

Prevalence of misconceptions that the Indian population possesses with regard to dental treatment- A survey

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ABSTRACT

The utilisation of dental services is usually hampered due to multiple barriers. Some of them are, factors which are culturally influenced, misconceptions regarding oral health care, low education and poor health literacy level among the population. The main purpose of this study was to highlight the ritual and cultural practices that the population in India follows and their subsequent effect on the oral cavity. The present study was conducted all over India. The population were randomly selected. An online questionnaire was prepared. The questionnaire was related to the knowledge and beliefs of the population towards dental treatment. A total of 18 close ended question a were included. The survey proforma was sent to 300 individuals of different age groups across all the states in India, out of which 234 individuals responded. There was a general lack of knowledge among the population about the importance of dental treatment and the misbelieves they had regarding the same. The reason for this could be due to low education levels, low levels of awareness of oral hygiene practices and low socioeconomic status among certain population. Routine camps should be conducted where clinicians demonstrate oral hygiene practices and make the population aware regarding the importance of dental treatment.

Keywords: *misconceptions, dental services, hygiene practices*

I. INTRODUCTION

Although there have been continuous efforts to promote health worldwide, it has always been a neglected entity. Oral health and hygiene are integral parts of general health along with factors such as diet, literacy, socio-economic status and oral hygiene practices have an enormous impact on general health (1). Untreated dental ailments usually lead to a significant impact on the quality of life and subsequently cause deterioration of general health (2). The attitude of the population and the health care professional towards the patient's teeth plays a vital role in maintaining patients oral health (2,3). Having the current knowledge and awareness regarding maintenance of oral health is an essential prerequisite for health-related behavior (4).

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Currently a structured medical discipline relying on science and technology has been developed. This has helped in evolving from the traditional practices that were based on folk cures. There is no doubt in the fact that modern dentistry has come a long way. Despite these developments, there are still many dental myths that exist among the population especially in developing countries. These myths are generally passed on by word of mouth through many generations. It is sometimes very tough to differentiate between fact and fiction as most of the times these fictions have been very deeply rooted in our culture sometimes (5). There has been a very limited research related to myths in dentistry among dental patients in India. This study therefore aims to evaluate these myths regarding oral care that have been followed by the Indian population and to correct these wrong beliefs.

II. MATERIALS AND METHODS

An online questionnaire was formulated consisting of 19 questions. The questionnaire was designed in a way wherein the responses would reflect the different types of beliefs that the population followed with respect to dental treatments and oral hygiene practices in general. A snowball random sampling was done. The survey proforma was sent via social media to 300 individuals of different age groups across all across the world via social media. Out of these 234 individuals responded. All the guidelines were followed as per the Helsinki declaration (6). The questionnaire was designed in English and consisted of questions which had to be answered in yes, no, or maybe and strongly recommended, not recommended or maybe.

Validation was done among post graduate students of department of Prosthodontics in Saveetha Dental College and Hospital Chennai. The ethical approval was obtained from the department of research, Saveetha dental college and hospital. The collected data was analysed and visual representatives were plotted with the extracted data.

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III. RESULTS

A total of 234 individuals responded out of which 55.1% of the population were females and 44.9% of the population were males (Figure 1). 33.33% of population lied in the age group of 15-25 years. 40.17% of population lied in the age group of 25-40 years. 10.68% of population lied in the age group of 40-50 years. 15.81% of population lied in the age group of 50 years above (Figure 2). Responses were received from almost all the states across India and from some of the NRI population residing in USA, UAE and Canada. The population consisted of people from different socio economic groups out of which some of them were students, house makers, people belonging to working class and retired personnel.

12.8% of the survey population consumed alcohol and approximately 9.1% of the survey population were smokers or consumed pan.

27.5% of the population believed that whiter teeth signifies healthier teeth while the rest of the population either said denied it or were not sure about it.

40.7% of the population believed that adult orthodontics should be strongly recommended , while the rest of the population were either not sure or were against it.

72.5% of the population believed that regular flossing if the teeth is necessary . Rest of the population were either not sure or did not find flossing necessary.

68.6% of the population were for the fact that 1st set of teeth(deciduous teeth) should be treated even if the are eventually going to be replaced. The rest of the population were either not sure if they were against the fact of treating deciduous teeth.

47.5% of the population associated dental treatment with pain, while the rest of the population were either not sure or did not associate pain with dental treatment.

18.2% of the population believed that scaling treatment causes damage to the teeth while the rest either were not sure or denied the fact.

7.6 % of the population believed that dentures should be worn 24/7 while the rest were either not sure or did not support the fact.

55% of the population believed that application of clove oil was effective in reducing tooth pain. While the rest of them were not sure or were against the fact.

65.3 % of the population believed that it is recommended to visit the dentist even if their teeth feel good. While the rest of the population were either not sure or were against the fact.

12.7 % of the populationbelieve that it is better to remove the tooth rather than undergoing root canal treatment, while the rest of the population were either not sure or denied the fact .

15.3 % of the population believes that it is better to avoid treatment of a spoilt tooth if it is not hurting , rest of the population are either not sure or denied the fact.

7.6 % of the population believe that tooth removal can affect ones eyesight , while the rest are either not sure or have denied the factThis suggests that some portion of the population still believes in old myths about tooth extraction consequences.

8.1% of the population believes that dental treatment can cause hearing problems , while the rest are either not sure or have denied the factThis also suggests that some portion of the population still believes in old myths about tooth treatment consequences [16]

75.8% population believes that aerated drinks cause dental problems , while the rest are either not sure or denied the fact.

5% people believe that oral cancer is seen only in old individuals , while rest are either not sure denied the fact.

Table 1 shows the different responses obtained from the population of various age groups and genders. The misbeliefs regarding the dental treatment was mainly observed in patients of the older age group especially among the male population.

Table 2 shows the P values obtained when Chi square correlation test was done to evaluate the association between age, gender and the different questions asked in the survey.

The association of the age and gender of the patient was done with the different myths followed by the population using Chi square test. Table 2 shows the various P values obtained after the association was carried out.

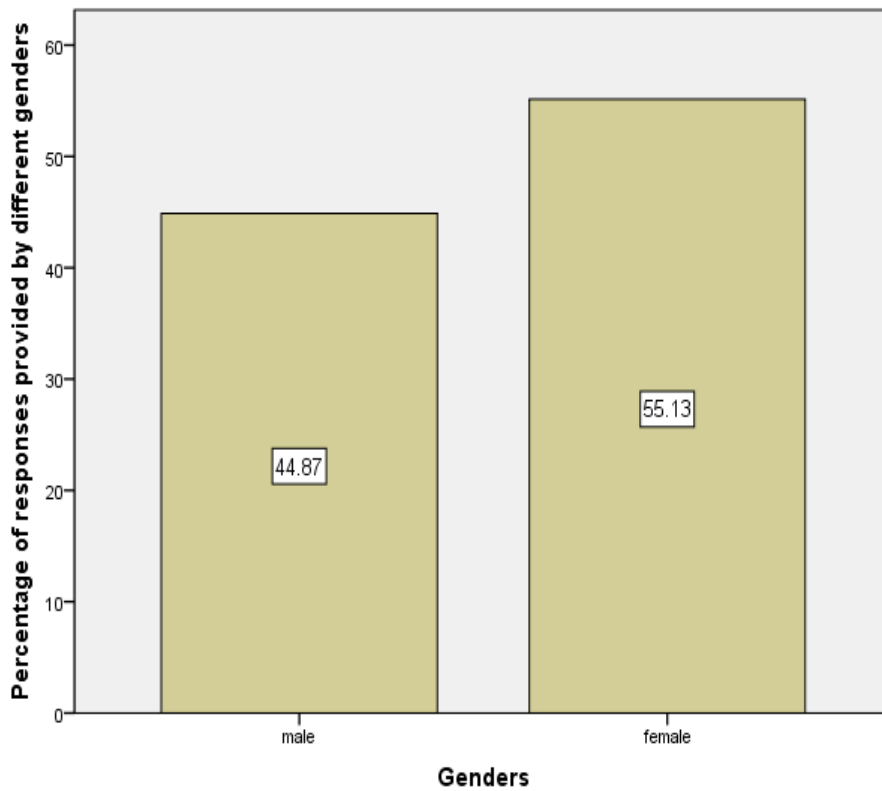


Figure 1- This figure represents the percentage of males and females who took part in the survey. 44.87 percent of the population were males and 53.13 percent of the population were females.

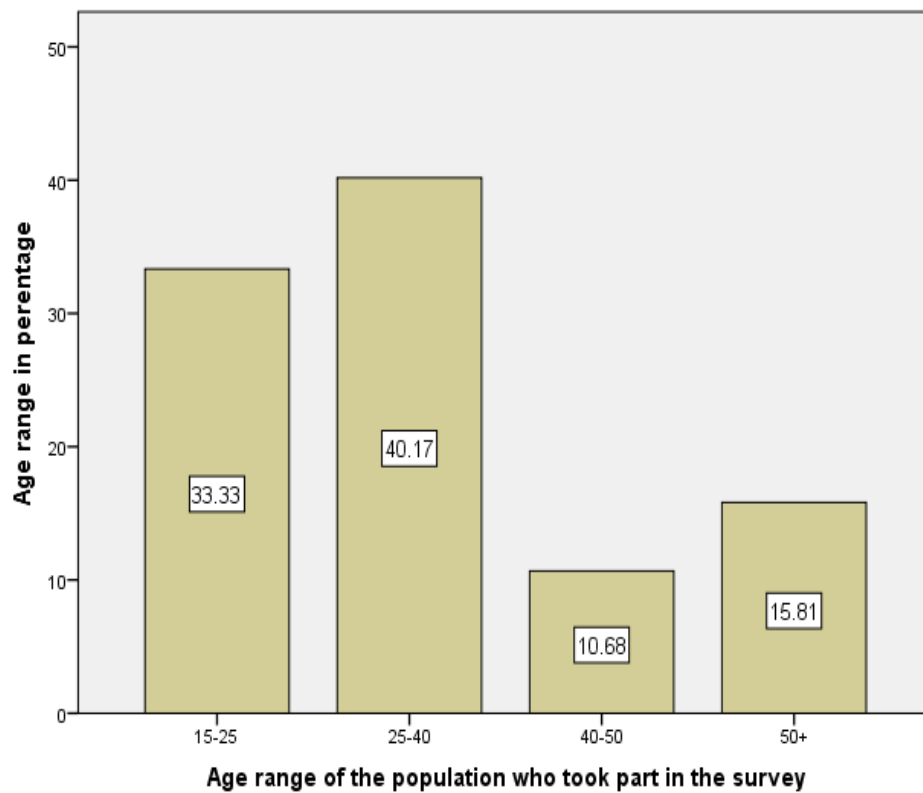


Figure 2- This figure represents the different age groups which took part in the survey. 33.33% of population lied in the age group of 15-25 years. 40.17% of population lied in the age group of 25-40 years. 10.68% of population lied in the age group of 40-50 years. 15.81%

of population lied in the age group of 50 years above. This signifies that the majority of the population lies in the younger and middle aged groups.

Questions		Age range				Gender	
		15-25	25-40	40-50	50+	male	female
Do you think whiter teeth signify healthier teeth?	yes	21.8%	27.7%	32.0%	37.8%	29.5%	26.4%
	no	61.5%	42.6%	44.0%	32.4%	42.9%	51.2%
	maybe	16.7%	29.8%	24.0%	29.7%	27.6%	22.5%
Are braces used for aligning teeth recommended for adults also?	strongly recommended	50.0%	41.5%	20.0%	35.1%	42.9%	39.5%

	not recommended	2.6%	6.4%	12.0 %	13.5%	9.5%	4.7%
	maybe	47.4%	52.1%	68.0 %	51.4%	47.6%	55.8%
Do you think flossing the teeth is necessary ?	yes	76.9%	70.2%	68.0 %	73.0%	63.8%	79.8%
	no	5.1%	12.8%	8.0%	18.9%	15.2%	7.0%
	maybe	17.9%	17.0%	24.0 %	8.1%	21.0%	13.2%
Do you think the first set of teeth in children do not need treatment as they are going to be replaced in some time?	yes	6.4%	23.4%	32.0 %	18.9%	24.8%	12.4%
	no	84.6%	63.8%	48.0 %	62.2%	61.9%	74.4%
	maybe	9.0%	12.8%	20.0 %	18.9%	13.3%	13.2%
Do you associate dental treatment with pain?	yes	48.7%	44.7%	60.0 %	43.2%	49.5%	45.7%
	no	35.9%	35.1%	36.0 %	40.5%	34.3%	38.0%
	maybe	15.4%	20.2%	4.0%	16.2%	16.2%	16.3%
Do you think cleaning of teeth (scaling) will cause damage to your teeth?	yes	10.3%	18.1%	36.0 %	21.6%	23.8%	13.2%
	no	80.8%	67.0%	56.0 %	64.9%	58.1%	79.8%
	maybe	9.0%	14.9%	8.0%	13.5%	18.1%	7.0%
Is it ok to wear dentures 24/7?	yes	6.4%	6.4%	12.0 %	10.8%	10.5%	5.4%
	no	74.4%	63.8%	56.0 %	56.8%	56.2%	72.9%
	maybe	19.2%	29.8%	32.0 %	32.4%	33.3%	21.7%
Is application of clove oil affective in reducing tooth pain?	yes	37.2%	60.6%	48.0 %	70.3%	52.4%	53.5%
	no	19.2%	9.6%	20.0 %	10.8%	13.3%	14.7%

	maybe	43.6%	29.8%	32.0 %	18.9%	34.3%	31.8%
Is it recommended to visit the dentist even if your teeth feel fine?	strongly recommended	75.6%	63.8%	44.0 %	62.2%	59.0%	70.5%
	not recommended	7.7%	14.9%	20.0 %	5.4%	18.1%	6.2%
	maybe	16.7%	21.3%	36.0 %	32.4%	22.9%	23.3%
Do you think removing a tooth is better than undergoing root canal treatment?	yes	9.0%	13.8%	24.0 %	10.8%	13.3%	12.4%
	no	79.5%	73.4%	68.0 %	81.1%	74.3%	77.5%
	maybe	11.5%	12.8%	8.0%	8.1%	12.4%	10.1%
Do you think treatment of a spoilt tooth can be avoided if it is not hurting?	yes	6.4%	19.1%	32.0 %	13.5%	20.0%	11.6%
	no	85.9%	74.5%	56.0 %	81.1%	70.5%	82.9%
	maybe	7.7%	6.4%	12.0 %	5.4%	9.5%	5.4%
Do you think tooth removal can affect your eye sight?	yes	5.1%	11.7%	4.0%	5.4%	10.5%	5.4%
	no	84.6%	73.4%	68.0 %	81.1%	71.4%	82.9%
	maybe	10.3%	14.9%	28.0 %	13.5%	18.1%	11.6%
Do you think dental treatment can cause problems in hearing?	yes	5.1%	10.6%	12.0 %	5.4%	11.4%	5.4%
	no	83.3%	74.5%	68.0 %	75.7%	67.6%	84.5%
	maybe	11.5%	14.9%	20.0 %	18.9%	21.0%	10.1%
Do aerated drinks cause any dental problems?	yes	83.3%	72.3%	76.0 %	70.3%	73.3%	78.3%
	no	6.4%	8.5%	12.0 %	10.8%	10.5%	7.0%

	maybe	10.3%	19.1%	12.0 %	18.9%	16.2%	14.7%
Do you think hard bristle tooth brushes clean better?	yes	3.8%	10.6%	16.0 %	8.1%	13.3%	4.7%
	no	89.7%	75.5%	76.0 %	78.4%	72.4%	87.6%
	maybe	6.4%	13.8%	8.0%	13.5%	14.3%	7.8%
Is oral cancer seen only in old individuals?	yes	3.8%	3.2%	12.0 %	2.7%	2.9%	5.4%
	no	85.9%	81.9%	64.0 %	78.4%	76.2%	84.5%
	maybe	10.3%	14.9%	24.0 %	18.9%	21.0%	10.1%

Table 1- This table represents all the questions that were asked in the survey and the responses obtained by the population of different genders and age groups (in percentage).

Questions asked	P value obtained after associating with age	P value obtained after associating with gender
Do you think whiter teeth signify healthier teeth?	0.075	0.434
Are braces used for aligning teeth recommended for adults also?	0.072	0.233
Do you think flossing the teeth is necessary ?	0.237	0.020
Do you think the first set of teeth in children do not need treatment as they are going to be replaced in some time?	0.006	0.024
Do you associate dental treatment with pain	0.593	0.821
Do you think cleaning of teeth (scaling) will cause damage to your teeth	0.212	0.801

Is it ok to wear dentures 24/7?	0.439	0.026
Is application of clove oil affective in reducing tooth pain?	0.015	0.903
Is it recommended to visit the dentist even if your teeth feel fine?	0.052	0.016
Do you think removing a tooth is better than undergoing root canal treatment?	0.565	0.821
Do you think treatment of a spoilt tooth can be avoided if it is 2t hurting?	0.044	0.077
Do you think tooth removal can affect your eye sight ?	0.202	0.102
Do you think dental treatment can cause problems in hearing ?	0.600	0.010
Do aerated drinks cause any dental problems ?	0.603	0.578
Do you think hard bristle tooth brushes clean better?	0.240	0.011
Is oral cancer seen only in old individuals?	0.233	0.051

Table 2- This table shows the P values obtained when Chi square correlation test was done to evaluate the association between age, gender and the different questions asked in the survey. There isn't much statistical difference that has been noted in the responses among different sex and age groups except for few myths. This shows that they are prevalent among all age and sex groups.

IV. DISCUSSION

The myths can be prevalent in a population due to a vast variety of reasons such as poor education, social misconceptions and cultural beliefs that have been passed on from one generation to the other (7), (8). More than 50% of participants in the present survey were females. This was opposed to another study done on myths regarding dental treatment done by Anup et al where majority of the population was of male patients (8,9).

A majority of the population lying in the older age groups especially males believed that all types of dental treatment are painful. Pain is not usually experienced in all kinds of dental treatment. The reason for such type of thinking is lack of knowledge and improper beliefs followed by the population. Some of the middle aged males believed that professional cleaning by a dentist leads to loosening of teeth. These results were in line with

the findings of study done by Nagraj et al and Ramandeep et al (10), (9). This kind of misconceptions are usually promulgated by those patients who had previous personal negative dental experiences with the use of ultrasonic scaler for cleaning (11). In certain cases there is a possibility that calculus would have been filling the gaps between the teeth that might be masking the mobility, only after removal of calculus, the undermined enamel will be exposed which will eventually lead to sensitivity of teeth and subsequent mobility (12).

It is actually indicated by health care professionals to get a thorough dental cleaning done every 6 months to maintain ideal oral hygiene (13).

A certain number of participants believed the taboo that extraction of upper teeth can lead to loss of vision or hearing problems. This might be attributed to the low educational levels, apprehension and anxiety about dental treatment that has been entrenched in the patients minds (14). Another reason for this misbelief may be due to the operators fault when an improper local anesthetic block followed. This may lead to temporary blurring of vision which lasts till the effect of local anesthesia wears out. This misconception was also reflected in a study done by N. Saravanan and R. Thirineervannan where 20% of the population believed that tooth extraction can lead to loss of eyesight (15).

A fair number of males especially of the middle and older age groups believed that the first set of teeth (deciduous teeth) do not need treatment as they are going to be replaced in some time. These results were in line with the studies done by Chhabra et al and Anup et al wherein the population believed that primary teeth normally remain in the mouth for a short period of time and are ultimately replaced (11), (10). This reveals that the population is not aware about the importance of treating deciduous teeth and the impact they would have on the succedaneous permanent teeth.

There is an increased chance of surface erosion of the teeth on regular consumption of aerated drinks (16). A majority of the population especially the younger individuals supported this fact. Though there were still a few individuals who unaware about the ill effects of aerated drinks on the teeth.

Improper brushing techniques and equipments can lead to various dental problems (16,17), (18). A handful amount of the population believed that hard bristle tooth brushes clean teeth better, while the rest were either not sure or denied the fact. This suggests that there were still a few individuals who were not aware about proper selection of tooth brushes and dental aids.

Oral cancer though predominantly seen in older age groups its occurrence has also been seen in patients of middle age groups (19). One of the reasons for this may be the increasing occurrence of cancer causing habits like smoking and alcohol consumption among the younger generation. A few of the participants in the current study believed that oral cancer is seen only in old individuals which was in contrast to the study done by Iype et al (19).

A few of the participants of the older age groups preferred undergoing tooth extraction when in pain rather than undergoing endodontic therapy. This may be because people have inadequate knowledge about the different treatment modalities of treating an infected tooth. Additionally they might be feeling that once the tooth is infected is painful it's better to remove the tooth rather than undergoing multiple sittings of root canal treatment which is also more expensive. This is similar to study done by (12) and (20)

Toothache is a dreadful experience, unfortunately, it normally strikes in the night due to altered blood flow in the night. Eugenol, a phenyl propene that is used commonly in medicine and dentistry as a local antiseptic and anesthetic is the chief content of clove (21). Chewing on cloves aids in making the affected area numb. Clove numbed toothaches are not a treatment but only a temporary relief measure.

There are certain limitations in this study. There is no established literature on most myths included in this study. It was mainly framed based on the beliefs that are commonly encountered in day-to-day practice. An attempt to establish the causes for various myths has made in this study despite of having sufficient supporting literatures.

This study involved limited participants. It is necessary to conduct a more extensive study covering a vast geographic area which will help us in evaluating the influence of socio economic status and education of the patients on the prevalence of myths about undergoing dental treatment. There isn't much statistical difference that has been noted in the responses among different sex and age groups except for few myths. This shows that they are prevalent among all age and sex groups (Table 2).

V. CONCLUSION

Based on the results of the study we can conclude that more than 40% of the total study population possessed various myths regarding dental treatments. Co-ordinated efforts by Public Health Specialists, Dental practitioners, Non Government Organisations (NGO's) and grass root level workers are needed. This will effectively help in making an impact on dental health education and will also aid in promoting the prevention of diseases and dental care targeted to the rural population especially in the developing countries.

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