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Assessment of knowledge, attitude and practices regarding oral health among adults visiting dental clinic: A multi center questionnaire study

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Abstract--This study aimed to assess the knowledge, attitude and practice of adults reporting to dental clinic in three different cities of Tamilnadu. Study was conducted on adults of age 20-30 years reporting to private dental clinic, willing to participate, in three cities of Madurai, Chennai and Thoothukudi. 900 subjects, 300 in each clinic, filled a self-administrable questionnaire with 15 pretested questions each to assess their knowledge, attitude and practices regarding oral health. Results regarding practice, 73.2% brushed once, 26.5% brushed twice daily. Frequency of dental visits - 7.7% had regular checkups, 18.7% had their first visit and 73.4% visited when they had dental problem. 95.7% subjects used manual brush with toothpaste and 3 % used with toothpowder. Usage of powered toothbrush was very minimal. 17.1% regularly used additional

hygiene aids like flossing, 30.2% used occasionally, 52.6% never used them. Chennai scored better in knowledge, practice and in usage of hygiene aids. Madurai subjects showed marginally better attitude towards oral health. Thoothukudi subjects lagged behind in all three variables. Females scored better than males in knowledge and practices. Positive Pearson's correlation was found between all three variables. There was statistically significant difference in knowledge, attitude and practice in different cities.

Keywords---oral health, dental hygiene, health attitudes, questionnaire

Introduction

Oral health is the integral part of general health care. As the world keeps moving towards consumption of ultra refined food and increasing sweetened beverage usage, dental caries and oral diseases has become very common¹. According to Global Burden of Oral Disease², 3.5 billion people are affected by the burden of untreated dental caries, severe periodontitis, and edentulism. As healthy oral structures are very important for varied functions like chewing, speech and facial esthetics, any oral disease can severely impact the general well being by compromising everything from nutrition, communication to social interaction. Most of these dental problems like dental caries, gingivitis can be easily prevented by proper oral hygiene practice³ thus, proper knowledge and practice of oral hygiene is of paramount importance. This study aimed to assess the knowledge, attitude and practice of adults reporting to dental clinic in three different cities of Tamilnadu.

Method

This study was conducted on adults reporting to private dental clinic in three cities of Tamilnadu – Madurai, Chennai and Thoothukudi, for a period of one year from June 2021 to June 2022. People who were between 20 to 30 years of age, willing to participate in the study without any severe illness, were included in the study. A total of 900 subjects equally from three cities took part in this study. All willing subjects were asked to sign the written informed consent form following which were assisted in filling a questionnaire containing basic information like age, gender, education, occupation details and KAP questionnaire for oral health.

A self-administrable structured questionnaire validated by pretested survey was used. The questionnaire included 15 questions to assess the knowledge, attitude and practices regarding oral health in random order. oral health knowledge comprised of 5 questions about usage of tooth brush, sugar intake, gum bleeding, effect of fluoride, tobacco usage. Oral health attitude comprised of 5 questions about dentist visit, oral and general health relation, incipient caries, replacement of missing tooth, root canal treatment. oral health practice comprised of 5 questions about frequency of dental visit, frequency of brushing, mode of brushing, oral hygiene aids, rinse after sugary foods.

Analysis of data

The data were analyzed using Statistical Package for Social Science (SPSS for Windows, ver. 24.0; SPSS Science, Chicago, IL, USA). During analysis of knowledge and attitude, every correct answer was given score "1" and wrong or not sure answer were given score "0". The difference in the oral health knowledge, attitude among subjects of different cities were assessed by ANOVA test. The gender difference was analyzed using student T test. Pearson's correlation was applied to evaluate the relation of oral health knowledge, attitude and practices.

Results

A total of 900 subjects were included in the study with 300 in each city, of which 587 females and 313 males. Regarding oral health practice (Table. 1), 73.2% of subjects brush once a day, 26.5% brushed twice a day. The subjects brushing twice a day is more in Chennai (36.3%) than other cities. Similarly more females (33.7%) brushed twice than males (13%). When it comes to visiting dentist, only 7.7% had regular checkups every year, for 18.7% it was their first dental visit and 73.4% visited only when they had dental problem. No significant difference was found between cities or gender. 95.7% of the subjects were using manual brush with tooth paste, 3 % of subjects used manual brush with tooth powder and only 1% used powered tooth brush with Chennai contributing 7 out of 9 people who used them. Only one person reported using either finger or neem stick to brush their teeth.

When it comes to other oral hygiene aids, only 17.1% regularly used it, 30.2% used occasionally and 52.6% never used them. Here also, more Chennai subjects (24%) were found to be regularly using these aids than other cities, no difference was found between genders. Awareness about rinsing the mouth after sugar was found to be less regardless of city or gender with only 10.4% doing it regularly, 26.7% occasionally and 63.9% never do it. When knowledge about the oral health was compared (Table.2), Chennai subject demonstrated higher mean score of 4.12, Madurai stood second with a mean score of 3.78 and Thoothukudi came a distant third of mean value 3.57. This difference was found to be statistically significant as well. Whereas, when attitude towards the oral health was compared Madurai showed better mean value of 3.97 with Chennai scoring 3.83, but this difference is not statistically significant. In attitude also Thoothukudi subjects scored the least mean value of 3.55. The overall mean score obtained for knowledge and attitude are 3.82 and 3.78 respectively. Females in all three cities scored higher mean value of 4.43, 3.94 in knowledge and attitude respectively, compared to male values of 3.21 and 3.63 (Table.3). These differences were found to be statistically significant. The Pearson's correlation coefficient (Table. 4) showed a positive correlation among all three variables. The knowledge and attitude show lesser correlation when compared to other two variables.

Discussion

The questionnaire which was used in this study was derived from an earlier study⁴ which validated 15 questions each in knowledge, attitude and practice domain in assessing its relevance to the oral health status in adults. We selected

5 questions in each category which best represented them, so that it will short and easy to execute by participating subjects. Most studies used variable number of questions in their survey.^{5,7,8} The knowledge about oral health is higher in Chennai which could be attributed to the fact that it is the most developed and progressive City among the three with a literacy rate of 90.18%. Even though Thoothukudi has higher literacy rate than Madurai, in this study Thoothukudi scored the least. This could be attributed to the fact that the Clinic there was catering more people from rural areas than other clinic. This study showed higher mean value of knowledge than other studies, as they used more rural subjects⁵ or younger age group^{6,8,9} for assessment. Overall knowledge score of 3.82 suggest that the society is still lagging in critical knowledge regarding the oral health.

The attitude towards oral health and dental treatment also is not satisfactory with overall score of 3.78. Madurai subjects showed better attitude than other cities. Also the attitudes score had more standard deviation than its knowledge counterparts. This is could related to the fact the personal experiences and understanding plays greater role in attitude than knowledge. Especially attitude towards dental treatment can vary greatly depending on their past experiences and financial capabilities.¹⁰ When we consider the oral health practices, Chennai region consistently scored better in oral hygiene practice, usage of modern equipment like powered tooth brush and using additional hygiene aids like floss and mouthwash. This is in line with studies done in urban areas^{6,7} suggesting better knowledge and accessibility in these areas compared to semi-urban and rural areas. The frequency of usage of traditional brushing habits such as finger and neem stick brushing is very minimal in this study. In this study, the females subjects showed better knowledge and oral health practices than males. This divide was more pronounced in knowledge domain where there they scored amen value of 4.43 when compared to male 3.21. As this study had significantly more female population than males, a study with even gender population may be required to better understand this variable.

The results of oral hygiene practices obtained in this study is almost similar to the other studies⁵⁻⁹, with no improvement, even though they were done at different timelines. There is a need to conduct further studies in this area to understand reasons for not increasing the brushing frequency or non adoption of additional oral hygiene aids like flossing. When we compared the overall correlation between knowledge, attitude and practice it showed positive correlation. This further validates the findings of previous studies where positive correlation was found.⁵⁻⁸ The positive correlation suggests that just increasing the knowledge of a person can bring about positive changes in his attitude and practice towards oral health and hygiene. Overall this study results emphasis the lack in dissemination of knowledge across cities and need to individualize the oral health education to improve the oral health attitude and practice among population. The administration and more so the dental professionals, who meet and treat the individuals, need to create more social activities and campaign to increase the oral health awareness of general population.

Scope for future studies

As this was a cross sectional study, it cannot provide the ascertain the impact of oral health education to people, there is a need to conduct prospective studies to evaluate the change in knowledge and behavior of people over time.

Conclusion

Study subjects from Chennai and females among gender showed better oral health knowledge and practices. Madurai subjects scored better in attitude domain. There is statistically significant difference in knowledge, attitude and practice in different cities. There is minimal usage of modern and additional oral hygiene aids like powered brushes and floss.

References

1. Akbarov, A. N., & Xabilov, D. N. U. (2021). The condition of the oral cavity in patients who have had a viral infection COVID-19. *International Journal of Health & Medical Sciences*, 4(4), 381-383. <https://doi.org/10.21744/ijhms.v4n4.1796>
2. B.A. Dye. The Global Burden of Oral Disease: Research and Public Health Significance. *J Dent Res*. 2017 Apr; 96(4): 361–363.
3. Bala K et al. A KAP study of oral health status among adults in a rural area of Jammu District. *Int J Community Med Public Health*. 2019 Jan;6(1):135-141.
4. Kirti c et al. Knowledge, attitude and practices regarding oral health among orthodontic and non-orthodontic patients in a dental institutE.*Int J Dent Case Reports* 2015; 5(1): 18-24.
5. Mathur VP, Dhillon JK. Dental Caries: A Disease Which Needs Attention. *Indian J Pediatr*. 2018 Mar;85(3):202-206Mathur VP, Dhillon JK. Dental Caries: A Disease Which Needs Attention. *Indian J Pediatr*. 2018 Mar;85(3):202-206.
6. Selvaraj S, Naing NN, Wan-Arfah N, Karobari MI, Marya A, Prasad S. Development and Validation of Oral Health Knowledge, Attitude and Behavior Questionnaire among Indian Adults. *Medicina (Kaunas)*. 2022 Jan 2;58(1):68.
7. Sharda AJ, Shetty S. Relationship of periodontal status and dental caries status with oral health knowledge, attitude and behavior among professional students in India. *Int J Oral Sci*. 2009 Dec;1(4):196-206.
8. Sharmila JMK et al. Knowledge, attitude and practice on oral hygiene among primary school children in an urban area of Kancheepuram district, Tamil Nadu. *Int J Community Med Public Health*. 2020 Jan;7(1):311-316.
9. Singh A. Oral health knowledge, attitude and practice among NCC Navy Cadets and their correlation with oral hygiene in south India. *Oral Health Prev Dent*. 2009;7(4):363-7.
10. Singh P, Bey A, Gupta ND. Dental health attitude in Indian society. *J IntSocPrev Community Dent*. 2013 Jul;3(2):81-4.
11. Valenzuela MJ, Waterhouse B, Aggarwal VR, Bloor K, Doran T. Effect of sugar-sweetened beverages on oral health: a systematic review and meta-analysis. *Eur J Public Health*. 2021 Feb 1;31(1):122-129

12. Widana, I.K., Sumetri, N.W., Sutapa, I.K., Suryasa, W. (2021). Anthropometric measures for better cardiovascular and musculoskeletal health. *Computer Applications in Engineering Education*, 29(3), 550–561. <https://doi.org/10.1002/cae.22202>

Table 1

[illegible]

	you use for cleaning your teeth?												
	Brush with toothpaste	862	95.7	288	96	283	94.3	291	97	300	95.8	562	95.7
	Brush with toothpowder	27	3	5	1.6	13	4.3	9	3	27	2.5	19	3.2
	Powered tooth brush	9	1	7	2.3	2	0.2	0	0	9	0.9	6	1
	Finger.	1	0.1	0	0	1	0.1	0	0	1	0.3	0	0
	Neem Stick	1	0.1	0	0	1	0.1	0	0	1	0.3	0	0

Table 2

	CITY	Mean	SD	F value	P value
Knowledge	Chennai	4.12	0.867	58.43	0.0001
	Madurai	3.78	0.677		
	Thoothukudi	3.57	0.887		
	Overall	3.823	0.810		
Attitude	Chennai	3.83	0.998	46.58	0.0001
	Madurai	3.97	0.763		
	Thoothukudi	3.55	0.852		
	Overall	3.78	0.871		

Table 3

Scores	Knowledge	Attitude	Practice
Knowledge	1	0.236	0.178
Attitude	0.236	1	0.367
Practice	0.178	0.367	1

Table 4

	CITY	Mean	SD	P Value
Knowledge	Female	4.43	0.683	0.001
	Male	3.21	0.894	
Attitude	Female	3.94	0.755	0.001
	Male	3.63	0.965	