

# Prevalence of Self-reported Medical Conditions among Dental Patients

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## ABSTRACT

**Background:** In general, it is important to assess the medical history of patients before initiating any treatment. In particular, patients seeking dental treatment could possibly have significant medical conditions that may affect the diagnosis and/or alter the treatment provided. However, many dentists assume that their patients are systemically healthy, and thus they do not record the medical history of their patients.

**Aim and Objective:** This study aimed to determine the prevalence of medical conditions in patients seeking periodontal treatment at the dental teaching hospital of King Khalid University.

**Materials and Methods:** Upon presentation at the periodontal clinics of the dental teaching hospital of King Khalid University, Asir Region, Saudi Arabia, patients' history from medical records was screened.

**Results:** The medical history was taken for 455 periodontal patients. The most frequently encountered medical conditions were diabetes mellitus and hormonal disorders, followed by respiratory diseases and cardiovascular diseases.

**Conclusion:** The results of our study found a high prevalence of medical conditions among patients seeking periodontal treatment, thereby highlighting the need to record patients' medical and dental care history in detail.

**Key words:** Diabetes mellitus, medical condition, medical history, periodontal treatment, systemic diseases

## INTRODUCTION

Dental practitioners have an obligation and moral duty to review the medical history and assess the current health status of a patient before planning the dental treatment to avoid complications. With advances in science and technology, people are living longer, and thus, because of their advanced age, some patients may present to a dental clinic with different and complex medical problems.

Most patients visiting a dental clinic are likely to have received some medical intervention or may currently be under treatment.<sup>[1]</sup> The ultimate aim of patient management

in dental treatment is to provide a safe and successful treatment without triggering a medical emergency. Dental management of a patient may need to be adjusted according to medical requirements of the patient. Knowledge and awareness of the medical profile of patients acquired through correct medical history taking are essential in safe patient management by dental practitioners.<sup>[2]</sup>

As the prevalence of periodontitis is more common among adults, especially those of advanced years, periodontists should ensure that a comprehensive and complete medical history is taken.<sup>[3,4]</sup> However, assuming that patients are

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systemically healthy often leads to overlooking important details related to a patient’s medical history. Almas and Awartani reported diabetes (4.2%) and coronary disease (1.2%) as the two most common medical conditions in patients treated for periodontal disease in the central region of Saudi Arabia.<sup>[5]</sup> However, data related to the prevalence of medical conditions in periodontal patients seeking treatment are not available for the southern region of Saudi Arabia. Therefore, this study aimed to determine the prevalence of medical conditions in patients seeking periodontal treatment at the dental teaching hospital of King Khalid University, southern Saudi Arabia.

## MATERIALS AND METHODS

This is a cross-sectional study that included detailed medical histories taken for 455 new periodontal patients visiting the dental teaching hospital from January 2014 to June 2014. Patients with gingivitis and/or periodontitis were included in the study. The demographic data and the medical status from the charts were recorded, which were then reviewed by the patients. Only those medical conditions that the patients had during the time of the periodontal treatment were taken as positive and then recorded. Written informed consent was taken from each patient before the start of the study.

The study population was categorized into four age groups, namely, Group 1 (20–35 years), Group 2 (36–50 years), Group 3 (51–65 years) and Group 4 (>65 years). The medical conditions recorded were gastrointestinal, cardiovascular, diabetes mellitus, hormonal (thyroid) disorders, respiratory problems, renal disorders, bleeding disorders and psychiatric problems. Patients presenting with any medical condition that was found to be questionable and determined to be a risk factor for the treatment plan were referred for physician consultation before the start of treatment.

The medical condition of each patient was recorded while retaining confidentiality in individual case records. This information was then entered onto a form and the data were documented onto Microsoft Excel Spreadsheet and analyzed using the SPSS software version 18.0 (SPSS, Chicago, IL, USA).

Ethical Approval for this study was provided by the IRB (registration number SRC/REG/2013-2014/27) on February 02, 2014.

## RESULTS

Of the 455 patients included in the study, 308 (67.69%) were male and 147 (32.30%) were female. The average

age was  $39.39 \pm 14.4$  years. From the study population, 48.35% were in Group 1, 27.91% in Group 2, 18.24% in Group 3 and 5.49% in Group 4 [Table 1].

Of the 455 patients, 183 (40.21%) reported a medical condition, with more males [104 males (56.83%)] than females [79 females (43.17%)] reporting a medical condition [Table 2].

The prevalence of the medical conditions in each age group is presented in Table 3 along with the gender distribution. The medical condition most self-reported by the patient was diabetes mellitus (44.02%), followed by hormonal disorders, predominantly thyroid disorders (22.97%), respiratory disorders due to an allergy (12.92%) and cardiovascular disease, mainly hypertension (11.48%) [Figure 1]. From the study population, 13.11% had a history of more than one medical problem. The study also found that males were significantly more likely to have one or more severe medical condition than females.

The prevalence of medical conditions was 27.87% in Group 1, 28.42% in Group 2, 32.24% in Group 3 and 11.48% in Group 4 [Table 4]. These results indicate that prevalence of medical conditions increase between the third and fifth decades. Table 4 shows the effects of gender and age on the prevalence of medical problems. The effect of age on medical conditions was highly significant.

## DISCUSSION

It is often assumed that periodontal patients are medically healthy, so a complete medical history is not always taken. This is a concern as there is scientific evidence

**Table 1: Distribution of the patient population according to age**

Age (years)	Total patients	Percentage	Patients with a medical condition	Percentage
20–35	220	48.35	51	27.87
36–50	127	27.91	52	28.42
51–65	83	18.24	59	32.24
≥65	25	5.49	21	11.48

**Table 2: Distribution of the studied patient population according to gender**

Sex	Total	Percentage	Patients with medical condition	Percentage
Male	308	67.69	104	56.83
Female	147	32.31	79	43.17
Total	455	100	183	100

to indicate that many patients presenting for periodontal treatment have medical conditions that may affect their disease and its management.<sup>[6,7]</sup>

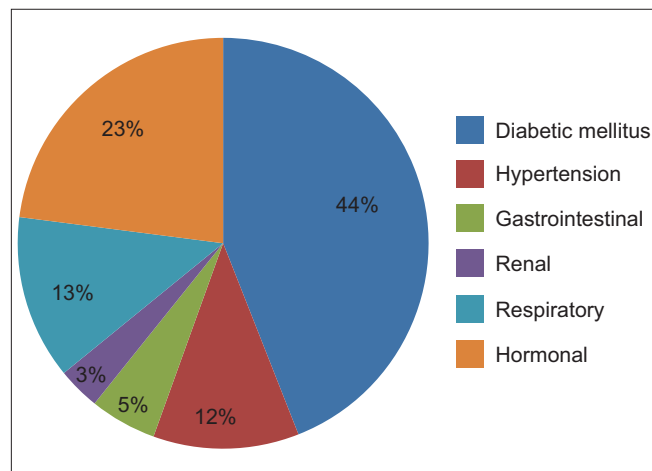


Figure 1: Prevalence of medical conditions

Medical condition	Total (%)	Male (%)	Female (%)
Diabetes mellitus	92 (44.02)	62 (67.39)	30 (32.61)
Hypertension	24 (11.48)	22 (91.67)	2 (8.33)
Gastrointestinal	11 (5.26)	3 (27.27)	8 (72.73)
Renal	7 (3.35)	7 (100)	0 (0)
Respiratory	27 (12.92)	15 (55.56)	12 (44.44)
Hormonal	48 (22.97)	13 (27.08)	35 (72.92)

Recent evidence indicates that periodontists need to reconsider the patient’s treatment plan. Currently, the rationale for treating periodontal diseases is to preserve the tooth supporting structure both in function and esthetics. In fact, such treatment may be just as important as averting problematic effects on the overall health of the patient.

Our study is the first of this kind in the southern region of Saudi Arabia. The study revealed vital information on medical conditions among periodontal patients through detailed interviews to establish the prevalence rates of medical conditions in hospital for periodontal treatment. Details on the patient's current medical conditions were obtained from the patient based on their recollection. The medical information reported by the patient was then validated by correlating it with the signs and symptoms. Based on this, the authors considered the recorded information to be accurate.

The study group included 455 periodontal patients who were interviewed and their medical statuses were documented. Of these, 183 patients (40.21%) were found to have one or more systemic condition. These results are in agreement with the findings reported from previous studies based on various patient criteria and using diverse approaches.<sup>[8-11]</sup> The present study found the prevalence of medical conditions to be highest among patients in their third to fifth decades of life. This may

Age group	Group 1 (%)	Group 2 (%)	Group 3 (%)	Group 4 (%)
Medical condition				
Diabetes mellitus				
Male	77.77	92.31	59.38	93.75
Female	22.23	7.69	40.62	6.25
Cardiovascular diseases				
Male	100	84.61	100	100
Female	0	15.39	0	0
Hormonal disorder				
Male	12.5	75	30	40
Female	87.5	25	70	60
Respiratory disorder				
Male	87.5	85.7	16.66	0
Female	12.5	14.3	83.33	0
Gastrointestinal disorder				
Male	50	0	66.67	0
Female	50	100	33.33	0
Renal disorder				
Male	0	100	0	0
Female	0	0	0	0

be attributed to this middle-aged population having an awareness of their medical conditions and its effect on oral health.

In this study, 44.4% of patients reported having diabetes mellitus. Periodontal disease is one of the major complications of diabetes mellitus, and thus could possibly have caused these patients to visit the dental clinic.<sup>[12,13]</sup> Further, it has been found that treating periodontal disease could result in improved glycemic control.<sup>[14,15]</sup> Therefore, it is imperative for oral health professionals to be aware of the signs and symptoms of diabetes and to refer patients with diabetes/prediabetes for medical consultation. Such referrals would not only increase the patients awareness of other possible complications but also increase the effectiveness of dental treatment.

Our results are in accord with the findings of Aggarwal *et al.*, who, in a study conducted in similar settings and using similar methods, found that 38% of their study population had one or more systemic condition.<sup>[16]</sup> In that study, hypertension was the most commonly reported systemic condition (15.2%) followed by diabetes (11.4%).<sup>[16]</sup>

The findings of our study indicate a high prevalence of self-reported medical conditions among patients seeking periodontal treatment, thereby supporting the need to assess the health status of every dental patient and to enter this information in the health record. Thus, a detailed medical history along with any required medical consultation from the physician is essential before making any treatment plan.

## CONCLUSION

Our study found a high prevalence of medical conditions among periodontal patients and also showed the importance of recording a detailed medical history. This will, in turn, result in modifying patient management and, most essentially, help the dental practitioner to identify underlying undiagnosed medical conditions.

Further studies are needed to address the prevalence of undiagnosed and unreported medical conditions, especially diabetes and hormonal conditions among the periodontal patients. In addition, the current dental curriculum should be modified to incorporate training to help dentists identify common medical conditions

and, accordingly, take the most appropriate clinical decisions.

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## Conflicts of interest

There are no conflicts of interest.

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