Knowledge On Oral Hygiene Practices And Assessment Of Oral Health Status Among Transgender Community Residing In Chennai Metropoliton City – A Descriptive Cross-Sectional Study

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ABSTRACT
***Background:** Increasing the knowledge and demystifying sexual minority issues can enhance the confidence and attitudes of health care workers when treating transgender population. Impartial service delivery, health promotion and "doing good" are essential attributes of care for all populations. It is widely accepted that oral health plays an important role in overall health. The aim of this study was to assess the oral health knowledge, community periodontal index of treatment needs (CPITN) and to find out the association between OHI-S index and age of the study participants.*

Methods:
This was a descriptive cross-sectional study done among 75 transgenders residing in an urban area of Kancheepuram district. Purposive sampling method and snowball sampling was followed to recruit the study participants. The knowledge of oral hygiene practices was assessed by a pretested semi-structured questionnaire. Community periodontal index of treatment needs CPITN Index was used to assess the periodontal status of the study participants and OHI-S index was used to assess the Chennaioral hygiene status. The data was entered in MS Excel and analyzed using SPSS version 21.

Results
In this study, 57% of them cleaned their teeth once in a day, 83% used toothpaste with brush and more than 40% of them were ignorant of bleeding gums and preventive measures. Around

22% of them had calculus and 32% of them had less than 5 pockets. There was a statistically significant association between age and oral hygiene status of the individuals.

Conclusions
Oral health status was very poor, and oral health knowledge, among transgender population was inadequate. These findings may help us to promote the oral health education and establish a model for dentists to work for improving oral health.

Key words: oral health, knowledge, practice, CPITN

INTRODUCTION

Transgenders are defined as "individuals who cross or transcend culturally defined categories of gender" according to National Institutes of health[1]. They occupy a small but very important population in our society. This community also deserves the basic health rights as the general population. But social taboos and lack of acceptance make it difficult for this community to access basic needs such as medical and oral health care. Because of these social issues, elevated levels of stress faced by individuals of stigmatized groups. Few factors such as poor socioeconomic status, prejudice and discrimination increased their levels of stress. The ignorance for regular dental checkup make this group more vulnerable to develop dental diseases in comparison with other members of the population. Also, many of them experienced refusal of care, discrimination and poor knowledge by the health care provider concerning the needs and care of this minority population. Refusal of treatment against individuals is unethical and illegal, so standard protocols must be followed to treat patients irrespective of gender identity or any other diseased condition of the individual. Health professionals must understand the correct treatment and needs of this community. Experiences in the health care system can affect how patients view their relationships with health care professionals and whether they decide to seek medical/dental advice[2]. The guidelines further state that dental hygienists should recognize "the cultural influences impacting the delivery of health services to the individual and the communities" and that patients with special needs such as medical, physical, psychological or social require adaptation and modification of oral health care delivery[3].

Some strategies to be followed to improve the oral health status of the transgender community. Very few studies have been conducted with respect to oral health status and Treatment Needs in the transgender community. Hence this study was undertaken to assess the knowledge of oral hygiene practices and oral health status of the transgender population and to measure the treatment need of the transgender community. In future dentists should see this community as one in terms of moral treatment without isolating them as determined gender.

METHODOLOGY:

An epidemiological, cross-sectional survey was carried among transgender individuals residing in an urban area of Kancheepuram district. Respondents age ranged between 20 and 60 years were selected to assess their oral status and treatments needs.Purposive sampling method was followed by which transgenders residing in the study area were contacted and through snowball sampling technique, 75 transgenders were traced, recruited and included in the study. Informed consent was obtained from the study participants before enrolling them in the study. This study was conducted among 75 transgender individuals, to find out the knowledge on oral health status, periodontal treatment needs using CPITN index and to find out the association between the oral hygiene status (using OHI -S) and related variables. The data was entered in MS Excel and analyzed using SPSS version 21. Ethical clearance to conduct the study was obtained from the Institutional Review Board.

Data Collection Tools:

A pretested structured questionnaire was used to assess the knowledge of oral hygiene practices. The self-developed pretested questionnaire was used to collect details regarding the age, sex, socioeconomic background, methods, frequency, and duration for oral hygiene.

The questionnaire was designed to evaluate the knowledge on oral hygiene practices and was used to collect data regarding the oral hygiene practices like such as: frequency of brushing the teeth , duration of brushing your teeth , frequency in replacement of toothbrush, reason for dental visit, pattern of brushing the teeth, and were enquired what type of oral hygiene methods besides tooth brushing they follow in their daily life. The second part of the questionnaire was used to study the oral health knowledge and participants were required to answer questions such as: causes of dental caries, causes of bleeding during tooth brushing, which influence of dental plaque, preventive measures for oral diseases, association of systemic diseases related to cause oral diseases.

CPTIN Index

The community periodontal index of treatment needs (CPITN) provides a picture of the public health requirements in the periodontal field, which is essential for national oral health policy-making and specific interventions. The CPITN index has been used to evaluate periodontal status and treatment needs of this population. This study was conducted with the help of dentist. The examination of the oral cavity was done with proper aseptic measures. According to the CPTIN guidelines, participants was designated as healthy, when no bleeding, calculus or pathological pockets and was coded as 0 (healthy). In case of bleeding without calculus or pathological pockets, they were coded as 1 (bleeding). If the participant has calculus with or without bleeding but no periodontal pocket was detected, they were coded as 2 (Calculus). Similarly, if the individual has Pathological pocket of 4-5 mm with or without bleeding and calculus, they are categorized into 3 (Pockets >5). Presence of more than 5 mm pocket are coded as 4 (Pockets <5).[4]

Simplified Oral Hygiene Index (OHI-S)

0 - No debris or stain,
1- Soft debris covering not more than one third of the tooth surface or the presence of stains without debris,
2 - Soft debris covering more than one third but less than two-thirds of the tooth surface
3 - Soft debris covering more than two-thirds of the tooth surface.
Oral hygiene status was assessed by Simplified Oral Hygiene Index (OHI-S). This has two components, Calculus Index-Simplified (CI-S) and the Debris Index-Simplified (DI-S), which are calculated individually and are summed up to get OHI-S status for an individual. They are categorized as good—0 to 1.2, fair—1.3 to 3.0, and poor—3.1 to 6.0[5]

Data Management And Analysis

Data entered in the epi info software. Demographic data were given in frequency and percentage. Pearson's Chi-square test was used to compare the proportions. The collected data was analyzed by IBM SPSS Statistics v. 24.0.

RESULTS
A total of 75 transgenders participated in this study to assess the knowledge on oral hygiene practices and assessment of oral health status. The results are as follows. Majority of the participants fall in the age group of 41-50 years. (Figure 1)

**Figure 1: Age distribution of the study participants**
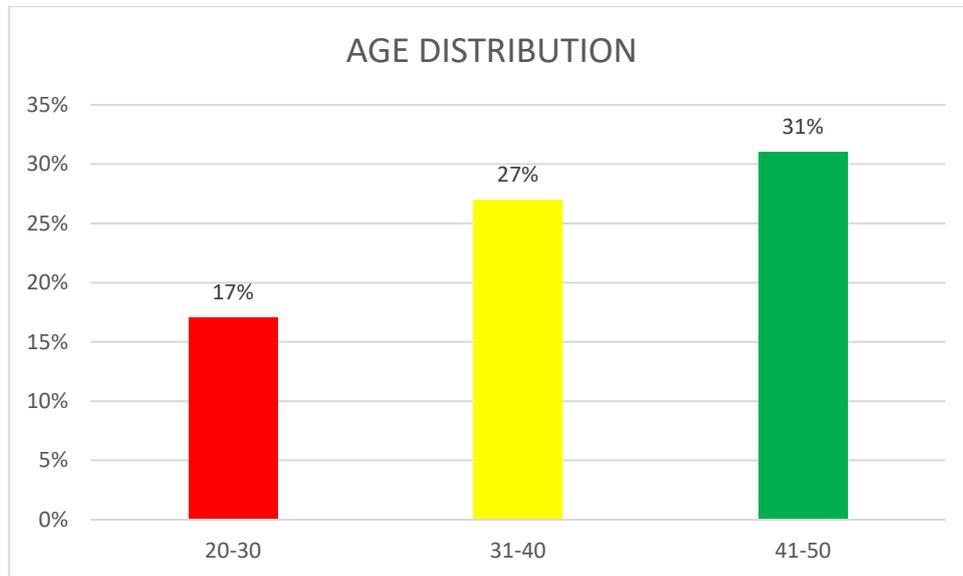
The below table shows the oral health knowledge of the participants. The findings showed that 57% of them cleaned their teeth once in a day and 23% said more than a day but around 15% of them said once a week. In this study 83% toothpaste with brush to clean their teeth. Only 56% answered that toothpaste without fluoride is a cause for dental caries. More than 40% of them doesn't know the cause for bleeding gums and preventive measures. Around 37% of them did not know that systemic disease also causes for oral diseases.

Table-1: Knowledge related to oral health

Knowledge questions		Frequency	Percent
How often do you clean your teeth	Once in a week	11	14.7
	Many times in a week	4	5.3
	Once in a day	43	57.3
	More than once a day	17	22.7
Which material do you use to clean your teeth	Tooth paste with brush	62	82.7
	Tooth powder	10	13.3
	Finger	3	4.0
Causes of dental caries	Tooth paste without fluoride	42	56.0
	Frequent use of sugar	22	29.3
	Inadequate bruising	6	8.0
	Don't know	5	6.7
Causes for bleeding during brusing	Natural physiological phenomenon	11	14.7
	Periodontal disease	10	13.3

	Brushing too hard	10	13.3
	Systamic diseases	14	18.7
	Don't know	30	40.0
Measures that prevent oral diseases	application of fluoride	7	9.3
	Tooth scaling	33	44.0
	Don't know	35	46.7
Systemic diseases that may be related to oral diseases	Diabetic	10	13.3
	Hypertension	9	12.0
	Cancer	15	20.0
	Other Diseases	13	17.3
	Don't know	28	37.3

Figure-1: Periodontal status of the study participants (using CPTIN)
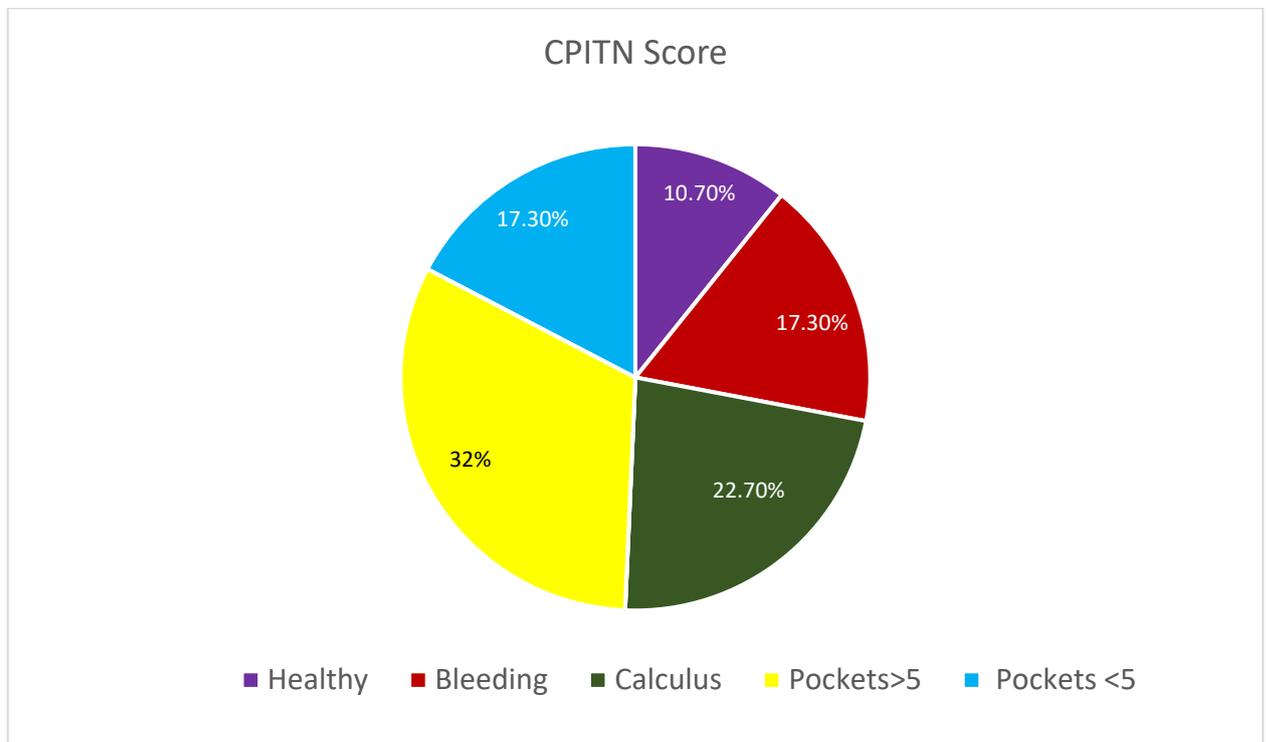
The above figure shows the oral health status of the participants using CPITN. As per the score only 11% of them had healthy teeth and 32% of them had less than 5 pockets and around 17% of them had more than 5 pockets.

Table – 3: Oral hygiene status of the study participants using (OHI-S)

OHI- S	Clinical level of oral hygiene	Frequency	Percentage
0 – 1.2	Good	17	22.7
1.3 – 3.0	Fair	28	37.3
3.1 – 6.0	Poor	30	40

Table 3 denotes the Oral hygiene status of the study participants. In this 22.7% of them had good oral hygiene followed by 37.3% and 40% of them had fair and poor oral hygiene status respectively.

Table-4: Association between age group and oral hygiene status of the participants

Oral Hygiene status	Age group in years			Total	p-value
	20-30	31-40	More than 40 years		
Good	7	5	5	17	**0.03***
Fair	6	14	8	28	
Poor	4	8	18	30	
Total	17	27	31	75	

*p-value less than 0.05 was considered as significant

While comparing the oral hygiene status of the individuals with age group, there was a statistically significant association was observed with p-value 0.03.

DISCUSSION

The results of this study showed that the community had adequate knowledge with regard to some variables and below average with cause, prevention and control of oral health problems. In this study oral health knowledge was adequate in only 50% of the transgender population. In a study done by *Ovia M et al* among the transgenders in Chennai city showed similar results [6]. In this study 57.3% of the study participants brush once a day but 80% of the transgenders brushed their teeth once a day in another study done by *Akshaya K et al* in Chennai [7]. Oral diseases are the most common and can result in discomfort, disfigurement and even death. Moreover, oral health is a key indicator of overall health and general wellbeing of an individual. Dental and dental hygiene educators must include the transgender community in their discussion of unique patient populations [8].

Oral diseases are still a burden in developing countries like India and their prevalence is determined by number of factors like geographical region, availability and accessibility of oral health services. Dental caries and periodontal diseases are the two most common oral diseases in India [9]. But while assessing the CPITN index only 11% of them had healthy oral cavity. In a study done by *Monika B et al* which is a hospital-based study done among general population showed that males are more shallow and deep pockets when compared to females [10]. This might be due to the lack of an organized and systematic oral health education program in the schools and community at large. Lack of knowledge toward oral hygiene could reflect that the information on dental health is most likely limited to a certain level of understanding. Incorporating culturally competent didactic and clinical learning experiences into the educations of future oral health professionals may enhance the delivery of relevant and high-quality health care to the minority transgender population [11].

In our study oral hygiene status is assessed by OHI-S index, in which only 17% of the transgenders had good oral hygiene and 40% of them had poor oral hygiene. But in a study done by *Ashif S.M et al* among tribal population in Telugana OHI-S ranges between 2.5 – 3.0 [12]. There more research is needed to better understand the minority community, their unique health care concerns and provider attitudes toward treating this population. Experiences in the health care system can influence how patients view their relationships with health care professionals and whether they decide to seek medical/dental advice. Around 80% of them knows that how to clean tooth, but in practice they are maintaining the oral health. Thus, from a theoretical point of

view, oral health habits are a function of perceived vulnerability to an oral disorder and the belief that a particular preventive measure will be sufficient to overcome this vulnerability.

In this study while comparing oral hygiene status and the age of participants, there was a statistically significant difference observed. Which indicate, people who have assimilated oral hygiene knowledge and feel a sense of personal control over their oral hygiene are more likely to adopt self-care practices. This community faces discrimination by society and inadequate health care. Findings of the present study indicate that there is no significant connection between oral health status from the one side with the knowledge on oral health care from the other side, indicating the effect of cultural and personal habits of each individual.

There are many studies carried out in general population, tribal population, children, etc to assess the CPITN and OHI-S index. But in transgender population there were no study to assess this index. More research has to be done on this criterion so that the oral health needs of the population can be better address and corrective and preventive measures can be taken.

CONCLUSION

Knowledge of oral health status was adequate on certain issues, but cause, control and prevention are very less among these populations. Routine checkup visits to dental clinics among this population can aid in `applying preventive care measures. More clinics that are separate should be run to provide the better moral treatment to this transgender community. In addition, we must ensure that each one received equal and universal care without any disparity. Raising awareness can improve the oral health care of these populations. Health professionals can treat the patients irrespective of sexual minorities, gender bias to maintain the oral health status of everyone.

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