Association between taboos in dentistry and oral health behavior among adult population of Ghaziabad

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ABSTRACT

Purpose: To study taboos in dentistry and their effect on adult oral health behavior in Ghaziabad.

Materials and Methods: Cross-sectional community based questionnaire survey was conducted on sample of 350 adults aged 20years and above from Ghaziabad urban and rural areas. Multistage random sampling technique was used. Single field trained and calibrated investigator collected data by interviewing study subjects using pretested structured, close ended questionnaire consisting of self-designed questions seeking on taboos related to dentistry and oral health behavior besides socio-demographic variables. Kappa co-efficient of questionnaire content was 0.80. Data was entered and analyzed using SPSS software version 21.0. Chi square analysis showed intergroup comparisons.

Results: Taboos related to dentistry were prevalent in urban and rural areas. Significant gender difference among subjects who believed that there was no need to visit dentist until all permanent teeth erupt and better not to brush teeth when gums bleed were highly prevalent among females ($p<0.05$) from both urban and rural areas. Significant association between prevalent taboos and Dental visit variables were reported.

Conclusion: Taboos related to dentistry has negative effect on adult oral health behavior.

Keywords: Taboos, Myths, Beliefs, Culture, Oral Health Behavior, Ghaziabad

INTRODUCTION

We can't think about health in isolation of social factor. The social and economic factors have much influence on health similar to medical intervention.[1] Ancient medicines were dominated by magical and religious beliefs, which were an integral part of ancient cultures and civilizations.[2] Due to the lack of knowledge, the primitive man believed is known as the "supernatural theory of disease".[3] All people of rural or urban area, have their own beliefs and practices concerning health and disease.[4] This diversity equally affects oral diseases and treatments. Since a long time the teeth, the mouth, and the face have held seemingly intrinsic fascination for mankind.[5] which were affected by customs, cultural mores, habits, beliefs, superstitions and taboos. Culture is defined as a learned behavior which is socially acquired. It is transferred from one group to another through learning process. The beliefs and attitudes towards health practices are affected by the culture.

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A taboo is a strong social prohibition relating to any area of human activity or social custom that is sacred and forbidden based on moral judgment and religious beliefs.[6] It was found that traditional Indian beliefs and taboos were correlated inversely with preventive dental health behavior in the population.[7] To address the fact that no study exists regarding cultural beliefs and taboos related to dentistry in Ghaziabad, this study was conducted. Thus, aim of the study was to find the association between taboos in dentistry and adult oral health behavior in Ghaziabad and the objectives of the study were to find out the taboos related to dentistry in adult population of Ghaziabad, to find out adult oral health behavior in population of Ghaziabad, to find out the association between taboos in dentistry and adult oral health behavior in Ghaziabad and to provide data on taboos in dentistry for preparing strategies for its prevention and management.

MATERIAL AND METHODS

This cross-sectional survey was conducted in August 2015 at Ghaziabad, India. The study sample comprised 350 subjects including 50% urban and 50% rural participants of 20 years or above age group. Multi-stage random sampling technique was used in this study. In first stage of sampling, Ghaziabad was divided in to urban and rural area. Four urban sites and four villages were randomly selected from Ghaziabad. In second stage of sampling, the population was divided age wise into20-40 years and more than 40 years and samples were randomly selected from both urban and rural area till the estimated size of sample (n=350) was

achieved. Informed consents were taken from participants. Clearance was obtained from the ethical committee of ITS-CDSR, Muradnagar. Data was collected by single field trained and calibrated investigators by filling of close ended questionnaire consisting of 24 self-designed questions seeking on taboos related to dentistry on Yes/No scale and 10 about oral health behavior besides Socio-demographic variables by face to face interview after conducting pilot study. The software used for the statistical analysis was SPSS (statistical package for social sciences) version 21.0 and Epi-info version (3.0).The statistical tests used were Unpaired or Independent T-test, Chi square test, Pearson's correlation coefficient (r). The p-value was taken significant when less than 0.05 ($p<0.05$) and Confidence interval of 95% was taken.

RESULTS

The response rate was 100% in this study. Among all the study population 50.9% were male and 49.1% were female. The study population was divided into two groups first was of 20-40 years and second was of more than 40 years. In 20-40 years of age group 57.5% were males and 42.5% were female and among more than 40 years of age group 45.3% were male and 54.7% were female. 50% of the population belonged to urban area and 50% of population belonged to rural area. The maximum number of population (48.3%) belonged to middle/ lower middle class followed by lower/ upper lower (16.9%), upper middle (16.3%), upper (12.6%), lower (6%). Myths were found more in lower class and mean of awareness and oral health behavior was more in Upper class and all these factors were found highly significant.

Table 1: Questions for assessing cultural beliefs and taboos in dentistry among adult population

		Male	Female	Total	p-value
Extraction of upper teeth affects eyesight	Yes	47	20	67	0.000*
		26.4%	11.6%	19.1%	
	No	131	152	283	
		73.6%	88.4%	80.9%	
Cleaning teeth with finger better than brush	Yes	34	6	40	0.000*
		19.1%	3.5%	11.4%	
	No	144	166	310	
		80.9%	96.5%	88.6%	
Cloves, supari should be used to ease tooth pain	Yes	73	100	173	0.001*
		41.0%	58.1%	49.4%	
	No	105	72	177	
		59.0%	41.9%	50.6%	
In gum bleeding, better not to brush	Yes	116	141	257	0.000*
		65.2%	82.0%	73.4%	
	No	62	31	93	
		34.8%	18.0%	26.6%	
Worm of tooth decay can be removed from ear	Yes	49	0	49	0.000*
		27.5%	0.0%	14.0%	
	No	129	172	301	
		72.5%	100.0%	86.0%	
Teething causes fever	Yes	66	112	178	0.000*
		37.1%	65.1%	50.9%	
	No	112	60	172	
		62.9%	34.9%	49.1%	

Chi-square test

* Significant difference

Table 1 shows that more percentage of males believed in the myths that extraction of upper teeth affects eyesight, no need to visit dentist before all milk teeth erupted, no need of regular dental checkup without problem, cleaning teeth with finger better than brush, hard brush cleans more efficiently than soft brush, charcoal, salt, rice husks, tobacco etc. in powder form better than toothpaste, female dentists are not as good as male dentists, only white teeth are stronger than females, oral cancer is a God's punishment/ past sins, swelling reduced by hot fomentation, worm of tooth decay can be removed from ear, micro-organisms spread from mothers to child and general body health and oral health are not related. However, more percentage of females believed in the myths that no need to visit dentists for treatment of milk teeth, cloves, supari should be used to ease tooth pain, in gum bleeding better not to brush, artificial teeth better than repairing of natural teeth, taking medicines during fasting was correct, child become witch if born with teeth and teething causes fever. Thus, male had more number of myths than females and all these myths were found statistically significant. The myths that scaling (cleaning) of teeth causes loosening of teeth and spacing between teeth is sign of good luck was not found significant in my study.

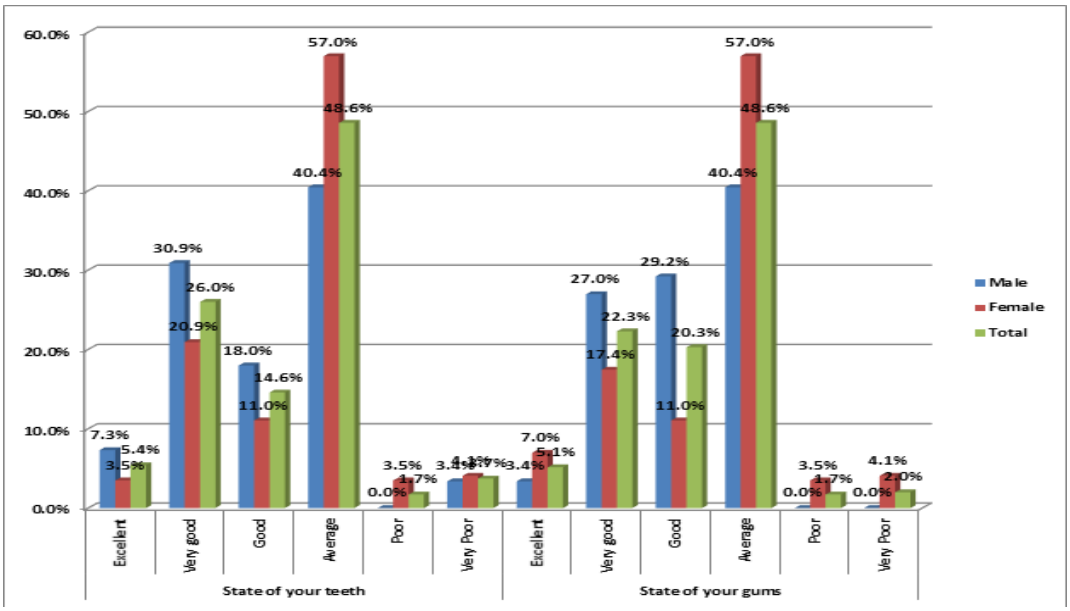

Fig. 1: Distribution of study population according to status of teeth and gum

Fig. 1 depicts that maximum number of the study population (48.6%) said that their state of teeth and gum were average and minimum number of study population said that their state of teeth and gum were poor. Maximum percentage of study population had habit of cleaning their teeth once daily in which 59.6% were male and 61.0% were female. About 92.4% females had habit of using toothpaste which was more than males (80.9%). More females had habit of using toothpaste containing fluoride (48.8%) than males (24.7%) and more males didn't know about fluoride content of toothpaste than females. About 27.9% females had last visit to dentist less than 6 months which was more than males (14.0%) and more percentage of males (38.8%) had never received dental care than females (18.6%).

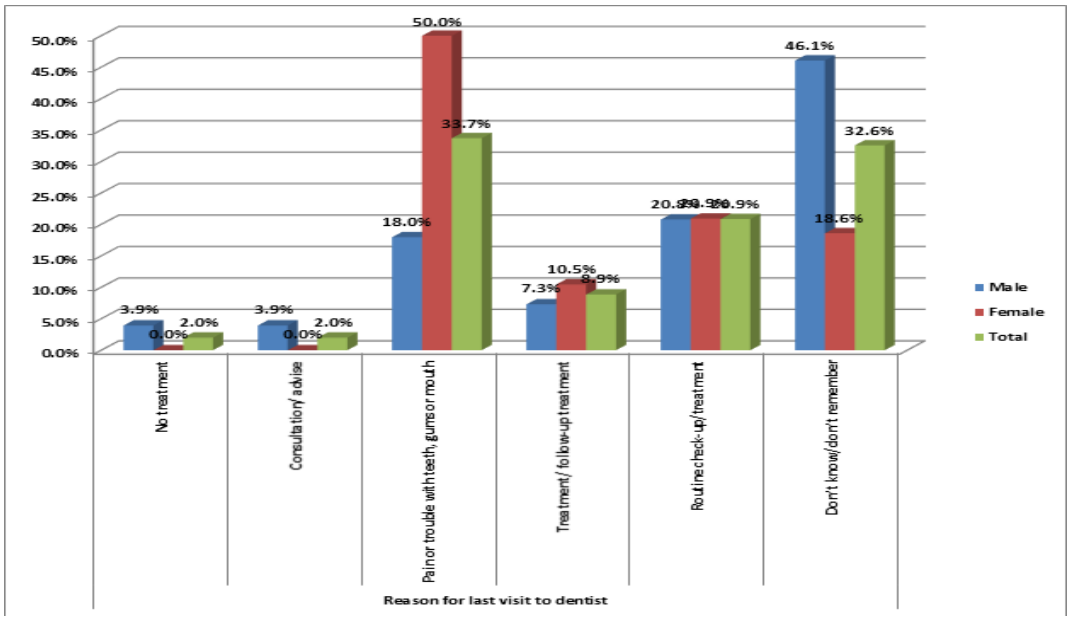

Fig. 2: Distribution of study population according to last visit to dentist

Fig. 2 shows that maximum percentage of population visited dentist for pain or trouble with teeth, gums or mouth (33.7%) and only 20.9% study population visited dentist for routine check-up treatment and only 2% visited dentist for only advice and received no treatment. In my study about 95.9% of females used toothbrush which was more than males (80.9%) and only 3.5% females used interdental aids which was more than males (0.0%).

Table 2: Location wise mean of myths number, awareness and oral health behavior

	Location	Mean	Std. Deviation	Std. Error Mean	t-test value	p-value	Mean difference
Myths no.	Rural	8.98	1.85	0.14	6.491	0.000*	2.194
	Urban	6.79	4.07	0.31			
Awareness	Rural	39.45	2.28	0.17	-5.634	0.000*	-1.640
	Urban	41.09	3.10	0.23			
Oral health behavior	Rural	106.30	7.41	0.56	0.698	0.486	0.497
	Urban	105.81	5.82	0.44			

Unpaired t-test
* Significant difference

Table 2 shows that myths were more in rural area (8.96) than urban area(6.79) and awareness were lesser in rural area than urban area and these were found highly significant. Oral health behavior was not found significant location wise.

Table 3: Gender wise mean of myths number, awareness and oral health behavior

	Sex	Mean	Std. Deviation	Std. Error Mean	t-test value	p-value	Mean difference
Myths no	Male	7.97	3.77	0.28	0.490	0.624	0.175
	Female	7.80	2.84	0.22			
Awareness	Male	40.85	3.31	0.25	3.946	0.000*	1.174
	Female	39.67	2.09	0.16			
Oral health behavior	Male	108.03	6.43	0.48	5.930	0.000*	4.028
	Female	104.01	6.28	0.48			

Unpaired t-test
* Significant difference

Table 3 shows that males had more mean number of myths (7.97) than females (7.80) but this was not found significant. In males mean value of awareness and oral health behavior were also more than female and these were found highly significant.

Table 4: Age group wise mean of myths number, awareness and oral health behavior

	Age groups	Number	Mean	Std. Deviation	Std. Error Mean	p-value
Myths no	20-40yrs	160	7.19	3.42	0.27	0.000*
	>40yrs	190	8.47	3.17	0.23	
Awareness	20-40yrs	160	41.30	3.15	0.25	0.000*
	>40yrs	190	39.41	2.21	0.16	
Oral health behavior	20-40yrs	160	107.52	6.53	0.52	0.000*
	>40yrs	190	104.82	6.53	0.47	

Table 4 shows that myths were more in more than 40 years of age group and mean number of awareness about oral health and oral health behavior were lesser than 20-40 years of age group and all these factors were found highly statistically significant.

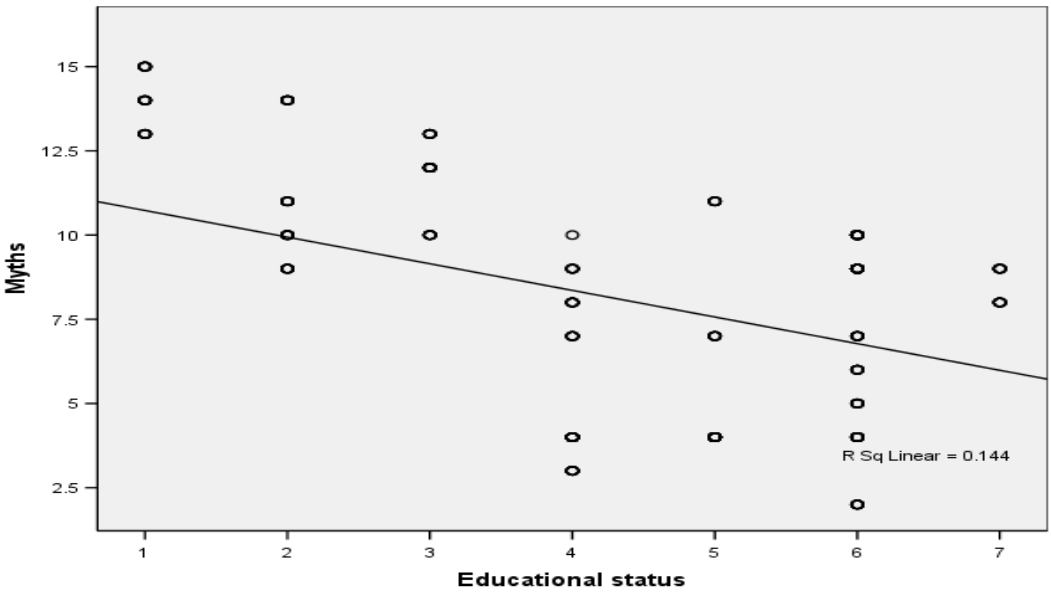

Fig. 3: Age group wise mean of myths with educational status

Fig. 3 shows that with increase in education number of myths decreased age wise in my study. On apply Pearson's Correlation test, age and socio-economic status was found significantly correlated to myths, awareness and oral health behavior, educational status was found significantly correlated with myths and oral health behavior, occupational status was found significantly correlated to myths and awareness, family income was found significantly correlated to oral behavior only.

DISCUSSION

India is a vast country with a varied ethnic, socio-economic and geographical background.[8] To address the fact that no study exists regarding cultural beliefs and taboos related to dentistry in Ghaziabad, this study was conducted. Every culture has its own customs, some of which have a profound influence on incidence of disease.[9,10] In the present study, the individual who lives in an urban area are not significantly more apt to take preventive dental actions regardless of cultural beliefs and taboos which was not similar to study done by Kochhar S et. al.[11] and Chen and Stone[12] among American families. It was found that overall 24.6% of the respondents think that after oral prophylaxis teeth will loosen but this was not found significant in my study. This may be attributed to the fact that many people from rural areas have little knowledge about dental treatments. They tend to visit the dentist at advanced stages of disease, and at that time, if a dentist removes calculus it may be likely that the tooth will become more mobile. This loosening could lead the patient to consider the dentist as the culprit.[1]

Less than one fourth of the respondents believe that extraction of upper teeth deleteriously affects eye sight which was lower than the study done by Khan SA et.al.[13] (47%). For example, extractions performed on older patients, leading to weakening of eye sight due to its vicinity in maxilla, are mere coincidental, but still remain a taboo, hence people relate to this. It was found that still 30.5% of study subjects believed that there is no need to go to dentist until all the permanent teeth of child erupts which was lower than the study done by Kochhar S et. al.[11] (74%), Khan SA et. al.[13] (72.5%).

In my study 63% of the participants believed that there was no need to visit the dentist for treatment of milk teeth. They think that these teeth are going to shed, so treating them as wastes money and time. It was further observed that cultural factors are also deeply involved in matters of personal hygiene, nutrition, immunization and seeking medical care etc.[14] About 20.9% of participants think that there is no need of a regular dental check-up because dental diseases are not life threatening and can be taken care of with routine medicines available through local pharmacy without consultation of dental surgeon. Some people are quite poor who cannot afford high cost dental treatments.[15] In the present study, about 11.4% of the subjects still do not have appropriate brushing habits, which may be due to poor education. Many people in the countryside use twigs of neem tree as a tooth brush, some use ashes, salt rice husks, tobacco and some charcoal. The educated and those who have come in contact with urban life use tooth brushes.[16]

In my study about 90% of individuals used toothbrush and toothpaste for cleaning their teeth. 36.8% of the participants were aware of fluoridated toothpaste which was more than the study done by Nagarajappa R. et.al.[17] (30%) and Varenne et.al.[18] (18%). 11.3% participants believed that cleaning teeth with finger better than brush. 11.7% participants believed that hard brush cleans more efficiently than soft brush. Only 3.5% of

the participants used interdental aids which was slightly lower than study done by Nagarajappa R. et.al.[17] (5%). 74.1% of the participants clean their teeth regularly which was slightly more than study done by Nagarajappa R. et.al.[17] (73%) and much higher than Varenne et.al.[18] (57%) and Parveen N et.al.[19] (46.2%).

In the 21st century 50% of the participants still depend on the cultural beliefs and taboos in curing their dental health problems. It may be attributed to the fact that the products like clove are easily available and relieve pain quickly and cleaning materials like charcoal are cost effective that are mostly used in developing countries like India. In gum bleeding 73.6% participants believed that it was better not to brush which was more than the study done by Nagarajappa R. et.al.[17] (16.5%). 15.8% participants believed that female dentists were not as good as male dentists. 21.05% participants believed that only white teeth were stronger which was lower than the study done by Kochhar S et. al.[11] (>50%).

75.7% of the population believed that taking medicines during fasting is correct which was higher than the study done by Kochhar S et. al.[11] (46%) as in our country it is one of the important taboo and is equally acceptable both in urban as well as rural areas e.g. fasting which may have deleterious impact on health and oral health. 15.1% believed that oral cancer is God's punishment/ past sins which was much lower than the study done by Kochhar S et. al.[11](30%). 25.6% participants believed that swelling reduced by hot fomentation. 27.5% male and no female believed that worm of tooth decay can be removed from ear. 36.4% of participants believed that child become witch if born with teeth. 51.1% of participants believed that teething causes fever. 62.4% of participants believed that microorganism didn't spread from mother to child. 17% believed that general body health and oral health were not correlated which was lower than Khan et. al.[13](32%).

About 21% of of the participants visited the dentist less than 6 months which was lesser than study done by Parveen et.al.[19](42.5%). 34% of the participants went to dentist for pain trouble with teeth, gums and mouth which was lower than study done by Parveen et.al.[19] (56.1%). About 51.6% subjects think it is better to have artificial set of teeth than to repair the original ones which was lower than the study done by Kochhar S et. al.[11] (76%). It may be because of multiple visits for dental treatments and also there is no appointment of dentist at primary health centre level in India. Nearly 75.7% assume that taking medicine during fasting is correct which was more than study done by Kochhar S et. al.[11], as in our country it is one of the important taboo and is equally acceptable both in urban as well as rural areas e.g. fasting which may have deleterious impact on health and oral health. When it was asked regarding diseases of oral cavity like cancer, still some people believe that these are due to wrath of gods and goddesses and administration of drugs is still considered harmful for treatment.[20] Whatever may be the reasons for these cultural beliefs and taboos, they definitely have harmful effects on the oral tissues and hence have to be discouraged. So, dental professionals along with primary health workers and school teachers can a play a vital role in creating the awareness and to remove the misconceptions that hinder an individual from seeking dental services.

Mean no of myths in rural area (8.98) was more than in urban area (6.97) and was found significant similar to study conducted by Kochhar S et. al.[11] Mean number of awareness was lower in rural area (39.45) than in urban area (41.09) and this was found significant. Awareness was more in males (40.85) than in females (39.67) and males had better oral health behavior than in females and these factors were found significant. It was found that older age groups have more taboos regarding oral health than younger ones ($P<0.05$). This was similar to the study done by Kochhar S et.al.[11]. In older age group mean of awareness and oral health behavior was lower than 20-40 years age group.

LIMITATIONS

Since, the study variables investigated in my study depended upon adults' interview, the possibility of recall bias cannot be denied. To minimize this type of bias, an extensive questioning was performed and adults were not informed about the possible effects of their dental beliefs. Sample size of my study is small so this weakens strength of my study.

IMPLICATIONS FOR FUTURE RESEARCH

The present survey ascertains the current prevalence of these cultural taboos and beliefs regarding dentistry among the adult population of Ghaziabad. The intent is that this assessment will be helpful in shaping the future health programs and creating dental awareness.

CONCLUSION

Prevalence of myths and taboos regarding dental health is common not only among the poor and illiterate people but also among elite and literate class. If community is educated for proper prevention and cure, the myths relating dental concepts will vanish from the society and over all dental health status of the community will improve.

RECOMMENDATIONS

Basic principles and concepts regarding oral health and hygiene of teeth should be a part of the education curriculum right from the primary classes. Dental health education campaign is needed to eradicate it from community. It is the duty of the government, managers and healthcare providers to assess this problem and educate the people.

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