Original Article

Knowledge, attitudes and behaviour towards oral hygiene of transgenders in Bhubaneswar during COVID-19

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Abstract

Introduction: Reducing harmful oral hygiene practices can minimize the negative impacts of periodontal diseases. Transgenders are among the most vulnerable groups. Knowledge of their oral hygiene awareness, attitude and behaviour shall help in improving their oral health and also in planning oral health strategies specific to this group. **Aim:** To explore the oral hygiene-related knowledge, attitude and practices of transgenders residing in the Bhubaneswar during COVID-19. **Methodology:** A cross-sectional study was conducted among the transgenders residing in Bhubaneswar using a self-structured questionnaire containing questions on knowledge, attitude and practices related to oral hygiene. Mann–Whitney U test was applied to find any significant differences between different variables in groups. **Results:** A total of 205 transgenders participated in the study. Around 43.9% of the transgenders in rural areas felt they had bad breath and there was no statistically significant difference between the two groups. Majority of the participants in the rural areas did not know how to describe the health of their teeth and gums while 43% of the participants in the urban areas felt their oral health was good. There was statistically significant difference between the two groups in the type of material used for cleaning teeth [p = 0.020]. There was statistically significant difference between the two groups in terms of brushing their teeth everyday [p = 0.005, duration of brushing [p = 0.052], tools used for cleaning teeth [p = 0.023] and method employed to control mouth odour. **Conclusion:** The information presented in this study adds onto our understanding of the oral hygiene related behaviour among the transgenders.

Keywords: Attitude, behaviour, knowledge, oral hygiene, transgender

Introduction

Periodontal diseases have varied prevalence and severity among different individuals as they are affected by age, gender, education and socioeconomic status. Most of the periodontal conditions are plaque induced and can be reversed if improved oral hygiene measures are introduced.[1,2] Reducing harmful oral hygiene practices can minimize the negative impacts of periodontal diseases. The knowledge, attitude and practice is a framework with a optimistic vision of science, treating the behavioural change as a logical individual decision. Knowledge is the 'expertise and skills acquired by a person through experience or education'.[3] An attitude is a relatively enduring organization of beliefs around an object, subject or concept which pre-disposes one to respond in some preferential manner.[4] Attitude is considered as an acquired characteristic of an individual. Attitude naturally reflects people's own experiences, cultural perceptions, familial beliefs and other life situations and they strongly influence the oral health behaviour. Health behavior is the activities undertaken by people in order to protect, promote or maintain

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health and to prevent disease'.[5] Health behaviour is influenced by knowledge, beliefs, values, attitudes, skills, finance, materials, time and the influence of family members, friends, co-workers and even health care workers themselves.

The term 'TRANSGENDER' is an umbrella which is used to determine individual person whose gender, self-identification or expression transgresses established gender standard.[6] They are the most vulnerable, frustrated and insecure community in India. They are denied general, oral health and psychological assistance.[7] The accessibility to medical and dental facilities for them is nearly non-existent. This neglected group may have immense stress and often indulge in alcoholism, gutkha or pan chewing and other pernicious habits. These factors have an impact on their oral health. Poor oral health can have a profound effect on the quality of life.[8]

Knowledge of the their oral hygiene awareness, attitude and behavior shall help in improving their oral health and also in planning oral health strategies specific to this group.[9] During the times of COVID-19, maintaining oral health is extremely important as a good oral health leads to good general health and overall improved psychological well-being. There is complete dearth of literature on the oral hygiene practices of this special group. Transgender youth face several comorbidities with oral health implications, including depression, harmful eating behaviours and pharmaceutical side-effects.[10] Therefore, this study was conducted to explore the oral hygiene-related knowledge, attitude and practices of transgenders residing in the Bhubaneswar during COVID-19.

Materials and Method

A cross-sectional questionnaire-based study was conducted among the transgenders residing in Bhubaneswar. A self-structured questionnaire was used for collecting data on the knowledge, attitude and practices related to oral hygiene. The questionnaire was tested for its face validity and content validity in the department after which it was translated into the local language. It was then back translated to English by another individual having knowledge of both the languages. The questionnaire was pilot tested on 10% of the study population. Item analysis was carried out to test for the internal consistency and reliability and the Cronbach's alpha was found to be 0.76 which depicted acceptable reliability. Snowball sampling technique was used to reach the transgenders. All those who consented to participate in the study were given the questionnaire. Those with a history of chronic disease were excluded from the study. A total of 205 transgenders consented to participate in the study. It took around 5 to 8 minutes to fill the questionnaire. Data collection was carried out from April 2020 to July 2020. Permission to conduct this study was obtained from the Institutional Research Committee [KIDS/RES/003/2020].

Statistical analysis

The collected data was analysed using SPSS version 21.0 (IBM SPSS statistics for Windows, Version 21.0, Armonk, NY: IBM Corp). Mann–Whitney U test was applied to find any significant differences between different variables in groups. The level of statistical significance was set at 0.05 with a confidence interval of 95%.

Results

A total of 205 transgenders participated in the study out of which 107 belonged to urban areas and 98 resided in rural areas. 67 participants belonged to the age group 18 years to 35 years [Figures 1 and 2].

Majority of the participants (36.7%) in the rural areas felt that the right method of brushing was using a combination of different techniques while majority (42.1%) in the urban areas felt that horizontal brushing technique was the correct method of brushing and the difference was found to be statistically significant. Around 43.9% of the transgenders in rural areas felt they had bad breath and there was no statistically significant difference between the two groups. Majority of the participants in both the groups did not know about plaque and calculus. Around majority of the participants from the rural group did not know if they had tooth decay or bleeding gums while majority of the participants from the urban areas reported of not having tooth decay or bleeding gums. Majority of the participants from both the groups reported of not having dry mouth and the difference was found to be statistically insignificant. Around 44.9% of the transgenders from the rural areas and around 15% from the urban areas did not know that using salt water for oral rinsing could heal oral sores. The difference between the two groups was found to be statistically significant [Table 1].

Majority of the participants in the rural areas did not know how to describe the health of their teeth and gums while 43% of the participants in the urban areas felt their oral health was good. In both the groups prize of the toothbrush was a consideration while choosing a toothbrush. There was statistically significant difference between the two groups in the type of material used for cleaning teeth [p = 0.020]. Around 38.8% of the rural participants reported of never having experienced pain or discomfort in their teeth while 33.6% of the urban

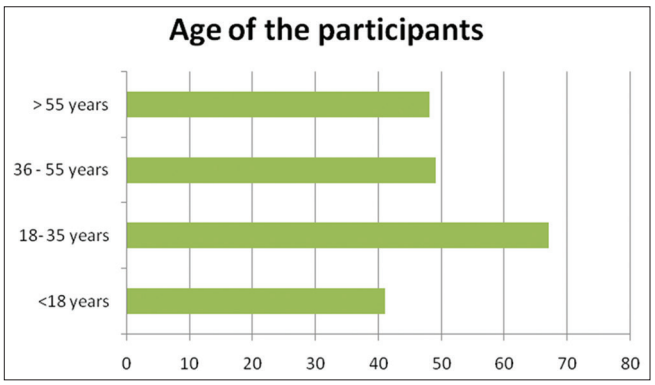

Figure 1: Depicts the age of the participants

Table 1: Comparison of knowledge towards oral hygiene among rural and urban transgenders

Knowledge		Rural		Urban		*P*
		n	%	*n*	%	
Which is the right method of brushing?	Horizontal	32	32.7%	45	42.1%	0.040
	Vertical	11	11.2%	21	19.6%	
	Circular	19	19.4%	22	20.6%	
	Combination	36	36.7%	19	17.8%	
Do you feel bad breath?	Yes	43	43.9%	25	23.4%	0.052
	No	21	21.4%	22	20.6%	
	Sometimes	24	24.5%	31	28.9%	
	Always	19	19.4%	29	27.1%	
Do you know what is plaque and calculus?	Yes	4	4.1%	11	10.3%	0.164
	No	94	95.1%	96	89.7%	
Do you have tooth decay?	Yes	26	26.5%	31	28.9%	0.093
	No	19	19.4%	45	42.1%	
	Don't know	53	54.1%	31	30%	
Do u have bleeding gums?	Yes	19	19.4%	31	28.9%	0.481
	No	11	11.2%	15	42.1%	
	Sometimes	13	13.3%	32	29.9%	
	Don't know	55	56.1%	29	27.1%	
Do u have dryness of mouth?	Yes	7	7.1%	21	19.6%	0.067
	No	85	86.7%	68	63.6%	
	Don't know	6	6.1%	18	16.8%	
Using salt water to rinse one's mouth is generally considered to be the best treatment for sores in mouth?	Yes	43	43.9%	62	57.9%	0.051
	No	11	11.2%	29	27.1%	
	Don't know	44	44.9%	16	15%	

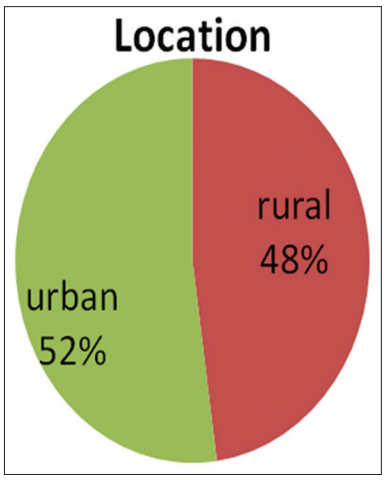

Figure 2: Depicts the location of the participants

participants didn't remember if they had pain or discomfort in their teeth in the past 12 months. Majority of the participants in both the groups strongly agreed that if they had a dental problem, they should seek treatment and also felt embarrassed about having a problem in their mouth. Statistically significant difference [p = 0.032] between the two groups was found when asked if they would be able to eat or talk properly if they had severe pain in their mouth [Table 2].

There was statistically significant difference between the two groups in terms of brushing their teeth everyday [p = 0.005], substance used for cleaning teeth [p = 0.041], duration of brushing [p = 0.052], tools used for cleaning teeth [p = 0.023], method of removing food particles stuck in the mouth [p = 0.001] and method employed to control mouth odour [p = 0.047] [Table 3].

Discussion

In the present study majority of the participants belonged to the urban areas and were in the age group 18 years to 35 years. Similar finding was reported in a study where it was found that 79% of the transgenders were between the age group 15 and –50 and 21% were between 50 and 70.[6]

Majority of the participants in the rural areas felt that the right method of brushing was using a combination of different techniques while those in the urban areas felt that horizontal brushing technique was the correct method of brushing. Around 43.9% of the transgenders in rural areas felt they had bad breath. Around 66% of the participants felt that they had bad breath in a study done by Ovia *et al.*[6] Majority of the participants in both the groups did not know about plaque and calculus. In the present study, the participants from rural areas did not know if they had tooth decay or bleeding gums while those from the urban areas reported of not having tooth decay or bleeding gums. Most of the participants in the present study reported of not having dry mouth. Nearly 69% of the participants were suffering from swollen gums and 76% of the population was suffering from dryness of mouth in a study done by Ovia *et al.*[6]

Table 2: Comparison of attitude towards oral hygiene among rural and urban transgenders

Attitude		Rural		Urban		*P*
		n	%	*n*	%	
How would you describe the health of your teeth and gum ?	Very poor	9	9.2%	10	9.3%	0.062
	Poor	11	11.2%	14	13.1%	
	Average	15	15.3%	14	13.1%	
	Good	26	26.5%	46	43%	
	Don't know	37	37.8%	23	21.5%	
What is your consideration while choosing toothbrush ?	Brand	8	8.2%	13	12.1%	0.599
	Size	21	21.4%	27	25.2%	
	Prize	69	70.4%	67	62.6%	
Which is the material to be used for cleaning your teeth ?	Finger	14	14.3%	5	4.7%	0.020
	Neem	22	22.4%	9	8.4%	
	Twig	27	27.6%	24	22.4%	
	Tooth powder	13	13.3%	19	17.8%	
	Toothpaste	13	13.3%	46	43%	
	Ashes	9	9.2%	4	3.7%	
How often in last 12 months you experienced pain or discomfort in your teeth and gums ?	Many times	11	11.2%	31	29%	0.042
	Occasionally	35	35.7%	19	17.8%	
	Never	38	38.8%	21	19.6%	
	Don't remember	24	24.5%	36	33.6%	
If you do not seek dental treatment will it affect your whole body?	Yes	34	34.7%	56	52.3%	0.011
	No	26	26.5%	37	34.6%	
	Don't know	38	38.8%	14	13.1%	
If you have a dental problem you should get it treated	Strongly agree	37	37.2%	52	48.6%	0.191
	Slightly agree	28	28.6%	24	22.4%	
	Don't know	18	18.4	19	17.8%	
	Disagree slightly	7	7.1%	8	7.5%	
	Disagree strongly	8	8.2%	4	3.7%	
Do you feel embarrassed about having a problem in mouth ?	Yes	51	52%	65	60.7%	0.073
	No	47	48%	42	39.3%	
If there is severe pain in your mouth will u be able to eat and talk properly?	Yes	8	8.2%	12	11.2%	0.032
	No	68	69.4%	61	57%	
	May be	12	12.2%	23	21.5%	
	Don't know	10	10.2%	11	10.3%	

Majority of the participants in the rural areas did not know how to describe the health of their teeth and gums while those from urban areas felt their oral health was good. There was statistically significant difference between the two groups in terms of brushing their teeth every day, substance used for cleaning teeth, duration of brushing, tools used for cleaning teeth, method of removing food particles stuck in the mouth and method employed to control mouth odour. Hongal *et al.* reported that nearly 57% of the eunuchs used toothpick regularly and 43% do not use toothpick regularly.[1] In our study, 38.8% of the rural participants reported of never having experienced pain or discomfort in their teeth while 33.6% of the urban participants didn't remember if they had pain or discomfort in their teeth in the past 12 months. Hongal *et al.* reported that around 67.6% eunuchs had never visited a dentist and 80.2% had not visited a dentist in last year.[1] Marlecha *et al.* reported that 60% of the participants in their study had never visited the dentist.[11]

The study has certain limitations. The sample size was less and also there might be chances of social desirability bias. There is insufficient literature on oral hygiene knowledge, attitude and practices among transgenders. This study shall help in planning oral health education programs and interventions for this disadvantaged group.

Conclusion

This study provides important information about oral hygiene-related knowledge, attitude and behaviour among the transgenders residing in Bhubaneswar. Majority of this population shows minimal care toward their oral hygiene. The information presented in this study provides a clear understanding of the oral hygiene related behaviour among the transgenders. Efforts need to be made to increase the level of awareness regarding oral hygiene in this population. Primary care physicians can play a major role in bringing about oral hygiene awareness among this group of population. This study would also aid in planning oral health educational programs for this vulnerable group that can be implemented through primary health care workers.

Table 3: Comparison of behaviour towards oral hygiene among rural and urban transgenders

Practice		Rural		Urban		*P*
		n	%	*n*	%	
Do you brush your teeth everyday ?	Yes	86	87.8%	98	91.6%	0.005
	No	12	12.2%	9	8.4%	
Which other substances do you use while cleaning tooth ?	Toothpaste	64	65.3%	60	56.1%	0.041
	Salt	9	9.2%	8	7.5%	
	Charcoal	4	4.1%	11	10.3%	
	Others	17	17.3%	21	19.6%	
	None	4	4.1%	7	6.5%	
If the food particle get stuck how will u get it cleaned ?	Grass	3	3.1%	2	1.9%	0.001
	Safety pin	9	9.2%	15	14%	
	Match stick	40	40.8%	28	26.2%	
	Rinse your mouth properly	46	46.9%	62	57.9%	
Do you rinse your mouth after each meal ?	Yes	26	26.5%	31	29%	0.056
	No	24	24.5%	27	25.2%	
	Sometimes	48	49%	49	45.8%	
How often you change your tooth brush ?	Frequently	16	16.3%	35	32.7%	0.991
	Rarely	15	15.3%	23	21.5%	
	When needed	67	68.4%	49	45.8%	
What tools do you use to clean your teeth ?	Chewing stick	4	4.1%	9	8.4%	0.023
	Toothbrush	66	67.3%	87	81.3%	
	Other	28	28.6%	11	10.3%	
Which technique do you use while brushing ?	Horizontal	42	42.9%	55	51.4%	0.054
	Vertical	10	10.2%	11	10.3%	
	Circular	23	23.5%	12	11.2%	
	All of the above	23	23.5%	29	27.1%	
How long do you brush ?	<1 min	2	2.0%	9	8.4%	0.052
	1 min	11	11.2%	8	7.5%	
	2 min	45	46%	23	21.5%	
	>2 min	40	40.8%	67	62.6%	
How do you control your mouth odour ?	Regular rinse with plain water	81	82.7%	22	20.6%	0.047
	Rinse with salt water	9	9.2%	18	16.8%	
	Using mouthwash	8	8.2%	67	62.6%	
Do you use tooth pick regularly ?	Yes	57	58.2%	78	72.9%	0.671
	No	5	5.1%	8	7.5%	
	Sometimes	36	36.7%	21	19.6%	
How many times have you visited a dentist in past 6 months ?	Once	12	12.2%	27	25.2%	0.002
	Twice	3	3.1%	19	17.8%	
	Never	80	81.6%	47	43.9%	
	Other	3	3.1%	14	13.1%	

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Conflicts of interest

There are no conflicts of interest.

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