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Knowledge and Awareness on Oral Hygiene and Its Relation with Chronic Disease Among Chennai Population.

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ABSTRACT

Oral cleanliness is the act of keeping one's mouth spotless and liberated from infection and different issues (for example awful breath) by standard brushing of the teeth (dental cleanliness) and cleaning between the teeth. It was significant that oral cleanliness has been done all the time to empower avoidance of dental illness and terrible breath. Oral health had consistently stayed a disregarded substance. The sampling method was convenience sampling. The dependent variables were knowledge, attitude and oral hygiene practices. The present study involved a questionnaire-based observational cross-sectional type of study of 100 participants. The questionnaire was distributed among 100 students. Of 100 participants, 51.8% of the participants are female while 48.2% of the participants are male. 50.9% of the participants cleans teeth once a day whereas 43.9% participants cleans teeth twice a day. Oral hygiene is important for overall health. To maintain good oral hygiene, we should clean our mouth properly and regularly. In the present study the awareness on oral hygiene and its relations with chronic disease was assessed, most of the participants are aware of the good oral hygiene.

ARTICLE HISTORY

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KEYWORDS

Chronic diseases, Infections, Oral hygiene.

INTRODUCTION

Oral cleanliness is the act of keeping one's mouth spotless and liberated from infection and different issues (for example awful breath) by standard brushing of the teeth (dental cleanliness) and cleaning between the teeth. It is significant that oral cleanliness be done all the time to empower avoidance of dental illness and terrible breath. Oral health has consistently stayed a disregarded substance. Individuals have disparaged outcomes of awful oral wellbeing, which have prompted more serious issues which later on become hard to treat. Ignorance with respect to our oro-dental wellbeing profoundly relies upon one's instructive level. Preventive oral wellbeing training is in a change stage in India [1]. Delayed location in more youthful individuals may bring about inconvenience later in life. Poor oral cleanliness bringing about dental

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contaminations have been built up as a significant hazard factor for ceaseless infections [2]. Absence of legitimate oral cleanliness prompts various wellbeing complications [3]. Good oral cleanliness is imperative to keep tartar from building up. Poor oral and dental wellbeing has likewise been connected to heart and lung maladies [4]. Great oral cavity with no oral illness not just causes an individual look and to feel good, it is similarly pertinent in keeping up oral capacities [5]. These chronic diseases can influence an individual's nature of life, especially the capacity to eat, speak, taste, swallow and it can likewise cause torment [6]. The WHO reports advancement of oral wellbeing to be a remunerating strategy for diminishing the occurrence and predominance of oral maladies [7] . The most widely recognised oral diseases, dental caries and periodontal illness are viewed as conduct maladies on the grounds that keeping up a decent oral wellbeing relies on people conduct and practices [8]. Dominant part of the Indians are unconscious of the way that great oral wellbeing not just guarantees opportunity from torment and enduring related with oral medical issues, yet it is likewise basic for the general wellbeing improvement and rise of confidence, personal satisfaction , execution at work [9].

Previous study concluded that oral hygiene was interminable maladies which influence a frequency of oral squamous cell carcinoma including periodontitis and diabetes effectively. Further study concluded that periodontitis and diabetes can be figured out as they are related with oral hygiene in our day to day schedule. Previous study concluded that oral hygiene has greater follow up with pre dialysis stage. Lower salivary-stream rate had higher number of medications than that stage. Previously our team had conducted numerous clinical trials and in vitro studies [10–29] over the past 5 years. Now we are focusing on the epidemiological surveys

In the present study, knowledge and awareness on oral hygiene and its relation with chronic disease was assessed. This present study also helped to create awareness among the participants.

MATERIALS AND METHODS

Study design

A cross sectional study was conducted among 100 Chennai residents. The study was conducted from March to April 2020.

Study subjects

A convenience sampling was used to select the study participants. The survey was done to analyse the knowledge of oral hygiene among the Chennai population.

Eligibility criteria

Inclusion criteria: General public residing in chennai, who were accessible and who were willing to participate were included.

Exclusion criteria: Public who did not respond even after three reminders were excluded. Survey forms with incomplete entry were excluded from analysis.

Ethical considerations

Returning the filled questionnaire was considered as implicit consent with no need for signing a written consent. Ethical approval for the study was obtained from the Institutional Review Board (IRB)

Study method

Self-administered questionnaire consisting of 10 close ended questions on the use of toothbrush and its usage and regularity of cleansing habits and awareness on risk factors of cardiovascular disease caused by poor oral health was prepared and it was distributed among the Chennai population through online survey forms “GOOGLE FORMS”. The collected data were checked regularly for clarity, competence, consistency, accuracy and validity. Demographic details were also included in the questionnaire.

Data quality assurance

The collected data were checked regularly for clarity, competence, consistency, accuracy and validity. The necessary corrections were made on questionnaires that need correction accordingly and invalid questionnaires were removed before the actual data collection.

Statistical analysis

The data was analysed with SPSS version (22.0). Descriptive statistics as number and percent were calculated to summarise qualitative data. Chi square test was used to analyze and compare the level of knowledge on Oral hygiene and its relation with chronic disease among the Chennai population. The confidence level was 95% and of statistical significance $P < 0.05$. Finally, the result was presented by using bar charts and frequency tables.

RESULTS AND DISCUSSION

The questionnaire was distributed among 100 students. Of 100 participants, 52.8% of the participants were under the age group of 15-18 years, 26.3% of the participants were under 19-23 years, 21.9% of the participants were above 23 years (figure:1). 51.8% of the participants were female while 48.2% of the participants were male (figure:2). 50.9% of the participants cleans teeth once a day whereas 43.9% of the participants cleans teeth twice a day (figure:3). 71.9% of the

participants use mouthwash clean mouth while 28.1% of the participants don't use mouthwash (figure:4). 42.1% of the participants change brush every month whereas 53.5% of the participants change brush every 3 months (figure:5). 71.1% of the participants cleans tongue whereas 28.9% of the participants doesn't clean tongue (figure:6). 87.7% of the participants were aware of smoking risk that leads to chronic disease (figure:7). 87.7% of the participants were aware that oral hygiene leads to chronic disease (figure:8). 34.2% of the participants visit dentist for pain whereas 23.7% of the participants visit dentist for regular checkup while 15.8% of the participants visit dentist for specific treatment (RTC etc) whereas 23.6% of the participants never visited dentist (figure:9). 90.4% of the participants were aware that poor oral health leads to cardiovascular disease (figure:10).

In the present study, 43.9% of the participants cleans the teeth twice a day and 50.9% of the participants cleans the teeth once a day which was similar to the study Khalaf F Al-Shammari who concluded that 62% of the participants brush twice a day [30]. Nikita Jain et al concluded that 23% of the participants cleans the teeth twice a day (Nikita Jain et al, 2013). Lisa Bøge Christensen concluded that 32% of the participants brush only once a day [31]. In the present study, 71.9% of the participants used mouthwash to clean their mouth which was similar to Murali Srinivasan who concluded that 75% of the participants use mouthwash to clean [32]. Claudius gmur concluded that 67% of the participants use mouthwash to clean their mouth [33]. Hadi Ghasemi concluded that 38% of the participants use mouthwash which was an opposing study [34]. In the present study, 87.7% of the participants were aware that smoking was at risk of chronic disease which was similar to the study Chandrasekar who concluded that 61.8% of the participants were aware that smoking is at risk of chronic disease [35]. In the present study, 90.4% of the participants were aware that poor oral health can lead to cardiovascular disease. Titus Ayodeje oyedele concluded that 17.1% of the participants were aware of poor oral hygiene which was an opposing finding. Adeyemi Oluniyi Olusile concluded that 27.4% of the participants were aware of poor oral hygiene which was an opposing finding [36]. In the present study 23.6% of the participants have never visited a dentist and 15.8% of the participants visit dentist for specific treatment (RTC etc) which to the study C A Akinyamoju concluded that 22.8% of the participants never visited dentist [37]. S jäger concluded that 45% of the participants visit for restorative treatment [38]. Adeyemi Oluniyi Olusile concluded that 54.9% of the participants visit dental clinics for specific treatment [39]. In the present study, 71.1% of the participants cleans tongue which was similar to the study Shinpei Matsuda concluded that 51.4% of the participants clean tongue. Shinpei Matsuda concluded that 18.4% of the participants clean tongue [40]. In the present study, the population was small. And also studies were disturbed among the general population. Sample size was very low (100). Data were collected from 100 respondents. In future, the study should have a high sample size distributed to different types of population.

The present research interest was gained from previous studies, where the investigators involved in research studies based on clinical reports, interventional studies [41–45], in vitro studies [46–49], and systemic reviews [50–55].

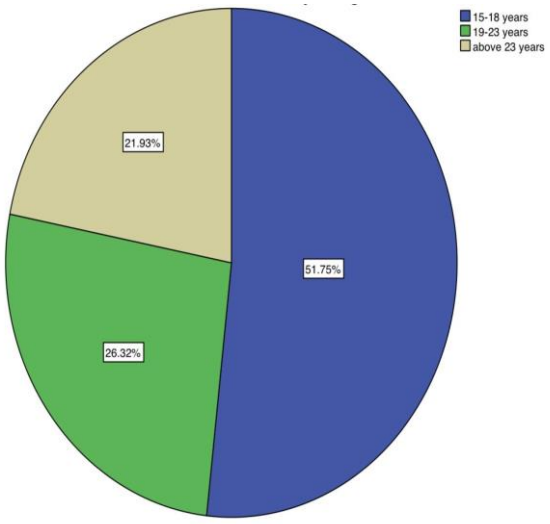

Figure 1: Pie chart depicted the percentage distribution on age of the participants. Responses were more from the age group 15 - 18 years followed by 19 - 23 years and above 23 years. 51.8% of the participants belonged to the 15-18 age group, 26.3% of the participants belonged to the 19-23 age group and 21.9% of the participants belonged to the above 23 years age group.

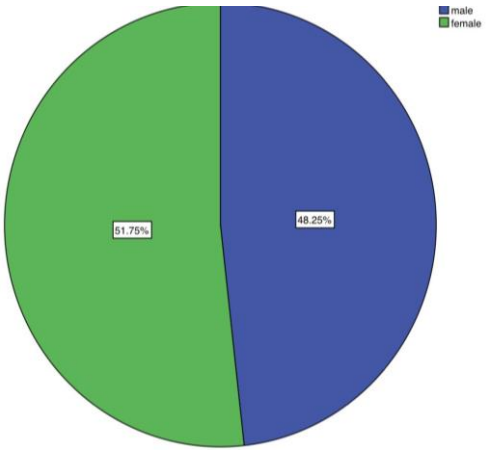

Figure 2: Pie chart depicted the percentage distribution on the gender of the participants. 48.2% of the participants were males while 51.8% were females.

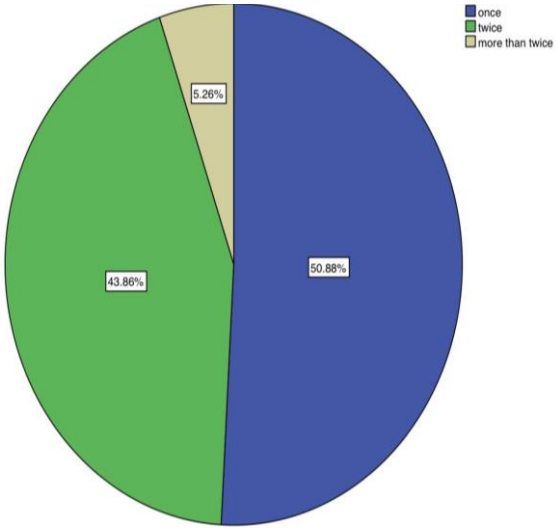

Figure 3: Pie chart depicted the percentage distribution on frequency of brushing responses were more for once a day. 50.9% of the participants brush once a day whereas 43.9% brush twice a day.

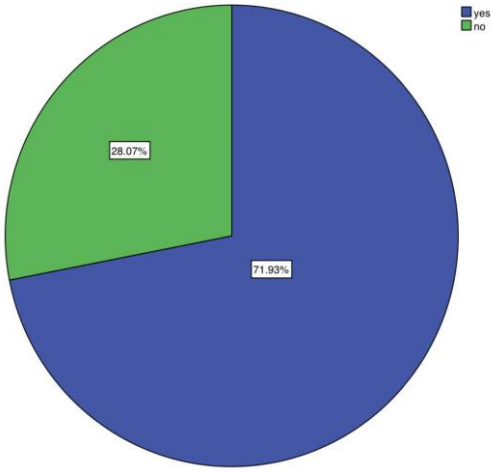

Figure 4: Pie chart depicted the percentage distribution on the regular usage of mouthwash. About (71.9%) of the participants responded yes with the regular use of mouthwash, about (28.07%) participants did not have the habit of using mouthwash.

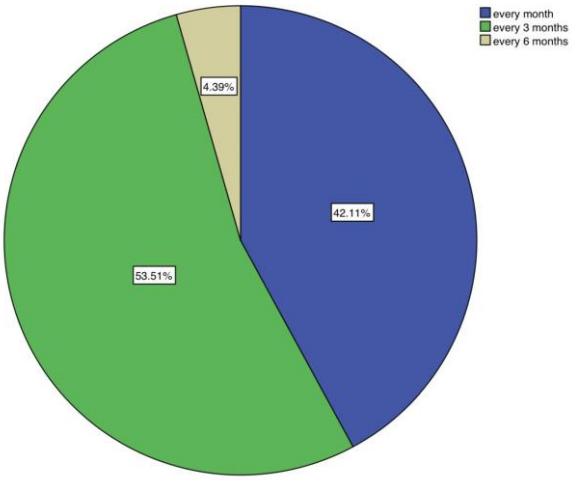

Figure 5: Pie chart depicted the percentage distribution on frequency of changing the toothbrush- The responses were more for every 3 months followed by every month. About 42.1% of the participants changed brush every month and 53.5% of the participants changed brush every 3 months.

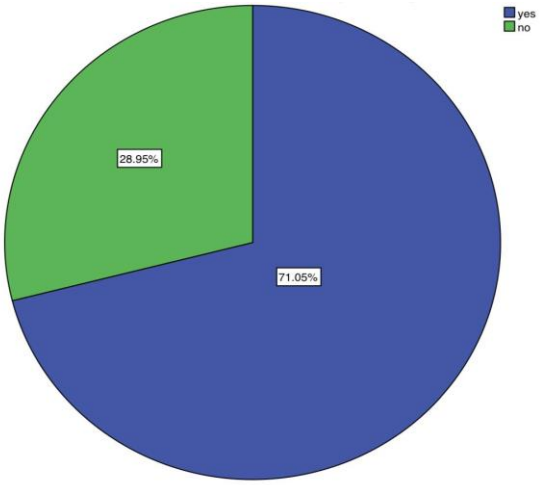

Figure 6: Pie chart depicted the percentage distribution of regular tongue cleaning habits of the participants. 71.5% of the participants responded "Yes" and had the habit of cleaning the tongue and 28.85% of the participants responded "No"

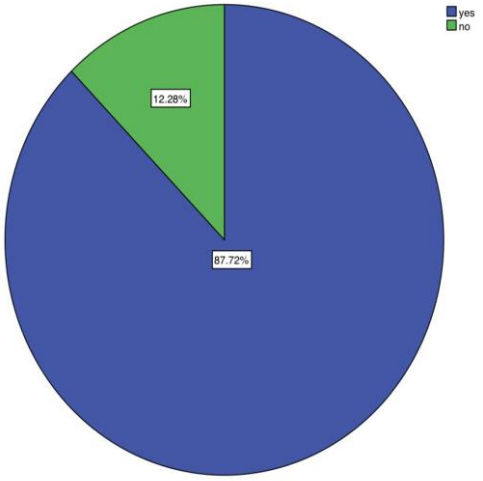

Figure 7: Pie chart depicted the percentage distribution on the awareness about ill effects of smoking. About 87.7% of the participants responded "Yes" about the ill effects of smoking and 12.28% of the participants responded as "No " and were not aware of the ill effects of smoking.

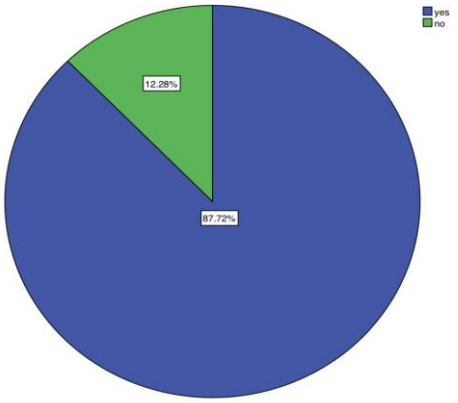

Figure 8: Pie chart depicted the percentage distribution of the awareness on poor oral hygiene and its effects on overall health. About 87.7% of the participants responded saying "Yes" and 12.28% of the participants responded saying "No" about the awareness of poor oral hygiene and its effects on overall health.

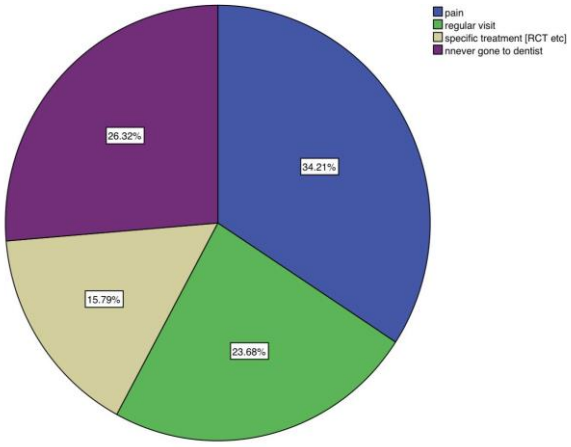

Figure 9: Pie chart depicted the percentage distribution on reasons for visiting a dentist- responses were more for the reason of pain. 34.2% of the participants visited dentist for pain, 23.7% of the participants visited dentist for regular checkup, 15.79% of the participants visited for specific treatment like RCT, and 26.32% had never gone to a dentist.

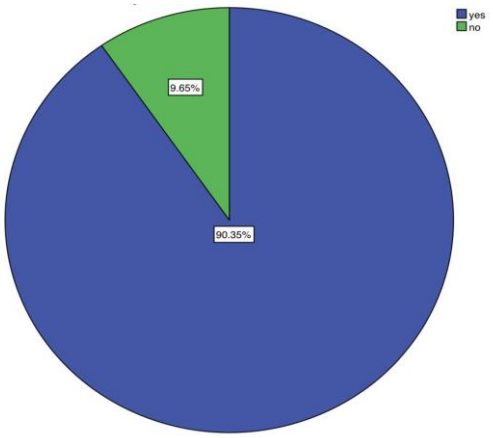

Figure 10: Pie chart depicted the percentage distribution of knowledge of poor oral health increases risk of cardiovascular diseases. About 90.4% of the participants responded saying"Yes" were aware that poor oral health increases the risk of cardiovascular diseases and 9.65% responded as "No" and were not aware that oral health increases the risk of cardiovascular diseases

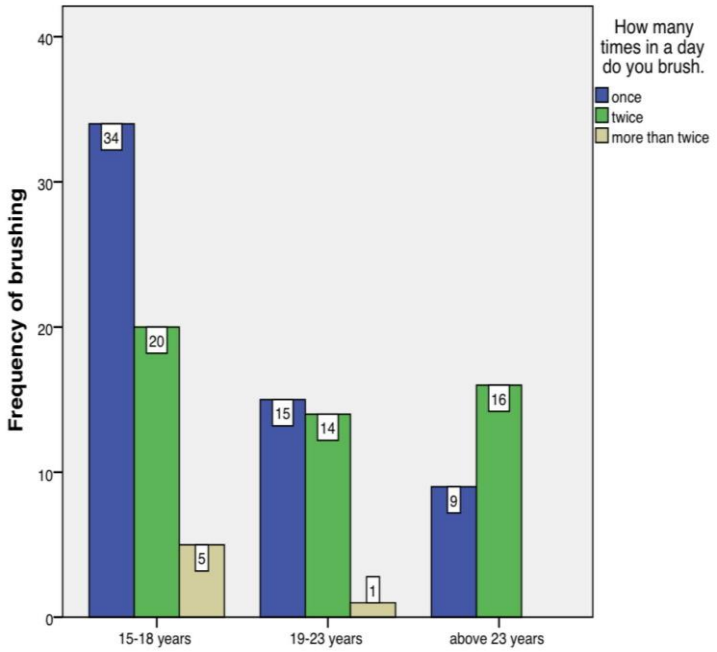

Figure 11: Bar graph depicted the association of age group and habit of brushing the teeth. X axis represents the age group and Y axis represents the frequency of brushing. Blue colour denotes 'yes' and green colour denotes 'no'. Out of 50.9% of the participants who responded once a day, 29.82% were 15-18 years of age group, 13.71% were 19-23 years of age group and 7.89% were above 23 years age group. Majority of the participants within the age group of 15-18 years had a better habit of brushing than other age groups. The association was done by Chi square test. (Pearson chi square value = 8.005; df = 4; p value = 0.09 (<0.05) hence, statistically not significant).

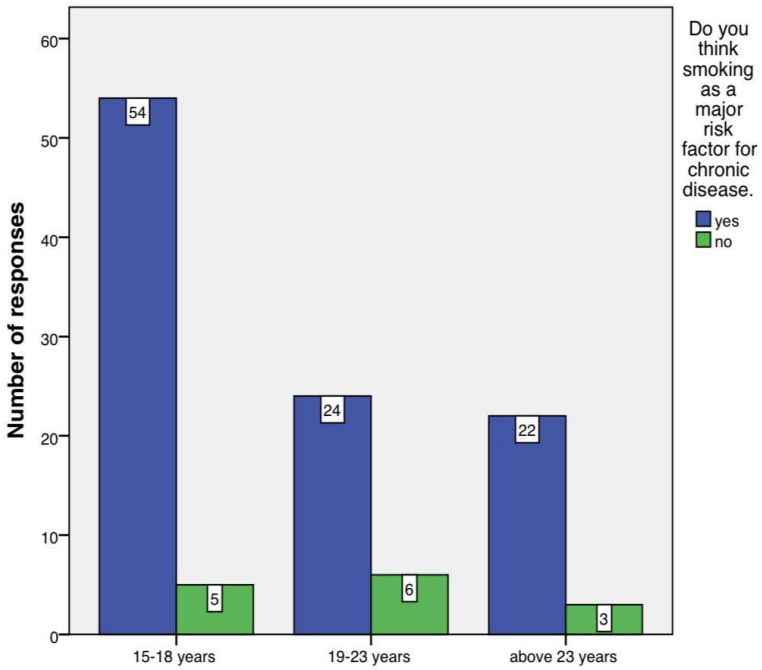

Figure 12: Bar graph depicted the association between age group and knowledge on smoking as a risk factor for chronic disease. X axis represents the age group and Y axis represents the number of responses. Blue colour denotes 'yes' and green colour denotes 'no' for the knowledge on the risk factor for chronic disease. Out of 87.7%, 47.37% were 15-18 years of age group, 21.05% were 19-25 years of age group, 19.30% were above 23 years of age group. Majority of the participants within the age group of 15-18 years had more knowledge about the risk factors of smoking than other age groups. The association was done by Chi square test. (Pearson chi square value - 2.455 ; df= 2 : p value = 0.293 (<0.05) - hence, statistically not significant).

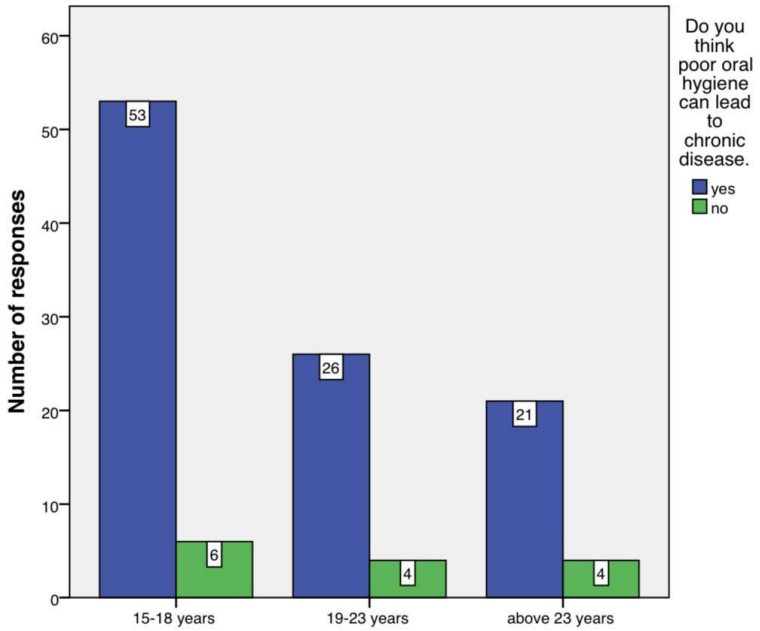

Figure 13: Bar graph depicted the association between age group and knowledge on poor oral hygiene and its effects on overall health. X axis represents the age group and Y axis represents the number of responses. Blue colour denotes 'yes' and green colour denotes 'no'. Out of 87.7%, 46.49% were 15-18 years of age group, 22.81% were 19-25 years of age group, 18.42% were above 23 years of age group. Majority of the participants within the age group of 15-18 years had good knowledge about the poor oral hygiene and its effects on overall health than other age groups. The association was done using Chi square test. (Pearson chi square value - 0.596; df = 2 ; p value = 0.742 (<0.05) hence, statistically not significant).

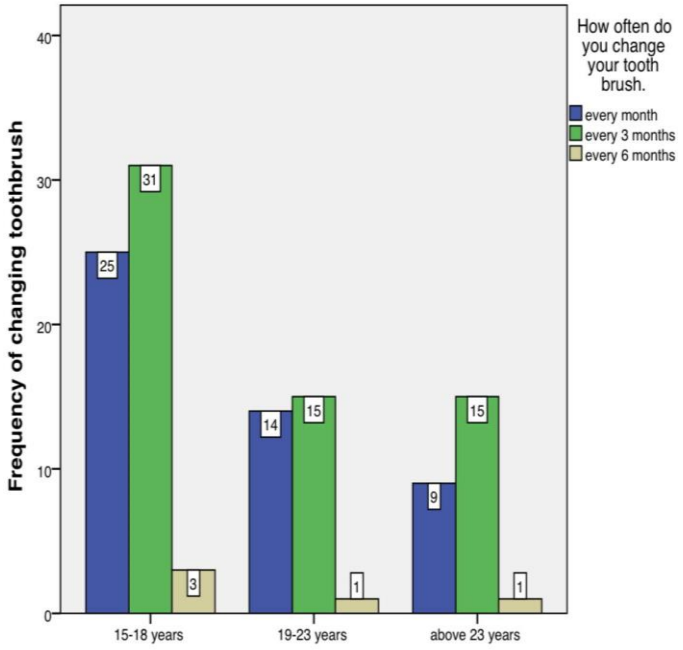

Figure 14: Bar graph depicted the association between age group and knowledge on changing toothbrush. X axis represents the age group and Y axis represents the number of participants. Blue colour denotes 'every month', green colour denotes 'every 3 months' and brown colour denotes 'every 6 months'. Out of 42.1%, 21.93% were 15-18 years of age group, 12.28% were 19-25 years of age group, 7.89% were above 23 years of age group. Majority of the participants within the age group of 15-18 years had better knowledge about changing toothbrushes than other age groups. The association was done using Chi square test. (Pearson chi square value - 0.797; df = 4; p value = 0.939 (<0.05) hence statistically not significant).

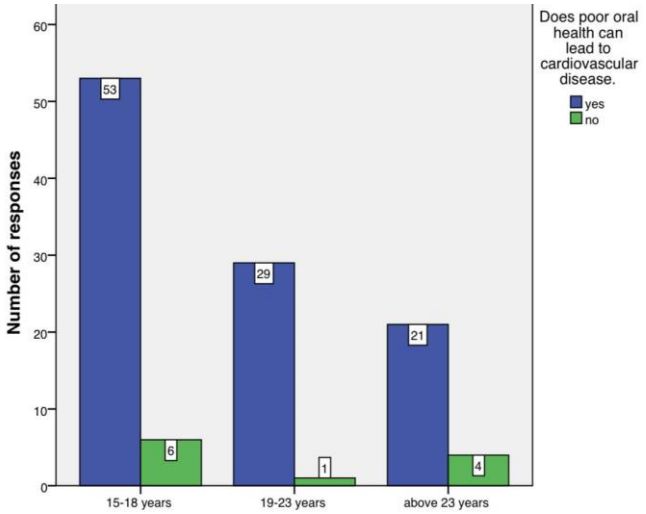

Figure 15: Bar graph depicted the association of age group and knowledge on poor oral health can lead to cardiovascular disease. X axis represents the age group and Y axis represents the number of responses. Blue colour denotes 'yes' and green colour denotes 'no. Out of 90.4%, 46.49% were 15-18 years of age group, 25.44% were 19-25 years of age group, 18.42% were above 23 years of age group. Majority of the participants within the age group of 15-18 years have good knowledge on poor oral health which can lead to cardiovascular disease. The association was done using Chi square test. (Pearson chi square value - 2.548; df = ;p value = 0.280 (<0.05) hence, statistically not significant).

CONCLUSION

Within the limitations of this study following conclusions can be drawn, the present study assessed the awareness of oral hygiene and its relations with chronic disease in Chennai residents. The study concludes that the level of awareness and knowledge assessed was acceptable. Majority of participants had good oral hygiene habits and had good knowledge that poor oral health increased the risk of cardiovascular diseases. Thus, Oral hygiene is important for overall health. And to maintain good oral hygiene, one should use good oral care products, as well as being mindful in their daily habits.

AUTHOR CONTRIBUTIONS

Author 1 (Nandita R), carried out the study by collecting data and drafted the manuscript after performing the necessary statistical analysis. Author 2 (Dr. L. Keerthi Sasanka) aided in conception of the topic, has participated in the study design, statistical analysis and has supervised in preparation of the manuscript. Author 3 (Dr. Sridevi) has participated in the study design and has coordinated in developing the manuscript. All the authors have discussed the results among themselves and contributed to the final manuscript.

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CONFLICT OF INTEREST

None declared.

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Self.

ETHICAL CLEARANCE

It is taken from "Saveetha Institute Human Ethical Committee" (Ethical Approval Number-SDC/SIHEC/2020/DIASDATA/0619-0320)

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