

Research Article

Investigating the Prevalence of Aggressive Periodontitis in Young Female Students in Tehran Schools in 2016

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ABSTRACT

Introduction: aggressive periodontitis is a destructive periodontal disease which mostly affects first molars and incisors of young or teenagers adults. This study aimed to determine the prevalence of aggressive periodontitis in girl students of Tehran schools.

Materials and Methods: This cross-sectional study was performed on 1156 high school students in Tehran. Probing pocket depth as the distance of the gingival margin to the first molar and incisor teeth 6 points Distobuccal, Midbuccal, Mesiobuccal, Distolingual, Midlingual and Mesiolingual via Williams Probe was measured. Persons with envelopes with a depth of at least 4 mm more than one tooth were under radiographs examination. Prevalence of aggressive periodontitis in the samples is determined by the index, and the data analyzed and reported by spss20.

Results: Of the total samples, 15 patients with a mean age of 16.6 years were suspected of aggressive periodontitis. Of the 2 patients (0.17%) aggressive periodontitis in 2 patients (0.17%) had chronic periodontitis. **Conclusion:** The prevalence of aggressive periodontitis in girl students in Tehran with reports on research backgrounds in different societies is consistent. According to the findings of the prevalence of aggressive periodontitis in Tehran schools in 2016 (0.17) percent were reported.

Key words: periodontitis, aggressive, prevalence, students

INTRODUCTION:

Aggressive periodontitis known as early-onset periodontitis is called, a group of rare periodontitis, that more is severe and the progress is fast, usually in healthy subjects and in general during adolescence or after the second and third decades can be seen. The remarkable thing is that high accumulation of calculus and plaque is not seen in these patients, in other words, the plaque does not fit with the severity of periodontal destruction (1 and 2) periodontal diseases are prevalent in human societies and with the decay of the main causes of tooth loss. Due to healthy tissue

holding the teeth, prerequisite is the most dental procedures. Regarding the relationship between teeth and holding them for dental treatment will be successful and it established that periodontal health localized disease that begins around the age of puberty, in terms of clinical periodontal attachment loss for the first permanent molars or incisors are localized in the proximal (At least two permanent teeth is one of the first molar), can be seen. Damage not fit with the local drivers is systemically healthy patients. In the early stages of the disease despite the periodontal pocket depth,

clinical signs of inflammation are not observed (1). In advanced stages, the first molars, increase mobility, bare root sensitivity to thermal stimulation and touch and dumb pain, deep and deadly sharp occurs when you chew (3). Localized aggressive periodontitis periodontal tissue destruction is a sign or symptom of adolescence and young adulthood. Among the possible reasons people struggle with this disease can be the role of certain bacteria such as (*Actinobacillus Actinomycetem Comitans*) (4), the role of certain species of pathogenic bacteria (14), impaired neutrophil function (15), functional abnormalities phagocytes or macrophages are sensitive to high levels of destructive mediators (IL1B & PGE2) to secrete (5,6) noted. Several factors are involved in causing the disease, such as:

Age, gender, race, nature and composition of subgingival microbial flora, change in the host response and genetic factors (8,7)

Localized aggressive periodontitis with bone resorption occurs around the first molars and incisors, whereas generalized to a wider conflict occurred (9). In advanced stages, symptoms include migration of the maxillary incisor along with a diastema, the increasing mobility of the first molars, bare root sensitivity to thermal stimulation and touch and dumb pain, deep and sharp occurs when you chew (10).

Localized aggressive periodontitis progresses quickly, based on surveys conducted so that the rate of bone loss in patients, 3 to 4 times faster than chronic periodontitis (11). This can be seen frequently in women and in men. Some studies tend disease in women, especially show in younger age groups. Some other sources prevalence of the disease among women, are 2 to 10 times higher (12). While some other sources of high prevalence of the disease is probably due in research have found errors or that women are more sensitive to keeping your teeth and more likely than men to visit clinics and therefore more likely than men participated in the study (13). Progression of disease in affected areas and those with socio - economic level down faster as

well as children and young people with signs of periodontal disease at an early age, they are more at risk of disease in the future (14).

Saxen in a study on 14940 people 16 years in Finland in 1980, Hoover et al in the study of 2813 students aged 15 and 16 in Denmark in 1981, Saxby in the study of 7266 students 15-19 year-old in the UK on the prevalence of juvenile periodontitis in 1987 to 1 percent cited (15, 16, 17).

Sjodin et al (1989 and 1993) and Cogen & Wright (1992) studies showed that the age of onset of the disease may vary from time baby teeth and see why it is recommended that, younger people are more carefully examined and diagnosed (18, 19, 20).

Jasim M. Albandar and colleagues (2002) examined the prevalence of aggressive periodontitis among school children in Uganda. 690 students, including 393 boys and 297 girls between the ages of 12-25 with a mean age of 17 years were studied. The results showed that 199 patients (28.8%) of the participants had clinical features were aggressive periodontitis. 16 patients (2.3%) published periodontitis, 29 patients (4.2) localized periodontitis and 154 (22.3%) showed aggressive periodontitis. The findings of a high prevalence (28.8%) reported above (21). Given the early stage of the disease and the severity of the damage to be hidden in an advanced stage of the disease, early detection can help in the prevention and treatment has improved. So, according to what was said this study aimed to examine the prevalence of aggressive periodontitis in aged 14 to 18 female students in Tehran in.

MATERIALS AND METHOD:

This study is cross-sectional research; the population included all secondary school students in Tehran in the 1394-2016 school year, as well as sampling study using cluster sampling method. In the first step by visiting selected schools to choose subjects were discussed. The check list is full for each subject, in which the profile of the student,

his use of oral hygiene items such as toothbrushes, dental floss, and mouthwash, parents' education, family income, etc. were obtained. It was his examiner investigator. Also in this stage, an examination was carried out in one of the classrooms at the school.

Probing pocket depth as the distance of the gingival margin to the first molar and incisor teeth 6 points Distobuccal, Midbuccal, Mesiobuccal, Distolingual, Midlingual and Mesiolingual via Williams Probe was measured with an accuracy of one millimeter. People who Envelopes to a depth of 4 mm or more in more than one teeth (P.a) Periapical and bitewing of molar incisor were prepared.

Examination based on characteristics provided by Bear and previous studies were conducted as follows:

- 1) The patient is in good health and systemic illness in the medical history he does not exist.
- 2) the loss of connective tissue at a rate of 4 mm or more in at least two permanent teeth (one of which is the first permanent molar) and about two millimeters or more bone loss around the affected tooth.
- 3) The mismatch triggers local bone resorption and loss of connective tissue attachment to the plaque index, gingival index, they do not fit the crime severity index
- 4) finally, patients with aggressive periodontitis detected and reported the results.

The sample size was 312 people. Collecting data in this questionnaire was conducted by the checklist. For this purpose, two checklists was the first to examine the first stage and the second was used for the second stage examination.

Student profile in the first checklist, his use of oral hygiene items such as toothbrushes, dental floss, and mouthwash, parents' education, family income, etc. were obtained. It is also questionable

whether the patient is aggressive periodontitis or not, was recorded. Second checklist that was conducted on those suspected of developing aggressive periodontitis, the loss of connective tissue in millimeters, involved teeth was recorded. In this study, all participants and their parents gave their consent to participate in the study and written consent forms were used for this purpose. It was explained to participants and they can be informed at every stage of research, the researchers are excluded. Finally spss20 statistical software was used for data analysis.

RESULT:

This study was conducted on 1156 students, 0.985 healthy subjects (85.2%), 11 suspicious persons (0.95%), 2 patients with aggressive periodontitis (0.17%) and 2 patients with chronic periodontitis (0.17%). Given the prevalence of suspicious persons in this age group 1.1, aggressive periodontitis 0.2 and chronic periodontitis were 0.2. The mean age of the suspect was 16.456 ± 1.04 , in chronic periodontitis 17.50 ± 0.71 and in aggressive periodontitis 16.50 ± 0.71 . Degree in groups of four people suspected of junior high school (36.4%), three runner-high (27.3%) and 4 junior high school (36.4%), chronic periodontitis group 1 runner in high school (50%) and 1 junior high school (50%), one of the first high school in aggressive periodontitis (50%) and 1 second high school (50 percent). In examining the economic situation in the group suspected 1 well (9.1%), 5 patients average (45.5%) and 5 poor people (45.5%), chronic periodontitis in group 1 average (50%) and 1 well (50%), the Group 1 average poor (50%) and 1 well (50 percent). Information on parents' education level, respectively, in Table 1 and 2 has been reported.

Group	Below Diploma		Diploma		University		Frequency	Percent
	Frequency	Percent	Frequency	Percent	Frequency	Percent		
Suspicious	7	47.3	5	34.5	4	28.2	15	100
Chronic Periodontitis	5	100	0	0	0	0	4	100
Aggressive periodontitis	4	0	2	100	0	0	6	100

Table 1: The education of parents

Group	Below Diploma		Diploma		University		Frequency	Percent
	Frequency	Percent	Frequency	Percent	Frequency	Percent		
Suspicious	5	47.4	7	64.6	0	0	14	100
Chronic Periodontitis	3	100	0	0	0	0	3	100
Aggressive periodontitis	4	100	0	0	0	0	5	100

Table 2: The education of parents

Information on the number of daily brushing is reported in Table 6.

Group	anytime		once a day		twice a day		three times a day		frequency	percent
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent		
Suspicious	1	10	6	50	5	40	0	0	12	100
Chronic Periodontitis	0	0	3	100	0	0	0	0	3	100
Aggressive periodontitis	0	0	1	50	2	50	0	0	4	100

Table 3: Information on the number of brushing per day

More information about the call all people to all questions except the question "Do you have anyone in your family's teeth loosening, or is experiencing rapid loss of teeth?" "No". Only call one person who was diagnosed with aggressive periodontitis to the question "Do you have anyone in your family's teeth loosening, or suffered the loss of teeth is fast?" The answer is yes and the answer was negative people.

DISCUSSION AND CONCLUSION:

An aggressive periodontitis periodontal disease with severe tissue damage is the most common age of onset of the disease in 14-16 years (15). Among the possible reasons people struggle with this disease can be the role of specific bacteria, malfunction of neutrophils, phagocytes functional disorders or are sensitive macrophages that secrete high levels of destructive mediators, noted (5-6). This study was conducted on 1156 people. 15 people suspected of the population in AP were diagnosed after radiographic examination, 4 patients had bone resorption, 2 of them diagnosed chronic periodontitis in 2 patients (0.17%) had a diagnosis of aggressive periodontitis. Sadeghi (1390) has conducted a study in Tehran in 2780 to investigate the adolescent students, 4 (0.14%) with the diagnostic criteria were aggressive periodontitis, as well as Lotfi (1384) has conducted a study in the city of Tabriz, the number of people with the diagnostic

criteria of aggressive periodontitis in 4 patients (0.5%) reported (22-23).

Age of onset of puberty have been reported in localized type (24), but studies have shown that a small number of cases have been reported at the age of 15 years (15,25,26,27). This is probably due to the insignificance of the damage caused, and the absence of radiographic view is; that's why people in the age range of 15-18 years were enrolled in this study, since the sample of Tehran city were selected middle and high schools. That's why lower age limit of 15 and studied over the age of 18 years was considered. The mean age was suspected AP 16.60. Similar studies were conducted in Tehran in high school, age 15-18 years, the prevalence of aggressive periodontitis were studied. Economic status of people suspected of aggressive periodontitis in the study was moderate. But because the number was too low cannot be statistically significant relationship between aggressive periodontitis and economic situation drawn. In the same study Sadeghi et al study the economic situation moderately aggressive periodontitis suspects were reported. Education level of parents is other variables in this study. In two cases diagnosed in AP, educational status and educational status of mothers, fathers, and high school diploma were reported. In similar studies following the parents' educational status or high school diploma has been reported (22-23). Brushing status of

individuals diagnosed with aggressive periodontitis in this study were similar to studies conducted in Iran against a report twice a day, respectively (54-46). The radiographic interpretation are CEJ and alveolar crest in bitewing radiographs young people roll of 9.0 to 6.1 mm is variable (27).

In a study on samples of jaw, distance between CEJ and alveolar crest 1 to 2 mm above normal (28). So in diagnostic criteria LAP 2 mm or more was considered bone. In this study, LPA 2 and 3 mm bone resorption were reported. Prevalence of aggressive periodontitis (LAP) 0.17% was reported in the present study. In a study by Sadeghi (2010) that was conducted on 5590 adolescents. The results showed that 0.13 percent of the people are with aggressive periodontitis (21). In similar studies, Ghanbari and Sabri in his study in 3909 Mashhad on 11-19 year-old students, in girl's prevalence 1.79 in 1000 and in boys 0.51 in 1000 reported (29). In Khoshkhonezhad, Miremadi and Kadkhoda studies in Tehran prevalence of about 1% in the 15-year-old female students reported (33).

Prevalence of LAP in European countries such as Finland, Denmark, Switzerland, United Kingdom and Netherlands 0.1% has been reported. These studies were about the same age in a population of 15-year-olds, respectively, were 15 and 16 year olds, 16 year olds, 15-19 and 14-17-year-olds (15,16,17,30). The disease is common in Norwegian people 14 years old was reported (27). In Spain the study on the prevalence of 0.76% were 17-26 years old (31).

In Asian countries such as Saudi Arabia prevalence of aggressive periodontitis among 23-17-year-old was 0.42% (32). The prevalence obtained in this study with regard to age and diagnostic criteria, are similar to studies with

similar criteria and only with the results of research conducted in the 15-year-old female students in Tehran is a significant difference (33). In Japan 19-28 year old students in the study of the prevalence of aggressive periodontitis 0.47 percent and the United States of America in the age range of 14-17 years, the prevalence of aggressive periodontitis among 12-19-year-old Nigerian 0.53 and 0.8 percent respectively (36,35,34). Due to the fact that our country is mainly Aryan race is a semi-industrialized Asian countries, according to a study Saxby, the disease is more common in Asian countries and non-European countries and industrial equipment (17). It is expected that the incidence in our country is more European countries, but the results show prevalence similar to European countries. In the case of communication with socio-economic status, there are different opinions. Albandar in his study in Uganda believes that there is no link between socioeconomic status and the prevalence of LAP (37). But Lopez in Chile and Gjeremo in Brazil showed that in groups with socio-economic status increased incidence is low (30,50). The present study is a cross-sectional study and no relation between socio-economic status was assessed with the disease and should be evaluated this association in a case-control study. The prevalence of aggressive periodontitis was 0.17% in teen girl's student in the city of Tehran in 2016. Cortelli et al in a study in 2002 to assess the prevalence of aggressive periodontitis in Brazil studied 244 male and 356 females. Their sample consists of individuals who were referred to a dental school. At the end of the study it was found that 1.66 percent and 3.66 percent of the patients with localized aggressive periodontitis are also diagnosed with generalized (38).

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