



Chronic periodontitis chief complaints: gender and age distribution; their correlation with plaque index and probing pocket depth

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Abstract

To determine the most common chief complaints of chronic periodontitis patients to assess the public awareness about this disease symptoms, their distribution among males & females and their correlation with age and some of periodontal parameters (PLI & PPD).

Chief complaints of 1115 (641 males & 474 females) chronic periodontitis patients attending the College of Dentistry/ University of Baghdad seeking treatment. The age range was from 23 to 67 years; the mean age was 46.1. The patients divided according to age groups & according to gender.

The majority of patients expressing symptoms of chronic periodontitis were mainly between 40 and 60 years old. A highly significant difference between males and females in referral and bleeding (P value= 0.001), a significant difference in mobility, altered gingival appearance, and pain (P value= 0.004, 0.022, and 0.002 respectively); the other chief complaints (pathologic tooth migration and malodor) showed no significant differences between the two groups (males & females)(P value= 0.909, and 0.872). The highest complaint was bleeding (about 31%) followed by referred patients (19.6%), while the malodor was the least reported chief complaints (5.5%). An obvious correlation between chief complaints and age with PPD and PLI for all chief complaints groups.

This study showed that there is an ignorance of the nature of periodontal diseases on a community level which calls for more education programs to be carried out by dental team members concerning the proper oral hygiene measures instruction and motivation to reverse or at least minimize the effect of periodontal disease(s).

Key words: chief complaint, chronic periodontitis, periodontal diseases

Introduction

Periodontitis is an inflammation of the periodontium that extends beyond the gingiva and produces destruction of the connective tissue attachment of the tooth ⁽¹⁾. In general periodontal diseases are neglected by the patients

and the dentists since these diseases are chronic, slowly progressing and painless in nature particularly in early stages when the inflammation is minimal and even in more advanced stages at which the destructive disease

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activity is located in the hidden subgingival area until true signs of periodontitis become more obvious⁽²⁾.

The symptoms associated with periodontitis have a wide range starting from gingival bleeding, bad breath and alteration in gingival shape or appearance at early stages of the disease to more severe symptoms like pain, pathological tooth mobility, periodontal abscesses and tooth migration, later in more advanced form of periodontitis the patients experience a periodontal abscess or a symptomatic tooth is extracted or pathological migration of anterior teeth may occur resulting in esthetic problems⁽³⁾. All mentioned above symptoms represent the patient's chief complaints that motivate them to seek periodontal treatment. About 50% of the U.S. populations are affected by moderate - severe periodontitis⁽⁴⁾. In a nationwide survey conducted in 1993, it was found that only one in 10 adults said they had ever been told by dentists that they have periodontitis⁽²⁾. Generally there is inconsistency between patient awareness and demand for periodontal treatment⁽⁵⁾; due to lack of proper motivation for the public about the nature of periodontal diseases⁽⁴⁾.

Till now very few research available on chief complaints of patients with periodontitis, one of these studies conducted by Demetriou et al⁽⁶⁾ on 230 periodontal patients in Greece. The subjects younger than 40 years of age complain mainly from gingival bleeding and gingival enlargement while those aged 40 years and older reported tooth mobility and tooth migration as main symptoms. This is supported by Brown et al⁽⁷⁾ who indicated that gingivitis mostly decreases with age and the periodontitis symptoms become more obvious. In another study carried out to determine the demand for dental care among 3000 dental patients in Sri

Lanka; only 20% of them had complaints related to periodontal disease of which two-thirds had advanced symptoms of mobility⁽⁸⁾. Brunsvold et al⁽²⁾ recorded chief complaints from 191 periodontitis patients. The most common chief complaint reported was, "I was told I have gum disease." The second most common chief complaint reported was, "I would like to save my teeth." Neither of these chief complaints are true periodontitis symptoms. Bleeding gums—a true periodontitis symptom—was the third most common chief complaint. Similar results were found in another study which showed that the patients depend on their dentist to inform them about their periodontal condition⁽⁶⁾. Demetriou and colleagues⁽⁹⁾ studied the clinical symptoms of periodontal disease using questionnaires from 330 adult periodontal patients. Gingival bleeding was the most common clinical symptom that directed patients to seek periodontal treatment.

Other studies concerning the chief complaints of periodontal patients were directed towards a single complaint like the study conducted by Towfighi et al⁽³⁾ to determine the prevalence of pathologic migration of anterior teeth. In a literature review summarized by Michael A. Brunsvold⁽¹⁰⁾, pathologic tooth migration which is considered as a common complication of moderate to severe periodontitis and is often motivated the patients to seek periodontal therapy. The aim of this study was to determine the most common chief complaints of chronic periodontitis patients to assess public awareness about this disease symptom, distribution of these chief complaints among males & females and their correlation with age and some of periodontal parameters (Plaque index (PLI) and Probing pocket depth (PPD)).

Materials and Methods

A record of the main chief complaints of 1115 (641 males & 474 females) chronic periodontitis patients attending Department of Periodontics/ College of Dentistry/ University of Baghdad seeking treatment. Medical & Dental history was taken for them & patients with root caries, uncontrolled systemic conditions & smokers were excluded to minimize the effect of these factors on the chief complaints records. The period of collecting data extended for 2 years. The age range was from 23 to 67 years; the mean age was 46.1, the severity of periodontitis ranged from mild to severe form. The patients divided according to age groups & according to gender. The chief complaints recorded were the following; Malodour, mobility, altered gingival appearance, pain, hypersensitivity, bleeding, & pathological tooth migration, in addition to referred subjects from the diagnosis clinic of the college or from other departments in the college & the patients in this group were not aware about their periodontal problem or not aware about the severity & the extent of the disease.

Results

The distribution of the disease according to age groups is shown in (table-1); it is clearly seen that the majority of patients expressing symptoms of chronic periodontitis mainly between 40-60 years of age representing about 67% of the total number of patients and the lowest percentage was at younger age groups (<30 years of age). Table-2 shows the gender distribution according to chief complaints; 641 males representing 57.5% of the total sample and 474 females representing 42.5% of the

sample, then each chief complaint was compared and statically analyzed in (table-3); which revealed obvious differences in complaints between males and females according to individual chief complaint, there was a highly significant difference between them in referral and bleeding i.e., less referred females and more males with bleeding problem (P value= 0.001), also there was a significant difference in mobility, altered gingival appearance, and pain (P value= 0.004, 0.022, and 0.002 respectively); males showed higher mobility, on the other hand females were more concerned about their gingival appearance and esthetic values also they reported more complaints about pain than males, while the other chief complaints (pathologic tooth migration and malodor) showed no significant differences between the two groups (P value= 0.909, and 0.872).

The total number of chief complaints (table-4) recorded was 1366 for 1115 patients with average 1.2 complaints per patient, the highest number of chief complaints recorded for single patient was 6 chief complaints. The highest complaint was bleeding (about 31%) followed by referred patients (19.6%), while the malodor was the least reported chief complaints (5.5%), the other chief complaints percentages were; for mobility 8.9%, altered gingival appearance 11.1%, pain 12.2%, hypersensitivity 5.7%, and pathologic tooth migration 5.8%. 268 patients with chronic periodontitis were referred from different departments in the college; 63% referred from the main diagnosis clinic in the college, 21% referred from prosthodontics department, 11% referred from conservative department, and 5% from orthodontics department. After application of Coefficient of Association (r) Table-5, it showed an

obvious correlation between chief complaints and age with PPD and PLI for all chief complaints groups. In general subjects below the age of 45 complain mainly from bleeding, malodour or referred while older subjects (>45) reported more true periodontitis signs like mobility, pathologic tooth migration, and pain

Discussion

The results obtained again confirm that chronic periodontitis mostly affects older subjects with ages above 40 years (table-1); those age groups ranging from 40- 60 years of age represented more than 65% of the sample studied (754 patients out of 1115). According to chief complaints among patients, the bleeding of gingiva was the major problem compromising about 31% of the total chief complaints and this result agrees with Demetriou and colleagues⁽⁹⁾ and disagrees with Brunsvold et al⁽²⁾; who found that referred subjects without being aware of their problem were the major group, while in this study the referred patients were in the second place (19.6%)(table-4), this difference could be attributed to the differences in the sample size and differences in attitude between different communities. The males showed highly significant difference with female in bleeding problem (P value= 0.001) i.e. the males' bleeding gingiva complaint is more than female (table-3) and this is consistent with the findings of Albandar et al⁽¹¹⁾. Another vast difference between males and females was in referred patients group in which the referred males (14.4%) were almost double the number of referred females (7%). Also the females were more concerned about alteration in gingival appearance and esthetic problems more than males (P value= 0.022), the obvious differences

in chief complaints between the two genders can be explained on the basis that females are more interested in problems associated or affect their appearance and have better oral hygiene attitude when compared to males taking in consideration other factors like the socioeconomic level that may play a vital role in this aspect, in addition to the general lack of proper oral hygiene education in community level in Iraq. This shortage in community understanding to periodontal disease nature turns it into a worldwide problem, that is why many studies showed that referred patients represent vast majority of patients being examined without knowing the real extent of periodontal diseases. One of these studies was conducted by Brunsvold et al⁽²⁾ who reported that referral was based on information given to the subjects by a member of the dental health team, rather than a periodontitis symptom, also Warnakulasuriya⁽⁸⁾ carried out a study on 3000 patients in Sri Lanka to determine the dental care needed for them, he found that 20% of those patients need periodontal treatment with more than two thirds showed signs of advanced periodontal disease, in our study also 20% were referred by the dentists which reflects the general ignorance of periodontal diseases. Pathologic tooth migration prevalence was studied by many authors^(3, 10); the percentage ranged from 30 to 50% among periodontitis patients while in this study the percentage was only 5.8% (table-4) this is due to the fact that those studies were designed originally to study pathologic tooth migration over a long period of time while in the present study it was recorded as a patient's complaint, this shows the vast gap between what the patient's alert of periodontitis symptoms and the real extent of the disease.

Patients below 45 years of age had chief complaints mainly related to the alteration in gingival size (swellings) and color, malodour in addition to bleeding problem while those above 45 years of age suffered from more obvious periodontitis problems like pathologic tooth migration, increased tooth mobility and hypersensitivity associated with gingival recessions these symptoms related to chronic nature of periodontitis that tends to reveal itself with aging, these findings agree with Demetriou et al⁽⁶⁾ and Brown et al⁽⁷⁾. Positive correlation exists between chief complaints and age with PLI and PPD (table-5), this reflects the increased feeling of periodontitis symptoms with age and with deterioration of oral hygiene measures (r- value > 0.99 for all Chief complaints categories). This study showed that there is an ignorance of the nature of periodontal diseases on a community level which calls for more education programs to be carried out by dental team members concerning the proper oral hygiene measures instruction and motivation to reverse or at least minimize the effect of periodontal disease(s).

References

- 1- Ranney R: classification of periodontal diseases, *periodontol* 2000 1993; 2:13
- 2- Michael A Brunsvold, Prakash Nair. Chief complaints of patients seeking treatment for periodontitis. *JADA* 1999; 130: 359-364.
- 3- Towfighi PP, Brunsvold MA, Storey AT, Arnold RM, Willman DE, McMahan CA. Pathologic migration of anterior teeth in patients with moderate to severe periodontitis. *J Periodontol* 1997; 68(10):967-72.
- 4- Brown LJ, L e H. Prevalence, extent, severity and progression of periodontal disease. *Periodontol* 2000 1993; 2:57-71.
- 5- House RK. Estimating future dental care requirements: the implications for dental manpower. *J Can Dent Assoc* 1987; 53(2):99-105.
- 6- Demetriou N, Parashis A, Tsami- Pandi A. Relationship between age and clinical symptoms of periodontal disease. *Stomatologia (Athenai)* 1990;47(4):231-41.
- 7- Brown LJ, Oliver RC, L e H. Periodontal diseases in the U.S. in 1981: prevalence, severity, extent, and role in tooth mortality. *J Periodontol* 1989; 60(7):363-70. 364.
- 8- Saman Warnakulasuriya. Demand for dental care in Sri Lanka. *Journal of Community Dentistry and Oral Epidemiology* 2006; 13(2): 68- 69.
- 9- Demetriou N, Tsami-Pandi A, Parashis A. Is it possible for periodontal patients to recognize periodontal disease? *Stomatologia (Athenai)* 1991; 47(5-6):284-95.
- 10- Michael A. Brunsvold. Pathologic Tooth Migration. *J Periodontol* 2005; 76:859-866.
- 11- J.M. Albandar, A. Kingman. Gingival Recession, Gingival Bleeding, and Dental Calculus in Adults 30 Years of Age and Older in the United States, 1988-1994. *J Periodontol* 1999; 70: 30-43.

Table 1: Total number of chronic periodontitis patients and their percentage for each age group.

Age group(Years)	No. of patients	% of patients
20-30	46	4.1
31-40	231	20.7
41-50	373	33.5
51-60	381	34.2
61-70	84	7.5
Total	1115	100

Table 2: Frequency and distribution of chronic periodontitis patients according to gender.

Chief complaints	No. of males	% of males	No. of females	% of females
Malodor	31	2.8	24	2.2
Mobility	42	3.8	27	2.4
Referral	161	14.4	78	7.
altered gingival appearance	75	6.7	96	8.6
Pain	56	5	84	7.5
hypersensitivity	29	2.6	26	2.3
Bleeding	184	16.5	141	12.6
pathologic tooth migration	35	3.1	26	2.3
Total	641	57.5	474	42.5

Table 3: Males and females comparison according to chief complaints.

Chief complaints	% of males	% of females	Chi-square(X^2)	P-value	Significance
Malodor	2.7	2.2	0.045	0.872	NS
Mobility	3.7	2.4	4.96	0.004	S
Referral	14.4	7.	175.5	0.001	HS
altered gingival appearance	6.7	8.6	12.7	0.022	S
Pain	5	7.5	10.4	0.002	S
hypersensitivity	2.6	2.3	0.097	0.755	NS
Bleeding	16.5	12.6	24.3	0.001	HS
pathologic tooth migration	3.1	2.3	0.013	0.909	NS

Table 4: Total number and percentage for each chief complaint.

Chief complaints	No. of chief complaints	% of chief complaints
Malodor	75	5.5
Mobility	122	8.9
Referral	268	19.6
altered gingival appearance	152	11.1
Pain	166	12.2
hypersensitivity	78	5.7
Bleeding	426	31.2
pathologic tooth migration	79	5.8
Total	1366	100

Table 5: The correlation between number of chief complaints and age with PPD and PLI.

Chief complaints	No. of chief complaints	Age(mean)	Mean PPD	Mean PLI	r- value
Malodor	75	36.5	4.7	1.6	0.994
Mobility	122	51	6.4	1.9	0.996
Referral	268	40.5	4.3	1.8	0.998
altered gingival appearance	152	40.8	4.1	1.4	0.998
Pain	166	50.2	5.2	2.01	0.997
hypersensitivity	78	51	5.1	1.7	0.993
Bleeding	426	42	4.8	1.9	0.998
pathologic tooth migration	79	57	4.9	2.1	0.994