

PREVALENCE OF MEDICALLY COMPROMISED CONDITIONS IN PATIENTS REQUIRING DENTAL TREATMENT

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ABSTRACT

Objective: To know the associated medical conditions in patients requiring dental services and help enlighten the dental practitioners in light of the co morbidities in our local population.

Material and Methods: This descriptive, cross-sectional study was conducted on a total of 4269 patients reporting to the Dentistry department of Services hospital, Peshawar from December 2012 to February 2014. After taking informed consent from each patient, a detailed history was recorded on a specially designed Performa to find out the prevalence of medical problems in patients requiring dental treatment. The data so collected was analyzed by using SPSS version 21.

Results: Among 4269 patients, 978 (22.9%) patients were afflicted with co morbidities in which 53.2% were female while 46.8% were male. Majority of patients were in age group 51-60 years followed by 41-50 years. The most frequently encountered disease categories in the present study were hypertension (35%) and diabetes mellitus (21.9%) followed by hepatitis (13.6%).

Conclusion: The results of the present study confirm that the prevalence of medical co morbidities is significant in patients requiring dental treatment. Therefore a thorough medical history and careful clinical examination is mandatory before any dental procedure. Continuing education courses should emphasize on subjects like management of medically- compromised patients and medical emergencies. Knowing about the interrelation between systemic and oral diseases will help the dental practitioners to avoid or manage life threatening complications that may occur during dental procedure.

Key Words: Co-morbidities, dental treatment, systemic diseases.

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INTRODUCTION

Oral health is very essential to a person's overall well being and therefore oral health care is an integral part of the systemic treatment.^{1,2,3} Oral health has a direct impact on all the aspects of life like personal, social and psychological.¹ The relationship between oral and systemic health has been extensively investigated and mentioned in the literature.⁴ Systemic diseases may affect oral tissues either by increasing

their susceptibility to other diseases or by interfering with the process of healing. Furthermore, oral tissues may also be affected by the various medications and other therapies used for the treatment of systemic conditions.⁵

Literature shows that almost 64.2% of the subjects have one or more systemic diseases. In patients requiring dental treatment, the prevalence of medically compromised conditions has been reported to be 12.2%.⁶ The goal of dental treatment is to provide safe and effective management without precipitating any medical crisis.⁷ Patients requiring dental treatment do not always report their past medical history because they think that it is not related to their dental problem.⁸ Dental treatment needs to be modified according to the underlying medical condition and consultation with the medical consultant may be required.⁷ Therefore proper medical history taking is the key to safe management of the patients.^{9,10}

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Prevalence of medically compromised conditions in patients requiring dental treatment

Several studies have been done in the developed countries to show the prevalence of systemic co morbidities in dental patients while on the other hand; there is lack of such scientific data in many developing countries including Pakistan. The aim of the study is to provide local data about the prevalence of medical problems among dental patients and also to emphasize on the awareness of dental practitioners about the co morbidities present in patients requiring dental treatment. This study will help to decrease the frequency of occurrence of medical emergencies in dental practice by allowing the dentist to modify dental treatment according to the patient's underlying systemic condition.

MATERIAL AND METHODS

This is a cross-sectional descriptive study which was conducted at the Dentistry Department of Services Hospital, Peshawar from December 2012 to February 2014. A total of 4269 patients requiring dental treatment were included in the study regardless of age and gender. A written permission was taken from the institutional research ethical committee. After taking informed consent from each patient, a detailed history was recorded on a specially designed performa to find out the prevalence of medical problems including hypertension, diabetes mellitus, hepatitis, pregnancy, renal, gastrointestinal, cardiac, neurologic, hematologic and other remarkable diseases. The data so collected was analyzed by using SPSS version 21.

RESULTS

A total of 4269 patients were recruited in the study. Among these, 978 (22.9%) patients were afflicted with co morbidities. Figure 1 shows gender distribution of the patients. Age range of the patients at the time of presentation was 14-80 years. Age distribution of these patients is presented in Table 1 while details of the medical co morbidities are given in Table 2.

Table 1: Age wise distribution of the patients

Age in years	No. of patients & percentage
10-20	35(3.6%)
21-30	166(17%)
31-40	192(19.6%)
41-50	245(25.1%)
51-60	284(29%)
61-70	41(4.2%)
> 70	15(1.5%)
Total	978(100%)

Table 2: Prevalence of medical problems in dental patients

Medical condition	No. of patients & percentage
Hypertension	342(35%)
Diabetes mellitus	214(21.9%)
Hepatitis	133(13.6%)
Gastrointestinal	95(9.7%)
Cardiovascular	68(6.9%)
Respiratory	32(3.3%)
Pregnancy	31(3.2%)
Renal	30(3.1%)
Hematological	24(2.4%)
Neurological	9(0.9%)
Total	978(100%)

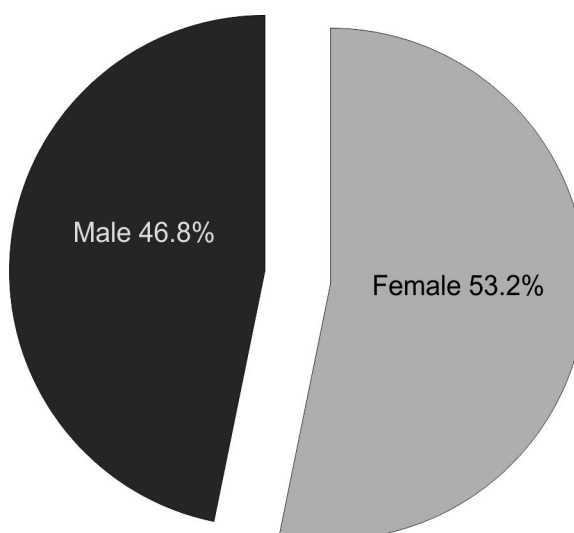


Figure 1: Gender distribution of the patients

DISCUSSION

An easy access to the medical care and advances in medical technology have enabled the population to live longer than before with resulting increased percentage of elder population in a society.¹¹ As the older population is more vulnerable to various systemic diseases.¹² The practice of dentistry is becoming more complex and challenging.¹³ The clinician must have an extensive knowledge and better understanding of the patient's systemic condition in order to provide safe and quality dental treatment to the patients having systemic co morbidities.^{7,14}

The prevalence of medically compromised conditions in patients requiring dental treatment was found to be 22.9% in the present study. Lakhani et al⁷ revealed the prevalence of medically compromised patients

from the survey on 1867 dental patients from Karachi, Pakistan to be 23.4%. Abuabara¹⁵ disclosed the prevalence of medical conditions in Brazilian dental patients to be 26%. Al-Bayaty et al¹⁰ reviewed 571 patients and reported that the prevalence of medical conditions in dental patients was 41.9%.

The present study demonstrated female preponderance with the female to male ratio of 1.14:1. This finding correlates with other studies.^{6,10,11} This finding may be suggestive of the fact that usually females are more conscious to take care of their health (both general and oral health) as compare to males.⁶ Majority of the patients were in the age group of 51-60 years followed by 41-50 years. This finding is in accordance with the studies of Dhanuthai⁸ and Lakhani⁷ who also reported a high prevalence of medical problems in older individuals.

Hypertension followed by diabetes mellitus was found to be the most common co morbidities encountered in the present study. The results are in agreement with the study of Lakhani⁷ who also reported hypertension and diabetes mellitus to be the most commonly encountered systemic diseases in dental patients. This reflects the character of these two diseases which are usually encountered in elderly patients. Maryam et al¹¹ also demonstrated in their study that cardiovascular diseases were the most frequent medical condition in patients requiring dental treatment in whom hypertension contributes to 33.9% of the total. The reason of high prevalence of hypertension in the present study may be due to the fact that we have measured the blood pressure levels in all patients requiring dental treatment, thus also detecting those patients who had not previously been diagnosed. Our study is not in consonant with Khader et al¹⁶ who reported gastrointestinal diseases as the predominant co morbidity in their study.

CONCLUSION

Although medical emergencies are rare in dental practice, but they can occur during dental treatment and may have a fatal outcome. The results of the present study confirm that there is significant prevalence of patients with medical condition requiring dental treatment. Furthermore the majority of people in developing countries like Pakistan do not undergo routine medical checkups. As a result, patients have asymptomatic medically compromised conditions. Therefore a thorough medical history and careful clinical examination is mandatory before any dental procedure. Knowing about

the interrelation between systemic and oral diseases will help the dental practitioners to avoid or manage life threatening complications that may occur during dental procedure.

RECOMMENDATION

In dentistry, the curriculum may require modification towards a more medically oriented dental education. Continuing education courses should emphasize on subjects like management of medically- compromised patients and medical emergencies.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Ashraf N: Collection of data, analysis of the data and writing of final manuscript.

Mehr MT: Analysis of the data and critical appraisal of the final manuscript.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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