

DIABETIC PATIENTS; LEVEL OF AWARENESS ABOUT ORAL HEALTH KNOWLEDGE, ATTITUDE AND PRACTICES

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ABSTRACT

Diabetes Mellitus (DM), the commonest endocrine disorder is associated with 2-4 times increased risk of coronary artery disease and other macro and microvascular complications in the body. Oral diseases are also more common in diabetics as compared to normoglycemic individuals. The aim of this study was to gather baseline information on knowledge, attitude, and practices of diabetic patients regarding their oral health with the view of enhancing dental health education for them, which will help in updating their knowledge about the disease and its associated systemic and various oral complications. This study was a cross sectional descriptive survey of 300 diabetic patients visiting the Operative Department of Armed Forces Institute Of Dentistry Rawalpindi, Pakistan from January 2010 to January 2011. Out of total 300 patients 195 (65%) were males and 105 (35%) were females. 36 (12%) were suffering from Type 1 Diabetes Mellitus and 264 (88%) were suffering from Type 2 Diabetes Mellitus. 64% of the patients had knowledge about the oral complications of diabetes. 35% of this group knew about this issue from their treating physicians and 65% from dentists. 13% did not know that diabetes predisposed them to oral disease, and 23% denied any existence of a link between diabetes and oral health.

The level of awareness and dental health knowledge in diabetic patients are good in our army set up which is comparable to previous studies carried out locally and abroad but it still needs to be improved by health education.

Key words. Awareness, dental health, diabetes, oral health

INTRODUCTION

Diabetes Mellitus refers to a group of common metabolic disorders that share the phenotype of hyperglycemia. Several distinct types of DM exist and are caused by a complex interaction of genetics and environmental factors.¹ Diabetes mellitus is associated with many micro and macrovascular complications in the body. In addition to these, oral complications and manifestations in the form of gingivitis, periodontitis,

xerostomia, opportunistic infections, greater accumulation of plaque, delayed wound healing, oral paresthesia, and altered taste and candidiasis are also becoming the emerging problem in dental health sector and has a very important impact on the social and economical sectors of the country.^{2,5,8} Studies have proved a bidirectional adverse relationship between diabetes and periodontal disease; diabetes can aggravate periodontitis, and periodontitis can negatively affect control of diabetes.^{3,6-9} Therefore, preventive measures

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like regular proper brushing, flossing, and periodic dental visits should be ensured, which will not only prevent so many complications due to diabetes but will also decrease the morbidity due to these manifestations. Oral hygiene behaviour and seeking oral health care depend on a number of factors.^{1,5-7} Patients comply better with oral health care regimens when informed and positively reinforced. Lack of knowledge about dental health and hygiene is among the reasons for non-adherence to oral hygiene practices in this country due to illiteracy, economical constraints, lack of facilities and lack of proper guidance.^{1,4,7} Further, oral health attitudes and beliefs are significant for oral health behavior. A higher likelihood of seeking preventive dental care is found to be associated with dental knowledge.⁸⁻¹⁰ The motives prompting people to seek preventive dental care include the beliefs that one is susceptible to dental disease, that dental problems are serious, and that dental treatment is beneficial. Those who believe that they are highly susceptible to dental disease make more preventive dental visits.^{5,7,9} Health education attempts to change behaviors by altering an individual's knowledge, attitudes, and beliefs about health matters.

METHODOLOGY

This study was a cross sectional descriptive survey of 300 diabetic patients visiting the Operative Department of Armed Forces Institute Of Dentistry Rawalpindi, Pakistan from January 2010 to January 2011. Patients included in the study were patients suffering from type 1 or type 2 diabetes of all age groups, having at least one natural tooth, and having been diagnosed with diabetes for at least 6 months formed the inclusion criteria. Diabetic medical personnel or who were apparently physically or mentally handicapped were excluded from the study.

A questionnaire was designed to assess the knowledge, attitude, and practices of diabetic patients along with corresponding demographic variables. After taking informed consent from each eligible participant before administration of the questionnaire, the questionnaire was piloted in 300 patients to determine its validity. Willing participants were informed in details by the investigators about the research project and its consequences. The investigators asked the questions verbally in Urdu and filled out the form. Privacy of the

patients was ensured during filling of questionnaires. At the end of questioning, patients were informed about the impact of their systemic condition on oral health.

RESULTS

The mean age of the sample was 49 years. Out of total 300 patients 195 (65%) were males and 105 (35%) were females. 36 (12 %) were suffering from Type 1 Diabetes Mellitus and 264 (88 %) were suffering from Type 2 Diabetes Mellitus. The results show that 64% of the patients had knowledge about the oral complications of diabetes. 35% of this group knew about this issue from their treating physicians and 65% from dentists. 13 % did not know that diabetes predisposed them to oral disease, and 23 % denied any existence of a link between diabetes and oral health. Sources of knowledge about dental health is shown in table 1.

Treating physician 44%, self-experience in none of the patients, diabetic patients 3 % , family members and friends 2%, dentists 49% , and, very rarely, printed media 2%. According to 3% of respondents, self-remedy was the solution to dental problems. Thirty percent of subjects also said that if told of their predisposition to oral disease, they would increase their brushing frequency; 20% said that this information would not affect their routine, while 50% said that they would consult a dentist. Thirteen percent of the participants brushed their teeth three times a day, 14 % once a day and 73% brushed twice daily. Knowledge regarding oral complications of diabetes that was imparted by physicians was significantly related to brushing frequency 63 % of the counseled patients brushed two or three times daily, while only 12 % of uncounseled patients brushed two or three times per day and they were doing it by virtue of their knowledge about dental health.

TABLE 1: SOURCES OF DENTAL HEALTH KNOWLEDGE OF THE PATIENTS (IN PERCENTAGE)

Source of knowledge	%
Treating physician	44
Dentist	49
Self experience	nil
Diabetic Patients	3
Family members/friends	2
Print/electronic Media	2

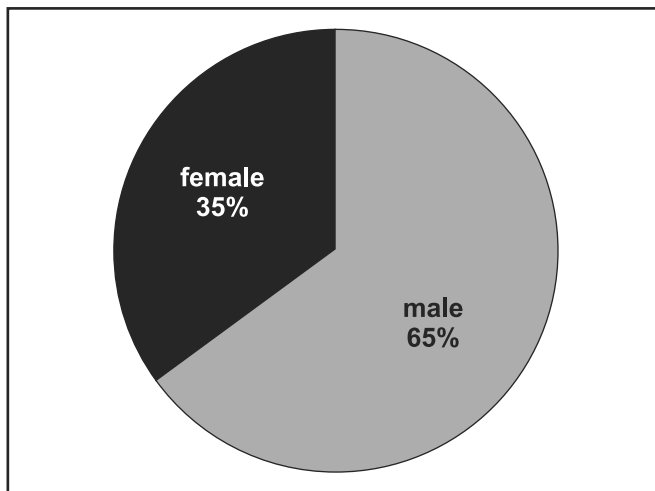


Fig 1: Gender distribution

DISCUSSION

Although Pakistan is a developing country and literacy ratio as compared to developed countries, but still as this study was conducted in an army institute so the results are satisfactory due to following reasons.

1. As army personnel are educated so they can take care of their health in better way.
2. Easy and proper access to medical and dental health facilities.
3. Availability of print and electronic media.
4. Regular briefing and health education by medical and dental professionals.
5. Regular physical training and medical check up.
6. Early diagnosis and prompt treatment of the disease.
7. Availability of free medical and dental health facilities.

The results were consistent with studies conducted world wide.^{5-8,10-12} However, most diabetic patients knew about various medical complications of diabetes like nephropathy, retinopathy, and diabetic foot because their physicians had laid emphasis on these topics when they were diagnosed and were treated. The knowledge of diabetic patients were satisfactory and was comparable to that of developed countries because of the above mentioned reasons.^{8,10,12} Similar study was

carried out by Mirza KM et al in Lahore which included general population and the results showed that the knowledge and awareness about oral health were not so good as seen in this study.³ This may indicate lack of oral health counseling on the part of physicians, poverty, illiteracy, as evidenced by other studies.^{9,13} On the other hand, patients felt that they would have been more careful about their oral hygiene if they would have been informed earlier in the disease stages.^{3,5,11} Overall oral hygiene measures in diabetic patients were found to be good in this study.

Those patients who were briefed and educated by their dentists about the disease and its complications were found more careful and were following healthy dental principles and habits as compared to those who were not briefed by the dentists. It shows the importance and positive impact of health counselling by dentists. Diabetic patients who claimed to know about the oral complications of diabetes through sources other than their physician showed significant difference in their brushing habits compared with those who never knew about the systemic effects of diabetes. Diabetic patients who smoke need to be educated in details and adverse effects of smoking should be explained to them as smoking will adversely affects their periodontium, 10-fold more than that of normal individuals and thus will aggravate the oral complications many folds.¹⁰⁻¹³

CONCLUSION

The level of awareness and dental health knowledge in diabetic patients was good in Pakistan army set up which is comparable to previous studies carried out locally and abroad. This may be because in Pak Army, medical facilities are easily available for the early detection and prompt free treatment, complications can be effectively controlled. Thus it can be stated that by regular strict glycaemic control, regular dental health education and follow up visits and proper treatment of the disease these important complications of diabetes can be prevented, which will decrease mortality and morbidity due to this chronic disease. Therefore every diabetic patient and his family should be properly educated in details, about the prevention and treatment of this disease and also to ensure that they are regularly consulting their treating physicians and dentists.

There is a great need of well organized and targeted health education program of motivating diabetic patients against smoking by health care providers. Further studies are needed on a larger scale to in our country to identify and bring solutions to these problems.

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