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Original Research Article

Prevalence of periodontal diseases among patients attending at Dr. R. Ahmed dental college & hospital, Kolkata, W.B.

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ABSTRACT

Background: Periodontal disease is a public health problem and is associated with systemic diseases. Periodontitis is a highly prevalent disease in developed and developing country across all age group & gender. Majority of population in the developing countries suffer from different stages and grades of periodontitis which causes alveolar bone loss, tooth mobility and tooth loss.

Materials and Methods: A cross-sectional study was conducted on 2220 dentate person including both male & female aged from 20 to 65 reported in the Department of Periodontics in 3 months

Results: It was observed estimated prevalence of periodontitis increased with age which is much higher among subjects with poor oral hygiene practice and females are suffering more than male. The current study collected significant data for prevalence

Conclusion: Inadequate and/or improper maintenance of Oral hygiene confirmed as the most important predictor for periodontitis.

Severity was found to be increased with increasing age also more in female than male.

The effect of age and gender on the progression of periodontitis seemed to be less important when good oral hygiene is practiced.

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1. Introduction

Periodontitis is "an inflammatory disease of the supporting tissues of the teeth caused by microorganisms, resulting in progressive destruction of the periodontal ligament and alveolar bone with increased probing depth, formation of recession, or both may lead to, tooth mobility and tooth loss if left untreated. ¹

In 2010, severe periodontitis was estimated to be the sixth most prevalent disease in the world, with a prevalence of 11.2%, gradually increasing with age.²

Periodontal disease is a chronic inflammatory disease resulting in destruction of tissue structures surrounding the teeth and manifest as a wide variety of inherited conditions

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affecting the periodontium (Fujita1900).

It is the most prevalent oral diseases worldwide especially in developing countries.

The prevalence of periodontal disease dates back to early human civilization as it was indicated by paleopathological studies and recently the global epidemiological data suggests periodontal disease to be one of a major burden on oral diseases.³

The current demographic data of India shows a population of over 1.2 billion people making it the second most popular country in the world contributing around 17.5% of the total world population. ⁴ An array of cultural, ethnic, and demographic diversities is found amongst the people inhabiting here.

The studies on the prevalence of periodontal disease in different populations are useful for not only determining the

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extent and severity of the disease, but also describe the rate of progression of the underlying condition and identifying the possible etiological factors of the disease.⁵

The prevalence of periodontal diseases also has been reported to be high in India.

It is said that every second person above the age of 35 years has gum problem. In India 85% of total teeth extracted after 30 years are due to periodontal diseases. ⁶

The periodontal diseases are considered as major health concern as these are also the risk factors for many systemic diseases that is cardiovascular diseases, preterm low birth weight infants, respiratory disease, diabetes mellitus, and cerebral infraction or cerebral stroke.⁷

No such national health survey has been done in India till date. Limited number of regional surveys have been done showing the prevalence of periodontal disease.

The aims and objectives of this study:

- To estimate the prevalence of periodontal disease (generalised chronic periodontitis) in subjects aged between 20 to 64 among the patient attending our hospital.
- 2. To estimate the effects of age, gender and frequency of plaque removal on the periodontal status of the study population.

2. Materials and Methods

In the present cross-sectional study, 2220 dentate volunteer subjects in the age group ranging from 20 years to 64 years including both Male & Female attending OPD from 1st June 21 to 31st august 21 were recruited from the outpatient department of Dr. R. Ahmed Dental College & Hospital, Kolkata, West Bengal, India. This is a tertiary hospital serving the population of the north-eastern part of India

The sample of randomly selected 2220 subjects consisting of 976 males (44%) and 1244 females (56%) were divided into three Age groups: group I, 20-29 years; group II, 30-44 years; group III, 45-64 years.

Data were collected both on the basis of percentage of individuals and generalised status of periodontitis having different CAL measured by UNC-15 probe separated into three groups: Mild (CAL:1-2mm), Moderate (CAL:3-4mm), Severe (CAL:>5mm).

Patient's plaque removal frequency (not brushing /once/ twice) is also taken into consideration.

We calculated the percentage & frequency distribution and Chi-square test to evaluate inter-group statistical significance of the observations.

3. Ethical approval

Ethical approval was taken from institutional ethical committee.

3.1. Statistical analysis

Hospital-based clinical data were presented in the form of number and percentage through tables. Statistical analysis was done by SPSS Version 16.0 which is manufactured by IBM Corporation New York, Unite States.

4. Results

- 1. Among the 2220 subjects approximately 96% (2132) subjects of all age group are suffering from any form of periodontitis and only 4%(88) subjects (mainly of young age group) are appears clinically healthy.
- 2. Females are suffering more (56%) than males (44%) in all age group and of all form of periodontitis except severe form.
- 3. Person of age group (30-44) are suffering more than the other age group and suffered of moderate form of periodontitis.
- 4. It also noticeable that patients who brushes twice daily are suffering less and severity of the disease is mostly frequent among the subjects who did not brushes his/her teeth.

CLINICAL ATTACHMENT LOSS (CAL)

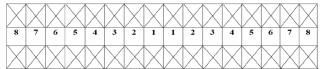


Diagram 1:

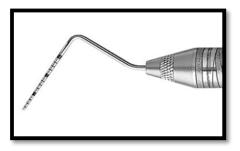


Fig. 1: UNC-15 probe

5. Discussion

The present cross-sectional prevalence study aimed to assess the prevalence of periodontal disease the subjects those visited to the dental OPD, Dr. R Ahmed Dental College and Hospital, West Bengal, India, Of the 2220. Males were more affected with moderate and severe periodontitis as compared to females that is also consistent with the other reported studies. The factors responsible for this



Fig. 2:



Fig. 3:



Fig. 4:

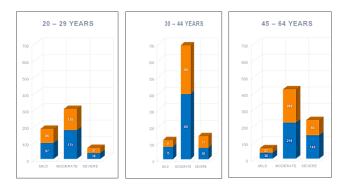


Fig. 5: Distribution of periodontitis among males and females based on age groups

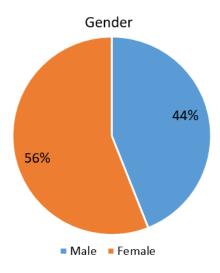


Chart 1: Percentage of periodontitis among males and females

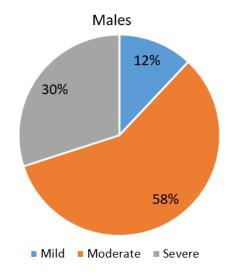


Chart 2: Distribution of periodontitis among males

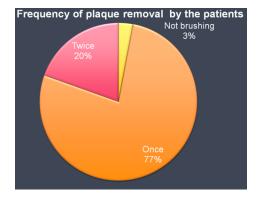


Fig. 6:

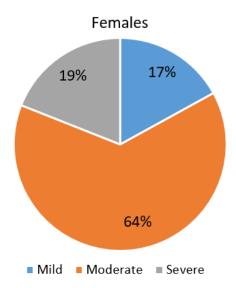


Chart 3: Distribution of periodontitis among females

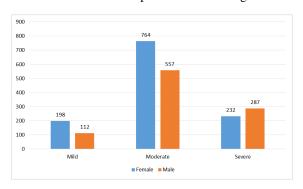


Chart 4: Distribution of periodontitis among males and females based on severity (Mild, Moderate, Severe)

Significant value for male and female distribution						
	MALE (n=938)		FEMALE (n=1194)		P Value	Remarks (<0.05)
Mild	112	826	198	996	0.0043	S
Moderate	557	381	764	430	0.0429	S
Severe	287	651	232	962	0.0001	S

Chart 5: S-Significant; NS – Nonsignificant

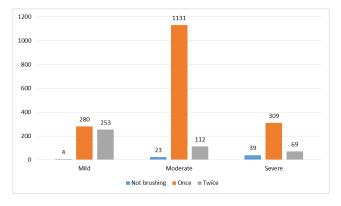


Fig. 7: Distribution of periodontitis based on frequency of brushing

finding may be that males are less health conscious and have poor oral hygiene than females and heavy deposition of plaque and calculus. There is difficulty in comparing the data of such observational studies because the results depend upon several factors such as, study designs, sample size, eligibility criteria, recording of data, criteria for assessment of disease, microbial pathogens, disease activity and multifactorial nature of periodontal diseases including age, gender, socioeconomic status, educational status, stress factors and control of these factors is challenging.

In the present study, the findings suggest that only 29.90% subjects need complex treatment. On the other hand, approximately 63% subjects require either oral hygiene instructions or oral hygiene instructions or oral prophylaxis. Only 7% subjects were healthy and needed no treatment. Finally, the results indicates that majority of the population need primary and secondary level of program to educate, motivate and instruct people about oral hygiene maintenance and provide the treatment in its early stages to reduce the chances of initiation or progression of periodontal diseases.

Periodontal diseases were found to be 96.30% (highly prevalent) in the study population, and most participants required oral hygiene instructions and oral prophylaxis.

It shows that the estimated prevalence of periodontitis increased with age which is much higher among subjects with poor oral hygiene practice and females are suffering more than male.

Inadequate and/or improper maintenance of Oral hygiene confirmed as the important predictor for periodontitis.

1. The effect of age and gender on the progression of periodontitis seemed to be less important when good oral hygiene is practiced.

6. Conclusion

Periodontal Disease was found to be 93.00% in the study population, and most participants required oral hygiene instruction and oral Prophylaxis.

To prevent or minimize the progression of the disease, more number of oral health surveys will help in planning of preventive health program at large scale in the beneficence of the society.

Qualitative research should be done for welfare of community through "systematic science and community" programs and improved oral health literacy, community education, community-based interventions, and accessible dental services at the primary or community health centers should also be provided to improve the oral as well as systemic health.

7. Source of Funding

None.

8. Conflict of Interest

The authors declare no conflict of interest.

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