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Prevalence of misconception regarding oral health among the general population of Northern India: A KAP Study

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ABSTRACT
Background
India is a developing country with people of different religion, beliefs and practices. Due to its diversity it faces many challenges in delivering health care needs. The majority of Indian population are located in rural areas. In India, people from various cultural backgrounds reside and there is a very strong influence of the various myths on health-seeking behavior in our population. People tend to have faith in spiritual treatment and alternate forms of medicine, instead of coming to a health professional they visit a local traditional practitioner.In dentistry, most beliefs (no proven fact) guide the patients in the wrong protocol which can lead to difficulty for a dentist to provide a satisfying treatment. Therefore, the present cross-sectional study was done to assess the knowledge attitude and practice regarding misconceptions and their effect on an individual related to oral health among general population in Lucknow.
Methodology
The present study was done on 313 participants of North India, through simple random sampling.A 20 variable, structured, self-administered, close ended questionnaire in English and Hindi was given to each patient to know the prevalence of misconception and their effect on an individual. It consisted of 9 Knowledge based questions, 3 based on Attitude and 8 based on Practice.
Result
The result showed ,201(64.2%) were male & 112 (35.8%) were female. An association was seen with education, no association was seen with gender.
Conclusion
Maas education regarding oral health is important and should be carried out to spread awareness and educate the mass.
Key Words: misconception, myths, oral health, dentistry,

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I. INTRODUCTION

Culture is often defined as coherent, shared patterns of actions or beliefs specific to named groups of people that provide basic life roadmaps or social contexts, defining behavioral norms and interpersonal relationships as well as unwritten rules for proper living.[1] The influence of culture is seen in every discipline of health and medical practices, and dentistry is no exception. Society and culture, which are linked to behavioral patterns, largely influence the health outcomes of a population. Information on the status of oral health of the different populations in the USA, North Africa, and Asia suggests that people from specific ethnic minorities often have poor oral health status.[2,3] Sociocultural factors, false traditional beliefs, lack of proper education, and nonscientific knowledge may seed dental myths.[4,5]. A misconception is defined as a belief or an idea that is not based on correct information. They have a strong influence on the life of individuals and their way of living,

including seeking treatment during illness.[6,7] Misconception thus need to be tackled to facilitate the appropriate utilization of dental services and restrict disability to the bud stage. Studies conducted in North Indian rural population reported higher prevalence of one or more dental myths,[8] as well as for similar study in Karnataka.[9] though myths related to oral diseases and oral health-related practices are very common in the rural population of India. India is a developing country with people of different religion, beliefs and practices. Due to its diversity, it faces many challenges in delivering health care needs. The majority of Indian population are located in rural areas. In India, people from various cultural backgrounds reside and there is a very strong influence of the various myths on health-seeking behavior in our population. People tend to have faith in spiritual treatment and alternate forms of medicine, instead of coming to a health professional they visit a local traditional practitioner. In dentistry, most beliefs (no proven fact) guide the patients in the wrong protocol which can lead to difficulty for a dentist to provide a satisfying treatment. Many misconceptions have grown in the field of dentistry, while many of these are harmless, others lead people to take inadequate care of their teeth, or cause them to avoid visiting the dentist regularly. Ignoring dental care or avoiding dentist can lead to serious problems, many of which can only be treated by a dentist. Most of these misinformation began because many people remember stories of the dentistry of past generations.[10,11,12] The current study was done to evaluate various dental misconception amongst patient and the effect it has on treatment of patient that prevail in a population residing in North India.

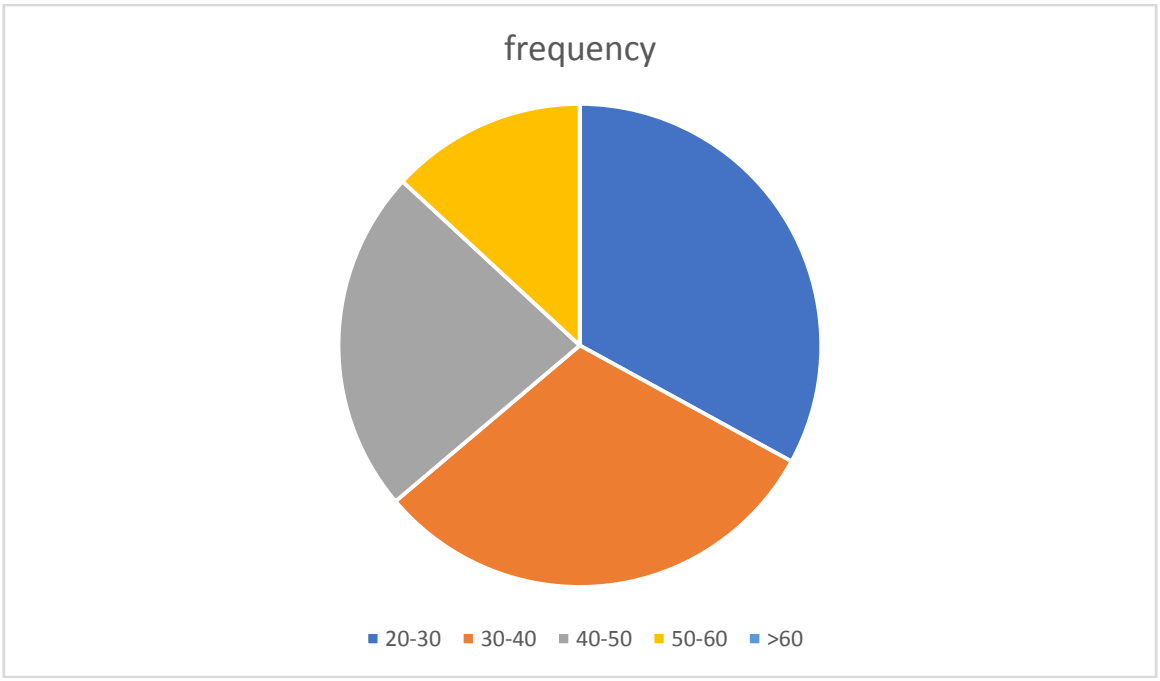
II. METHODOLOGY

The present cross sectional study was done to assess the knowledge attitude and practice regarding misconceptions and their effect on an individual related to oral health among general population in North India. The study population consisted of general population visiting the clinics of dental practitoners. Patient excluded were: Patient who refused to participate in the study and Patient who couldn't comprehend the questions of the study.An informed consent was obtained from the participating population. Pilot study consisting of 20 participants was carried out. The study was carried for 2 months between October 20- November 20.The sample size was estimated using the formula $n=Z^2P(1-P)/d^2$. The sample size was estimated to be 313. Random sampling technique was used.Questionnaire framed for the pilot study was evaluated for content and relevance validity of the participants. The reliability was measured using Cronbach's alpha which was 0.71 No modifications were made in the questionnaire adopted. The questionnaire was made in English which was translated into the local language and then again translated back to English to check the linguistic validity.A 20 variable, structured, self-administered, close ended questionnaire in English and Hindi was given to each patient to know the prevalence of misconception and their effect on an individual. It consisted of 9 Knowledge based questions, 3 based on Attitude and 8 based on Practice. The data collected were entered in IBM SPSS statistics 20 and Percentageage and frquency was calculated for every question which is presented through graphs and tables. Non parametric chi square test was used on categorical data.

III. RESULT

A cross sectional study was conducted on 313 individual of which 201(64.2%) were male & 112 (35.8%) were female. The demographic data is represented in Fig.1 table1

Age	Frequency
20-30 years	93
30-40 years	87
40-50 years	65
50-60 years	37
>60 years	31



The descriptive statistics for the answers is shown in table 2.

Question	Agree	Disagree	Don't know
Sweets is the only cause of cavities.	118 37.7%	148 47.3%	47 15%
Decay in milk teeth need not be treated as they are going to fall anyways.	181 57.8%	124 39.6%	8 2.6%
If tooth pain due to decay, it's better to extract.	118 37.7%	187 59.7%	8 2.6%
Once a tooth is treated, the decay stops in that tooth	214 68.4%	81 25.9%	18 5.8%
After a Root Canal Treatment, there is no need to place a crown.	54 17.3%	81 25.9%	178 56.8%
The more you brush your teeth, the more whiter your teeth becomes	131 42%	95 30.3%	87 27.7%
Brushing your teeth using salt, whitens your teeth	120 38.3%	130 41.5%	63 20.2%
Brick powder & charcoal cleans your teeth better than a tooth paste	53 16.9%	185 59.1%	75 24%
When gums bleed, it's better not to brush and floss your teeth	126 40.3%	132 42.2%	55 17.5%
Chewing tobacco helps in maintaining good oral hygiene	11 3.5%	273 87.2%	29 9.3%
Smokeless tobacco is less harmful and a safe alternative to smoking	71 22.7%	177 56.6%	65 20.7%
It's better to avoid dental treatment during pregnancy	79 25.2%	51 16.3%	183 58.5%
Extracting any tooth leads to loss of vision	95 30.4%	167 53.4%	51 16.2%
Professional scaling leads to sensitivity, mobility in teeth and also creates gap between them.	101 32.4%	123 39.1%	89 28.5%
Teething leads to dysentery	153 48.9%	63 20.1%	97 31%
Exfoliated tooth should be buried	149 47.6%	116 37.1%	48 15.3%
Eruption of 3rd molar increases wisdom?	44	177	92

	14.1%	56.5%	29.4%
Do you avoid dental treatment due to fear?	71 22.7%	242 77.3%	0 0

Table 3 shows the inferential statistics for the answer, chi square was applied to see the association with age and gender.

Question	Age	Gender
Sweets is the only cause of cavities.	0.052	0.81
Decay in milk teeth need not be treated as they are going to fall anyways.	0.021	0.53
If tooth pain due to decay, it's better to extract.	0.76	0.87
Once a tooth is treated, the decay stops in that tooth	0.91	1.2
After a Root Canal Treatment, there is no need to place a crown.	0.34	0.53
The more you brush your teeth, the more whiter your teeth becomes	0.71	0.41
Brushing your teeth using salt, whitens your teeth	2.3	1.3
Brick powder & charcoal cleans your teeth better than a tooth paste	3.1	0.72
When gums bleed, it's better not to brush and floss your teeth	0.21	0.098
Chewing tobacco helps in maintaining good oral hygiene	0.013	0.041
Smokeless tobacco is less harmful and a safe alternative to smoking	0.001	0.08
It's better to avoid dental treatment during pregnancy	0.87	0.004
Extracting any tooth leads to loss of vision	0.031	0.005
Professional scaling leads to sensitivity, mobility in teeth and also creates gap between them.	0.008	0.031
Teething leads to dysentery	0.21	0.04
Exfoliated tooth should be buried	8.1	0.97
Eruption of 3rd molar increases wisdom?	0.91	0.61
Do you avoid dental treatment due to fear?	0.043	0.031

Chi square applied $p<0.05$

IV. DISCUSSION

The study was conducted among general population of North India..The study was done to assess the misconceptions regarding oral health and how it effects the treatment needs of the population. Every country has its own culture and beliefs and so does India. Its because of diversity of the country we hear different stories which is passed from generation to generation. There are stories which do not have any strong relation.The most common prevailing misconception was that Decay in milk teeth need not be treated as they are going to fall anyways. 37.7% agreed to Sweets being the only cause of cavities which was almost similar to another study done by Raina SA et al[13] where 48.4% believed in the misconception. When asked about if Decay in milk teeth need not be treated as they are going to fall anyways 57.8% agreed to it which is similar to studies done by Gambhir et al[14] and Kochhar S et al[15]. it is because lack of education and poverty. They are still not aware about ill-effects of caries in primary teeth which may affect the permanent dentition and every attempt can be made to save the natural teeth for the multiple benefits of a patient.[16] feel that these teeth are going to shed, so treating them as waste of money and time as these teeth will anyway be supplanted by permanent teeth. This is not by any means valid as ahead of schedule loss of milk teeth will meddle with chewing and influence the kid's nourishment; prompts drifting of the adjacent teeth and closure of Percentageage of the space that is needed for the succeeding permanent teeth to erupt into. Such a loss of space will result in the succedaneous teeth to erupt in unpredictable position resulting in crowding. Therefore milk teeth need to be cared for as much as permanent teeth. So it is appropriate to begin the propensity for cleaning the baby's teeth not long after they erupt in the mouth.37.7% believed if there is pain in tooth due to decay its better to extract which is contradictory to study done by Vighnesh R[17] where 58% believed in extraction of decayed tooth. 68.4% thinks that after treatment decay is stopped similar to Vighnesh R[17] This belief is because that people do not know the initiation and progression of dental caries and the immunity to fight against bacterial colonies differs from person-to-person.

Most respondents were unaware about Root Canal Treatment only People are not aware that the teeth have a protective feedback mechanism that is lost when the pulp is removed, which may contribute to tooth fracture.[18] Since the pain and discomfort is totally lost after the first visit, they believe it is completely treated and never return for the next appointment. 59.1% didn't believe in use of brick powder & charcoal over tooth

paste but 16.6% were in favor of using charcoal. 24% didn't know about it. Which was similar to study done in Salem city done by N. Saravanan R.[19] where only 15% were in favor of brick powder and also Khan et al[21]. This shows that they may be aware of other available treatment options for curing tooth pain. This perception was found to be significantly associated with age and education level of the participants. The educated participants responded more positively towards the perception in question compared to un-educated participants. The result was different from another study done by Raina SA[13] where 50% believed in use of brick powder. 40.3% agreed that when gums bleed, it's better not to brush and floss your teeth similar to study by Gambhir et al[14] Whereas 58.4% disagreed to it in a study done by Which is evident of lack of awareness regarding oral hygiene. The most positive result was regarding the use of tobacco as 87.8% disagreed to use of tobacco in maintaining good oral hygiene which shows awareness regarding harmful effect of tobacco which is different from a similar study done by Singh SV et al[20] where 48% used tobacco. Regarding practice of visit to dentist most of them (58.7%) believed in visiting dentist in case of pain which is similar to other studies of Kochhar et al, Praveen et al[21]. Pain is the symptom which occurs only at the final stages of dental caries and not the initial symptom. So they don't realize the disease process undergoing within them.[17] Regarding dental treatment during pregnancy majority of them had no knowledge about it. This can be due to the fact that major population in the study were males.21.3% of subjects in the study done by Kiran G.B. et al[22] were of the opinion that dental treatments should not be done during pregnancy, while 56.8% were of that opinion in a study by Vignesh et al[17.] In another study done by Raina SA et al[13] 48.4% of subject think that dental treatment should be avoided during pregnancy. This could be due to the reason that undergoing dental treatment during pregnancy would hamper the development of the fetus. However, they are unaware of the fact that treatment has to be done when in emergency and other procedures can be done during 2nd trimester when organogenesis is complete[23]. Awareness should be created regarding the oral foci of infection, which when untreated can lead to a baby with preterm low birth weight. Professional dental cleanings can be performed at any point during pregnancy. Emergency dental care can also be performed at any time with physician clearance[22.] 47.6% of participants were of the opinion that burying the exfoliated milk tooth wile in a study done by N.Saravanan in Salem city only 6.6% of population believed in it . In another places it is believed that exfoliated tooth of the child on the roof of a house in the presence of squirrel can lead to the eruption of the healthy permanent tooth. It is believed that squirrel takes the old tooth and returns it for a new one. This kind of behavior can be attributed from the family members, especially grandparents, who exerted a considerable influence on the family especially the younger generation.[24] 30.4% of the respondents believe that extraction of upper teeth deleteriously affects eye sight was lower than the study done by Khan SA et.al (47%), Kumar et al[9](35.6%). 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. Compared to the above knowledge and perceptions, it was found that 32.4% of people believe that scaling, cleaning and removal of tartar loosens the teeth. This positive finding indicated that people have started getting aware of the dental procedures due to various awareness camps in schools, colleges and rural areas. This response was not in accordance with previous study conducted by R Sharma[25] wherein many respondents believed that professional scaling leads to loosening of the teeth. This finding was also dissimilar with the study conducted by Ain TS where 72.7 believed in this myth.[26] While scaling actually helps teeth to be more strongly held by the surrounding gums and bone, and promotes oral health, 24.6% of respondents in the current study stated that professional scaling creates sensitivity, mobility, and gaps between teeth; this is in concordance with a myth among Hispanics/Latinos, as found by Vazquez et al.[27] In addition, 63.2% responded similarly in a study done by Vignesh et al., and Tewari et al.[28]noted 82% prevalence of a similar myth. The fact that the calculus would have been filling the gaps, masking mobility and sensitivity, and that only after removal of the calculus would the underlying dentin be exposed, resulting in sensitivity of teeth, should be emphasized along with the oral prophylaxis procedure. It was further observed that cultural factors are also deeply involved in matters of personal hygiene, nutrition, immunization and seeking medical care etc[29].

LIMITATIONS

The study design being cross-sectional and observational could only unearth information about the prevalence of dental myths. Further studies in longitudinal design are required to know the association of risk factors involved, to completely eradicate myths.

Taking account of myths that are predominantly observed in this region restricted our study to one region. However, some myths that can be generalized to all areas can be studied over a large area.

V. RECOMMENDATION

More studies are recommended in this direction using a larger, nationwide sample in order to achieve a consistency in the results and people can be aware towards myths regarding dental field.

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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