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Original Research

Assessment of Prevalence of Early Periodontitis in Adolescents: A Cross-Sectional study

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ABSTRACT:

Background: Periodontitis is one of the highly prevalent conditions affecting humans. Age is a recognized risk determinant for periodontitis. The children and adolescents are universally affected with milder forms of the disease. The aim of the present study was to assess the prevalence of early periodontitis in adolescents. **Material and methods:** The present study was conducted among 540 adolescents of age group of 15-17 years over the period of 6 months. Oral examination and data collection was done. Socio-demographic and oral health behavioural data were collected. For diagnosing periodontal disease, gingival bleeding (BOP) and periodontal pockets (PD) around all teeth according to the modified CPI criteria (WHO, 2013) were employed. Mean and standard deviation was estimated. $P < 0.05$ was considered as statistically significant. **Results:** In the present study, males (53.70%) were more than females (46.29%). 57.40% adolescents belong to urban area where as 42.59% belong to rural area. 66.66% adolescents belonged to government/aided schools. Within 1 year only 22.77% adolescents visited to the dentist. In 76.85% adolescents no gingival bleeding was present. Periodontal pockets were not present in 85.18%. **Conclusion:** The present study concluded that, 76.85% adolescents had no gingival bleeding and 85.18% adolescents had no periodontal pockets. Only 14.81% adolescents were suffering from periodontitis.

Keywords: Periodontal, adolescents, gingival bleeding.

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INTRODUCTION:

Periodontal diseases are a group of lesions affecting the tissues surrounding and supporting the teeth. Paleopathological studies have indicated that diseases of the gums and tooth loss are as old as humanity. Children and adolescents can have any form of periodontitis as described in the proceedings of the 1999.[1] Age is a recognized risk determinant for periodontitis and children & adolescents are universally affected with milder forms of the disease with varying degrees of gingival inflammation. Even though severe destructive periodontitis is less common among adolescents, inflammatory changes associated with early periodontal disease set in during this period. Periodic estimation of disease burden is essential for appraisal of the preventive strategies, for formulating new treatment strategies and for framing of new policies.[2] Gingivitis has been defined as the reversible dental plaque-induced inflammation of the gingiva without detectable bone loss or clinical attachment loss. It is frequently encountered in dental practice, affected people of all ages and describes the condition of the dental soft tissue. It may also be associated with dental plaque only while gingival diseases modified by systemic factors associated with the endocrine system.[3] Periodontitis represents a range of clinical manifestations from mild subclinical inflammation to advanced destructive forms, leading to tooth loss. Diagnosis is based mainly on clinical assessment of probing pocket depth (PD), clinical attachment level (CAL) and radiographic evidence of alveolar bone loss. Several factors influence the

estimation of periodontitis prevalence including examination protocol (full mouth/partial mouth), age group, source population, and case definitions.[4] The aim of the present study was to assess the prevalence of early periodontitis in adolescents.

MATERIAL AND METHODS:

The present study was conducted among 540 adolescents of age group of 15-17 years over the period of 6 months. Before the commencement of the study ethical approval was taken from the ethical committee of the institute and from the heads of respective schools which took part in the study. Oral examination and data collection were done. Children with mental disability or learning disorder, history of scaling within 3 months, and those with current or previous fixed or removable orthodontic treatment were excluded from the study. Socio-demographic and oral health behavioural data were collected. For diagnosing periodontal disease, gingival bleeding (bleeding on probing, BOP) and periodontal pockets (pocket depth, PD) around all teeth according to the modified CPI criteria (WHO, 2013) were employed. Mean and standard deviation was estimated for continuous variables and proportions for categorical variables. $P < 0.05$ was considered as statistically significant.

RESULTS:

In the present study males (53.70%) were more than females (46.29%). 57.40% adolescents belonged to urban area. 66.66% adolescents belonged to government/aided schools. Within 1 year only 22.77% adolescents visited to the dentist. In 76.85% adolescents no gingival bleeding was present. No periodontal pockets were present in 85.18% adolescents.

Distribution of adolescents according to periodontal condition

Variable	N(%)
Gender	
Male	290(53.70%)
Female	250(46.29%)
Place of residence	
Urban	310(57.40%)
Rural	230(42.59%)
School type	
Government/aided	360(66.66%)
Private	180(33.33%)
Timing of last dental visit (year)	
Within 1	123(22.77%)
>1	417(77.22%)
Gingival bleeding (BOP)	
No bleeding sites (CPI bleeding score 0)	415(76.85%)
Gingival bleeding (CPI bleeding score 1 and above)	125(23.14%)
Periodontal pocket	
No pockets (pockets upto 3mm)	460(85.18%)
Pockets (4mm and above)	80(14.81%)

DISCUSSION:

The occurrence of periodontal destruction in its various forms has been a reality among adolescents and may impact their lives.[5,6] Almeida *et al.* investigated young people aged 15–19 years and showed 52.2% of gingival bleeding, 36.2% of bleeding and dental calculus, and 8% of calculus only.[7] In the present study males (53.70%) were more than females. 57.40% adolescents belongs to urban area. 66.66% adolescents belonged to government/aided schools. Within 1 year only 22.77% adolescents visited to the dentist. In 76.85% adolescents no gingival bleeding was present. 85.18% no periodontal pockets were present. A higher prevalence of periodontitis among subjects with low education has been reported in Thailand.[8] In the USA, Borrell *et al*. reported that subjects with less than high school education were three-times more likely to have periodontitis than subjects with a higher level of education.[9] Other studies in Nellore, India[10], and Dakshina Kannada, Karnataka, India[11] found a strong association of lifestyle, education and socioeconomic status on periodontal health.

The presence of BOP from at least one tooth site was considered as the presence of gingival bleeding. A study conducted in Kerala find that BOP among adolescents was 42% which was much less as compared to a recent report among 15–17-year-old students (72%), which employed the original CPI criteria among 15–17-year-old students.[12] The prevalence of BOP was 84.3% in Rajasthan and 59% in Bhopal school children.[13,14] da Cunha *et al*. investigated adolescents aged 15 through 19 years and observed an association between periodontal condition (bleeding and calculus) and age, emphasizing that the younger the age, the better the periodontal conditions.[15]

CONCLUSION:

Children and adolescents are subject to several periodontal diseases. There is a much lower prevalence of destructive periodontal diseases in children than in adults. The present study concluded that in 76.85% adolescents no gingival bleeding was present. 85.18% adolescents had no periodontal pockets were present. The present study concluded that, 76.85% adolescents had no gingival bleeding and 85.18% adolescents had no periodontal pockets. Only 14.81% adolescents were suffering from periodontitis.

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