

Oral Hygiene Awareness And Practice Amongst Patients Visiting Dental College And Hospital, Chennai

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ABSTRACT:

BACKGROUND: Toothbrushes and floss are most commonly used for oral hygiene although interdental brushes and wooden sticks can offer advantages in periodontally involved dentitions. Despite new products and design modifications, mechanical measures require manual dexterity and cognitive ability. Chemotherapeutic supplementation of mechanical measures using dentifrices, mouthrinses, gels and chewing gums as delivery vehicles can improve oral hygiene.

AIM: To assess oral hygiene awareness among patients who visit dental college and hospital in Chennai

MATERIALS AND METHOD: This was a questionnaire based cross-sectional study performed among 76 outpatients in a private dental college. The data was collected and analysed using SPSS software version 23

RESULT: 78% respondents used toothbrush and toothpaste for cleaning their teeth. 53.9% of the respondents reported to have halitosis. 39.5% of the study respondents visited dentists only when they have a problem. About (78%) respondents used toothbrush and toothpaste and (21%) respondents used toothbrush and powder. Majority of the participants were aware about the association of systemic health and oral health. Females were more aware when compared to males. (p value - 0.013). Study participants' education is not related with the awareness about association of systemic health and oral health and also importance of dental visit.

CONCLUSION: Oral hygiene practices were moderate among the study participants. Awareness about the association of systemic health and oral health was more among females. Study participants' education is not related with the oral health awareness

KEYWORDS: oral hygiene, systemic health, innovative analysis

INTRODUCTION

Recent investigation have demonstrated that there is a strong positive correlation between poor oral hygiene and periodontal disease. An awareness of this relationship has stimulated dentists to place greater emphasis on teaching patients the importance of good oral hygiene and the best methods of obtaining it. (1) Loss of alveolar bone is one of the cardinal symptoms of periodontal disease, and resorption of the alveolar crest can be evaluated roentgenologically (2). Current mechanical and chemotherapeutic approaches to oral hygiene aim to modify the oral microflora to promote healthy periodontal and dental tissues. Current oral hygiene

measures, appropriately used and in conjunction with regular professional care, are capable of virtually preventing caries and most periodontal disease and maintaining oral health(3). Oral diseases are a major public health concern owing to their high prevalence and their effects on the individual quality of life(4). The possible etiological factors leading to these oral diseases are genetic predisposition(5).

Oral hygiene behaviour and oral hygiene behaviour and oral care depends on a number of factors(6). Patients comply better with oral health care regimens when informed and positively reinforced.oral health knowledge is considered to be an essential prerequisite for health related behaviour,although only a weak association seems to exist between knowledge and behaviour in cross sectional studies nevertheless studies have been carried out (7).

Behaviour of people about oral health there is especially for rural people who make up for more than 70% of the population in India.Furthermore even the people living in cities in spite of having ease access to dental care(8). As we approach the year 2000, it is appropriate to reflect on advances made in personal oral hygiene. Dental caries and periodontal disease are the two most common chronic human diseases(9). Two diseases have been responsible for untold pain and suffering, and for excessive destruction and loss of people's teeth. With improving social circumstances in most industrialised nations, increased availability and affordability of modern oral health care, and the promotion of conservative treatment concepts, the 20th century saw significant progress in eliminating pain and tooth loss(10). India, the sixth biggest country by area, is the second most populous country. Factors contributing to the steady rise in prevalence of periodontal disease include poor oral health awareness. Annual health budget is 2% of Gross National Product but no specific budget is earmarked for oral health. Oral health knowledge is considered to be an essential prerequisite for health-related behavior.Although only a weak association exists between knowledge and behavior in cross-sectional studies,there are studies that establish an association between knowledge and better oral health(11(5).We keep reading about studies done to judge the oral health and oral hygiene practices at so many places scattered all across the globe(12). Our team has extensive knowledge and research experience that has translate into high quality publications(6–14),(15),(16),(17,18),(19),(20),(21–25) This study was therefore initiated to assess oral hygiene awareness and practice amongst patients visiting dental college and hospital, Chennai.

MATERIALS AND METHODS

A cross sectional study was carried out to assess awareness and knowledge about oral hygiene to the patients visiting a private dental college and hospital in Chennai. The questionnaire included demographic details such as age, gender and education of the respondent and questions related to oral practice of the patients. This study was reviewed by the institutional ethical committee and ethical clearance was obtained before initiating the study. An interviewer administered questionnaires prepared in English to collect data about the patient's social demographic characteristics, dental visit history and reasons for not getting a routine check up for a dentist. Informed consent was obtained from each patient. A total of 76 patients were selected using a convenience sampling method. The questionnaire survey was conducted during the month of February 2021 and the collected data was analysed using SPSS statistics. Descriptive and inferential statistics were performed to analyse the data; the p value of 0.05 or less was considered statistically significant .

RESULTS

About 76 responses were obtained from the given questionnaire. About 81% respondents belong to the age group of 18-35 whereas 10.5% respondents belong to the age group of 35-55 and the rest of 20% belong to the age group of 55 and above. About 77% respondents are male whereas the rest of 23% respondents were female. About 1.5% respondents had primary education, 11.9% respondents had secondary education, 11.9% respondents had higher education and 38.8% respondents were under graduates. About 78% respondents used toothbrush and toothpaste to clean their teeth and 21% respondents used toothbrush and powder. About 31.6% respondents brushed their teeth once a day and 32.9% respondents twice, 11.8% respondents more than twice and 23.7% respondents as sometimes. About 18.4% respondents used a vertical method of brushing and 13.2% respondents used horizontal and 68.4% responded as combined. About 19.7% respondents used dental floss as secondary methods for plaque control and 35.5% respondents used

toothpicks and 25% responded as interdental brushes. About 55.3% respondents cleaned their tongue. About 53.9% of respondents noticed a smell from their mouth. About 78.9% respondents were aware that oral health is related to systemic health. About 39.5% of respondents visited the dentist only if they had problems. About 52.6% of respondents answered that it is essential to visit a dentist every 6 months and 36.8% of respondents as no and 10.55% respondents as maybe.

Male study participants are more aware that they have to visit the dentist every six months than female study participants. (p value - 0.07) (Figure 1). Majority of the participants who had secondary and higher secondary education replied that it is essential to have dental visits every six months when compared with post graduates, graduates and those with primary education (p value - 0.17) (Figure 2). Participants who had primary and higher secondary education replied that they were aware about the relation of systemic health and oral health when compared with post graduates, graduates and those with secondary education (Figure 3) and females were more aware than males (Figure 4)

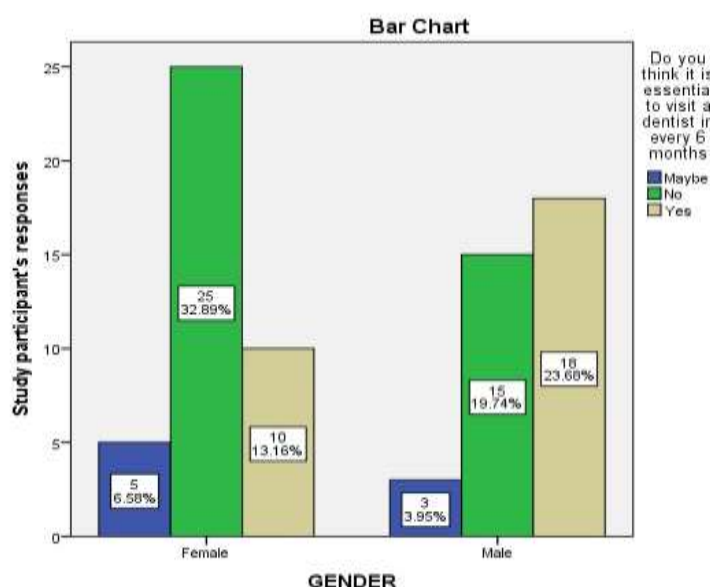


Figure 1 showing association of gender and study participants' response regarding their opinion about whether it is essential to visit a dentist every six months. Male study participants are more aware that they have to visit the dentist every six months than female study participants.

However this association was not statistically significant (Chi square value- 5.089; p value - 0.07)

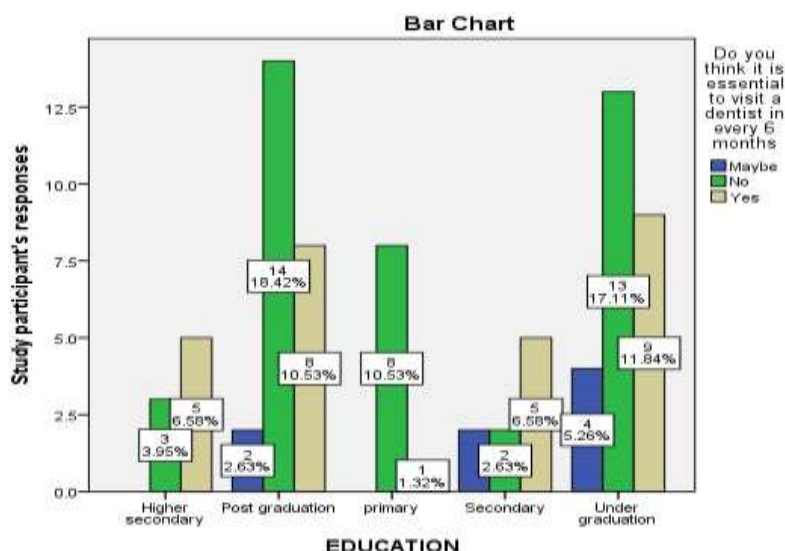


Figure 2 showing the association of educational status and study participants' responses to the question whether it is essential to visit a dentist every 6 months. X axis denotes education of the participants and the Y axis denotes study participant's responses. Majority of the participants who had secondary and higher

secondary education replied that it is essential to have dental visits every six months when compared with post graduates, graduates and those with primary education suggesting educational status is not related with awareness about dentist visit.

However this was not statistically significant (Chi square value- 12.029; p value - 0.17)

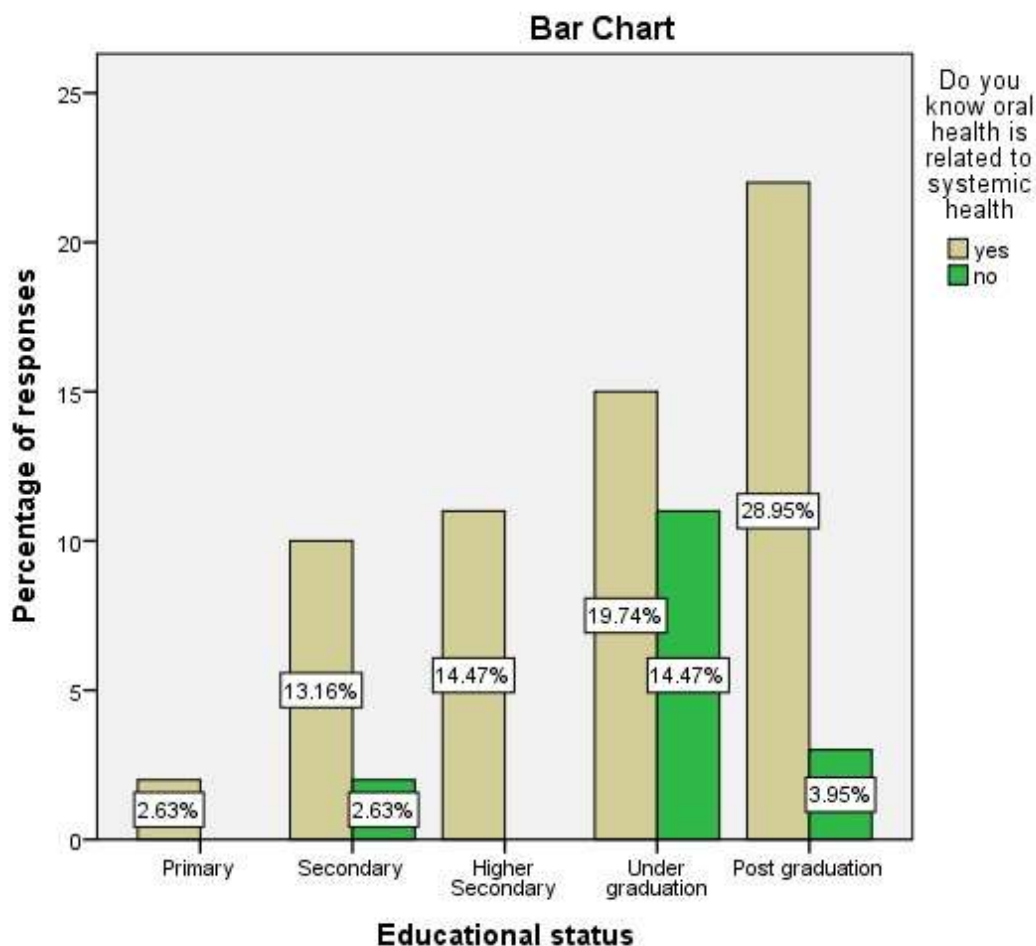


Figure 3 showing the association of educational status and study participant's responses regarding their awareness about the relation of systemic health and oral health. X axis denotes education of the participants and the Y axis denotes study participant's responses. Participants who had primary and higher secondary education replied that they were aware about the relation of systemic health and oral health when compared with post graduates, graduates and those with secondary education and this association was found to be statistically significant. Chi square value- 11.906; p value - 0.018

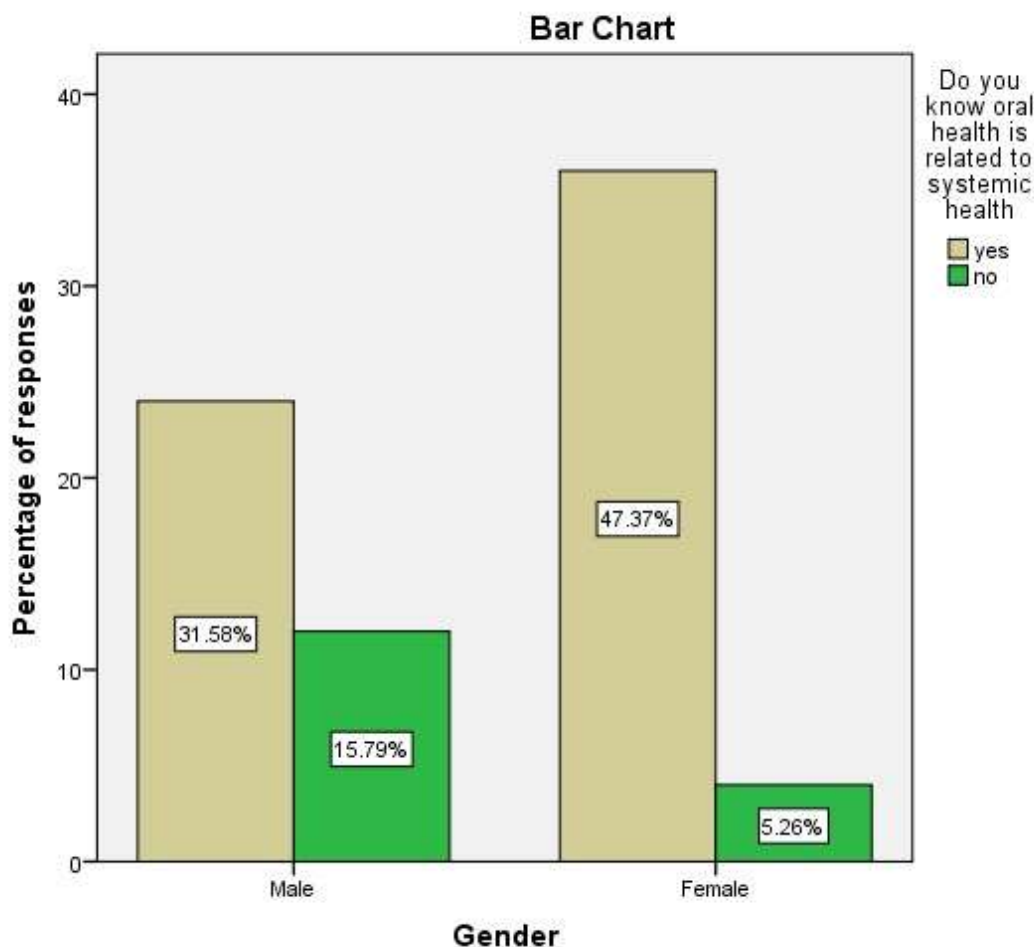


Figure 4 showing the association of gender and study participant's responses regarding their awareness about the relation of systemic health and oral health. X axis denotes gender of the participants and the Y axis denotes study participant's responses. Females were more aware than males and this association was found to be statistically significant. Chi square value- 6.207; p value - 0.013

DISCUSSION:

The present study has confirmed the general opinion that oral hygiene has still remained as an ignored and unrealized major social problem. Preventive oral health education is in a transitional stage in India. Population based oral health promotional programs are yet to be implemented and followed. Hence in this study attempts were made to describe the preventive oral knowledge, practice and behavior of the studied population. Our study has shown very limited knowledge on prevention and preventive dental behavior.

Normally the body's natural defenses and good oral health care, such as daily brushing and flossing, keep bacteria under control. However, without proper oral hygiene, bacteria can reach levels that might lead to oral infections, such as tooth decay and gum disease.

If there is no practice of good oral hygiene, you are at a higher risk of developing serious oral conditions and diseases. These diseases include cavities, gingivitis, periodontal disease, bruxism-related conditions, cracked tooth syndrome, and more.

The relationship between dental service utilization and main demographic variables e.g., age, sex, address, education and occupation are discussed in this study. Our study shows that male patients have utilized the dental services more than the female patients, which is in contrast to the higher rate of utilization by female patients reported in Helsi et al It has also been evaluated that more of young and educated patients have availed the dental services which shows that education plays an important role in oral health awareness Brushing was the most commonly used method of teeth cleaning 90.3% of the total patients cleaned their teeth with toothbrush and toothpaste. Out of which, only 24.9% of the participants brushed their teeth twice

a day which is very less as compared to the United States where 90% of the studied group was doing the same.[9] There is generally a failure in the use of interdental aid as a preventive tool. In a study conducted in Saudi Arabia in 2001, where no subject used dental floss for interdental cleaning, which is similar to our results.[10]

CONCLUSION:

The study concluded that oral hygiene practices were moderate among the study participants. Awareness about the association of systemic health and oral health was more among females. Study participants' education is not related with the oral health awareness

CONFLICT OF INTEREST

The author declares that there was no conflict of interest in the present study

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REFERENCES:

1. Dentistry. Oral hygiene products. Oral rinses [Internet]. Available from: <http://dx.doi.org/10.3403/03033472u>
2. Institute NC, National Cancer Institute. Oral Hygiene [Internet]. Definitions. 2020. Available from: <http://dx.doi.org/10.32388/kp9sh3>
3. L M, Maria L. Individualized Oral Health Education Improves Oral Hygiene Compliance and Clinical Outcomes in Pregnant Women with Gingivitis [Internet]. Vol. 01, Journal of Oral Hygiene & Health. 2013. Available from: <http://dx.doi.org/10.4172/2332-0702.1000111>
4. Tiisanoja A, Syrjälä A-M, Anttonen V, Ylöstalo P. Anticholinergic burden, oral hygiene practices, and oral hygiene status—cross-sectional findings from the Northern Finland Birth Cohort 1966 [Internet]. Clinical Oral Investigations. 2020. Available from: <http://dx.doi.org/10.1007/s00784-020-03485-0>
5. Baumgarten A, Hilgert JB, Rech RS, Cunha-Cruz J, Goulart BNG. Association between motor proficiency and oral health in people with intellectual disabilities. J Intellect Disabil Res [Internet]. 2021 Mar 7; Available from: <http://dx.doi.org/10.1111/jir.12828>
6. Mathew MG, Samuel SR, Soni AJ, Roopa KB. Evaluation of adhesion of Streptococcus mutans, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: randomized controlled trial. Clin Oral Investig. 2020 Sep;24(9):3275–80.
7. Samuel SR. Can 5-year-olds sensibly self-report the impact of developmental enamel defects on their quality of life? Int J Paediatr Dent. 2021 Mar;31(2):285–6.
8. Samuel SR, Kuduruthullah S, Khair AMB, Al Shayeb M, Elkaseh A, Varma SR, et al. Impact of pain, psychological-distress, SARS-CoV2 fear on adults' OHRQOL during COVID-19 pandemic. Saudi J Biol Sci. 2021 Jan;28(1):492–4.
9. Samuel SR, Kuduruthullah S, Khair AMB, Shayeb MA, Elkaseh A, Varma SR. Dental pain, parental SARS-CoV-2 fear and distress on quality of life of 2 to 6 year-old children during COVID-19. Int J Paediatr Dent. 2021 May;31(3):436–41.
10. Samuel SR, Acharya S, Rao JC. School Interventions-based Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial. J Public Health Dent. 2020 Jan;80(1):51–60.
11. Vikneshan M, Saravanakumar R, Mangaiyarkarasi R, Rajeshkumar S, Samuel SR, Suganya M, et al. Algal biomass as a source for novel oral nano-antimicrobial agent. Saudi J Biol Sci. 2020 Dec;27(12):3753–8.

12. Chellapa LR, Rajeshkumar S, Arumugham MI, Samuel SR. Biogenic Nanoselenium Synthesis and Evaluation of its antimicrobial, Antioxidant Activity and Toxicity. *Bioinspired Biomim Nanobiomaterials*. 2020 Jul 23;1–6.
13. Samuel SR, Mathew MG, Suresh SG, Varma SR, Elsubeihi ES, Arshad F, et al. Pediatric dental emergency management and parental treatment preferences during COVID-19 pandemic as compared to 2019. *Saudi J Biol Sci*. 2021 Apr;28(4):2591–7.
14. Barma MD, Muthupandian I, Samuel SR, Amaechi BT. Inhibition of *Streptococcus mutans*, antioxidant property and cytotoxicity of novel nano-zinc oxide varnish. *Arch Oral Biol*. 2021 Jun;126:105132.
15. Muthukrishnan L. Nanotechnology for cleaner leather production: a review. *Environ Chem Lett*. 2021 Jun 1;19(3):2527–49.
16. Muthukrishnan L. Multidrug resistant tuberculosis - Diagnostic challenges and its conquering by nanotechnology approach - An overview. *Chem Biol Interact*. 2021 Mar 1;337:109397.
17. Sekar D, Auxilia PK. Letter to the Editor: H19 Promotes HCC Bone Metastasis by Reducing Osteoprotegerin Expression in a PPP1CA/p38MAPK-Dependent Manner and Sponging miR-200b-3p [Internet]. *Hepatology*. 2021. Available from: <http://dx.doi.org/10.1002/hep.31719>
18. Gowhari Shabgah A, Amir A, Gardanova ZR, Olegovna Zekiy A, Thangavelu L, Ebrahimi Nik M, et al. Interleukin-25: New perspective and state-of-the-art in cancer prognosis and treatment approaches. *Cancer Med*. 2021 Aug;10(15):5191–202.
19. Kamala K, Sivaperumal P, Paray BA, Al-Sadoon MK. Author response for “Identification of haloarchaea during fermentation of *Sardinella longiceps* for being the starter culture to accelerate fish sauce production” [Internet]. Wiley; 2021. Available from: <https://publons.com/publon/47375106>
20. Ezhilarasan D, Lakshmi T, Subha M, Deepak Nallasamy V, Raghunandhakumar S. The ambiguous role of sirtuins in head and neck squamous cell carcinoma. *Oral Dis* [Internet]. 2021 Feb 11; Available from: <http://dx.doi.org/10.1111/odi.13798>
21. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. *J Oral Pathol Med*. 2019 Apr;48(4):299–306.
22. R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2020. p. 306–12. Available from: <http://dx.doi.org/10.1016/j.oooo.2020.06.021>
23. J PC, Pradeep CJ, Marimuthu T, Krithika C, Devadoss P, Kumar SM. Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study [Internet]. Vol. 20, *Clinical Implant Dentistry and Related Research*. 2018. p. 531–4. Available from: <http://dx.doi.org/10.1111/cid.12609>
24. Wahab PUA, Abdul Wahab PU, Madhulaxmi M, Senthilnathan P, Muthusekhar MR, Vohra Y, et al. Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study [Internet]. Vol. 76, *Journal of Oral and Maxillofacial Surgery*. 2018. p. [1160–4](#). Available from: <http://dx.doi.org/10.1016/j.joms.2017.12.020>
25. Mudigonda SK, Murugan S, Velavan K, Thulasiraman S, Krishna Kumar Raja VB. Non-suturing microvascular anastomosis in maxillofacial reconstruction- a comparative study. *Journal of Cranio-Maxillofacial Surgery*. 2020 Jun 1;48(6):599–606.
26. LOVDAL A, ARNO A, WAERHAUG J. Incidence of clinical manifestations of periodontal disease in light of oral hygiene and calculus formation. *J Am Dent Assoc*