

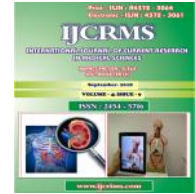


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### Knowledge, Attitude and Practice (KAP) on Diabetic Retinopathy among diabetic Patients living in hilly areas of Lumbini Zone of Nepal

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#### Abstract

**Introduction:** Diabetes Mellitus (DM) is a metabolic disorder which is characterized by elevated blood sugar levels. It is a non-communicable disease and currently one of the major causes for avoidable blindness globally. **Aim/Objective:** To assess the Knowledge, Attitude and Practices (KAP) towards diabetic retinopathy in people living in hilly area of Lumbini Zone. **Design:** Community Based Cross sectional Study. **Method:** 175 Diabetic Patients were enrolled in the study. Screening camps were conducted in 3 different hilly districts of Lumbini zone. Prepared questionnaires were used to assess demographic data and knowledge, attitude and practice of diabetic retinopathy amongst the diabetic patients through direct interview. The data collected was entered in a pre-designed proforma and analyzed using SPSS version 11. **Results:** Total mean age of the patients was 59.2 years including 109 (62.2%) male and 66 (37.8%) were female. 122 (69.7%) patients were aware that diabetes can affect eyes. Only 30 (17.1%) of patients seek eyes check up once diagnosed diabetes though no visual symptoms. **Conclusion:** Knowledge about Eye Involvement in Diabetic was found satisfactorily in diabetic patients and more in male/female. However, levels of attitude and practice were less than desired and should be improved.

**Keywords:** Knowledge, Practice, Diabetic Retinopathy, Community based.

## Introduction

Approximately 387 million people are living with diabetes worldwide with an estimated prevalence of 8.3% in 2014 and is predicted to increase to 10% by 2030<sup>1</sup>. In context of Nepal, the pooled prevalence of type 2 diabetes was found to be 8.4%<sup>2</sup>. Diabetic Retinopathy (DR) is a well-recognized complication of diabetes mellitus. Out of 39 million global blindness due to various eye diseases, 4.8% (1.8 million) is due to Diabetic Retinopathy (DR)<sup>3,4</sup>. Health care providers are exploring ways and means to control blindness due to diabetes. Timely treatment of diabetes and regular screening for complications can reduce or delay the complications of diabetes by as much as 50%.<sup>5</sup> In low economy countries, prevention of diabetes through awareness and education of the community is the most cost effective management of diabetes and its related complications<sup>6</sup>. In order to create awareness in the community, insight into the gaps of knowledge, attitudes and practices regarding diabetes and blindness due to diabetes is important. Effective management of diabetic retinopathy needs multidisciplinary approach and participation of the community, paramedical personnel, medical practitioners, and medical students. Their knowledge-referred as their understanding of diabetes and diabetic retinopathy, their attitude-referred as their feelings and any preconceived ideas toward diabetes and diabetic retinopathy, and their practice-referred as the ways in which they demonstrate their knowledge and attitude through their actions have very important role in increasing awareness of the disease prevention and health promotion among the diabetic population<sup>7</sup>. Several studies have shown that in low-resource countries a range of social determinants including poor health literacy are critical in the epidemiologic transition of disease outcome<sup>8</sup>. Studies to assess the knowledge; practice and awareness of diabetic retinopathy among diabetic individuals were previously carried out in many developing countries. A scarcity of information is observed in the literature regarding awareness of diabetic retinopathy among the diabetic individuals. To the best of our knowledge; no such community based study has been undertaken in Nepal. This study

was carried out to evaluate knowledge, attitude and practices of diabetic retinopathy among the diabetic patients of Hilly districts of Lumbini Zone.

## Materials and Methods

A community based cross sectional study was carried out in three hilly districts namely Palpa, Gulmi and Arghakhachi of Lumbini zone by 1 screening camp in each district. Information about the screening camps were given through local FM radio, Newspaper and Television one week to fifteen days prior to screening date. All the known cases of Diabetes were advised to gather in Primary eye care centre of the respective districts for screening. Those who are not diagnosed as diabetes by physician are excluded from the study.

A prepared questionnaire was used to collect the responses. They comprised of five questions on the knowledge about eye complications of diabetes and eye care, one attitude related question and two practice related questions. Personal information like age, sex, duration of diabetes, associated Hypertension etc was recorded.

We used pretested data collection form. The data from these forms was transformed on spreadsheet using EPI Data software. We used Statistical Package for Social Studies (SPSS 11) for the analysis.

## KAP Questionnaire

### Question Related to Knowledge

- A. Do you know eyes can be affected in Diabetes?  
 Yes ( )                      No ( )
- B. Do you know diabetes can cause blindness?  
 Yes ( )                      No ( )
- C. Do you know that control of diabetes can reduce eye complications?  
 Yes ( )                      No ( )

D. Do you know duration of diabetes is the major risk factor for blindness?

Yes ( ) No ( )

E. Do you know the treatment options for diabetic retinopathy?

Yes ( ) No ( )

**Question Related to Attitude**

A. Should diabetes patient go for eye check up?

Yes ( ) No ( )

**Question Related to Practice**

A. Where do you go for eye check up?

- a. Eye care centre ( )
- b. Local medical shop ( )
- c. Local health centre ( )
- d. Others ( )

B. When did you do your last eye check up for retinopathy?

- a. Not done till date ( )
- b. <3 months ( )
- c. 3-6 months ( )
- d. >6 month ( )

After detail questionnaires detailed eye examination was carried out .Baseline snellen’s visual acuity was taken. Intraocular pressure was taken with schiotz tonometer, Blood pressure, Height in cm and weight in kg was measured and dilated fundus examination was carried out with Head mount Indirect ophthalmoscope, wherever necessary Slit lamp examination with +90 D was carried out. Grading of Retinopathy was done according to ETDRS Grading scale and recorded. According to stage of retinopathy patient was given necessary advice.

**Results**

A total of 175 known diabetic patients were screened from 3 different hilly districts of Lumbini Zone. The age range was 40-70 years with mean age of 55.2 years. Male to female ratio was 1.6:1. The maximum patients (126, 72%) having diabetic of duration more than 5 years. Associated hypertension was found in 43 (24.5%) patients. Majority of the patients was found to literate (87, 49.7%) as mentioned in table 1

**Table 1 : Demographic Data**

Total Subject	175
Age Range (years)	40-70
Mean Age ( Years)	55.2
M:F	1.6 :1
Literate	49.7%
Duration of Diabetes	
<5 years	24(14.2%)
5-10 years	126 (72.0%)
10-15 years	20 (11.5%)
>15 years	5(2.3%)
Hypertension	43 (24.5%)

Table 2 shows 120(68.8%) patients firstly go to nearby eye care centre whenever they have any eye problem. similarly 125 (71.4)% knows that diabetes can affect eye in various forms and 109(62.2%) knows that it can even cause blindness.

The major source of awareness was 69.7% media, 13.1% from friends, physician 9.7% and 79.4 % was more than once sources. The knowledge regarding control of diabetes can prevent complication was found in 114(65.1%)

**Table 2 : Knowledge about diabetes and eye**

Where do you go for eye check up?	Near by eye centre	Local medical shop	Local health post	others
	120 (68.8%)	40 (22.8%)	8 (4.5%)	7 (4%)
Do you know that diabetes can affect Eyes?	Yes		No	
	125 (71.4%)		50 (28.6%)	
Major source of awareness to you	Media	friends	physician	combined
	122 (69.7%)	23 (13.1%)	17 (9.7%)	139 (79.4%)
Do you know that control of diabetes can prevent complication?	Yes		No	
	114 (65.1%)		61 (34.9%)	

Knowledge about risk factor shows 89 (50.8%) of patients knew that ocular involvement in diabetes is related to duration of diabetes .The knowledge regarding eye involvement was found more in literate and educated group.

Majority of patient (139, 79.4%) felt that lack of knowledge is the main barrier of effective treatment followed by Unaffordability (15, 8.5%) and lack of access as shown in table 3

**Table 3: Barrier of Treatment of DR**

Lack of Knowledge on DR	139 (79.4%)
Unaffordability of treatment	15 (8.5%)
Inaccessibility to treatment	11(6.2%)
Others	10 (5.7%)

Table 4 shows Majority of the patients (153, 87.4%) has no evidence of Diabetic Retinopathy followed by NPDR (21, 12%), and Proliferative in

1 patient (0.5%).CSME is found in 2 cases (1.1%) with associated NPDR.

**Table 4 : Stage of Retinopathy among patient**

No Retinopathy	153 (87.4%)
NPDR (Non Proliferative Diabetic Retinopathy)	21 (11.4%)
Mild	14 ( 8.0%)
Moderate	5 (2.8%)
Severe	2( 1.1%)
PDR (Proliferative Diabetic Retinopathy)	1 ( 0.5%)
CSME (Clinically Significant Macular Edema)	2 91.1%)

## Discussion

In our study 68.8 % of patients were found to go to eye care centre whenever they have any eye problem. This percentage is quite high in compare to previous study in Nepal<sup>9</sup>. It may be due to that there were very less Primary eye care centers and eye hospital in past so patients used to go to local medical shops and buy medications or used to go to general health post for eye problems . The knowledge that eye can be affected in Diabetes was found in 71.4 % of patients and 65.1% knows that good control of diabetic can prevent complication. This is quite similar to the study by Krayam B et al<sup>10</sup> which shows 65.62% and 68.79% respectively. We believe these all may be due to regular awareness and screening programmes. One interesting finding was noted that major source of information that diabetes can effect eye as from media rather than from physician. This signifies that there may be many contributing factors that physicians are not referring the patient for eye check up. Lack of awareness that diabetes causes irreversible blindness was identified as a major barrier by both patients and providers followed by Unaffordability of treatment cost and inaccessibility of all facilities in eye care centre in hilly area was identified as major barrier .This is quite similar to other studies by Ibrahim OA et al<sup>11</sup>, and Harnet ME et al<sup>12</sup>.

## Conclusion

The results of the present study revealed that knowledge about eye complications and care is satisfactory among diabetic individuals living in hilly area of Lumbini zone. Increased number of Eye care centers in these regions in recent years has improved eye care services. It is felt of strong need to improve attitude and practice.

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