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Knowledge, attitude, and practice on brushing habits among transgenders residing in Chennai City: Cross-sectional questionnaire Study

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ABSTRACT

Proper home care brushing practices, regular visits to the dentist and routine dental check-ups will reduce the risk of having gingival and periodontal diseases. Various studies on oral hygiene suggest that when there is good oral health, the chances of having overall body health is more. In contrary, transgenders do not bother about their physical and oral health because of their lower socioeconomic status and inferior quality of life. To evaluate knowledge, attitude and practices on brushing habits among transgenders in Chennai city. The study was designed as a questionnaire survey, in the native languages of respective transgenders, which was answered by 96 transgenders of Chennai city. All the obtained data was entered on Microsoft excel sheet and analysed using Statistical Package for Social Science (SPSS, IBM, USA) version 20. From the statistics, it can be well seen that 80% of the transgender Community brush only once per day. 36.7% of them brush 2 to 3 minutes, 56.7% of them brush according to the times they have. Nearly 83.3% of them never shows regular visit to the dentist and 16.7 % of them at least visit dentist only when they experience oral related problems. 53.3% of the study group never use a tongue scraper. None of them was aware of any sorts of brushing practices like scrub method, roll techniques and smith methods. Also people weren't aware of electronic brushes too. The awareness towards brushing habits and care towards oral hygiene among transgenders is inadequate. Hence more oral health awareness programmes must be initiated to impart comprehensive oral care for transgenders.



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INTRODUCTION

The oral cavity has been described as “the window to general health” (Alpert PT, 2017). According to Seymour, statements such as “You cannot have good general health without good oral health” and “The mouth is part of the body” are now

considered obvious (Seymour GJ, 2007). Control of plaque and debris is considered important in Oral prophylaxis as it is the primary cause of gingivitis, inflammatory periodontal diseases, dental caries and various systemic diseases. It has been suggested that mechanical and chemical plaque control measures are efficacious in the prevention of occurrence of gingivitis and caries through reduction of plaque. The most efficient method in mechanical plaque control is tooth brushing those results in a significant decrease in plaque (E.B. Hancock 1996). The tooth brushing methods most emphasized are horizontal scrub, Fones, Leonard, Stillman, Charters, Bass, rolling stroke (press roll), and Smith-Bell. All of these techniques are applicable to the cleaning of the facial, lingual, and some extent to occlusal surfaces; all are relatively ineffective in cleaning interproximal areas, and only the Bass technique is effective in

cleaning the sulcus (Lea & Febiger 1934; Leonard, H. J. 1939; Carranza, F. A., & Newman, M. G., 1996). Tooth brushing alone will not remove plaque from all surfaces of the tooth as 40% of the surfaces are interdental (Claydon, N 2008). One technique that can be used to access these areas is dental floss. The American Dental Association (ADA) reported that flossing can effectively remove plaque and food debris up to 80% between the teeth and below the gums, only when the proper technique is used (M.P.Santhosh Kumar, 2016; Westeous Dominic Pereira and Dhanraj 2017).

Powered toothbrushes were first introduced in the early 1960s (N.W. Chilton, A. Didio, J.T, 1962) and have become the alternate method to manual tooth brushing. The tongue contains numerous bacteria which causes bad breath. Tongue cleaners are designed to remove the debris built up on the tongue thereby avoiding bad breath (Darby, M., & Walsh, Margaret M. 2010). There are three commonly used kinds of mouthwash: saline, essential oils (Listerine, etc.), and chlorhexidine gluconate (Osunde O, *et al.*, 2014; Haas AN, *et al.*, 2016; Strydonck DA, *et al.*, 2012). Eating a balanced diet and visiting dentist regularly for professional cleanings also reduce the risk of periodontitis. To effectively reduce the occurrence of periodontal diseases associated with poor oral hygiene and neglected brushing habits, practice above-mentioned methods of oral prophylaxis should be followed along with appropriate health education programs (Kwan SY, *et al.*, 2005; Petersen PE, Kwan S, 2004). People of low socioeconomic status experience greater levels of periodontal diseases and poor oral health than those from more wealthy groups (Chandrima C, *et al.*, 2007).

Transgender population is a special population or community who deserve to be focused both on their oral and general health, due to the various discrimination they encounter a lot of stress in their everyday life. They are also called eunuchs, transgender, transsexuals, and transvestites in English and colloquially hijras, alis, kothis, double deckers, panthis and thirunangai in India (Mukhopadhyay A, Chowdhury R 2009; Go VF, 2004). In India, hijras are seen as the "third gender," who is neither male nor female. As quoted by Saxena *et al.*, in their article, eunuchs are physiological males who have a feminine gender identity, adopt feminine gender roles, and wear women's clothing (Saxena E, 2015). As the transgender population is left in the social context as taboo, they are even devoid of their fundamental needs in this society. Amongst those needs, the health care of a transgender person is not given importance may be due to their lack of acceptance in society. The medical education has proven to be

effective in improving the comfort level, and care for any transgender patient. Until recently, there have been no special guidelines, which teach medical practitioners how to provide medical assistance for transgender patients effectively.

Contrasting to other parts of the world, the approach towards a transgender among Indian people is unfair and biased in general. They are considered and treated as the most vulnerable, irritated, and insecure community of the country (Heckathorn DD, 1997). They are also denied general, oral health and psychological assistance (Nanda S. 1999).

In India, the accessibility to medical and dental facilities for the transgender population is nearly non-existent. There is every possible chance that this neglected special group of the population may have heavy stress and indulge in alcoholism, gutkha-pan chewing and other smoking habits. These factors may cause many gingival, periodontal problems and bad breath which can make their lives worse. There are numerous clinical studies demonstrated oral diseases as a result of neglected oral hygiene may cause severe systemic diseases, such as (Li X, *et al.*, 2000).

- cardiovascular disease
- Stroke
- Bacterial pneumonia
- diabetes complications
- osteoporosis

There is a scarcity of published literature regarding the brushing habits of this special group. Thus the aim of the present study was to evaluate the knowledge, attitude and practice on brushing habits among transgender population residing in Chennai city, Tamil Nadu, India.

MATERIALS AND METHODS

The present study was a cross-sectional questionnaire study that was carried out to assess the brushing practices of transgender in Chennai city, Tamil Nadu, Chennai. A total of 96 subjects participated in the study. The survey period extended for 20 days in November 2017. The study involved the completion of a predesigned questionnaire that had questions on brushing practices, diet, oral hygiene practices, personal habits and also dental visits. The study subjects consisted of transgender from three prominent localities of the city where most of the transgender lives. All three localities were visited and identified (Madhya Kailash- Voluntary health services (VHS), East coast road, and Nungambakkam).

Eligibility criteria

Inclusion criteria

- Transgender available at the time of study with no history of any medical illness.
- The age group of 30 to 50.

Exclusion criteria

- Transgender with a history of medication for any systemic illness (medically compromised patients), physically and mentally retarded.

Structure of a questionnaire

The study involved the completion of a predesigned questionnaire containing 2 sections was prepared. Section I includes demographic characteristics like age, occupation, educational level, and socioeconomic status of the participants. Section two had questions on brushing practices, diet, oral hygiene practices, personal habits and also dental visits to assess knowledge, attitude and practice on brushing practices of study subjects. 12 questionnaires, (Table 1) which had been designed based on the primary objective of the study was used. The questionnaire was initially prepared in English, later translated into their regional (Tamil) language.

The participants were asked to put the responses in the questionnaire. Some who don't understand the questions explained in their regional languages. The investigator carefully checked the completed questionnaires.

Statistical analysis

All the obtained data was entered on Microsoft excel sheet and analyzed using Statistical Package for Social Science (SPSS, IBM, USA) version 20.

RESULTS

A set of 17 questions were given to 96 transgenders. The questionnaire had two sections. Section 1 had their details regarding age, socioeconomic status and their occupation. Most of them were low middle-class people, and few were below the poverty line too. Section 2 had questions regarding their dental practices and their awareness of dental problems. Results of the study (Represented in Table: 1 & Figure 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, & 12). From the statistics, it can be well seen that 81% of the transgender Community brush only once per day. (Graph 1).

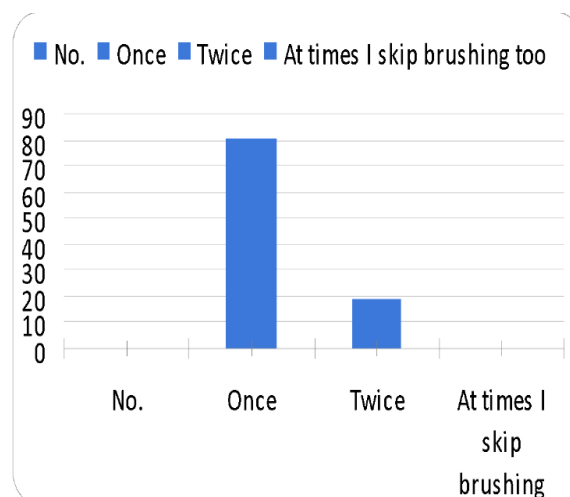


Figure 1: No. of times of brushing

36% of respondents brush their teeth for 2 – 3 minutes, 54% of the respondents are not sure about the time as it varies as per their mood and 10 % of the respondents brush their teeth for just a minute. (Graph 2).

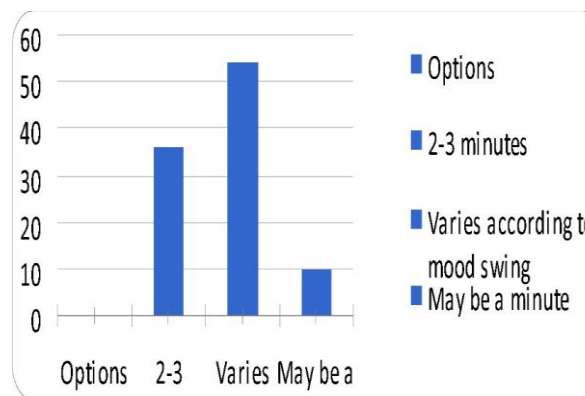


Figure 2: Time is taken to brush teeth

Nearly 83.3% of them never shows regular visit to the dentist and 16.7 % of them at least visit dentist only when they experience oral related problems. (Graph 3).

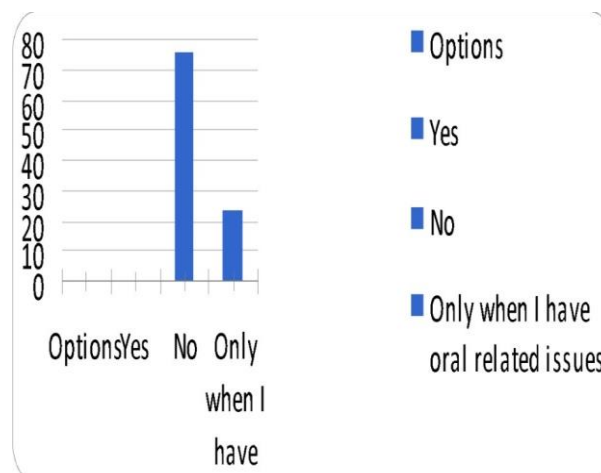


Figure 3: Regular visits to the dentist

53.3% of the study group never use a tongue scraper. (Graph 4).

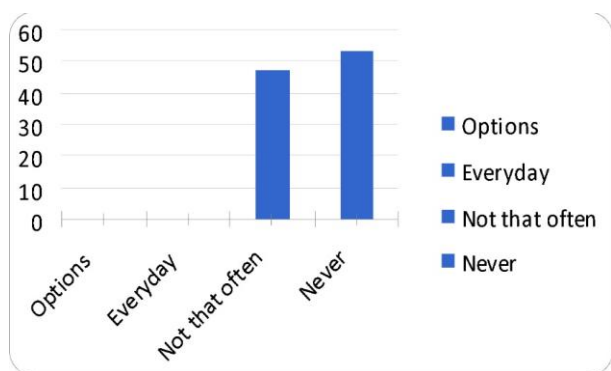


Figure 4: Tongue cleaning

96.7% of the transgender population provides no special attention to clean their back surfaces and the sides of their tooth that are relatively more prone to caries. (Graph 5).

76.7% of the population do not floss at all. (Graph 6).

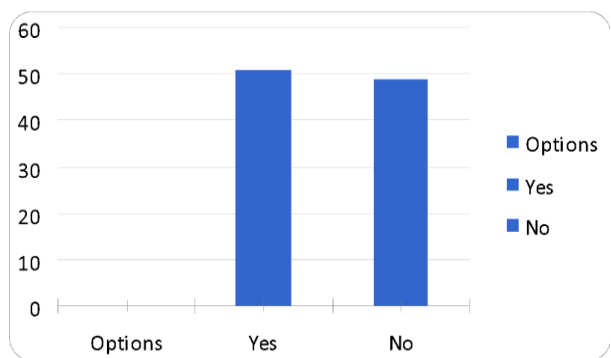


Figure 5: Attention to clean behind the teeth

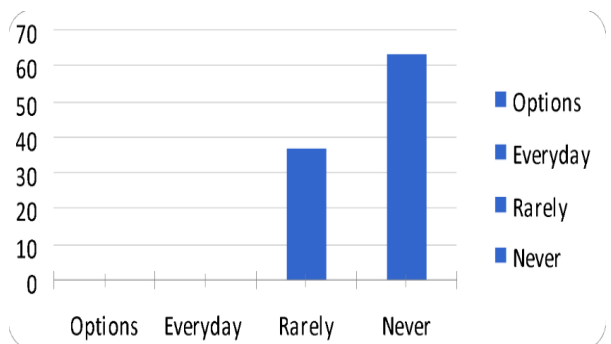


Figure 6: Flossing of teeth

None of them was aware of any sorts of brushing practices like scrub method, roll techniques and smith methods. (Graph 7).

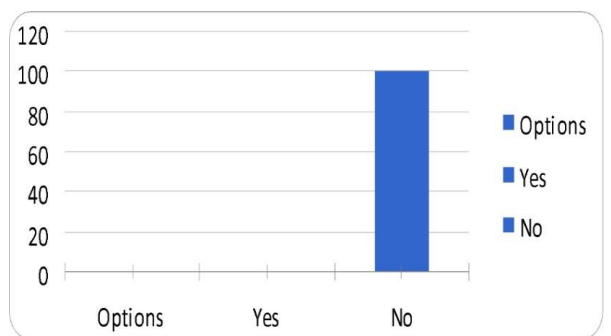


Figure 7: Awareness of tooth brushing techniques

Also people weren't aware of electronic brushes too. (Graph 8).

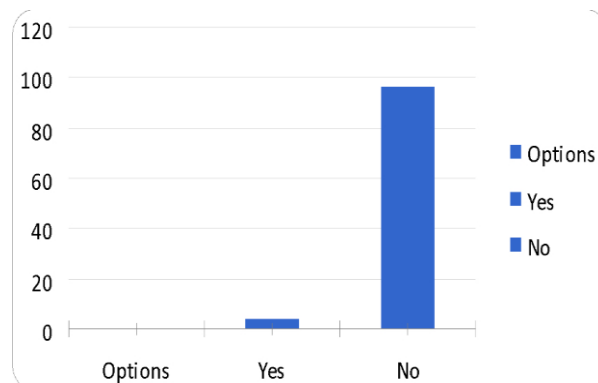


Figure 8: Awareness of electronic toothbrushes

72% of the respondents rinse their mouth after a meal or snack whereas 28% of the respondents do not rinse their mouth after any intake. (Graph 9).

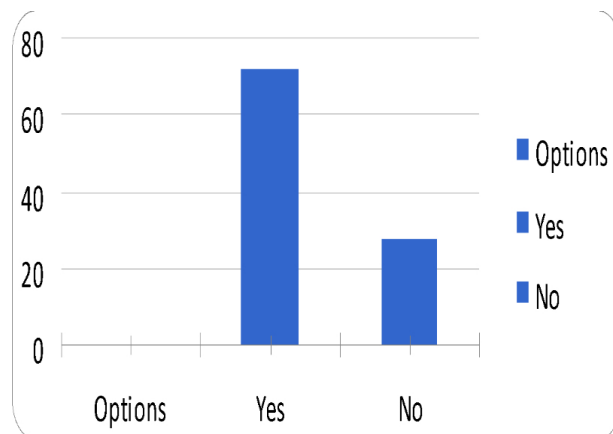


Figure 9: Awareness of rinsing mouth

44% of respondents use the same toothbrush for 2 – 3 months, 39% of the respondents use the same toothbrush and would change based on the weary nature of the bristles and 17% of the respondents use the same brush only for a month. (Graph 10).

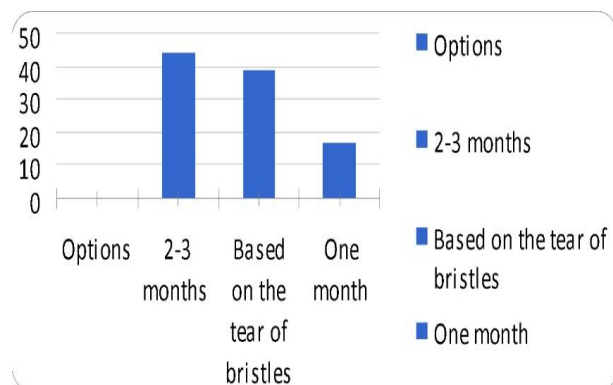


Figure 10: Duration of using the same brush after meal or snack

42% of respondents use mouthwash after brushing while 58% of the respondents do not use mouthwash after brushing. (Graph 11).

Table 1: Questionnaire

S.No.	Questions	Options	Responses in percentage
1	How many times do you brush your teeth?	a) once b) Twice c) At times I skip brushing	81% 19% 0
2	How long do you brush?	a) 2-3 minutes b) Vary according to my mood swing c) Maybe a minute	36% 54% 10%
3	Do you show regular visits to the dentist?	a) yes b) No c) Only when I have oral related problems	0 76% 24%
4	Do you clean your tongue using tongue scraper regularly?	a) everyday b) Not that often but rarely c) Never use at all	0 47% 53%
5	Do you provide any sorts of attention to clean the back surfaces of your tooth?	a) yes b) No	51% 49%
6	How regularly do you floss?	a) everyday b) Rarely c) Never	0 37% 63%
7	Are you aware of tooth brushing techniques like scrub brush method, Roll technique, Smith method etc.?	a) yes b) No	0 100%
8	Are you aware of electronic toothbrushes?	a) yes b) No	4% 96%
9	Do you have a habit of rinsing your mouth after a meal?	a) yes b) No	72% 28%
10	How long would you use the same toothbrush?	a) 2-3 months b) Based on the wear of the bristles c) May be a month only	44% 39% 17%
11	Do you use mouthwashes even after brushing?	a) yes b) No	42% 58%
12	Are aware that smoking or tobacco products are one of the causes of bad breath?	a) yes b) No	48% 52%

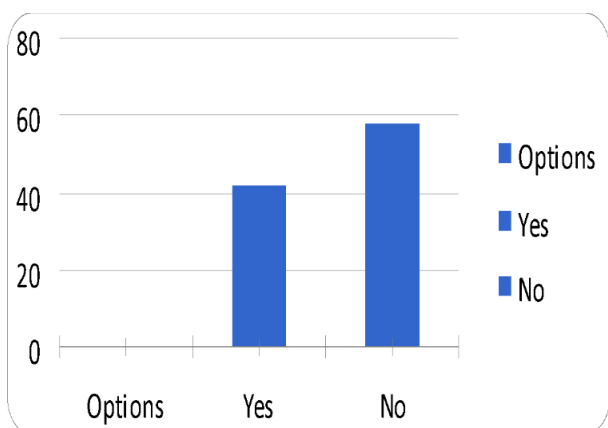


Figure 11: Awareness on use of mouthwash after brushing

48% of the respondents are aware that smoking and consumption of tobacco products are one of

the causes for bad breath and 52% of the respondents are not aware that smoking and consumption of tobacco products are one of the causes for bad breath. (Graph 12).

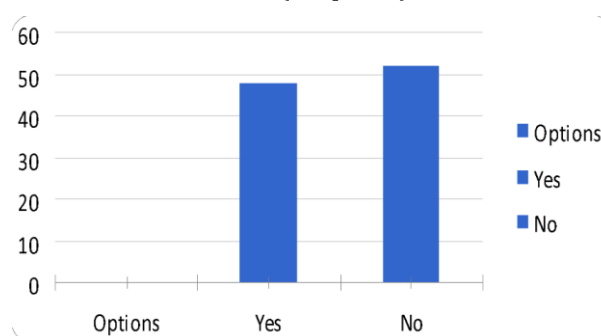


Figure 12: Awareness of tobacco consumption and bad breath

DISCUSSION

A set of 17 questions were given to 100 transgender. The questionnaire had two sections. Section 1 had their details regarding age, socioeconomic status and their occupation. They were between the age group of 20 to 50. Most of them worked in some private companies or had their own business set up. Most of them were middle-class people, and few were below the poverty line too. Section 2 had questions regarding their dental practices and their awareness of dental problems.

From the statistics, it can be well seen that 81% of the transgender Community brush only once per day (Graph 1). When it comes to the usage of tongue scraper 53% of the taken samples never use them at all while 47% of them use them rarely (Graph 4). This proves that they have got no practice of using them regularly. Nearly 76% of the taken samples never shows regular visit to dentist and 24% of them at least visit dentist only when they experience oral related problems (Graph 3). In the sample of the population considered 36% of them brush 2 to 3 minutes, 54% of them brush according to the times they have and their brushing times depends on their moods and 10% of them brush hardly a minute (Graph 2). This proves that their attention is not more towards brushing but relatively based on their mood swings.

According to the results of statistics taken 49% of the transgender population to provide no special attention to clean their back surfaces and the sides of their tooth that are relatively more prone to caries (Graph 5). This shows their awareness of dental caries. Besides 42% of the transgender population use mouthwashes even after brushing (Graph 11). Almost half of the sample of population taken using the same toothbrush for 2 to 3 months and not more than that (Graph 10). Almost three fourth of the population taken into consideration do not floss at all (Graph 6). Most of them were not even aware of flossing practices. It can also be inferred that 72% of the population taken into consideration rinse their mouth after a meal or a snack (Graph 9). 80% of them have awareness regarding bad breath, but not all were aware that smoking and tobacco practices are one of the major cause for bad breath. Besides none of them was aware of any sorts of brushing practices like scrub method, roll techniques and smith methods (Graph 7). Also, 52% of the population considered are not aware that smoking and tobacco products are one of the cause for bad breath (Graph 12). Almost 81% of the population weren't aware that crunchy foods like apple and carrot improve their oral

hygiene. Also, 100% of them weren't aware of electronic brushes too (Graph 8).

It can also be verified from the study on oral health in eunuchs by Sudhir Hongal [24], in a total of 181 (87.4%) eunuchs followed by 174 (81.3%) females and 175 (80.3%) males brush their teeth daily once. Besides, among all study participants, 142 (66.4%) females and 142 (65.1%) males followed by 119 (57.5%) eunuchs change their toothbrush within 1-3 months. However, 58 (20%) eunuchs, 37 (17.3%) females and 36 (16.5%) males change their toothbrush after it wears. This result is similar to that of ours. In addition to this, it was also inferred that eunuchs have poor oral health-related knowledge, attitude and practices along with the higher prevalence of tobacco-related habits.

Their awareness towards brushing habits and care towards their oral hygiene is literally low when compared to other genders in the population. Thus, awareness must be created upon the importance of dental hygiene and this population of people must be treated the same as others and must be educated well upon the maintenance of their dental hygiene. Majority of the transgender population show very minimal care towards their oral hygiene.

CONCLUSION

The awareness towards brushing habits and care towards oral hygiene among transgenders is inadequate. Hence more oral health awareness programmes must be initiated to impart comprehensive oral care for transgenders.

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