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Prevalence of chronic periodontitis among patients attended department of periodontology, school of dentistry, university of Sulaimani.

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Abstract:
Background: *Periodontitis is a group of inflammatory diseases affecting the supporting tissues of the tooth. The prevalence of periodontal diseases varies in different regions of the world according to the definition of periodontitis and study population, and there are indications that they may be more prevalent in developing than in developed countries*
Objective: *To determine the prevalence of chronic periodontitis among a group of patients attended department of periodontics during the year (2013-2014), School of Dentistry University of Sulaimani.*
Material and method: *The sample include 400 patients, only 54 patients had periodontitis, among them only 45 patient were diagnosed with chronic periodontitis (26 male and 19 female patients), who were attended the Department of Periodontics, school of Dentistry University of Sulaimani during the academic year (2013-2014).The sample was divided according to age into 4 groups: 30-39,40-49, 50-59 and 60 years old patients and above . The clinical examination included the methods of detection of probing pocket depth (PPD), clinical attachment loss (CAL) and tooth mobility .The questionnaire form included patient's general information.*
Results: *Males recorded higher number among all age groups except the age group (50-59 years old). PPD increased gradually with increasing the age from 3.9mm in age group (30-39 years old) to 6mm in age group ≥ 60 years old, while the CAL was 4.5mm, 4.1mm, 4.4 mm and 5.1mm among the four age groups respectively. Tooth Mobility was grade I in both age groups (40-49, 50-59 years old), grade II in age group (30-39 years old), but no tooth mobility was detected in age group ≥ 60 years old.*
Conclusion: *The prevalence of chronic periodontitis was high and the number of male was higher as compared to the female population, irrespective of their age.*
Keywords: *Prevalence, Periodontal diseases, chronic periodontitis.*

I. Introduction

Periodontal disease can be defined as a chronic bacterial infection that affect the gingiva and alveolar bone, which is supporting the teeth in the jaws[(1)]. Periodontal disease, including gingivitis and periodontitis, it is considered to be one of the most common diseases among population and, if left untreated, can lead to tooth loss[(2)]. The main cause of periodontal disease is bacterial plaque although many other factors such as hormonal changes, diabetes, poor nutrition, smoking, and stress may affect the initiation and progression of gingival and periodontal diseases[(3)]. Gingivitis is inflammation of the gingiva that does not result in clinical attachment loss[(4)]. It is a reversible disease[(5)]. While Periodontitis is inflammation of the gingiva and the adjacent attachment apparatus and is characterized by loss of connective tissue attachment and alveolar bone[(4)]. There are two types of periodontitis: aggressive periodontitis and usually affect adolescent patients and its main features are rapid attachment loss and bone destruction[(6)], while chronic periodontitis is most common form of periodontitis that generally begins from a pre-existing gingivitis, commonly present in adults, and it is characterized by slow to moderate rate of progression, gingival inflammation, gingival swelling, some recession, uneven destruction of alveolar bone[(7,8)]. The prevalence of periodontitis in the world is at high rates, the World Health Organization (WHO) reported that (10 – 15%) of the world populations suffer from severe periodontitis. The prevalence of periodontitis is dependent on the studied population and the case definition adopted. Periodontal diseases assume a greater global importance as the senior population is on the rise in most countries[(9)].

Periodontitis is an important source of chronic inflammation and have been reported the correlations of it with several systemic diseases such as, juvenile rheumatoid arthritis, coronary heart diseases, preterm birth, and diabetes mellitus[(10)]. The purpose of this study was to determine the prevalence of chronic periodontitis among patients attending Department of Periodontology, School of Dentistry, University of Sulaimani during the academic year (2013-2014).

II. Material And Methodology:

The sample included 45 cases of chronic periodontitis among 400 patients attended department of Periodontology, School of Dentistry, University of Sulaimani. The specially prepared questionnaire for the present study was distributed among patients with chronic periodontitis who agreed to participate. The questionnaire includes name, age, sex, education level, general medical health, smoking, brushing and flossing, and clinical examination to determine clinical attachment loss, periodontal pocket depth and tooth mobility (Appendix I).

These 45 patients divided according to age in to 4 groups:
30-39 years old.
40-49 years old
50-59 years old.
60 years old and above.

Measurement of teeth Mobility: [11]

In this research the mobility of the teeth were checked by using the handle of dental mirror and probe. Mobility of teeth is classified as follows:

Class I: Total facial-lingual tooth movement of less than 1.0 mm.
Class II: Total facial-lingual tooth movement from 1.0-2.0 mm, without movement in a vertical direction.
Class III: Total facial-lingual tooth movement of more than 2.0 mm, and/or movement in a vertical direction.

Clinical Attachment Measurement: [12]

Clinical Attachment Loss (CAL): is the distance from the Cemento-Enamel Junction (CEJ) in an apical direction to the base of the pocket/sulcus. Measurement was taken by using William's periodontal probe.

Health = CAL of 0
Slight = CAL of 1.0 to 2.0 mm
Moderate = CAL of 3.0 to 4.0 mm
Severe = CAL of equal to or greater than 5.0 mm

Probing Pocket Depth (PPD): [4]

Is from the sulcus base (location of the probe tip) to the gingival margin. according to the data collected the pocket depth classified as the following:

Mild: probing depth of 4-5 mm
Moderate: probing depth of 6-7 mm
Sever: probing depth of ≥ 8

Statistical analysis:

Included descriptive statistic by percentage of disease and graphical presentation (Bar charts).

III. Results:

Out of 45 patients(11.25%) who were diagnosed as having chronic periodontitis 26 patients (57.78%) males and 19 patients (42.23%) females. (Fig 1).

According to age group division, there was increasing in number of male attending the department in comparing to female patients in all age groups except in age group (50-59 years). (Fig 2).

Statistical analysis comparing the 4 age groups regarding the severity of mean probing pocket depth scores and clinical attachment loss and detected in all age groups there was moderate amount of mean pocket depth and attachment loss except in age group over 60 years old there was sever amount of both measurements, although there was fluctuated in scores in both measurements with increasing of age groups shown in (Fig.3,4). Furthermore, according to the (Fig.5) the Bar chart shown that with increasing of age groups the amount of tooth mobility was decreased.

IV. Discussion

This study showed decrease in number of patients attending Periodontics department during (2013-2014) in comparison to previous academic years for instance, in academic year (2008-2009) the number of patients attending Periodontics department was (672) patients Al-Saidy,2013[13].

There was a lack in data of similar research in Kurdistan region and because of this the establishment of the agreement of all our result with those in literature could not be achieved. To carry out a meaningful comparison between various studies was difficult due to the use of different criteria and method of examination and sample selection.

It is well-known that aging is a risk factor associated with oral diseases [14]. Severe periodontal breakdown is more common in older patient than in younger age groups [13, 15, 16], this disagree with what we found in our study, in which we saw that the range of given CAL, PPD and tooth mobility was varied in different age group i.e. not increasing the CAL and rate of mobility with increasing the age group and this may be attributed to firstly to bad oral hygiene of the patients including wrong brushing techniques and irregular visits to dentist [17]. Secondly the type of dietary consumption including acidic or abrasive foods and drinks or vitamin deficiencies likes vitamin C [18]. Thirdly systemic diseases such as diabetes mellitus [19]. Fourthly smoker patients also one of the contributing factor to explain this variation in CAL and PPD among our subject [20]. Fifth cause may be due to hormonal changes like in pregnant ladies or menstrual cycle or taking contraceptive pills which in spite of age these factors may affect the CAL [21]. Sixth the bad habits may be another factor affecting the findings like some having bruxism or nail, or pencil biting [22]. Lastly, psychological stress and genetics may greatly affect our results regardless of age group [1, 23].

V. Conclusion:

The severity of chronic periodontitis was increased with increasing the age, , although the amount of clinical attachment loss(CAL) was not go respectively with increasing the age and the number of male was higher than number of female patients.

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Appendix I

University of Sulaimani
Faculty of Medical Science
School of Dentistry
Department of Periodontics

Prevalence of chronic periodontitis among patients attended department of periodontology, school of dentistry, university of Sulaimani.

Patient Periodontal record (2013-2014)

Patient name: age: sex: Occupation: Address:
Educational level: Telephone No.: Record No:

Chief complain: Bleeding ☐ Pain ☐ Dry mouth ☐ Mobility ☐ Hypersensitivity ☐
Halitosis ☐ Calculus ☐ Altered gingival appearance ☐ Others: ☐

Past Periodontal history:

Visit to Dentist:

Tooth Brushing: Type of tooth brush: Technique: Frequency:
Time: Flossing; Other OH aids:

Medical History:

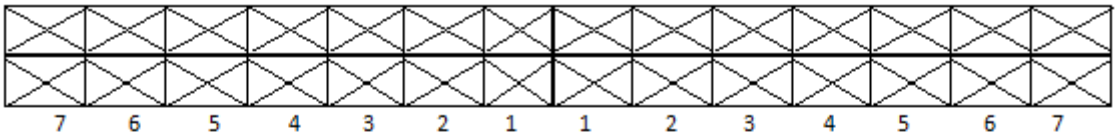
Clinical Examination:

Extra oral examination:

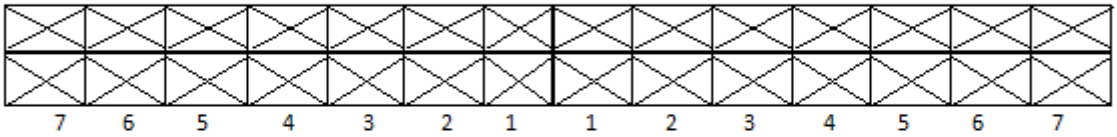
Intraoral examination:

Habit:
Radio graphical analysis:
Occlusal analysis:
Teeth:
Calculus:
Furcation Involvement:
Diagnosis:
Treatment Plane:

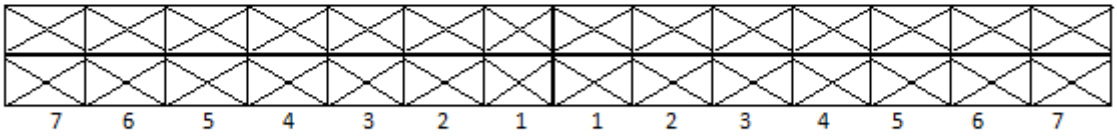
-Plaque Index:



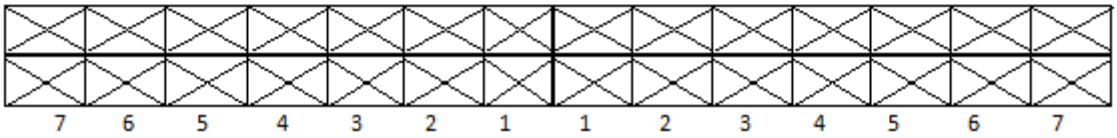
-Gingival index:



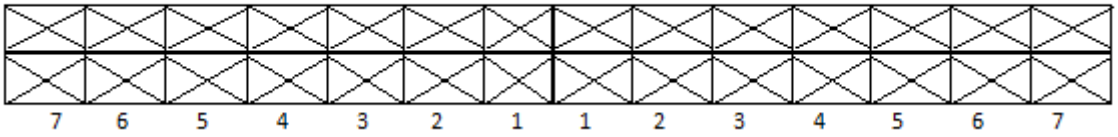
-Probing pocket depth:



-CAL:



-Mobility index With Grads:



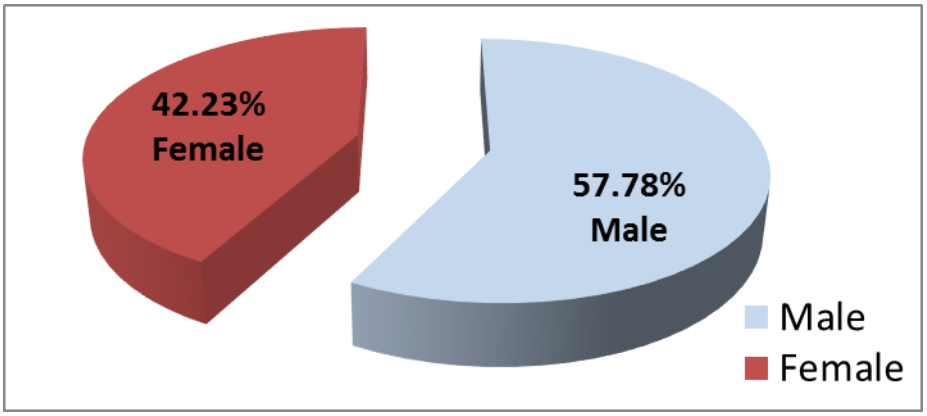


Fig 1: Percentage of patients with chronic periodontitis with respect to the gender.

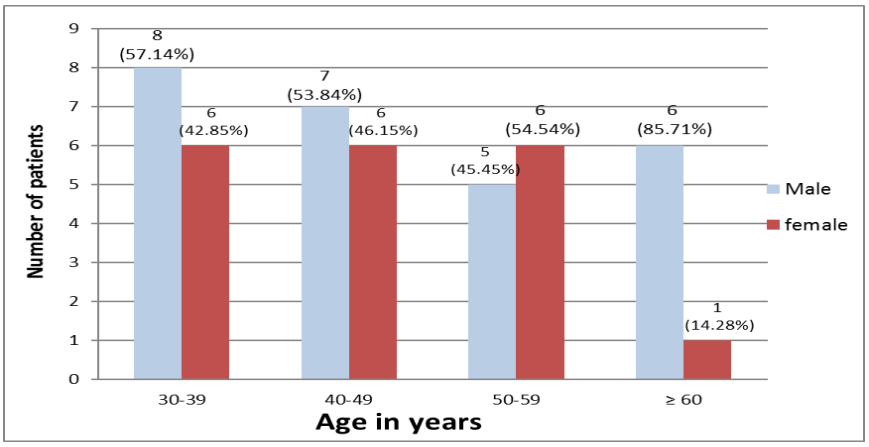


Fig 2. Bar charts showing prevalence of chronic periodontitis according to sex and age.

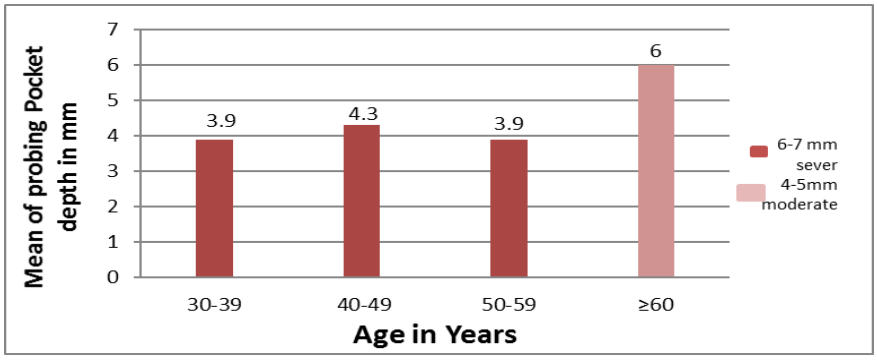


Fig 3. Bar chart showing means Probing pocket depth at all age groups.

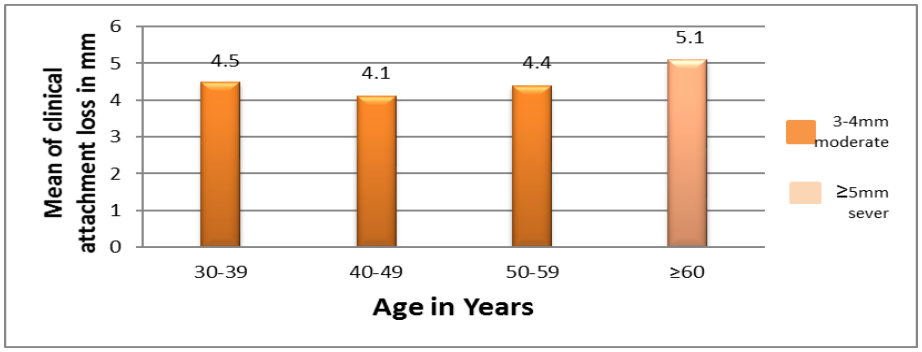


Fig 4. Bar chart showing means clinical attachment loss in all age groups.

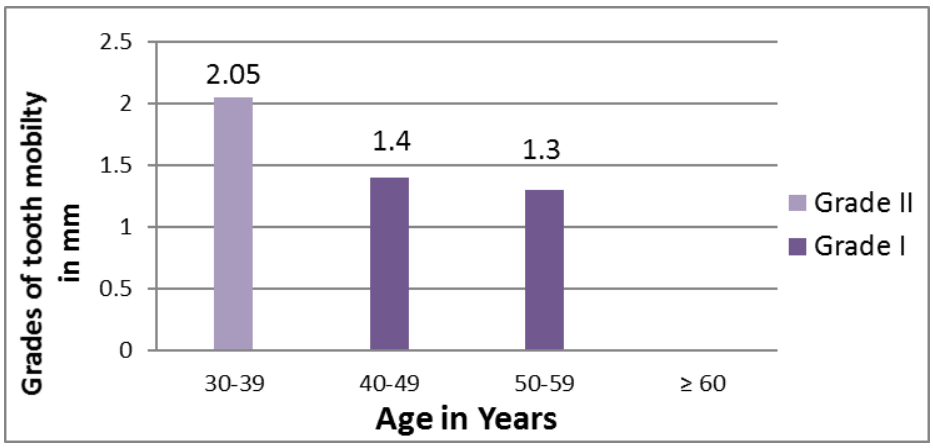


Fig 5. Bar chart showing grade of tooth mobility in all age groups.

Prevalence of chronic periodontitis according to age and sex

Age	No. of patient	
	Male	Female
30-39	8(57.14%)	6(42.85%)
40-49	7(53.84%)	6(46.15%)
50-59	5(45.45%)	6(54.54%)
≥ 60	6(85.71%)	1(14.28%)

Mean of Probing Pocket Depth, Clinical Attachment Loss and tooth mobility in all age groups.

Age	PPD(mm)	CAL(mm)	Mobility
30-39	3.9	4.5	2.05(grade II)
40-49	4.3	4.1	1.4(grade I)
50-59	3.9	4.4	1.3(grade I)
≥ 60	6	5.1	0 (grade 0)