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Original Research Paper

General Medicine

TO STUDY THE GENERAL AWARENESS ABOUT DIABETES IN DIABETIC PATIENT IN KOTA REGION

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ABSTRACT

Background Awareness of various aspects of Diabetes Mellitus (DM) is essential for the prevention, management and control of the disease. However, several studies have consistently shown that awareness of DM in the general population is low. In this paper, we assessed the awareness of DM among diabetic patients attending the Medical Out-Patient Department (MOPD) of MBS hospital, Govt medical college, kota. **Objective:** The objective of this study is to assess the general knowledge of diabetes mellitus in patients diagnosed with DM in hadoti region' **Methods** We interviewed 200 patients attending the MOPD of GMC kota. We used a tool containing questions on patient's demographic characteristics and awareness of various aspects of DM including general knowledge on DM, causes, complications, management and prevention. **Results** Of the 199 patients who were aware of their condition, only 47% said they knew what DM is. Similarly, 53% of the study participants had no knowledge of the causes of DM and about 50% were not aware of the methods of prevention. 67% knew that DM can result to loss of sight while 46.5% knew that DM can cause poor wound healing. Few respondents knew that DM can lead to kidney failure (13.5%), skin sepsis (12.0%), heart failure (5.5%) and stroke (4.5%). Close to 50% of the respondent did not know how DM can be prevented. Level of education, duration of illness and knowledge of a family member with diabetes were important predictors of knowledge in our study. **Conclusion** Our study shows that the majority of patients attending the MOPD have poor knowledge on several aspects of DM. Hence, there is need for conscious efforts towards improving the level of awareness through health education and promotion, not limited to the hospital but also within the general population, as part of strategies to prevent, manage and control DM.

KEYWORDS : Diabetes mellitus, knowledge, stroke,

INTRODUCTION

India leads the world in alarming epidemic of diabetes mellitus with the highest number of 50.8 million diabetics followed by China and United States. [1] Rapid epidemiological transition in India with increased urbanization and westernization has contributed to a substantial rise in diabetes. [2] Prevalence estimates of diabetes in India ranges from 5.6% to 12.4% in urban areas and 2.4% to 2.7% in rural areas. [3] This difference not only exists across rural urban divide but also across the Indian states because different states in India are at diverse stages of demographic transition. [4] A community-based cross-sectional survey in urban Kerala recorded the highest prevalence of 19.5% in India. [5] As Kerala has the highest proportion of ageing population in India, the prevalence of diabetes mellitus is highest in Kerala. [4] In addition, drastic change in living standard of people in Kerala over last two decades has also significantly contributed to it. [6]

It is now being considerably agreed that knowledge of diabetes mellitus and its risk factors and preventive lifestyle among population will likely have a substantial benefit in the prevention of disease. [7] Unfortunately, there is inadequate awareness about the real dimension of the problem among the general public. There is also lack of awareness about existing intervention for prevention of disease. [8] Keeping in view increasing burden of diabetes mellitus in india, it is highly important to know about the awareness of the disease among general population to chalk out culturally appropriate and need oriented educational strategies With this perspective, a community-based study was undertaken with the objective of assessing the awareness of diabetes mellitus, its risk factors, treatment, complications, and role of lifestyle modifications in controlling diabetes in a rural population in Kerala.

Aims and objectives

This study was undertaken to assess the level of understanding of DM among patients attending the medicine outpatient department (OPD) of MBS hospital, GMC kota (Rajasthan). An attempt was made to ascertain the role of age, gender, educational status, living style and the disease history with this awareness. Further the study also intended to analyze the knowledge regarding the disease complications, treatment, and preventive strategies.

Methods

The study was conducted in the govt. medical college, MBS hospital, kota. The institution runs several MOPD clinics, including the diabetic clinic which holds on Friday.

Our study participants were randomly selected from a pool of patients attending weekly diabetic clinics at MBS hospital kota. We interviewed a total of 200 patients from October 2018 - December 2019. Briefly, the study was explained to all patients attending the facility during the study period by one of the researchers and two trained nurses working at the MOPD. Participants who agreed to participate were requested to provide consent by signing or thumb printing on a consent form. A two- page questionnaire was administered to the study participants. The questionnaire contained series of questions on participant's demographic characteristics and awareness of DM including general knowledge on DM, causes, complications, management and prevention. The questionnaires were interpreted into local languages, to those who could not understand or read hindi by trained staff. The following questions are asked –

(1) Awareness about risk factor-
family history
Excess sugar intake
Failure of body to use insulin
Lack of insulin
(2) Effect of exercise on diabetes
(3) Can indivisual with normal body weight and normal health have diabetes mellitus
(4) Tight elastic hose or socks good or bad for diabetic patient

(5) What extra care you should take during cutting the toenails
(6) What effect of diabetes on wound healing
(7) Knowledge of complications- Loss of vision, Poor wound healing, Amputations, Kidney failure, Skin sepsis, Heart failure and Stroke
(8) Knowledge about Sign and symptom of hypoglycaemia
(9) You know Your children has high risk of developing diabetes in future as compare to child born to non diabetic –yes, no
(10) What are preventive measures

Awareness of the different aspects of DM was estimated using summary statistics. In addition, we assessed the effect of independent (exposure) variables (such as age, education, ethnicity, occupation, place of residence and gender and co-morbidities) on awareness of DM.

Results –

Baseline characteristics of study population

Overall, a total of 200 adults provided consent and were interviewed. The median age of the study population was 53 years (range 18–80). The socio-demographic characteristics of these participants are presented in Table 1.

Table- 1 Socio-demographic characteristics of study population

Variable		n (%)
Sex		
	Females	118 (59)
	Males	82 (41)
Education		
	None	50 (17.5)
	Primary school	35 (17.5)
	Middle school	68 (34)
	High school	32(16)
	University	15(7.50)
Marital status		
	Married	149 (74.5)
	Widowed	32 (18)
	Divorced	13 (6.5)
	Single	6 (3)
Area of residence		
	Urban	140 (70)
	Rural	60 (30)
Occupation		
	Non-sedentary	165 (83.5)
	Sedentary	33 (16.5)

Fifty nine percent of the study participants were females. A significant proportion of these participants was married (74.5%) and was essentially residing in urban areas (70%), Over 83% of these participants had a non-sedentary occupation such as farming, fishing, and carpentry amongst others.

Over half of the study population has been diabetic for a period between one to five years (Figure 1) and 52% of them were known hypertensive (Figure 2).

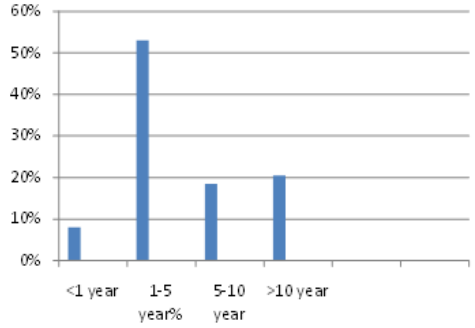

Figure-1. Duration of illness since diagnosis of Diabetes diagnosed.

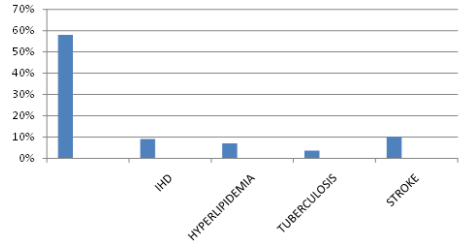

Figure-2. Co-morbidity with Diabetes melitus

Knowledge of subject matter

Of the 200 participants, only one was not aware that he was diabetic even though he was a known hypertensive (Table 2). Of the participants who were aware of their condition, only 47% said they knew what DM is (Table 2).

Table-2 Knowledge of DM by participants

Knowledge of DM	n (%)
1. Knew that they were diabetic	
Yes	199 (99.5
No	1 (0.5)
2. Said they knew what diabetes is	
Yes	94 (47) No 106 (53)
3. Knowledge of the cause of DM	
I don't know	106 (53) Family history 54 (27.0) High sugar intake 32 (16) Lack of insulin 13 (6.5) Failure of body to use insulin 4 (2.0)
4. Knowledge of complications of DM	
Loss of vision	134 (67)
Poor wound healing	93 (46.5) Amputations 62 (31) Kidney failure 27 (13.5)
Skin sepsis	24 (12.0)
Heart failure	11 (5.5)
Stroke	9 (4.58)
5. Knowledge of preventive measures	
I don't know	90 (45.7) Healthy diet 67 (33.5) Eating less sugar 28 (14.2)

Similarly, a significant proportion of them were not aware of the actual cause of DM. For instance, 53% of the study participants had no knowledge of the causes of DM while 16% said that it could be caused by high sugar intake. However, some respondents knew one cause of DM. For instance, 27% of the participants said the condition runs in the family while others said DM can be caused by insufficient insulin production (6.5%) or poor insulin utilization (2.0%). Knowledge of the visible complications of DM appeared to be somewhat better than knowledge of other complications. For example, 67% knew that DM can result to loss of sight while 46.5% knew that DM can be associated with poor wound healing. In addition, about a third knew that DM can result to amputations (Table 2). Even though the majority of the participants could identify the visible complication, awareness of the invisible complications of DM was comparatively lower. For instance, few of these participants knew that DM can lead to kidney failure (13.5%), skin sepsis (12.0%), heart failure (5.5%) and stroke (4.5).

Like other aspects of DM, knowledge of preventive measures was poor. Indeed, close to 50% of the respondent did not know how DM can be prevented. About a third of our study participants knew that a healthy diet was essential for the prevention while about 6% said that DM could be prevented by physical activity.

DISCUSSION-

This study was undertaken to evaluate the awareness of DM among diabetics attending the MOPD at the kota as well as to determine the predictors of awareness/ knowledge of DM. The specific objectives were to assess how knowledgeable our study participants were regarding the definition of diabetes,

its causes, management and complications as well as its prevention. Our findings show that the general awareness of these aspects is low among diabetic patient. Indeed, over half of our study population was unaware of what DM was. This finding correlates with that of Muninarayana et al. who reported that 50% of diabetic patients in Tamaka Kolar (India) had no knowledge of diabetes9. Similar findings have also been reported from Kenya10. Knowledge of the causes of diabetes was also low. Few participants (mostly health workers) knew that the condition could be caused by lack of insulin (7%) or failure of the body to use insulin (2%). This finding is in agreement with that of Unadike et al. who reported that only few respondents in Uyo (Nigeria), knew that lack of insulin can cause diabetes11. It is striking to discover that about 80% of our study participants knew a family member who was diabetic; however, only about a third of them knew that diabetes could be familial. This finding is consistent with that of Hashmi et al., who reported that most patients in Lohore (India) were unaware that diabetes runs in the family12 . A significant proportion of our study participants felt that diabetes can be caused by high sugar intake or other factors such as hypertension and stress, a belief that can only be altered if these patients are provided with appropriate education regarding the causes of diabetes. Knowledge of the visible complications of DM such as loss of vision, poor wound healing and amputations appeared to be somewhat better than knowledge of non-visible complications such as heart failure, kidney failure and stroke. This observation is consistent with findings reported by Unadike et al.13 and Muninarayana et al. 14 In our study, only patients who were sufferingfrom kidney and heart failure said that these complications were as a result of DM..

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Knowledge of how diabetes can be prevented was also poor. Indeed, almost half of our study participants had no clue on how the condition can be prevented while a very small number thought that weight loss (0.5%) and exercise (5.6%) were important measures in preventing the condition. Similar observations have been reported from India12 , Oman15 and Tanzania16 . There is therefore a need for more educational campaigns to promote modification of lifestyles as well as adherence to exercise and dietary prescription. Such campaigns should be simplified to enable individuals with low educational status to understand the messages. Three important predictors of awareness were identified in our study. First, those with formal education beyond middle school had a better understanding of all aspects of the DM than those with no education at all. This finding, which is consistent with that of Muninarayana et al14, may essentially be explained by the fact that those with formal education beyond middle school might have learnt about DM from their schools or are more likely to access the internet or magazines/ books. Second, there was a significant association between the duration of illness and awareness of diabetes. Those who have been living with this disease for more than ten years were more knowledgeable than those who have been living with the condition for less than one year ($p=0.04$). However, no significant difference was found between those who have been living with the condition for 5–10 years and less than1year ($p=0.06$). This finding seems to suggest that there is no proper diabetic health education and promotion at the MOPD.

Given that DM is emerging as a major public health challenge in India and that the current health infrastructure is inadequate to address this challenge, effective control and prevention strategies based on sound educational programs need to be defined and implemented17 . Those living with this condition should be properly educated on lifestyle changes and diet modifications so as to prevent lifelong complications. These programs should also target community and religious leaders as well as other social groups (including schools) because the impact of this disease is felt by the entire population17 . This information can be disseminated via a variety of channels including radio and television shows, newspapers, automated mobile phone messages, internet and formal group talks. Most of this information (particular radio and TVshows) should be delivered in local languages since the majority of the population does not have formal education. Additionally, health professionals need to be thoroughly trained so that they can effectively educate their patients. Furthermore, diabetic or preferably education on chronic non-communicable diseases should also be introduced in school curriculum. Investing on health education might lead to a substantial benefit to the state as this would reduce the cost of healthcare (which is currently being subsidized by the state) or economic loss through job absenteeism following chronic morbidity associated with the disease. And finally, given that about 4 in 5 of our study population had a family member who was diabetic, targeted screening should be done on family members of all diabetic patients.

CONCLUSION-

Diabetes mellitus poses a major health challenge both epidemiologically and economically in The Gambia and Africa in general. However, awareness of this pathological condition among diabetics is low in many African settings, let alone the general population. Our study shows that the majority of patients attending the MOPD have poor knowledge on several aspects of the condition including its causes, complications, management and prevention. Hence there is an urgent need to raise the level of awareness of this silent but deadly disease condition in the kota region.

BIBLIOGRAPHY-

1. Prasannakumar KM. The pan Indian type 2 diabetic. A practical therapeutic approach. NOIDA, India: Elsevier, a Division of Elsevier India Private Limited; 2007. p. 20-31.
2. Ramachandran A. Epidemiology of diabetes in India - Three decades of research. J Assoc Physicians India 2005;53:34-8.
3. Government of India. Registrar General of India. Census of India 2001. New Delhi: Ministry of Home Affairs; 2001.
4. Menon VU, Kumar KV, Gilchrist A, Sugathan TN, Sundaram KR, Nair V, et al. Prevalence of known and undetected diabetes and associated risk factors in central Kerala - ADEPS. Diabetes Res Clin Pract 2006;74:289-94.
5. Vijayakumar G, Arun R, Kutty VR. High prevalence of type 2 diabetes mellitus and other metabolic disorders in rural Central Kerala. J Assoc Physicians India 2009;57:563-7.
6. Eriksson J, Lindström J, Tuomilehto J. Potential for the prevention of type 2 diabetes. Br Med Bull 2001;60:183-99.
7. Park K. Parks Textbook of Preventive and Social Medicine. 20 th ed. Jabalpur, India: M/S Banarsidas Bhanot; 2009. p. 341-5.
8. Agarwal A. Social classification: The need to update in the present scenario. Indian J Community Med 2008;33:50-1. 9.Muninarayana C, Hiremath G, Krishna I, Anil NS: Prevalence and awareness regarding diabetes mellitus in rural Tamaka, Kolar. Int J Diabetes Dev Ctries 2010, 30(1):18–21.
10. Maina WK, Njenga EW, Muchemi EW: Knowledge, attitude and practices related to diabetes among community members in four provinces in Kenya: a cross-sectional study. Pan Afr Med J 2010, 7(2):15–18. ISSN 1937–8688
11. Unadike BC, Chineye S: Knowledge, awareness, and impact of diabetes among adolescents in Uyo, Nigeria. African Journal of Diabetes Medicine 2009, 3:12–14.
12. Hashmi NR, Seema D, Iram M: Awareness tmong individuals attending out Patient department of ghurki trust teaching hospital. Professional Med J 2008, 15(1):96–100.
13. Unadike BC, Chineye S: Knowledge, awareness, and impact of diabetes among adolescents in Uyo, Nigeria. African Journal of Diabetes Medicine 2009, 3:12–14. 20.
14. Jane K, Joanne M, Gallivan C: National Diabetes Education Program and the Role of Partnership in the Prevention and Management of Diabetes. Oxford: Oxford Scholarship, Online; 2011. Available from:http:// www. sph. emory. edu/departments_centers/gh/documents/Narayan_DiabetesPH.pdf (accessed 13 Feb 2013).
15. Al Shafaee M, Al-Shukaili S, Rizvi S, Al Farsi Y, Khan M, Ganguly S, Afifi M, Al Adawi S: Knowledge and perceptions of diabetes in a semi-urban Omani population. BMC Public Health 2008, 8(1):249
16. Avi B, Colford J: Prevalence and Treatment of Diabetes in Rural Tanzania. Berkeley: University of California at Berkeley; Press; 2012. doi:10.1186/1471-2458-13-1124 Cite this article as: Foma et al.: Awareness of diabetes mellitus among diabetic patients in the Gambia: a strong case for health education and promotion. BMC Public Health 2013 13:1124.
17. Omoleke SA: Chronic Non-comunicable diseases as a New epidemic in africa: focus on the gambia. Pan Afr Med J 2013, 14(87).