/ Subject

300 Diabetic patients came to hospital for treatment and Examination were included in the study.

Sampling Method and size

Total 300 respondents were selected through purposive sampling method from selected sampling area.

Data Collection Sources

Data was collected from primary Sources. The secondary data collection method has focused on extensive literature review covering relevant national-level studies and reports etc.

Data Collection Tools

Data were collected through appropriate questionnaire which was prepared for the study.

Methods of Data Collection

Data was collected through Face-to-Face interview.

RESULTS AND DISCUSSION

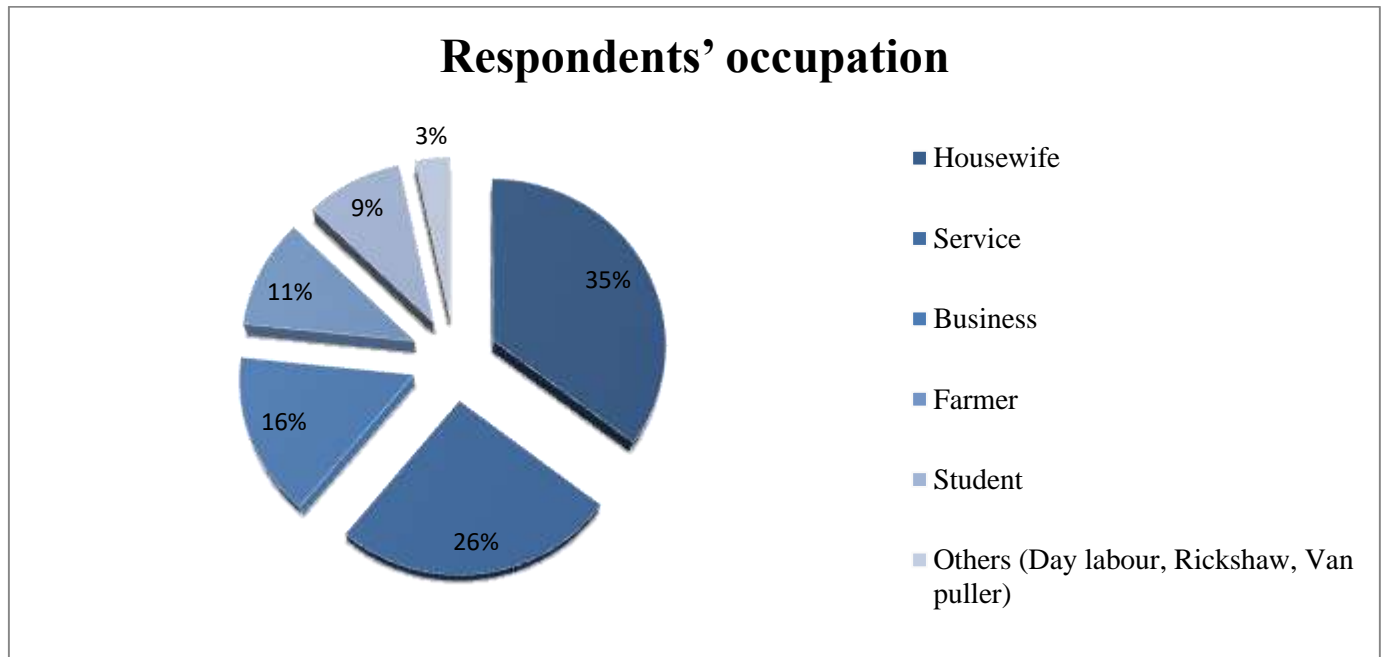
The assessment of Retinopathy was done by only one retinal specialist, using FFA images. Diabetic Retinopathy was classified using a severity scale recommended by the International Council of Ophthalmology and American Academy of Ophthalmology.

Table 1: Percentage (%) Distribution of Respondents' Age

Respondents' Age	Frequency	Percentage (%)
Less than 30 years	48	21.4
30-45 years	43	30.5
50-60 years	53	22.6
More than 60 years	26	24.6
Total = N	300	100

From the result it was found that age group 30-45 years was 30.5% which was the maximum but 21.4 % respondents' age was less than 30 years which was minimum. On the other hand 24.6% respondents were age group 50-60 years and 24.6% respondents were more than 60 years age.

Figure 2: Respondents' occupation

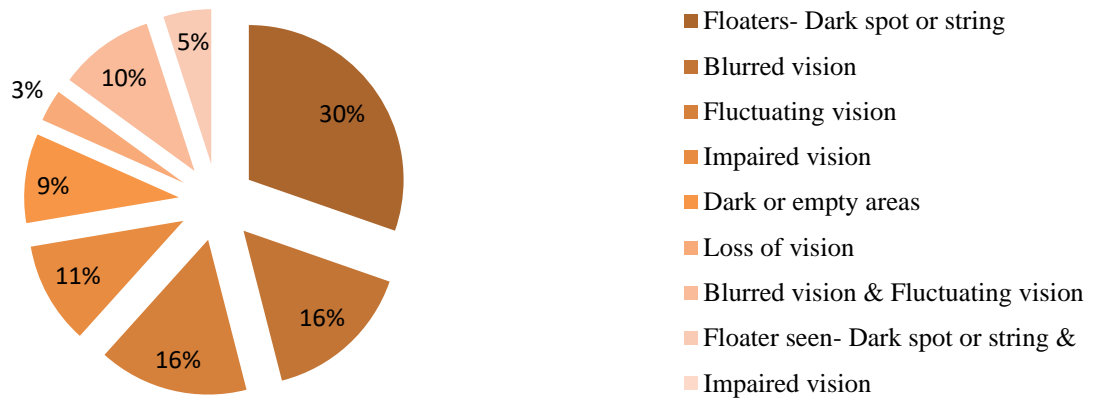


From the result it was found that 35.3% respondents were Housewife which was the maximum and in case of Day labour, Rickshaw puller, Van puller the prevalence of diabetic retinopathy was 3.3% which was minimum. It's may be due to sedentary lifestyle or less physical activities.

Table 3: Respondents 'Major symptom of Retinopathy during diagnosis

Respondents' Major symptoms of Retinopathy during diagnosis	Frequency	Percentage (%)
Floaters- Dark spot or string	91	30.3
Blurred vision	47	15.7
Fluctuating vision	47	15.7
Impaired vision	32	10.7
Dark or empty areas	28	9.3
Loss of vision	10	3.3
Blurred vision & Fluctuating vision	30	10.0
Floater seen- Dark spot or string & Impaired vision	15	5.3
Total = N	300	100

Respondents ‘ Major symptom of Retinopathy during diagnosis



Major symptom of Retinopathy for diagnosis has shown in the above table. From the result it was found that 30.3% respondents occur floaters- Dark spot or string which was maximum but 3.3% respondents occur Loss of vision which was minimum. On the other hand 15.7% respondents occur Blurred vision, 15.7% respondents occur Fluctuating vision, 10.7% respondents occur impaired vision, 9.3% respondents occur dark or empty areas 10.0% respondents occur Blurred vision & Fluctuating vision and 5.3% respondents occur floatersin- dark spot or string & impaired vision.

Table 5: Respondents Frequency of eye examination

Respondents Frequency of eye examination	Frequency	Percentage (%)
Once in 2 yrs mid age	32	10.7
Once a year whole check	30	10.0
Twice in a year whole check	47	15.7
Thrice in a year young age	10	30.0
Quarterly complain check	91	30.3
Bi-annual whole check	32	10.7
Twice in a year whole check, Thrice in a year whole check	30	15.7
Once in 2 yrs mid age, Quarterly complain check, Bi-annual whole check	15	5.3
Total = N	300	100

Respondents Frequency of eye examination has shown in the above table. From the result it was found that 30.3% respondents quarterly complain check which was the maximum, 10.7% respondents examine once in 2 yrs mid age, 10% respondents exam once a year whole check, 15.7% respondents examine Twice in a year whole check, 30.0% respondents examine thrice in a year young age, 10.7% respondents examine Bi-annual whole check, respondents examine, twice in a year whole check, 15.7% respondents examine thrice in a year whole check, 5.3% respondents examine Once in 2 yrs mid age, quarterly complain check, Bi-annual whole check.

Table 6: Percentage (%) Distribution of Significant points of diabetic retinopathy disease

Respondents Significant points of diabetic retinopathy disease	Percentage (%)
Following Diabetic diet	25.7
Regular medicine	10.3
Exercise	8.0
Diabetic diet with medication	18.0
Exercise and dieting	15.3
Medication and dieting	11.3
Diabetic diet with medication & Exercise	15.3
Total = N:	100

Percentage (%) Distribution of Significant points of diabetic retinopathy disease has shown in the above table. From the result it was found that 25.7% respondents Following Diabetic diet which was maximum and only 8.0% respondents perform exercise which was minimum. On the other hand 10.3% respondents eat regular medicine, 18.0% respondents practiced Diabetic diet with medication, 15.3% respondents practiced Exercise and dieting, 11.3% respondents practicing Medication and dieting and 15.3% respondents practiced Diabetic diet with medication & Exercise.

Table 9: Percentage (%) common sources of information

Source	n(%)
Other diabetic patients	105 (35)
Health Professionals	79 (26.33)
Family and friend	65 (21.66)
Media	36 (12)
others	15 (5)
Total	300

The most common sources of information were other diabetic patients (35%), followed by Health professionals (26.33%) and the media with only 12%. Patients and Health Professionals are good source of information about diseases, and it should be invested more in spreading health awareness and diseases prevention.

CONCLUSION

Preventive plans should be designed to spread knowledge among diabetic patients and community. Physicians may refer patients for screening for diabetic retinopathy with proper counseling through explanation about diabetes and its complications, especially diabetic retinopathy. As most patients reported the low contribution of media as a source of their knowledge, mass media like TV and radio and social media should broadcast programs that increase awareness of people about diabetes and raise their knowledge about diabetic complications.

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