ISSN 2394–806X (Print), ISSN 2454-5139 (Electronic)
IJHRMLP, Vol: 02 No: 01 January, 2016
Printed in India

ORIGINAL PAPER

Oral Hygiene Practices Among the General Population of North Eastern Region of India

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Received *on 26 April, 2015; first review on* ***M****ay 9, 2015; accepted on July 17, 2015*

ABSTRACT

Oral and dental diseases are common problems among the masses. From the era of early civilization, people have been using various readily available materials for cleaning their teeth. With the steady development of medical science, people are much aware of their general as well as oral health. Even then, a large part of our population is still using various harmful materials for routine cleaning of their teeth. Therefore, a study was contemplated to find out the pattern of oral hygiene habits among random samples of common people residing in North East India. A descriptive study method was used to collect data, which was recorded in a specially prepared proforma. Statistical analysis of the recorded data shows that although majority of the population are using various branded commercial dentifrices, a countable number of the sample subjects are not much aware of their oral health and are using various readily available materials for cleaning their teeth. This study indicates that education and motivation is the need of the hour to inculcate good oral hygiene habits among the masses, which can prevent common dental diseases to a large extent.

Keywords: *Oral health, dentifrice, oral hygiene habits, general population*

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INTRODUCTION

Various oral and dental diseases have affected the human population since prehistoric time. Human civilization has been using various indigenous naturally available materials for cleaning their teeth. But with the passage of time there has been a constant effort to improve the materials used for oral hygiene practices. Various studies [1, 2] clearly establish the fact that mechanical oral hygiene procedures practiced by the common people are not enough for adequate control of biofilm from the oral cavity. In view of the limitations of mechanical plaque control in preventing oral diseases, chemical methods of biofilm control from the oral cavity has been explored for a number of decades. Various herbal and synthetic agents are being incorporated to augment the effect of mechanical oral hygiene procedures for better plaque control. Although with the advancement of time, more and more people are gradually using various modern oral hygiene materials for attaining better oral health, a considerable part of the population is still using various harmful materials for cleaning their teeth. The National Epidemiological Oral health Survey and Fluoride mapping of India report [3] stated a high prevalence of gingival and periodontal diseases. In its report, it has been stated that gingival and periodontal diseases are prevalent in 67.7% of 15 year olds and as much as 89.6% aged between 35-44 years, which is quite higher than the prevalence of dental caries in India. This report shows the magnitude of periodontal diseases and dental caries in our country. Therefore, a study was contemplated to find out the oral hygiene habits of the common masses residing in the greater Guwahati area of the North East.

AIMS AND OBJECTIVES

- To study oral hygiene practices of the sample population.
- To study oral health awareness of the sample population

MATERIALS AND METHODS

A descriptive study method was used to collect data from the sample population. A questionnaire was specifically prepared for this study to record the data of the sample subjects. A random sample of 680 adult person's data was recorded and compiled and analyzed statistically to find out oral health awareness and oral hygiene practices of the sample population.

Area of the study: The sample population of this study was from the greater Guwahati area of North East India. Guwahati is considered as the gateway to the Northeastern region, and a variety of people of different ethnic groups, culture and also of different socio-economic status reside here since historical time.

Sample of the Study: The samples for the study were selected at random without any consideration of sex, religion, ethnic group, educational status and socio-economic status. The outline and purpose of the study was explained to the sample subjects and consent was obtained prior to recording of their data.

RESULTS AND OBSERVATIONS

The present research work has been designed to study the oral hygiene practices and also to evaluate oral health awareness of the sample population. A random sample of 680 adult person's data was recorded to find out their oral hygiene habits and their selection of dentifrices. The recorded data was statistically analyzed to find out their oral hygiene practices and also to evaluate their oral hygiene awareness. The findings of the survey is presented in **Table 1**, which shows that people are using varieties of dentifrices for their routine oral hygiene procedures that ranges from different types of commercial toothpastes, gels (61.91%), powders (23.97%), tree twigs (7.94%), charcoal, ashes, domestic salt and mustard oil (6.18%). Many of the sample population were found to indulge in various harmful oral habits like betel nut chewing with and without tobacco, smoking, and using various smokeless tobacco products. It has also been found that majority (94.12%) of the sample population cleans their teeth only once in the morning. It has also been observed that majority of them (85.59%) are ignorant on the importance of oral hygiene and oral health.

Table1 Table showing different categories of dentifrices used by the study population

Type of Dentifrices	No	%	Sub type of Dentifrices	No	%
Paste/Gel	421	61.91	Regular Conventional	299	43.97
			Herbal	122	17.94
Powder	163	23.97	Regular Conventional	68	10.00
			Herbal	95	13.97
Tree Twigs	54	7.94			
Charcoal, Ashes, Salt, oil	42	6.18			

DISCUSSION

Dental caries and periodontal diseases are the two most common oral diseases, which affect human population irrespective of age, sex, religion, and socio-economic status. Pilot T et al 1987,[4] while reviewing the CPITN data of the W.H.O. global oral data bank found that gingivitis of varying severity is nearly universal in children and adolescents. A number of epidemiological studies conducted in India, clearly shows the widespread prevalence of gingival and periodontal diseases.[5-7] Even in developed countries like America, where the standard of personal oral hygiene is high, more than 80% of the population is suffering from gingivitis.[8] This is because of the fact that personal oral hygiene procedures practiced by majority of individuals are not optimum to remove the bacterial biofilm from all over the oral cavity, which is the causative factor for initiation and progression of gingivitis and dental caries.

In the present study, the investigator recorded data from a random sample of 680 persons to find out their oral hygiene practices and their selection of dentifrices for daily oral hygiene procedures. Statistical analysis of the recorded data has shown that people of lower socio-economic status were using varieties of dentifrice powders and a small percentage of the sample population were also using various tree twigs, charcoal, ashes and even domestic salt and mustard oil. In our study, we have found that a good percentage of the sample population (61.91%) is using paste or gel type of dentifrice. It has also been observed that majority of the study population

(94.12%), practices oral hygiene procedures only once in the morning. The findings and observations of our study are in accordance with the findings of the study by Mohire NC et.[9] They conducted one clinical survey on the current status of oral hygiene on a sample subject and their observed order of dental cleaning agent was toothpaste (71.66%), tobacco misery (21.65%) and others (8.32%). They observed that tooth cleaning by coarse powders result in scratches on the teeth and long-term use leads to staining of teeth and oral mucosa. Their use fails to adequately remove dental plaque from the teeth surfaces due to improper cleaning method that fails to reach all the surfaces of the teeth. They also observed that brushing frequency of the majority of the study sample was once a day, which is also in accordance with the findings of the present study. They also observed that the oral problems were more prevalent in the rural areas (62.49%) in comparison to the urban areas (37.49%) and the awareness level of good oral hygiene practices were less in rural population than that of the urban population.

Madden I M et al[10] in their study on oral health status and access to care in a rural area of India and Chawla T N et al [11] in their study on prophylaxis procedures in the control of periodontal disease in rural area of greater Lucknow region of India, observed that traditional materials like chewing sticks fabricated from the local species of neem or miswak and abrasive substances such as charcoal and ash constitutes the usual oral health devices where access to conventional professional oral health care and education is restricted and low socio-economic status often precludes the purchase of modern oral hygiene products.

Almas K et al [12, 13] in their study on natural toothbrush found that the use of traditional materials is often entrenched in local folklore, forming part of the daily personal care regimen.

Al khateeb T L et al [14] observed that chewing stick fabricated from miswak is a part of the daily oral hygiene procedures of the common people which also has a deep religious significance.

The oral hygiene practices differ from community to community especially in the rural population. A number of herbal agents, which are being used for the oral hygiene procedures, are having antibacterial and antiplaque properties[15, 16], but their use in the traditional unscientific way fails to control dental plaque adequately that initiates various gingival and periodontal diseases. With the rising economy of India, people are becoming much more health conscious than ever before and are now slowly switching from the local and traditional products to various types of commercial branded toothpastes. Dentifrice manufacturers are adding various beneficial agents in their commercial preparations for additional benefits, which one may get during normal daily tooth brushing.

CONCLUSION

In recent times, health care professionals are giving much importance to oral hygiene and oral health due to the emergence of the concept which links oral health with various systemic problems like heart attack, stroke, and preterm low birth weight babies. Nowadays, the dental health care provider's focus is not only to the oral cavity alone but also to the well being of the patient as a whole. World Health Organization (WHO) [17] endorses oral health as part of the general health, which is essential to quality of life.

As it has been found in this study that a portion of the common people are still habituated in using traditional materials like tree twigs, charcoal, table salt and even sand to clean their teeth as a daily oral hygiene procedure which quite often do a lot of harm to the teeth and their supporting structures. They are also not capable of removing dental biofilm from the inter-dental spaces and are hard to reach areas of the oral cavity resulting in accumulation of layers of plaque in these areas, which leads to initiation of dental caries and periodontal problems. Studies[18] have shown that despite the fact that considerable advances are being made in the design of manual toothbrushes; their use removes an average of only 50% of plaque from smooth tooth surfaces and even less from the inter-proximal regions. An additional limitation of the self performed mechanical oral hygiene procedure is due to the fact that mechanical plaque control procedures concentrate solely on the hard surfaces of the oral cavity that represents a relatively small percentage (21-23%) of the total area of the oral cavity. [19] Studies[20] have demonstrated that micro organisms involved in the etiology of gingivitis and periodontitis accumulate on several soft tissue surfaces of the mouth, which serve as a source of bacteria for translocation and colonization on the teeth surfaces. Due to the limitations of mechanical oral hygiene procedures to control dental bioflim effectively, the innovative idea of chemical control of dental bioflim has emerged and various chemical and herbal antiplaque agents are being incorporated in the dentifrices for supplementing the effect of tooth brushing.

The agents present in the dentifrices can reach the mucosal soft tissue surfaces and can exert antibacterial action causing better control of biofilm growth on the hard tissue surfaces as well as on the soft tissue surfaces of the oral cavity. India is a developing country and a lot of people are yet to get formal oral care from the dental health care providers. Dental caries and periodontal diseases can be prevented and controlled to a large extent if adequate measures are taken at an early stage of the disease directing high level of self performed plaque control procedures. In view of the magnitude of various forms of dental and periodontal diseases in India, it has become urgently necessary to concentrate on large-scale preventive measures to control these common oral diseases. It is the duty and responsibility of the dental health care providers to share and educate at mass level regarding the etiological role of dental biofilm for adequate control of periodontal diseases and dental caries and also for effectual motivation of individuals and communities to aspire good oral health. Oral hygiene really deserves and is destined to be an important and integral part of the overall hygiene of an individual. Health care providers not only have to educate and motivate the general population but also have to convey the message that good oral hygiene is absolutely necessary for overall good hygiene. The importance of oral health has been increased in many folds due to the recent concept of oral health and its link with many systemic diseases like heart attack and stroke. Promotion of oral hygiene measures at individual as well as in the community level is a must for achieving our goal of a disease free mouth.

Conflict of interest: No conflict of interest associated with this work.

Contribution of author: I, Dr Dilip Goswami, declare that this work has been designed and done entirely by me as appeared in this article and all liabilities pertaining to claims relating to the content of this article will be borne by me.

Ethical clearance: Done

REFERENCES

1. Boyd RL. Clinical and laboratory evaluation of powered electric toothbrushes; Review of literature J. Clin Dent 1997;8(3):67-71.
2. Morris AJ, Steele J, white DA. The oral cleanliness and periodontal health of UK adults in 1998. Br. Dent J 2001;191(4):186-192.
3. I d a Times, Oral Health, Indian Dental Association 2005;May1:1-4.
4. Pilot T, Barmes DE, Leclercq MH, Mc Combie BJ, Sardo IJ. Periodontal conditions in adolescents, 15-19 years of age. An overview of CPITN data in the WHO Global oral data Bank. Community Dent oral Epidemiol 1987;15:336-338.
5. Marshall Day CD, Shourie KL. A roentgenographic survey of periodontal disease in India. J. Am Dent Assoc 1949;39:572-588.
6. Ramfjord SP. The periodontal status of boys 11 to 17 years old in Bombay, India. J. Periodontol 1961;32:237-248.
7. Basu MK, Dutta AN. Report of prevalence of periodontal disease in the adult population in Calcutta" by Ramfjord's technique. J All India Dent Assoc 1963;35:187-201.
8. Albandar JM. Periodontal disease in North America. Periodontol 2000, 2002;29:31-69.
9. Mohire NC, Yadav AV, Gaikwad VK. Current Status of oral hygiene: A Clinical Survey Report. Research J pharm and Tech 2009 April-June;2(2):274-82.
10. Madden IM, Stock CA, Holt RD. Oral health status and access to care in a rural area of India. J Int Acad Periodontol 2000;2:110-114.
11. Chawla TN, Nanda RS, Kapoor KK. Dental prophylaxis procedures in control of periodontal disease in Lucknow (Rural) India. J Periodontol 1975;46:498-503.
12. Almas K. Miswak (Chewing stick) and its role in oral health. Postgraduate Dentist 1993;3:214-18.
13. Almas K, Lafi TR. The natural toothbrush, World Health Forum 1995;16:206-210.
14. Al Khateeb TL, O'Mullane DM, Whelton H. Periodontal treatment needs among Saudi Arabian adults and their relationship to the use of the miswak. Community Dent Health 1991;8:323-328.
15. Tewari S, Mehrotra KK, Saimbi CS. Nigam SK. Role of Himalayan plants in dentistry and their effect on Dental Plaque. JIDA 1999 Jan-march;70:12-14.
16. Saimbi CS, Singh C, Nagar A. Comparative antiplaque activity of plant preparation vis-à-vis modern dentifrices. JIDA 1986;58:93-98.
17. WHO, Geneva. Epidemiology, etiology and prevention of periodontal disease; Technical report series 1978;621:7-19.
18. Boyd RL. Clinical and laboratory evaluation of powered electric toothbrushes; Review of literature. J Clin Dent1997;8(3):67-71.
19. Kerr WJ, Kelly J, Geddes DA. The areas of various surfaces in the human mouth from nine years to adulthood. J Dent Res 1991;70(12):1528-30.
20. Socransky SS, Haffajee AD. Periodontal microbial ecology. Periodontol 2000, 2005;38:135-87.