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Knowledge And Awareness Of Oral Hygiene Maintenance - A Survey

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Abstract: Oral hygiene maintenance is the important factor for maintaining good oral health and preventing oral disease, Poor oral hygiene can lead to dental caries, periodontal disease, and tooth loss. Etiological factors leading to these oral diseases are genetic predispositions, developmental problems, poor oral hygiene and traumatic incidents. The aim of the study was to evaluate the knowledge and awareness about oral hygiene maintenance among the chennai population. A 20 questionnaires were distributed through online protocols to 200 respondents of the chennai population.20 questions have been distributed which are divided as certain categories which are demographic behaviour, knowledge and perceived benefits. Among a sample of 200 participants 92.08% were aware that improper oral hygiene affects general health and 7.92% were not aware of it , data was collected from filled questionnaires and analysed using SPSS software. Chi square test has been conducted to check the association between the variables involved in this study. Results of this survey concluded that the majority of the population were aware about oral hygiene Maintenance.

Keywords: Awareness, dental caries, General population, oral hygiene , oral health, periodontal disease.

INTRODUCTION

Many people from the general population are affected by periodontal disease and dental caries. Poor oral health is related to significant morbidity, it was concluded that the frequency of emergency department visits because of preventable dental conditions has increased by 16 percent ((Zhang *et al.*, 2015)). Oral hygiene maintenance is the important factor that maintains good function of our teeth. Poor oral hygiene leads to dental caries, gingivitis, halitosis, periodontal disease and tooth loss. So, many other studies show that people have less awareness and knowledge about oral hygiene practices((Paul *et al.*, 2014)). Everyone should maintain good oral health in order to prevent oral diseases. Poor oral hygiene has a significant impact on general health and is associated with various systemic diseases. Systemic diseases even have an impression on oral diseases. Poor glycemic control is associated with an increased risk of severe periodontitis. Scarcity of oral health self-assessment skills, usually results in poor oral hygiene ((Kapoor *et al.*, 2014)). The majority of the people are unaware of the fact that good oral health not only ensures freedom from pain and suffering related to oral health problems, additionally essential for the general health improvement and elevation of self-esteem, quality of life, and performance at work. Socioeconomic status, information from media and material properties such as taste, flavor, color, and appearance have been reported to influence the choice of an oral hygiene aid product. It is important for their health and well being of individuals ((Vasthare *et al.*, 2019)).

Oral hygiene aids include toothbrush and toothpaste, mouthwashes, dental floss and interproximal brush. These products are used based on personal choice or advice from oral health-care workers ((Shah and Sundaram, 2004)). Periodontal diseases, dental caries, malocclusion, and oral cancer are among the most prevalent dental diseases affecting people worldwide as well as in the Indian community. Dental caries cause pain and discomfort. A large ratio of these diseases can be prevented at individual and community levels by providing oral health-related education; thus, improving the oral health attitude and practices among the general population. For example; proper brushing twice daily is essential for maintaining oral health effectively. Preventive dental care is almost nonexistent in the rural areas and very limited in the urban areas of India. It's essential to combat oral diseases as a preventive approach, with the focus on health education and promotion,

which should be given prime importance. Good understanding of oral diseases and its etiology could result in optimum health-related practice and adequate oral health knowledge is essential for good oral health behavior to prevent oral diseases ((Jain *et al.*, 2012)). Previously our team had conducted numerous trials ((Thamaraiselvan *et al.*, 2015)) ((Thamaraiselvan *et al.*, 2015; Ramesh, Sheeja Saji Varghese, *et al.*, 2016)) (Varghese *et al.*, 2015)) ((Panda *et al.*, 2014)) ((Mootha *et al.*, 2016; Avinash, Malaippan and Dooraiswamy, 2017; Ravi *et al.*, 2017)) and lab animal studies ((Khalid, 2017)) ((Khalid *et al.*, 2016)) ((Khalid *et al.*, 2016; Ramesh, Sheeja S. Varghese, *et al.*, 2016)) ((Kavarthapu and Thamaraiselvan, 2018))and in vitro students ((Ramesh, Ravi and Kaarthikeyan, 2017)) ((Ramesh *et al.*, 2019)) ((Priyanka *et al.*, 2017; Ramesh *et al.*, 2019)) ((*Website*, no date)) over the past 5 years. Now we are focusing on epidemiology surveys. The idea for this survey stemmed from the current interest in our community. Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J *et al.*, 2018; Menon *et al.*, 2018; Prabakar *et al.*, 2018; Rajeshkumar *et al.*, 2018, 2019; Vishnu Prasad *et al.*, 2018; Wahab *et al.*, 2018; Dua *et al.*, 2019; Duraisamy *et al.*, 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu *et al.*, 2019; Mehta *et al.*, 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran *et al.*, 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma *et al.*, 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi *et al.*, 2020; Samuel, Acharya and Rao, 2020)

Hence, the aim of the study was to evaluate the knowledge and awareness about oral hygiene maintenance among the chennai population.

MATERIALS AND METHODS

A cross sectional study was conducted among the general population. A questionnaire survey was prepared and given to them through online portals. Inclusion criteria - general population .Exclusion criteria - health care professionals. Self administered questionnaire written in English that is customized about this study and a survey questionnaire is prepared. Their knowledge awareness about oral Health maintenance including brushing technique, fluoride content , Oral disease etc., all aspects of questions that promote and analyse their knowledge in oral health and maintain their awareness. After the dissolution of the questioned survey online , explained about each questionnaire and finally all the data were collected as a simple randomized sampling method , data collection software surgery planet represented in bar graphs . All data was collected and entered into the computer in an MS excel sheet and statistical analysis was performed using SPSS latest version software and chi square test was used to compare different variables.

RESULT AND DISCUSSION

The study was done on 200 general populations from 20 survey questionnaires. 59.90% of people brush twice in a day , 39.11% brush once and 0.99% thrice (fig 1) 49.50% people brush 1-2mins , 42.57% 2-5mins ,7.92% 5-7 mins is the period of brushing their teeth (fig 2) . 35.64% of people visit a dentist once in a year, 32.18% people never visit, 19.80% of people 3-6 month and 12.38% of people 6-9 months visiting dentists (fig 3). 92.08% of people agree that improper oral hygiene affects general health , 7.92% disagreed (fig 4). 92.57% of people think visiting a dentist is important 7.43% disagreed (fig 5) . 72.77% people know the importance of fluoride in dental health that prevents caries, 27.23% people not aware of fluoride (fig 6) . 76.24% people think poor brushing is the only cause of bad breath , 23.76% People disagreed (fig 7) . 90.15% people are aware of vertical , horizontal , circular brushing technique, 9.85% not aware(fig 8) . 88.61% of people clean their tongue while brushing , 11.39% won't clean their tongue (fig 9) . 57.92% people clean their teeth by using dental floss , 42.08% people won't clean by Using dental floss (fig 10) . 68.32% people remove the food particles that are stuck in the teeth by using toothpicks , 25.74% people use interproximal brushes , 5.94% use needles or safety pins (fig 11) . Bar graph depicting the association between gender and improper oral hygiene that affects general health . Majority of females (64.85%) are aware that improper oral hygiene affects general health. There is no significant difference between gender and improper oral hygiene that affects general health .chi-square test with p value = 0.888 (p value is > 0.05) (fig 12). Bar graph depicting the association between gender and importance of visiting dentists . Majority of females (66.83%) know the importance of visiting dentists . There is a significant difference between gender and responses of the importance of visiting dentists . Chi square test with p value = 0.037 , (p value is <0.05) (fig 13). Bar graph depicting the association between gender and causes of bad breath. Majority of females (57.43%) know that poor brushing technique is the only cause for bad breath . There is a significant difference between gender and responses of the causes of bad breath. Chi square test with p value = 0.005 , (p value is <0.05) (fig 14). Bar graph depicting the association between gender and brushing techniques. Majority of the females (65.84%) were aware of vertical horizontal circular brushing techniques . There is a significant difference between gender and responses of the brushing technique . Chi square test with p value = 0.009 (p value is <0.05) (fig 15).

Our study shows that the general population was more aware about oral hygiene maintenance than the study conducted by ((Sreenivasan, Prasad and Javali, 2016)) . attempts to promote oral hygiene maintenance in the

general population shows a positive attitude towards oral hygiene ((Carneiro *et al.*, 2011)). In our study 60% of people brush daily whereas compared to other study shows less than 27% only brush twice in a day ((Chakraborty *et al.*, 2017)). 58% of people using dental floss were only 2.5% people using a study conducted by ((Chakraborty *et al.*, 2017)) . Our study 92% people agreed that oral health affects general health, where in the study of (Jain *et al.*, 2012). Only 60% of our study 90% of people were aware about brushing technique, while in others study only 74% people were not aware about brushing technique , in our study 63% people preferred to use soft toothbrush where in other study only 35% people used soft toothbrush ((Zhu *et al.*, 2005)). In our study 93% people used toothpaste where in the other study only 69.25% people used toothpaste .

In our study 65% people change their toothbrush 1-3 months , whereas in others only 60% only change after the brush becomes useless ((‘A Study to Assess Hand Hygiene Knowledge and Practices among Health Care Workers in a Teaching Hospital in Ghana’, 2016)). In our study 68% people use sticks and 26% people use interproximal brushes where in other studies 5.5% people used toothpicks , in our study 67% of people used mouthwash ((Jamjoom, 2001)). In our study 89% people clean their tongue , whereas in other studies only 67% and 52% people clean their tongue ((Bezgodov, 2017)). Our study is better than the study of Farhan Durrani where in our study 36% people visit dentists once in a year , whereas in other studies only 31% people visit dentists once in a year . They exhibit more positive dental health knowledge in better oral health maintenance brushing technique, using dental floss , regular dental , Visiting dentist , importance of fluoride , mouth wash ((Vandana, Mahajan and Savitha, 2015)). They were aware about oral health that affects general health that also prevent oral disease and proper dietary practices ((Oberoi *et al.*, 2014)).

This is necessary for promoting oral health maintenance and to prevent further severe oral health complications like periodontal infections and systemic disease, demonstrating brushing technique and aids , this importance in oral oral health ((Andhare *et al.*, 2017)). systemic impacts of periodontal treatments and plaque control methods ADA recommended brushing and flowing performed once in a day , regular dental visits, preventive practice and demonstrating controlled clinical settings ((‘Wake up to prevention for the smile of a lifetime’, 1988)). Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Mathew *et al.*, 2020)

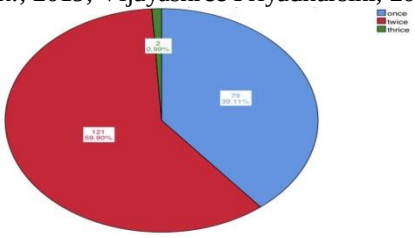

Fig.1: The pie chart shows the responses on the number of times of brushing in a day. 59.90% (red colour) of people brush twice in a day , 0.99% (green colour) brush thrice , 39.11 % (blue colour) people brush once .

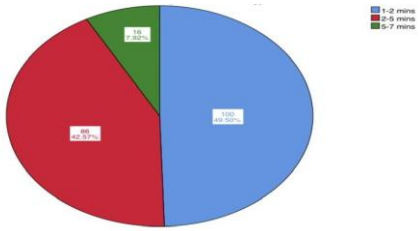

Fig.2: The pie chart shows the number of responses on time periods of brushing, 42.57% (red colour) 2-5mins, 7.92% (green colour) 5-7 mins is the period of brushing their teeth , 49.50% (blue colour) brushing for 1-2mins .

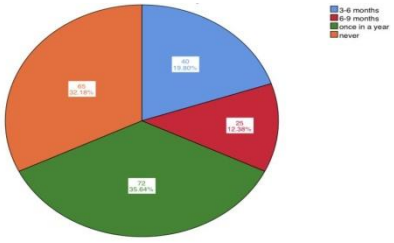

Fig.3: The pie chart shows the number of responses on visiting the dentist, 35.64% (green colour) of people visited the dentist once in a year, 32.18% of (orange colour) people never visited the

dentist, 19.80% (blue colour) of people visited the dentist once in 3-6 months, 12.38% (red colour) of people visited the dentist once in 6-9 months

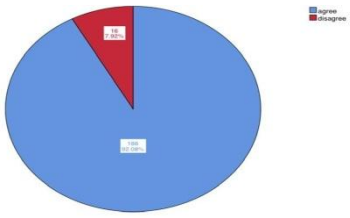

Fig.4: The pie chart shows the number of responses on improper oral hygiene affects general health, 92.08% (blue colour) of people agree that improper oral hygiene affects general health , 7.92% (red colour) disagreed.

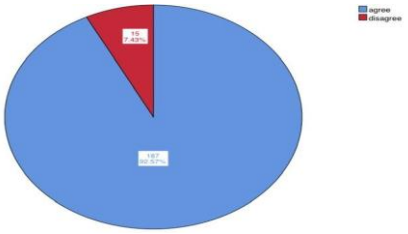

Fig.5: The pie chart shows the number of responses on the importance of visiting dentists. 92.57% (blue colour) of people agreed visiting a dentist is important, 7.43% (red colour) disagreed .

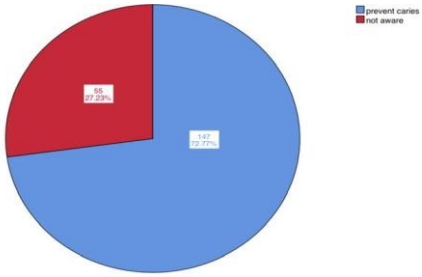

Fig.6: The pie chart shows the number of responses on importance of fluoride. 72.77% (blue colour) people know the importance of fluoride in dental health that prevent caries, 27.23% (red colour) of people are not aware of fluoride .

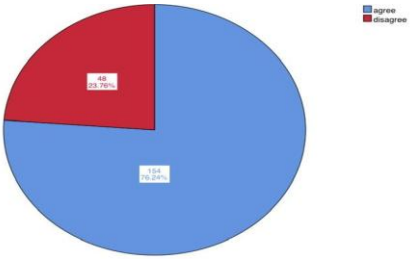

Fig.7: The pie chart shows the number of responses on poor brushing is the cause for bad breath . 76.24% (blue colour) of people think poor brushing is the only cause of bad breath , 23.76% (red colour) People disagree.

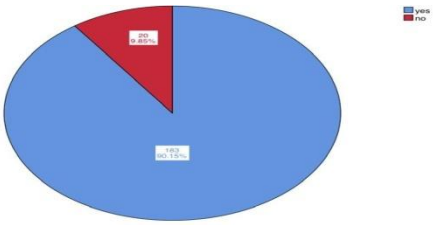

Fig.8: The pie chart shows the number of responses on brushing technique 90.15% (blue colour) people are aware of vertical , horizontal , circular brushing technique, 9.85% (red colour) are not aware.

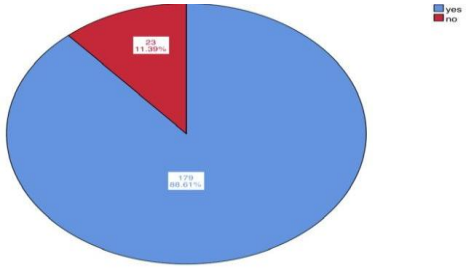

Fig.9: The pie chart shows the number of responses on cleaning their tongue: 88.61% (blue colour) people clean their tongue while brushing , 11.39 % (red colour) won't clean their tongue

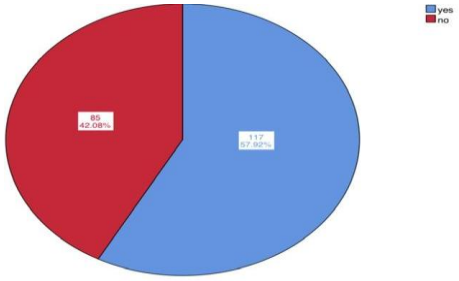

Fig.10: The pie chart shows the number of responses on using dental floss: 57.92% (blue colour) people use dental floss , 42.08% (red colour) people won't use dental floss .

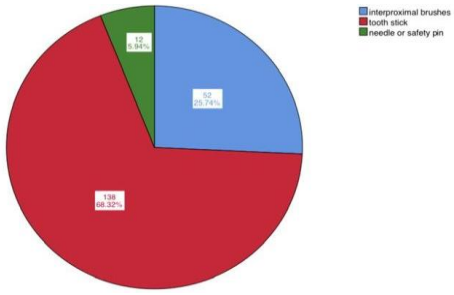

Fig.11: The pie chart shows the number of responses on removing the food particles stuck in teeth, 68.32% (red colour) people remove the food particles that are stuck in the teeth by using toothpicks, 25.74% (blue colour) people use interproximal brushes, 5.94% (green colour) use needles or safety pins .

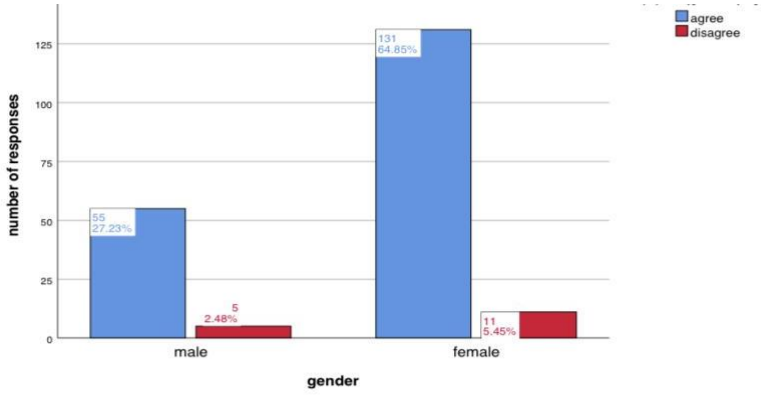

Fig.12: Bar graph depicting the association between gender and the awareness about improper oral hygiene that affects general health . X - axis shows gender and Y - axis shows no.of responses. Blue colour denotes agree, red colour denotes disagree. Majority of females (64.85%) are aware that improper oral hygiene affects general health. The chi square test was carried out to find the association between variables. chi-square test with p value = 0.888 (p value is > 0.05 which is statistically not significant) .

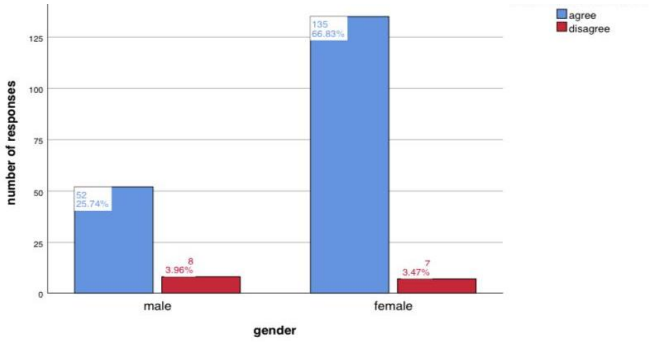

Fig.13: Bar graph depicting the association between gender and awareness on the importance of visiting dentists X - axis shows gender and Y - axis shows no.of responses. Blue colour denotes agreed and red denotes disagree. Majority of females (66.83%) know the importance of visiting dentists . There is a significant difference between gender and responses of the importance of visiting dentists. The chi-square test was carried out to find the association between the variables. Chi square test with p value = 0.037 , (p value is <0.05 which is statistically significant) .

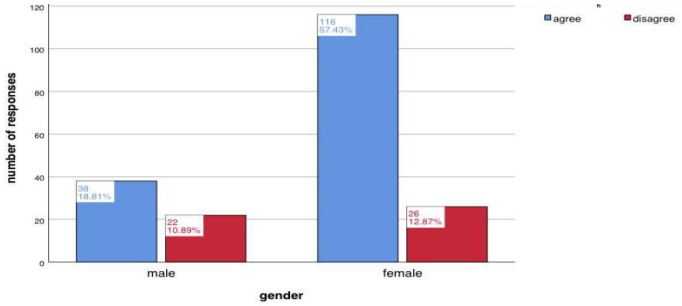

Fig.14: Bar graph depicting the association between gender and causes of bad breath. X - axis shows gender and Y - axis shows no.of responses. Blue denotes agree and red denotes disagree. Majority of females (57.43%) know that poor brushing technique is the cause for bad breath. There is a significant difference between gender and responses of the causes of bad breath. The chi-square test was carried out to find the association between the variables. Chi square test with p value = 0.005 , (p <0.05) which is statistically significant.

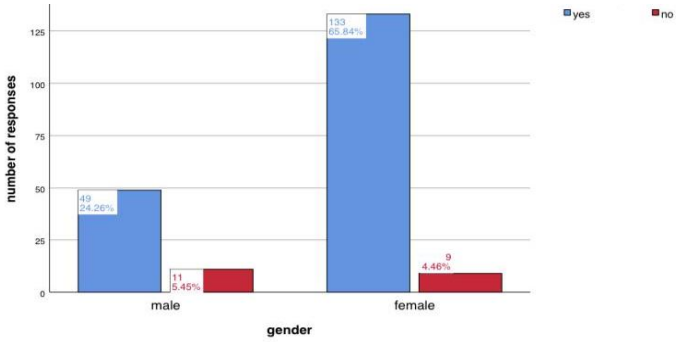

Fig.15: Bar graph depicting the association between gender and brushing techniques. X - axis shows gender and Y - axis no.of responses. Blue denotes (yes) aware and red colour denotes (no) not aware. Majority of the females (65.84%) were aware of vertical, horizontal and circular brushing techniques. There is a significant difference between gender and responses of the brushing technique. The chi-square test was carried out to find the association between the variables. Chi square test with p value = 0.009 (p<0.05) which is statistically significant .

CONCLUSION

This study concluded that the majority of the study population had good knowledge and awareness about oral hygiene maintenance. The oral health knowledge and awareness level are influenced by sociodemographic factors such as gender, ethnicity, economic status and interest of an individual towards oral health plays an important role. Many of the participants visit the dentists regularly and are aware that improper oral hygiene affects general health.

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