

**DENTAL PROBLEMS IN THE PATIENTS OF DIABETES MELLITUS**Safia Abidi¹, Fatima Ramzan Ali¹, Sheikh Abdul Khaliq^{2*}, Manzar Raza³, Iqbal Azhar¹¹Department of Pharmacognosy, Faculty of Pharmacy, University of Karachi, Pakistan²Department of Pharmaceutics, Faculty of Pharmacy, Federal Urdu University, Karachi, Pakistan³Karachi Medical & Dental College, Abbasi Shaheed Hospital, Karachi, Pakistan***Corresponding Author email:** sheikh1974@gmail.com**ABSTRACT**

The progression of oral disease is affected by chronic metabolic disorder known as diabetes. Dental health is an integral part of the general health and oral cavity is considered as a mirror of the rest of the body. The most common dental problem of diabetic patients is periodontal disease, and it along with dental caries can damage the whole tooth. The aim of the study is to determine the dental problems in diabetic patients of Karachi, Pakistan. A survey form comprising of issues regarding dental problems was filled by dentists of 94 diabetic patients. The data was entered and analyzed by SPSS 19 software. Out of 94 diabetic patients, the male female ratio is almost same i.e. 51.1% and 48.9%, respectively. Majority of patients had periodontal problems (97.8%). Other common dental problems were endodontitis (45.25), surgery (64.5%), debris in mouth (77.45), loose or carious tooth (50.55%), and inflamed, swollen or bleeding gum (74.2%). 47.3% patients lost their natural teeth. Diabetic patients usually suffer from dental problems and special care must be taken to avoid or manage these problems.

KEY WORDS: Dental problems, Diabetic patients, Pakistan, Periodontal diseases.**INTRODUCTION**

Diabetes Mellitus is a condition of impaired carbohydrate utilization (clinically characterized by hyperglycemia) caused by an absolute or relative deficiency of or resistance to insulin.^[1] Worldwide estimation suggests that greater than hundred million people are affected by chronic metabolic disorder called diabetes.^[2] According to Wild S,^[3] estimated prevalence of diabetes by 2000 was 2.8% and by 2030, it would be 4.4% in all age groups. Similarly, by 2000, 171 million people are affected by diabetes while the number will be projected to reach by 2030 to 366 million. It is a bleak reality that neuropathy, retinopathy, coronary heart diseases and renal diseases are major complications in the patients of diabetes.^[4] Periodontitis, gingivitis, soft tissue pathologies in oral cavity and sometimes tooth loss are commonly reported complication of oral health.^[5] The association between dental problems and diabetes is persistent hyperglycemia, which increases the inflammatory response to periodontal pathogenic bacteria resulting in

tissue damage.^[6] After the rise of 21st century, dental health has become an integral part of the general health and oral cavity is being considered as a mirror of the rest of the body because most of the manifestation in the vicinity of the oral cavity can lead to diagnosis for general ailment through the changes in the oral tissues.^[7] Development of oral disease is a major concern in the patients of diabetes i.e. why it is imperative for dental practitioners to have up to date and trustable information for the population suffering from diabetes in order to make strategies for the prevention of complications associated. Considering this a study was designed to determine the dental problems associated with diabetes in Karachi, Pakistan.

MATERIAL AND METHODS

A quantitative survey research was conducted to determine dental problems of diabetic patients. The survey population was diabetic patients. A sample size of 94 patients was chosen, and we used dental clinics as data collection point. The sample size was calculated

from statistical formula and based upon prevalence of Diabetes Mellitus in Karachi, Pakistan. Close ended questionnaire was prepared to gather information related to patients' demographics (gender and age) and dental problems. Eight dentists were involved in the study and filled the questionnaire for their patients. The statistical evaluation integrated in the study and SPSS software used for data analysis.

RESULTS

Out of 94 patients (n=48; 51.1%) were male and (n=46; 48.9%) were female. Most of the patients belonged to age group 40-50 years (n=37; 39.8%), out of which (n=19; 51.35%) were male and (n=18; 48.64%) were female. Other patients were of (n=30; 32.3%) 30-40 years, (n=15; 15.9%) 50-60 years, (n=8; 8.5%) 20-30 years and (n=2; 2.2%) below 20 and above 60. (FIGURE-1) Among these 94 diabetic patients (n=91; 97.8%) have periodontal diseases, (n= 42; 45.2%) endodontitis, (n=13; 14%) other dental problems, and (n=60; 64.5%) had dental surgery. (n=72; 77.4%) patients have debris in mouth, (n=41; 44.1%) have dentures or removable bridge, (n=44; 47.3%) have lost their natural teeth, (n=47; 50.5%) have loose or carious teeth and (n=69; 74.2%) have inflamed, swollen or bleeding. (FIGURE-2)

DISCUSSION

The immune system of diabetic patients is compromised, and chances of infection and inflammatory diseases are more.^[8] Most of the diabetic patients suffer from oral diseases. Arrieta^[9] found high gingival index, loss of insertion and gingival recession in diabetic patients as compare to the control population. Another study was conducted in Ethiopia in which Bahru and Abdu found that 79% diabetic patients were suffering from dental carries, 70.5% from gingival recession and 65.7% from inflammation. They also

found that females had higher loss of teeth.^[10] According to Hintao,^[11] the comparison has been made between patients of type-II diabetes and the patients without diabetes, where non diabetic patients had carries of root surface at greater prevalence compare to diabetic patients (40.0% versus 18.5%; P = 0.001), filled root or decayed root surfaces was at greater number (1.2 ± 0.2 versus 0.5 ± 0.1; P < 0.01), similarly, generalized periodontitis was also at greater number in non diabetic patients (98.1% versus 87.4%; P < 0.01). In another study it was found that diabetic patients are disadvantaged population with poor oral hygiene.^[12] Indeed, oral health is negatively influenced by diabetes. Comparison of odd ratio between diabetic and non diabetic patient represents that fewer or missing tooth ratio is 2.3 times greater in diabetic patients compare to non diabetic patients. A quantitative survey research was conducted in Lahore, Pakistan to determine the oral health knowledge, attitude and practice in diabetic patients.^[13] According to the study, 35.4% patients were aware of the oral complications associated with diabetes. 7.6% denied presence of any link between oral diseases and diabetes. 28% thought self-remedy can solve dental problem. A lack of knowledge was found among diabetic patients. In the current study the findings were similar, and most of the patients suffered from dental problems. Periodontal diseases were most common. Patients had debris in mouth, loose and carious teeth, inflamed swollen and bleeding gums and lost their natural teeth. As mentioned that the oral hygiene status is significantly worse in the diabetic patients^[14]

CONCLUSION

The knowledge of periodontal care and implications of diabetes is essential for dental practitioners in order to manage their patients accordingly.^[15] Oral health must be promoted in diabetic patients to improve the quality of life of patients with this incurable disease.^[16]

FIGURE-1

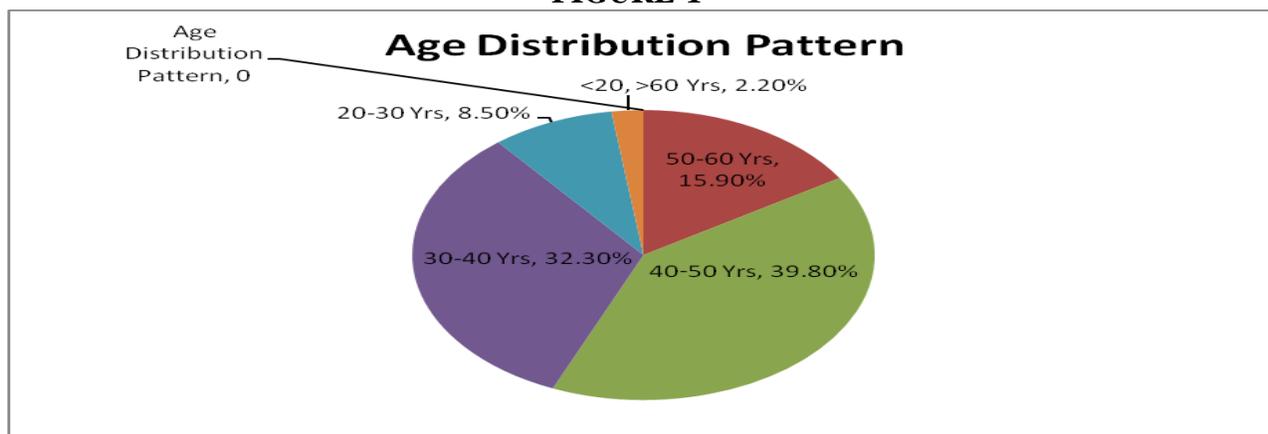
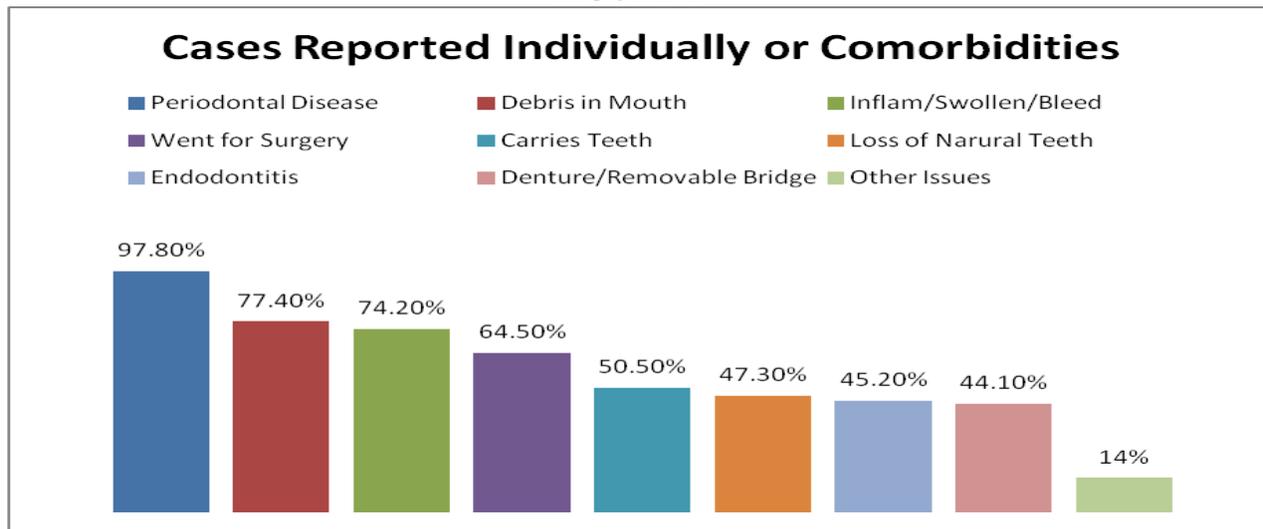


FIGURE-2



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