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Knowledge, attitude study on diabetic retinopathy among paramedical students

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Abstract

Introduction: Diabetes mellitus, particularly type II, is a major public health concern worldwide. It is estimated to increase approximately by 150%, from 30 million in 2000, to 80 million in 2030. Early screening and intervention is the key to treatment. Bridging the gap between the physician and patients can be done by the paramedic staff, who sensitize the patients towards the disease and refer the patients for screening. Effective management of diabetic retinopathy needs multi - disciplinary approach that is participation of the community and health personals.

Material and methods: Closed ended questionnaire specific to knowledge attitude and practice regarding Diabetic retinopathy were handed to paramedical students. There were total of 15 questions, in that 7 questions to evaluate knowledge and 8 questions to evaluate attitude.

Conclusion: The knowledge towards morbidity of diabetes was good. The treatment options was chosen correctly, majority promoted regular screening to prevent complications. The attitude towards the factors affecting diabetic retinopathy was poorly known. So Proper Training of medical staff and community nurses in screening patients of diabetes and referral to ophthalmology centers should be emphasized to decrease the disease morbidity and blindness associated with diabetes.

Keywords: Attitude; Diabetic retinopathy; Knowledge; Paramedical students; Screening

1. Introduction

- Diabetes mellitus, particularly type II, is a major public health concern worldwide. It is estimated to increase approximately by 150%, from 30 million in 2000, to 80 million in 2030.
- Early screening and intervention is the key to treatment . Bridging the gap between the physician and patients can be done by the paramedic staff, who sensitize the patients towards the disease and refer the patients for screening. (1)
- Effective management of diabetic retinopathy needs multi - disciplinary approach that is participation of the community and health personals. (2)

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- In our study we have tried to evaluate the knowledge, attitude and practice regarding diabetes in paramedical student. They are the health personals who will spend longest time with the patients and their relatives.
- Their apt knowledge and motivational attitude can have an impact in the society in prevention of ocular complications and timely intervention in diabetic patient .(1)
- We found that studies evaluating the knowledge and attitude of diabetic retinopathy among paramedical students are in limited number in our country. So we conducted this study amongst paramedical students to assess their knowledge and attitude regarding diabetic retinopathy. (2)
- Methods:
- This study was a cross-sectional and observational type of study. The study population included the nursing and paramedical students from SSMC and SSNC. A predesigned, pretested, and a Closed ended questionnaire was given to the students for eliciting responses. The questionnaire consisted of 15 questions.
- There were 7 questions in knowledge evaluation, each question was evaluated as a correct or an incorrect response. There were 8 questions in the attitude evaluation which were evaluated again as a correct or incorrect response .
- Data collection and statistical analysis :
- Data were collected for one month in January 2024. Statistical analyses were performed using Statistical Package for the Social Sciences (SPSS 16.0). Descriptive tabulations and chi-square tests were applied to generate descriptive information from qualitative data assuming normalcy. Responses were made anonymous, and participants were made aware of this fact before participation in the study. Written consent was obtained from each participant. The study followed the approval from the Institutional Review Committee

2. Results

A total of 132 paramedical and nursing students participated in the study. There were 80 and 52 participants from Bsc (OT tech, lab tech, cardiac tech and nursing) and GNM respectively.

2.1. Knowledge based questions

Table 1 Knowledge based questions

Question	No of Responses	%
Diabetic retinopathy is caused by?		
Damage to the blood vessels in the retina	83	62.88%
Increase in iop	11	8.33%
Optic nerve damage	32	24.24%
Don't know	6	4.55%
Did you know what are the factors that lead to diabetic retinopathy, which may increase the possibility of the disease?		
Yes	108	81.82%
No	14	10.61%
Don't know	10	7.58%
Do you think that the prolonged duration of diabetes may be one of the factors that may increase possibility of retinopathy?		
Yes	110	83.33%
No	10	7.58%
Don't know	12	9.09%
Do you think that irregular high BP may be a factor affecting the possibility of diabetes retinopathy?		
Yes	86	65.15%
No	26	19.70%

Don't know	20	15.15%
Do you think smoking May be factor affecting the possibility of developing diabetic retinopathy ?		
Yes	74	56.06%
No	35	26.52%
Don't know	23	17.42%
Do you know that increased cholesterol in the blood may be factor affecting the possibility of developing diabetic retinopathy?		
Yes	85	64.39%
No	27	20.45%
Don't know	20	15.15%
Do you think pregnancy may increase the incidence of diabetic retinopathy?		
Yes	64	48.48%
No	42	31.82%
Don't know	26	19.70%

2.2. Attitude based questions

Table 2 Attitude based questions

Question	No Responses	of %%
Do you think diabetic retinopathy may lead to glaucoma?		
Yes	99	75.00%
No	10	7.58%
Don't know	23	17.42%
Do you think diabetic retinopathy may lead to blindness?		
Yes	117	88.64%
No	5	3.79%
Don't know	10	7.58%
Do you think regular screening for diabetes patients is necessary to prevent diabetic retinopathy?		
Yes	109	82.58%
No	9	6.82%
Don't know	14	10.61%
Do good control of diabetes may prevent diabetic retinopathy?		
Yes	115	87.12%
No	4	3.03%
Don't know	13	9.85%
Diabetic retinopathy treatment includes?		
Lasers	47	35.61%
Oral medication	26	19.70%

Surgery	59	44.70%
Diabetic retinopathy should be checked in ?		
Dilated pupil	91	68.94%
Undilated pupil	7	5.30%
Don't know	34	25.76%
Do you think retinopathy is treatable condition?		
Yes	109	82.58%
No	12	9.09%
Don't know	11	8.33%

3. Discussion

- Knowledge, attitude and practice of the paramedic students can be a great help towards the patient for seeking the ophthalmologists opinion regularly and also in increasing the awareness of the patient regarding the disease .
- To prevent the blindness due to diabetic retinopathy, awareness needs to be created at all levels of health care delivery system. In this study design, we evaluated the knowledge of the paramedical students of Sri Siddhartha College of the nursing and paramedical .
- Shetty N K *et al* in their study found that Knowledge and attitude regarding morbidity caused by diabetes was good in most of the participants. Also the treatment options of diabetic retinopathy was appropriately chosen.
- However only 36% promoted screening in a asymptomatic patient for diabetic retinopathy, which was a poor attitude. However 70% of the respondents were unaware that diabetic retinopathy is not curable.
- In Panigrahi S *et al* study they included 272 medical and nursing students and there was statistically significant difference in practice and knowledge score among male and female students .
- In our study population the knowledge based questions found that knowledge regarding morbidity caused by diabetes, its progression and factors that lead to diabetic retinopathy was good in most of them with an average of 85.2% of the participants giving the correct response, however only 62.9 % given correct response for the cause of diabetic retinopathy.
- The evaluation of attitude based question showed that the attitude towards diabetics for morbidity screening was good. Also the treatment options of diabetic retinopathy was appropriately chosen by most of the respondents. However only 58.55 % given correct response on factor affecting the possibility of developing diabetic retinopathy .
- The 82.6% of the respondents know that diabetic retinopathy is treatable
- However 61.25% of the respondents were unaware of clinical practices regarding diabetic retinopathy .
- In our study we can conclude that though the knowledge regarding diabetic retinopathy was good amongst paramedic students, their attitude and practice regarding the regular, early screening and the factors causing diabetic retinopathy was lacking.
- Screening being an important part of management of diabetic retinopathy.
- Their active involvement in the diabetic screening camps and various comprehensive eye care camps can improve their sensitization towards early screening of diabetic retinopathy

4. Conclusion

- Proper emphasis on Knowledge, Attitude and practice of the paramedic students can bridge the gap between the ophthalmologists and the patients.
- It also help in screening of the relatives having Diabetic Mellitus and thus could go a long way in capturing hidden cases of Diabetic Mellitus in the community.
- Proper Training of medical staff and community nurses in screening patients of diabetes and referral to ophthalmology centers should be emphasized to decrease the disease morbidity and blindness associated with diabetes.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest .

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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