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Oral Health Related Myths in Rural Haryana – A Status Check On Oral Health Care

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ABSTRACT
To assess the prevalence of oral health related myths and status related to oral health among rural people of Rewari district, Haryana. A Descriptive epidemiological study was done among rural population of Rewari district in Haryana. Data was obtained using a triple sectional questionnaire including subject demographics, questions on dental myths and misconceptions and clinical assessment of oral health status. Data obtained was statistically analysed using descriptive statistics, tests including Mann-Whitney U and Kruskal-Wallis . P value of <0.05 was set to be significant statistically. 760 subjects were divided into 380 (50%) males and 380 (50%) females. Of the total participants, 47.6% of participants believed that "When gums bleed, it is better not to brush teeth. majority of participants (54.7%) believed that early morning smoking improved bowel movements. A difference with statistical significance (p=0.002) was seen in-between DMFT and myth prevalence. To eradicate mythical beliefs from rural population and to improve their oral health, behaviour change of people is must. The best means to counter myths from society can be by using SBCC (Social and Behaviour Change Communication) intervention. As the present study showed a higher DMFT scores in participants with high myth prevalence, removing these dental myths from society can be key factor in reducing oral disease burden.
Key words: *Myths, Dentistry, Rural population, cross-sectional study*

INTRODUCTION
Oral health usually underestimated as just strong teeth; whereas, good oral health is essential for public, financial and in person growth of human beings. Modest oral condition may wreak disheartenment, diminish public contacts, can become a reason to long-lasting stress and misery plus cause great monetary cost. Therefore, it may be admissible to state that status related to oral health replicates general well-being and quality of life[1]. India, an emerging country finds many obstacles in execution of dental health requirements. A Large chunk of Indian people live in rural areas. Populace comprises of people from dissimilar social circumstances and this has robust impact on health seeking conduct in our people[2].Existence of health disparities prevails including variations related to oral health between Dwellings of rural and urban nature in our country . Large number of people live in villages having inadequate facilities related to oral and general health accessible to them. Oral conditions make substantial contribution towards worldwide load of illness, mainly at the higher end in the deprived clusters of both advanced and emerging nations.

In last five decades, a constant rise has been seen in both the occurrence and in the gravity of the situation related to carious teeth in India. Debilitating type of dental infection has left a big section of adult people edentulous. It has been observed from previous research that 30% of children have malocclusion weakening the potential of dentofacial tool to function correctly[3].

Society provides a stimulus on health and illness. Impact of culture is grasped in every aspect of health associated exercises, and dental sciences is no exemption. Civilization and cultural considerations, which are related to behavior patterns, impacts the outcome related to health for people. Progressively through expansion of education, these prohibitions and theories are vanishing, but still they continue and are frequently observed[4].

Mythologies can rise as either sincere descriptions or over elaborated explanations of past occasions, as sign or representation of incidences, or as a portrayal of ritualistic processes. They may be used to depict spiritual or idealized custom, to create behavioral models. Dental myths typically appear on the basis of untruthful old-style beliefs and scientifically indifferent information which is entrenched over the minds

of future generations through due course of time thus generating interruption in acknowledgment of evidence based and modern dental curative procedures[5].

Some beliefs include that a toddler born with teeth are wizards or witches. Prosthetic teeth are alleged to be of natural origin obtained from a human being. The presence of individuals who believed within the parable of vision loss due to extraction of upper teeth was explored[6]. Peoples' way of living differ from one income group to a singular as their consumption power is additionally differ among income groups of individuals[7-8].

The people from Brazil have their faith in the worm theory. They use the flexibleness of prayers , invocation, perfume and flora forestalling the evil squirming of tail of the worm. They have a belief that worm may enlarge the outlet to flee out of the region and occurrence of which makes the pain non-existent. The black, hollowed out tooth remains within the socket[9-10].

In totality, the research output associated with this matter is extremely inadequate and no research has been done to evaluate the association of myth prevalence and status related to oral health. So, a study to assess the prevalence of dental myths and oral health status among rural people of Rewari district, Haryana was carried out

MATERIAL AND METHODS
Design of the study and description of the population
A Descriptive epidemiological study was steered among rural population in Rewari district for evaluating the myths and misconceptions and related oral health status. 760 subjects were included in the study using simple random sampling method. People with age 20 years and above and who were permanent residents of Rewari district were included in the study and people suffering from any systemic ailments and who denied the consent to participate were excluded .

Sample Size Estimation
Since it is a population based descriptive study, the minimum size of the sample was calculated through a formula given by Slovin:

$$n = N/1+ N(e)^2$$

Where, N = Total rural populace (999602 as per Census 2011)
e = Margin of error (0.05)
 Here, the minimum sample size calculated was 400.

Study Questionnaire
Study questionnaire comprised of 3 sections; first section includes demographic details, second section includes self-structured questionnaire regarding dental myths and misconceptions and clinical assessment form. The questionnaire was tested for face validity by a subject expert. The pilot study was done on 30 subjects to check for reliability of questionnaire. A Cronbach alpha value of 0.782 was obtained. The outcomes obtained from the pilot study were not included. A bilingual subject matter expert performed translation for the questionnaire from English to Hindi . Another subject matter expert translated the Hindi questionnaire back to English . The alterations were taken note of and the variances were sorted out by including both translators. Thus, a final questionnaire in hindi was designed , which was used as a research tool . The entire survey period bridged over the period of 3 Months from December 2019 to March 2020.

Ethical Clearance
Prior to initiation , the survey design was accepted by the Ethical Review Board of the institution (SGTU/FDS/MDS/24/1/519). Consent ton participate was taken from the participants and measures were taken to maintain confidentiality of participants.

Statistical Analysis
The recorded data was entered into a spread sheet. SPSS version 25 was utilised to perform the analysis. P value < 0.05 was fixed for considering the data statistical significant

Computation of percentages and means were included in descriptive statistics. Data underwent for normality distribution checking using Shapiro-Wilk's test. To check the association between mean DMFT and gender, Mann-Whitney test was used and for taking out the association of myth prevalence and DMFT, Kruskal Wallis test was used. Chi Square test was used for the assessment of associations among the proportions

RESULTS AND DISCUSSION
 760 study subjects represented equal number of male and female gender i.e., 380 (50%) (Figure 1). Majority of participants belonged to Ahir group (59.1%) followed by Jaat (13.2%) and Pandit (9.5%). Majority of participants (58.8%) belonged to middle class (UdaiPareek revised scale). No participants were found in upper class and lower class.

Table 1 & Figure 2 shows the prevalence of dental myth and misconceptions on basis of gender. Of the total participants, 47.6% of participants believed that "When gums bleed, it is better not to brush teeth." Majority of participants (54.7%) believed that early morning smoking improved bowel movements. Table 2 shows the distribution of mean scores of Decayed(D), Missing(M), Filled(F) component among participants by Gender. A difference was observed among the mean DMFT scores of male and female gender also showing statistical significance (p=0.04). Table 3 showcases the distribution of status of Gingival bleeding among participants by Gender. Males had more gingival bleeding than females.

Table 4 shows the association of DMFT and myth prevalence among study participants. Myth prevalence was divided into three categories on the basis of responses given by individual out of total number of myths as follows: low myth prevalence (0-17), medium myth prevalence (18-34) and high myth prevalence (35-50). Individuals with high myth prevalence had high DMFT score. A difference was observed between DMFT and myth prevalence showing statistical significance (p=0.002). **Table 5** shows the association of myth prevalence with oral health status (gingival bleeding) among study participants. A difference was observed between myth prevalence and bleeding component where individuals with medium myth prevalence had higher prevalence of gingival bleeding than individuals with low and high myth prevalence and was statistically significant (p=0.001)

Majority of Indians live in rural settings. The Indian populace lies across different social and economic circumstances and this has a very strong impact on their health seeking behaviour. There are several myths in the community that focus on oral health, some of which may be a barrier to seeking medical and dental treatment.

The study was conducted in rural areas of the Rewari region to examine myths about dentistry and to assess their oral health status because until we decipher human mentality, chances are that oral health services will not be used effectively even if they are made accessible.

In the current study, a list of questions created about dental myths were used to assess their prevalence. Of the total participants, 47.6% of participants believed that "When gums bleed, it is better not to brush teeth." These results were in agreement to a study by Kochhar *et al*[11] which suggested that 58% of participants believed in the myth and the results contradicted the research conducted by Kumar et al (2014)[2] where only 7.5% of participants believed in the myth and study by Tewari *et al* [5] in which 74% of participants had this myth. This may be because in rural areas people do not know the proper methods of oral hygiene maintenance due to the lack of proper oral health education programs. When examining myths related to tooth decay, 72.5% of participants believed that "drinking hard water causes tooth decay". This was equated with a study done by Tewari *et al* [5] in which only 43% of participants had this myth. The myth was found to be higher in women than men.

In our study, a large chunk of participants (54.7%) believed that early morning smoking improved bowel movements. This is in agreement with a preceding reported earlier in which 59% of people agreed with the myth. When this was compared gender wise, the myth was found to be more prevalent in males. In rural area of Rewari district, tobacco is widely used in smoking form such as Hukkah, Bidi and Cigarette as observed in our study and older people in groups outside the home may be seen with Hukkah. This shows that their knowledge is low and can be attributed to their level of education and poor awareness of oral health.

54.3% participants believed that "Throwing the exfoliated milk tooth of the child on the roof of the house can lead to eruption of healthy permanent tooth." The results contrasted with the results of Singh *et al*[12] where 89% and 27% believed in this myth. This type of misconception appears from the false embroidered information provided by individuals who have had poor dental knowledge. Information about the importance of teeth should be disseminated to the public through oral health communication. Anganwadi staff can play a key role in disseminating this knowledge to mothers of new-borns. The reasons for these dental myths can be multifaceted and indicate towards a mixture of incomplete information about the connection between oral health and physical wellness. As some people think that oral diseases are not life threatening and do not affect normal health, this could be one of the reasons why they avoid dental treatment.

The present study assessed association of dental myths and oral health status. High myth prevalence category had poor status related to oral health compared to middle and lower myth prevalence category. This can be justified as people having high myths tend to rely more on home remedies and practice poor oral hygiene practices. They prefer using neem stick over toothbrushes and this affects their periodontal health as well.

Present study showed a mean DMFT score of 3.1+ 4.8 which is contrast with study done by Handa*et al* [13] where mean DMFT score was 1.78. DMFT score was higher in females than males. Majority of participants had healthy gingival status. Only 26.6% participants had presence of gingival bleeding which

is 29.62% in contrast to results of Das _et al_[14] where gingival bleeding was 3.82% only. Gingival bleeding was higher in males than females.

The present study had some strengths as the questionnaire was comprehensive in nature and it investigated varied aspects related to myths regarding oral health. The study also investigated the association of these myths with oral health status as myths can have a major influence on health related to the oral cavity of people. Limitation persisting in the study is that the study results cannot be generalized to the whole population as people from different social backgrounds have different culture, lifestyle and oral hygiene practices. As the present study showed higher DMFT scores in participants with high myth prevalence, removing these dental myths from society can be a key factor in reducing oral disease burden. Oral Health professionals in association with healthcare workers and community leaders may have a dynamic part in generating the cognizance and eradicating myths and misconceptions which prevent individuals from practicing good oral hygiene practices and seeking dental health care services.

Table 1: Prevalence of Dental myths among participants based on gender

Question	Participants, n (%)		
	Male	Female	Total
Q1 When the gums bleed it is better not to brush the tooth.	182 (47.8)	180 (47.3)	362 (47.6)
Q2 Longer you brush, more clean tooth get.	162 (42.6)	148 (38.9)	310 (40.7)
Q3 Decay occurs because my teeth are soft.	209 (55.0)	214 (56.3)	423 (55.6)
Q4 Drinking hard water causes tooth decay.	256 (67.3)	295 (77.6)	551 (72.5)
Q5 Smoking bidi/cigarette in the early morning improves bowel movement.	356 (93.6)	60 (15.7)	416 (54.7)
Q6 Throwing the exfoliated milk tooth of the child on the roof of the house can lead to eruption of healthy permanent tooth.	210 (55.2)	203 (53.4)	413 (54.3)
Q7 A raw diet is good for my oral health.	217 (57.1)	266 (70.0)	483 (63.5)
Q8 No dental treatment should be done during pregnancy.	200 (52.6)	119 (31.3)	319 (41.9)
Q9 Cleaning of teeth by a dentist causes loosening of teeth.	232 (61.0)	275 (72.3)	507 (66.7)
Q10 Extraction of teeth of upper jaw causes loss of vision.	217 (57.1)	273 (71.8)	490 (64.4)

Table 2: Status of Oral health (DMFT) among participants based on Gender

Gender	DT (Mean ± SD)	MT (Mean ± SD)	FT (Mean ± SD)	DMFT (Mean ± SD)
Male	0.6 ± 1.3	2.0 ± 4.7	0.3 ± 0.7	2.9 ± 4.9
Female	0.7 ± 1.2	2.3 ± 4.7	0.1 ± 0.4	3.3 ± 4.8
Total	0.7 ± 1.3	2.1 ± 4.7	0.2 ± 0.6	3.1 ± 4.8
p value	**0.02***	**0.02***	**0.02***	**0.04***

Mann-whitney test; *p≤0.05 (Statistically significant)

Table 3: Status of Oral health (Gingival Bleeding) among participants based on gender

Gingival Bleeding	Gender, n (%)		Total n (%)
	Males	Females	
Present	130 (34.2)	91 (23.9)	221(29.1)
Absent	250 (65.8)	289 (76.1)	539(70.9)
Total	380(100)	380(100)	760(100)

**Table 4: Bivariate association of Dental myth prevalence and Oral health status (DMFT)**

Myth prevalence	DMFT (Mean +SD)
Low	1.2 ± 2.4
Medium	3.1 ± 5.7
High	5.1 ± 5.8
p value	**0.002***

Kruskal Wallis Test; *p≤0.05 (Statistically significant))

Table 5: Bivariate association of Dental myth prevalence and Oral health status (gingival bleeding)

Myth prevalence	Absence of condition n (%)	Presence of condition n (%)	Total	p value
Low	278 (76.3)	86 (23.7)	364 (47.9)	
Medium	27 (57.4)	20 (42.6)	47 (6.2)	**0.001***
High	191 (54.7)	158 (45.3)	349 (45.9)	
Total	496 (65.3)	264 (34.7)	760 (100)	

Chi-square Test; *p≤0.05 (Statistically significant))

Figure 1: Gender wise Distribution of Participants
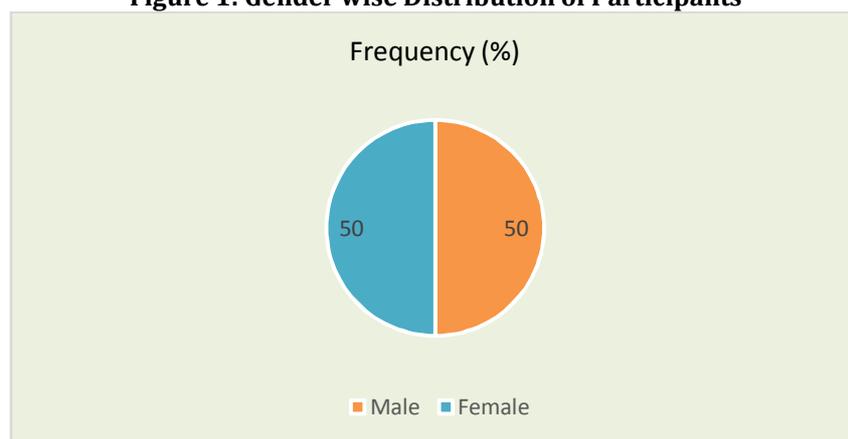
Figure 2: Dental Myth prevalence among study participants
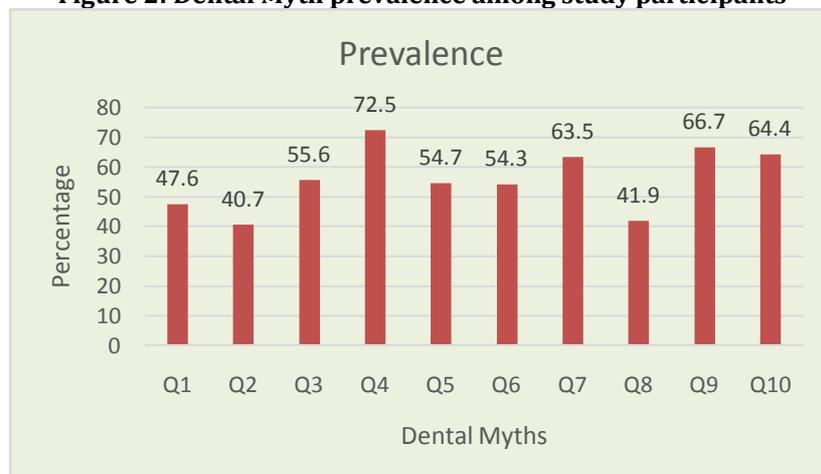
CONCLUSION

Results of present study showed high prevalence of dental myths among rural Rewari district population. Participants with a high myth prevalence category had higher DMFT scores. This can be justified as people having high myths tend to rely more on home remedies and practice poor oral hygiene practices. As the Indian populace has people belonging to different cultural backgrounds, there can be a robust influence of numerous cultural taboos on health seeking behaviour of the populace. The best means to counter myths from rural society could be by using SBCC (Social and Behaviour Change Communication) intervention. Comprehensive IEC (Information, Education and Communication) material focusing on elimination of oral health related myths can be designed and disseminated to the general population.

REFERENCES
1. Yadav P, Shavi GR, Agrawal M, Choudhary P, Singh D.(2015). Myths and misconceptions about dentistry: A cross-sectional study. Arch of Dent and Med Res 2015;1(1):14-8.
2. Kumar S, Mythri H, Kashinath KR. (2014). A clinical perspective of myths about oral health a hospital based survey. Univ J Pharm;3:35-7.

3. Bali RK, Mathur VP, Talwar P. (2004). National Oral Health Survey and Fluoride Mapping 2002-2003, India. New Delhi: Dental Council of India; Available from: https://dciindia.gov.in/Download/Books/NOHSBOOK.pdf
4. Raina SA, Jain PS, Warhadpande MM. (2017). Myths and taboos in dentistry. Int J Res Med Sci. 5(5):1936-42.
5. Tewari D, Nagesh L, Kumar M. (2014). Myths related to dentistry in the rural people of Bareilly district: A cross-sectional survey. J Dent Sci Oral Rehab ;5(2):58-64.
6. Nagaraj A, Ganta S, Yousuf A, Pareek S. (2014). Enculturation, myths and misconceptions regarding oral health care practices among rural female Folk of Rajasthan. Studies on Ethno-Medicine;8:157-164.
7. Islam MM, Mustaquim M. (2014). Socio economic status of rural people an income level analysis. Asian acad res j multidisciplinary,;1(24):98-106.
8. Petersen PE. (2003). The World Oral Health Report 2003: Continuous improvement of oral health in the 21st century – The approach of the WHO Global Oral Health Programme. Community Dent Oral Epidemiol; 31(1):3-23.
9. Nations MK, NutoSde A.(2002). "Tooth worms", poverty tattoos and dental care conflicts in Northeast Brazil. SocSci Med, 54:229-244.
10. Ain TS, Gowhar O, Sultan S. (2016). Prevalence of Perceived Myths Regarding Oral Health and Oral Cancer-causing Habits in Kashmir, India. Int J Sci Stud;4(3):45-9.
11. Kochhar S, Singh K, Anandani C, Pani P, KaurBhullar RP, Bhullar A. (2014). Occurrence of Oral Health Beliefs and Misconceptions Among Indian Population. J Dent Health Oral DisordTher;1(5):31.
12. Singh SV, Akbar Z, Tripathi A, Chandra S, Tripathi A. (2013). Dental myths, oral hygiene methods and nicotine habits in an ageing rural population: an Indian study. Indian J Dent Res;24(2):242.
13. Handa S, Prasad S, Rajashekharappa CB, Garg A, Ryana HK, Khurana C. (2016). Oral health status of rural and urban population of Gurgaon block, Gurgaon district using WHO assessment form through multistage sampling technique. J ClinDiagn Res;10(5):43.
14. Das D, Suresan V, Jnaneswar A, Khurana C, Bhadauria US, Saha D. (2019). Oral health status and treatment needs among the Juang tribe-a particularly vulnerable tribal group residing in Northern Odisha, India: A cross-sectional study. Health Soc Care Community;27(5):752-9.

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