



## PREVALENCE OF PERIODONTAL DISEASES IN TARAKESWAR MUNICIPALITY, WEST BENGAL- A CROSS-SECTIONAL STUDY

### Dental Science

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### ABSTRACT

Periodontal diseases are mainly inflammatory condition caused by specific micro-organisms in dental plaque which leads to loss of periodontal attachments, including destruction of periodontal ligament and adjacent supporting bone.

This cross sectional study under taken to assess the prevalence of periodontal disease in Tarakeswar municipality, Hooghly by using modified CPI index.

The total study population consists of 275 subjects which were randomly selected from 15 wards of Tarakeswar municipality. According to WHO 30-60 years are group is the standard age group for surveillance of oral health conditions in adults. Informed consent was obtained from each individual.

It was observed that out of 276 patient's 202 patients having bleeding on probing. It was observed that 73.2% of the populations were affected by bleeding gums.

The poor periodontal condition is observed among semi-urban area of West Bengal like Tarakeswar Municipality.

### KEYWORDS

Prevalence, Periodontal Diseases, Bleeding On Probing Semi-urban , West Bengal

#### INTRODUCTION:-

Periodontal diseases are mainly inflammatory condition caused by specific micro-organisms in dental plaque which leads to loss of periodontal attachments, including destruction of periodontal ligament and adjacent supporting bone. The lesion invading the gingival tissue is termed gingivitis. Further extension to the deeper structures involving periodontal fibre and alveolar bone causing their destruction concomitant with the apical migration of the epithelial attachment, the disease is called periodontitis.<sup>[1]</sup> Both conditions demonstrate all of the classic signs and symptoms of chronic inflammation, including redness and swelling of the tissues, loss of architecture form and reduced function.

Gingivitis reversible with professional treatment and good oral hygiene maintenance, where as periodontitis is irreversible as this process with destruction of bone. The inflammatory response is not balance by the host, or is left untreated, may cause tooth loss.

Periodontal disease is the most prevalent in adult population<sup>[2]</sup> and in India is still the greatest single cause of tooth loss.<sup>[3]</sup> The prevalence of periodontal disease varies in different regions of the world according to the definition of periodontitis and the study population, and there are indications that they be more prevalent in developing than in developed countries.

Tarakeswar municipality situated in Hooghly district in the Indian state of West Bengal with a population of about 30,947. This cross sectional study under taken to assess the prevalence of periodontal disease in Tarakeswar municipality, Hooghly by using modified CPI index.

#### MATERIALS AND METHODS:-

A cross-sectional survey was conducted among the 30-60 years of age in Tarakeswar, Hooghly, West Bengal in between the month of January- March 2019. The total study population consists of 275 subjects which were randomly selected from 15 wards of Tarakeswar municipality. According to WHO 30-60 years are group is the standard age group for surveillance of oral health conditions in adults. Informed consent was obtained from each individual.

#### Inclusion criteria-

1. Patient aged 30-60 years of age

2. No significant medical history.
3. Presence of more than 20 teeth.
4. Those who gave consent.

#### Exclusion criteria-

1. Patient with history of systemic disease.
2. Individual having less than 20 teeth.
3. Patients who dined giving the consent were excluded from the study.

Dental checks up camps were organized in the wards with the help of local club. The periodontal status was assessed using modified community periodontal index (CPI). Each subject was examined on an ordinary chair under adequate natural light by a single trained examiner. The gingival and periodontal status of each subject was assessed using CPTIN-C WHO periodontal probe and mouth mirror. On index teeth were examined a missing sextant was crossed diagonally. The statistical analysis of the data were tested statically to coding forms and analyzed by computer using statistical package of social sciences (SPSS, Version 11.0).

#### RESULTS:-

**Table 1**

Bleeding	Frequency	Percent
N	74	26.8%
Y	202	73.2%
<b>Total</b>	<b>276</b>	<b>100.0%</b>

**Table 1** shows bleeding on probing distribution. It was observed that out of 276 patient's 202 patients having bleeding on probing. It was observed that 73.2% of the populations were affected by bleeding gums. The z value is 10.8961 and the p value is <0.00001.

**Table 2**

Pocket	Frequency	Percent
N	126	45.7%
Y	150	54.3%
<b>Total</b>	<b>276</b>	<b>100.0%</b>

**Table 2** shows probing pocket depth distribution. It was observed that out of 276 patient's 150 patients having probing pocket depth more

than 5mm. It was observed that 54.3% of the populations were affected by deep pockets. The z value is 2.043 and p value is 0.04136.

**Table 3**

LOA	Frequency	Percent
0	112	40.6%
1	164	59.4%
<b>Total</b>	276	100.0%

**Table 3** shows loss of attachment distribution. It was observed that out of 276 patient's 164 patients having clinical attachment loss. It was observed that 59.4% populations were affected by clinical attachment loss. The z value is 4.4265 and the p value is <0.00001.

In all the tables the significant p value is <0.05.

#### **DISCUSSION:-**

Oral health is an integral part of general health.<sup>[4]</sup> Several attempts have been made to develop for assessing periodontal disease status on a population basis which would help in the planning of dental public health services. The modified CPI index<sup>[5]</sup> is a useful approach for screening population because it uses accepted clinical criteria, full mouth scoring and a simple recording procedure.<sup>[6]</sup>

The present study is probably the first study in Tarakeswar Municipality; West Bengal examined a good number of populations with the modified CPI index to estimate the prevalence of periodontal diseases.

In relation to the severity of the periodontal disease the present study indicated high prevalence rate of periodontitis in the sub-urban area i.e. Tarakeswar Municipality. The reason for this could be due to 1) faulty oral hygiene habits, 2) nutritional status and health believes, 3) Poor availability of the specialist dental services is also a common factor, 4) Another negative factor that bears upon this situation is very low level of health education<sup>[7]</sup> composed with minimal level of dental awareness.

From the present study it may be concluded that the poor periodontal condition is observed among semi-urban area of West Bengal like Tarakeswar Municipality.

However further study is necessary with larger population to evaluate the factors responsible for that. It is important for future planning of dental services in the semi-urban areas of West Bengal.<sup>[8][9]</sup>

#### **LIMITATION:-**

All the studies included used modified CPI index as a mean to observe the oral health status of the individual has a limitation to be observed as a case definition for periodontitis. It does not give true prevalence rate in term severity and extent of the disease.

We declare that we have no conflict of interest.

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