

# Frequency of Medical Conditions in Patients of Low Socioeconomic Status Seeking Dental Treatment

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## ABSTRACT:

**Objective:** To determine the frequency of medical conditions prevalent in an area of inhabitants with low socioeconomic status seeking dental treatment

**Materials and Methods:** A cross-sectional study was performed employing medical histories of 341 patients reporting for dental treatment from June 2011- December 2011 at Baqai Dental College Hospital (BDCH). A questionnaire was designed consisting of demographic data and various common systemic diseases. The doctors on duty in the Department of Oral Diagnosis and Radiology were briefed about filling out the questionnaire and requested to fill one for each patient coming to BDCH for dental treatment. The collected data was analyzed using Statistical Package for Social Sciences (SPSS) version 17.

**Results:** The data was compiled keeping in view the most common prevailing disease in dental patients and relationship between gender and occurrence of systemic diseases. The results revealed that among the subjects of this study, the most prevailing medical problem was Hypertension 37(8.4%). Hepatitis 19(4.3%) and joint pains 16(3.60%) respectively were the 2nd and 3rd place common diseases. Regarding association between gender and occurrence of systemic diseases, hypertension (12.50%) and thyroid ailments (4.50%) were found to be more prevalent in females than males. Diabetes and hepatitis were more frequent in males while joint pain was found to be almost evenly distributed among both genders.

**Conclusion:** The frequency of medical conditions prevalent in an area of inhabitants with low socioeconomic status seeking dental treatment was 8.2% hypertension, 4.3% hepatitis and 3.60% joint pains.

**Keywords:** Medical emergencies, Dental education, Medically compromised dental patients.

## INTRODUCTION:

The progress and advancement in medical technology, easier and greater access to medical facilities and awareness about maintaining health has increased life expectancy of a person in many parts of the world.<sup>1,2</sup> These improvements are exhibited by better oral health in a number of patients since they retain their natural teeth for longer ages than in the past. As a consequence, dentists are expected to encounter a greater number of patients,<sup>2,3</sup> especially the elderly. As the proportion of the elderly in the population continues to

increase, there will be more patients with medically compromised conditions. When dentists have a chance to treat dental ailments of such patients, there are concerns that they should be aware of the effect of medical problems and their treatments on dental treatment plans, the dental or oral soft tissue problems that can arise in these patients and the effect of dental treatments on their medical conditions.<sup>4,6</sup>

Karachi is a metropolitan city of Pakistan with a population of around 24 million which makes it the 2nd most populous city of the world.<sup>7</sup> Air pollution, lack of proper waste management, absence of sufficient health facilities, poverty and growing industrialization are the major issues of this city. All these factors adversely affect environment which leave harmful effects on human health. These factors make it a city of unique health problems but surprisingly, there is lack of data concerning prevalence of medical conditions in patients who seek dental treatment in Karachi, especially patients from undeveloped areas and of low socioeconomic status. This study was done to determine the frequency of systemic medical conditions in dental patients attending dental OPD at Baqai Dental College Hospital (BDCH) so that appropriate dental treatment could be instituted keeping in view the systemic problem the patient is suffering from.

## MATERIALS AND METHODS:

This cross-sectional study was conducted at Baqai Dental College Hospital after approval from June to December 2011. A face and content validated self-administered questionnaire in English language was distributed among doctors who consented to participate in the study. The doctors were briefed about careful filling out of one questionnaire for each patient seeking dental treatment. The study included simple randomly selected 341 patients more than 18 years of age. The sample size was calculated using Raosoft - a sample size calculating software with

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5% margin of error, 70% response rate and 95% confidence interval.

The questionnaire besides demographic data consisted of the medical conditions the patient might be suffering from. The medical conditions were classified into 10 categories as; Endocrine disorders, Cardiovascular diseases, Central nervous system diseases, Respiratory diseases, Hematological disorders, Eye and ENT problems, Gastrointestinal tract, Genitourinary, Gynecological and Musculoskeletal disorders.

The data was analyzed using the Statistical Package for Social Sciences (SPSS) software version 17. Descriptive analysis was obtained and frequency of distribution was calculated in percentages.

**RESULTS:**

The results were compiled according to the most common occurrence of the diseases in dental patients and effect

of gender of the patients on prevalence of the systemic diseases (Table 1).

The results revealed that among the subjects of this study, the most prevailing medical problem in dental patients reporting BDCH was Hypertension (8.4%). Hepatitis was the 2<sup>nd</sup> most common systemic disease (4.3%) and joint pains took the 3<sup>rd</sup> place (3.60%) (Table 1). History of 213 male patients was reviewed which showed that 15(5.70%) patients were suffering from Hypertension but out of 128 females, 22(12.50%) had hypertension. This is evident here that female patients needing dental treatment suffered from hypertension more than male. Similarly, thyroid diseases were more common in female 8 (4.50%). However, Diabetes 7 (2.60%) and Hepatitis 11 (4.20%) were more prevalent in males as compared to the females. Joint pain was almost evenly distributed among male and female dental patients (Table 1).

Table: 1  
Frequency of medical conditions among patients attending dental clinics of BDCH

Medical Condition		Total cases	No of Male cases	No of Female cases
Endocrine disorders	Diabetes mellitus	12 (2.7)	7 (2.60)	5 (2.80)
	Hyper/hypothyroidism	10 (2.3)	2 (0.80)	8(4.50)
Cardiovascular diseases	Myocardial infarction	1(0.2%)	1 (0.40)	0
	Hypertension	37 (8.4)	15 (5.70)	22(12.50)
Central nervous system	Seizures	1 (0.2)	1 (0.40)	0
	Stroke	1 (0.2)	1 (0.40)	0
Respiratory diseases	Asthma	3 (0.7)	2 (0.80)	1(0.60)
	COPD	1 (0.2)	1 (0.40)	1(0.60)
	Tuberculosis	1 (0.2)	0	1(0.60)
	Penumonia	1 (0.2)	0	1(0.60)
Hematological disorders		7 (1.6)	0	7 (4.0)
Eye and ENT disorders		1 (0.2)	0	1(0.60)
Gastrointestinal tract diseases	Peptic ulcer	7 (1.6)	4 (1.50)	3 ( 1.70)
	GERD	3 (0.7)	2 (0.80)	1(0.60)
	Hepatitis	19 (4.3)	11(4.20)	8 (4.50)
Genitourinary diseases		1 (0.2)	0	1(0.60)
Gynecological disorders		1 (0.2)	0	1(0.60)
Musculoskeletal disorders	Joint pain	16 (3.60)	8(3.0)	8 (4.50)
	Arthritis	12 (2.70)	6 (2.30)	6 (3.40)
	Osteoporosis	2 (0.5)	0	2 (1.10)

COPD: Chronic Obstructive Pulmonary Disease, GERD Gastroesophageal Reflex Disease

**DISCUSSION:**

This study was done to determine the frequency of systemic medical conditions in dental patients attending dental clinics of low socioeconomic status so that

appropriate dental treatment could be instituted keeping in view the systemic problem the patient might be suffering from. Awareness of attending dentist about the systemic disease of a patient could prevent potential

problems that may occur in a dental operator. Although some emergencies are unexpected, many that occur in a dental clinic may be predicted by gathering adequate information and analyzing it in terms of risk assessment. Certain patients suffering from cardiovascular diseases, rheumatic heart diseases etc. may require further evaluation by their physicians.

Hypertension is one of the most prevailing medical conditions in Pakistani population<sup>8</sup>. Males suffer from Hypertension more than females<sup>9</sup>, whereas a study done in Europe has reported that elderly females are more effected by hypertension<sup>10</sup>. A study reported in Karachi, on prevalence of hypertension also have demonstrated that males suffer from hypertension more than females. However the results of our study showed that the females coming for dental treatment suffer more from hypertension than males. In this respect our results are in accordance with the studies done earlier<sup>10</sup>. On the contrary, our results do not match with the results of Costanzo et al., 2008<sup>9</sup> and Safdar. 2004<sup>8</sup>. More research is required to determine whether hypertensive females need dental treatment more frequently or they become hypertensive at the time when they need dental treatment. Hepatitis is another devastating infectious disease effecting around 10 million Pakistani people<sup>11</sup>. Results of our study also showed that after hypertension, hepatitis was found common in the patients requiring dental treatment. In another study reported in Karachi regarding prevalence of Hepatitis, it revealed that 10% of 160 million Pakistani individuals suffered from this disease<sup>12</sup>. Moreover, 13.1 % Patients attending Dental clinics of BDCH were suffering from one or the other type of hepatitis.

Joint pain is also a prevalent chronic health problem in elderly population which is also confirmed by the results of this study which showed that 16(3.60%) of the subjects are suffering from this form of disease. Medications prescribed in joint pain may prolong bleeding tendency, immune suppression and increase susceptibility for oral bacterial, fungal and viral infections<sup>13</sup>.

Moreover, according to survey report published in Daily Dawn, diabetes is highly prevalent in Pakistani population and nearly 10% of the population suffers from this disease<sup>14</sup>. The results of present study contradict the mentioned results as only 2.6% of the dental patients were victims of this disease. This could be due to the reason that diabetes might be the problem of high socio economic income group subjects while this study enrolled subjects with low socio economic status. Another survey reported in Sindh province revealed that females are more prone to diabetes than males<sup>15</sup> whereas in our study it was found that males had slightly higher ratio of diabetes than females. Similarly, cardiovascular disease is reported to be the most commonly occurring disease, especially in elderly population<sup>1</sup>. However, this study doesn't support the findings of previous studies<sup>16</sup>. The reason for this could be the non-sedentary life style of the individuals enrolled in the study, whereas it has been observed that patients with sedentary life style are more prone to diabetes, cardiovascular diseases, obesity,

osteoporosis, anxiety<sup>17,18</sup>. Due to poverty malnutrition is a common occurrence in the individual of low socioeconomic group and malnutrition may be the cause of infectious diseases such as tuberculosis, malaria and pneumonia<sup>19</sup>. In this study patients with tuberculosis were also present.

Another reason for the disagreement in our findings could be due to the limitations of the study and therefore the results should be interpreted in context of these limitations; one of which is information bias due to self-reported nature of the study and small sample size. However studies with larger sample size will be required to emphasize more on the prevalence of medical conditions in Karachi, Pakistan.

As the numbers of medically compromised patients are increasing, this kind of study will help in estimating and then establishing proper guidelines prior to dental treatment. First and foremost is to record proper meaningful history so that medical conditions are not missed out.<sup>20,21</sup> Secondly, training of undergraduates and continuing dental professionals in the management of these medical conditions should be given more emphasis in dental curriculum as the data showed concerns about the ability of dentist to treat these medical conditions.<sup>23,24,25</sup>

#### CONCLUSION:

Due to marked decline in mortality and increased life expectancy in Pakistan, dentists will cater more medically compromised patients in their clinics. It necessitates emphasizing in the dental curriculums taught in Pakistan to recognize and manage commonly prevailing medical conditions.

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