

Width of attached gingiva in an Indian population: A descriptive study

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Abstract

Objectives: Attached gingiva is important for maintaining periodontium in a healthy state. The present study tries to find the normal values of width of attached gingiva in a periodontally healthy Indian population. **Material and Methods:** The width of attached gingiva was measured with a periodontal probe in periodontally healthy patients attending the periodontics department. Descriptive statistical analysis was done to get the mean, which will represent the normal values of width of attached gingiva for the population. **Results:** Female patients had a greater width than males and the 20 to 30 year old group had the greatest width of attached gingiva. The mean values of attached gingiva varied in different areas of the mouth with greatest width in maxillary central incisors and least in mandibular molars. **Conclusion:** Width of attached gingiva varies with age, gender and in different areas of the mouth.

Key words: Periodontium, gingiva, health,

Introduction:

Attached gingiva is one of the most important anatomic and functional landmarks in the periodontium. Though there is not enough evidence on the role of attached gingiva in maintaining presence of the attached gingiva can lead to inflammation in individuals with less than optimal plaque control¹. Creation of an increasing the width of attached gingiva forms a major portion of periodontal

plastic surgery. There are very few studies done to evaluate the width of attached gingiva and no studies on the Indian population. Assessing the width of the attached gingiva will help in assessing the risk for a periodontium to be affected by disease for which normal values need be known for that population. The study was aimed to assess the width of attached gingiva in the population attending the dental college in Chhattisgarh.

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Width of attached gingiva in health

Materials and Methods:

Patients attending the periodontal Out-patient department in the age group of 20 to 50 years were invited to participate in the study. Patients with more than 4 mm of Clinical attachment level in any of the assessed teeth were excluded. As there was no probing of gingiva involved, no medical contraindication for inclusion criteria was kept. Institutional Ethics Committee gave approval for the study. After getting informed consent, patients' data were collected through an administered questionnaire and clinical examination. Attached gingiva was measured by the following way with a UNC 15 periodontal probe. The distance from the crest of marginal gingiva to mucogingival junction is measured and is subtracted with the probing depth in the mid buccal region to get the width of attached gingiva on the buccal side of all the central incisors, first premolars and first molars, a total of 12 teeth.

Results:

A total of 73 patients participated in the study of which 43 (59%) were females. Female patients had a higher width of 3.04 mm than males with an average of 2.67 mm (Table 1). Maxillary central incisors had the greatest width with an average of 3.77 mm and mandibular molars had the least width of 2.48 mm (Table 2). Mandibular incisors had a width of 2.52 mm, maxillary premolars 3.04 mm, mandibular premolars 2.75 mm and maxillary molars 2.58 mm. Width of a gingiva was the looked in to in different age groups. In the age group of 20-30 year the width was found to be greatest, 2.97 mm while 30-40 year olds patients had the lowest of 2.721 mm. The greatest width was seen in a left maxillary premolar and the lowest value was 0 mm (0mm indicates absence of attached gingiva) found in all categories of teeth.

Table 1: Width of Attached gingiva in Males and Females

	N	Mean \pm SD (mm)
Female	43	3.035 \pm 1.269
Male	30	2.674 \pm 1.536

Table 2: Width of Attached gingiva among different types of tooth

Tooth type	Mean \pm SD (mm)
Maxillary central incisors	3.771 \pm 1.761
Maxillary first premolars	3.044 \pm 1.929
Maxillary first molars	2.578 \pm 1.581
Mandibular central incisors	2.516 \pm 1.370
Mandibular first premolars	2.752 \pm 1.730
Mandibular first molars	2.480 \pm 1.273

Table 3: Width of attached gingiva in different age groups

Age group in years	N	Mean± SD (mm)
20-30	39	2.97±1.34
30-40	14	2.72±1.63
40-50	20	2.85±1.35

Discussion:

There are very studies done on the width of attached gingiva. One of the most often study quoted on width is by Bowers² GM in 1963 and Ainamo³ in 1976. The present study measured attached gingiva with the help of a periodontal probe similar to Tenenbaum⁴ while Talari⁵, Ainamo⁶ and Saario^{7,8} used Schiller's iodine solution and orthopantomograms to measure. Bowers² found the facial attached gingiva varied in different areas of the mouth as seen in the present study. Ainamo³ found greatest in maxillary incisors similar to our study. The least width in our study was in mandibular molars while Ainamo³ found it to be mandibular premolars. Ainamo³ and Vincent⁹ found the width of attached gingiva increases with age where as our study found width was greatest in the 20-

30 age group while the middle age group of 30-40 years was the least (Table3).

Conclusion:

Width of attached gingiva varies in different areas of the mouth with the maxillary incisors having the greatest width. There was no relationship with age while females had a greater width of attached gingiva. Further studies should be done on periodontally healthy individuals in different population in India to get a reference value for width of attached gingiva.

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