

Perceived oral health beliefs, traditional practices, and oral health status of nomads of Tamilnadu: A cross-sectional study

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ABSTRACT

Aim: To assess the perceived oral health beliefs, traditional practices, and oral health status of nomads. **Methods:** A cross-sectional study was conducted among 115 nomads residing in various places of Tamilnadu. Information regarding socio-demographics such as age, gender, occupation, and place of residence were obtained. Study participants were interviewed with a pre-tested questionnaire consisting questions related to oral health beliefs and oral health practices. Clinical examination was carried out to record the oral health status using a proforma. **Results:** A significant Chi-square association was found with oral health-related beliefs ($P < 0.01$). However, 30.9% had perceived strong beliefs, 64.3% of the subjects used toothbrush, and 20% had at least one oral mucosal lesion. **Conclusion:** A significant proportion of nomads had perceived oral health beliefs, which had a significant association with their traditional practices and their oral health was much deteriorated.

Keywords: Beliefs, nomads, oral health, practices

Introduction

Nomads (derived from “Greek”) are members of a community who lack a fixed habitation and move from place to place for livelihood. They are also called as *Romani* in various countries who are colloquially known as Gypsies or Roma. They are an Indo-Aryan who traditionally originated from the Indian subcontinent mainly from Rajasthan, Haryana, and Punjab.^[1,2] Genetic findings confirmed that Romani originated from a single group of people who left from north-western India about 1,500 years ago.^[3] As of 1995, there were about an estimate of 30–40 million nomads living across the world. Of which, 1 million people are residing in India and Anthropologists have identified

the existence of 5 nomadic groups in India.^[4] The common ethnic group residing in most parts of Tamilnadu is “*Toda*”.

There are several studies on oral health beliefs, myths, cultural beliefs, values, and practices among different cultural groups; however, there are no studies pertaining to the oral health-related beliefs among ethnic minorities who lack knowledge about oral health. A report from the study conducted among the population of the United States found that ethnic minorities have poor oral health status.^[5] The reason for poor health is not because of them being a part of the nomadic group, but the cultural beliefs and practices commonly followed among these groups which influence their oral health status.

Race/ethnicity of a population is considered a marker for oral health as the underlying cultural beliefs, values, and practices

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influence the oral health-seeking behavior, and eventually, leads to poor oral health. In addition to beliefs followed by them, lack of knowledge and awareness about oral health, oral hygiene practices majorly influence their oral health status.^{6]} A study conducted among the Jackal people residing in South Tamilnadu reported poor oral health status including the prevalence of dental caries and periodontitis being 96% and 45%, respectively; the reasons associated with poor oral health were poor knowledge and awareness about oral health among those groups.^{7]}

Thus, this research aims to analyze the perceived oral health beliefs, traditional practices followed by nomadic groups and also examine their oral health status to assess how beliefs influence oral health of these groups.

Materials and Methods

A cross-sectional study was conducted among nomads residing currently in the State of Tamilnadu during the period of April and May 2019. The ethical clearance (SRMU/M and HS/SRMDC/2019/S/002) for the study was obtained from the Institutional Review Board of SRM Dental College and Hospital, Chennai. The sample size calculated with confidence level 95% was 115. Subjects who did not give consent or refused to participate; subjects who had difficulty in understanding the local language; subjects who were unable to comprehend the questions were excluded from the study. A closed-ended questionnaire was prepared consisting of questions related to oral health beliefs and oral hygiene practices, which was pre-tested for validity and reliability among a sample of 20 participants. The internal consistency of the questionnaire was assessed and a Cronbach's alpha value of 0.86 was obtained. These samples were not included in the final data analysis.

The questionnaire consists socio-demographic details and a set of 10 questions; the questions 1–7 were according to their perception and attitude toward oral health and the treatment-seeking behaviors. The eighth question had a subset of 7 questions related to commonly perceived oral health beliefs. The ninth and tenth questions were related to oral health practices that included the material used for cleaning the teeth and the perceived effectiveness of that material. The data were collected through face-to-face interview as the subjects were not able to read or write. WHO proforma 2013 was used to collect the data regarding their oral health status. Oral health examination (ADA Type III examination) was carried out by a single trained examiner, training and calibration were done, and intra-examiner reproducibility was found to be good with a kappa value of 0.8.

Statistical analysis

The statistical analysis was performed using the IBM SPSS (software statistical package for social sciences) version 21. Descriptive statistics which included percentages and frequencies were used. The Chi-Square test was used to find out significant differences at $P < 0.05$.

Results

The study included 115 participants aged 15 to 70-year-old, and majority of them belonged to 25–44 year-old [Figure 1]. There were a more number of female (53%) participants than male (47%) participants. The percentage of decayed, missing, and filled teeth among study participants were found to be 63.5%, 19.1%, and 5.2%, respectively. In total, 76.5% of the subjects had gingival bleeding and 28.7% of subjects had probing pocket depth [Table 1]. The most commonly found dental condition was dental erosion (10.4%), which was followed by a dental trauma (6.08%). Enamel fluorosis was found among 4.3% of the subjects and 3.47% of the subjects wore dentures [Figure 2]. There were a total of 20% of subjects who had at least one associated oral mucosal lesions; out of which, 9.60% of them accounted for abscess; 6.90% of them had pouch keratosis, and 3.50% of them had aphthous ulcers [Figure 3].

There was a highly significant association found between enduring pain as it is perceived as a weakness and avoiding dentists due to dignity, with a P value < 0.001 . Approximately, 74.8% were scared of being diagnosed with life-threatening conditions, and the association of it with getting treated after being diagnosed was found significant ($P < 0.05$). However, 16.5% of the study participants were involved in self-treating themselves, 24.3% of the subjects thought home remedies were better than treatments offered by dentists; and the association between these two was found to be highly significant ($P < 0.01$). The commonly used materials for brushing the teeth were toothbrush (64.3%), fingers with toothpaste/brick powder (32.1%), and twigs (3.5%). The Chi-square showed significant association between materials used for toothbrushing and usage of fingers/twigs found effective ($P < 0.01$); however, no association was found with gingival bleeding as well as probing pocket depth [Table 2]. Approximately, 66% of the study subjects reported "Cleaning the teeth by a dentist causes loosening of teeth"; 56.5% of the subjects reported "Extraction of teeth of upper jaw causes loss of vision". Question-related to dental decay showed 32.17% had reported "Placing cloves in a decayed tooth always relieves pain". In total, 15.7% reported "Chewing pan is good for oral health" [Table 3].

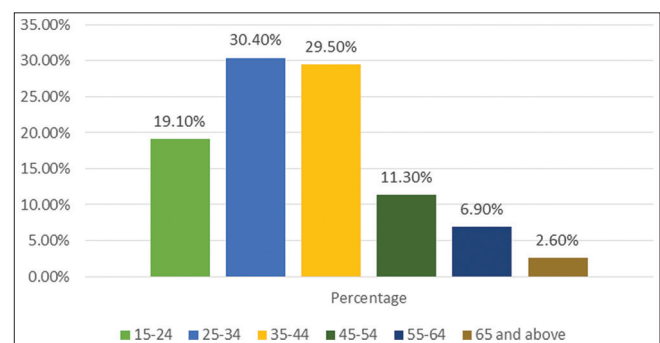


Figure 1: Distribution of study participants according to different age groups

Discussion

Culture regulates the norms of life in various aspects from birth to death as well as the recognition of illnesses and care-seeking practices. Such fallacies can facilitate or itself acts as a barrier in accessing healthcare services.^[8] Many research provide evidence that there is a suggested link between ethnicity and oral health status as well as oral health practices, which are influenced by cultural beliefs. The findings from studies show the epidemiological nature of the link among ethnic minorities.^[6] Individual beliefs and values depending on past experiences in health issues is evaluated by Health Locus of Control (HLOC),

a model proposed by Rotter, 1954. It plays an important role in health beliefs and behaviors as a mediator between an individual's social status and health forms.^[9] Changes to improve health and a healthy lifestyle are one among the priorities fixed by the World Health Organization.^[10]

Across the world, there are an abundant ethnic minority and cultural groups; where some originate from the same country and others are migrants. Similarly, India is a plural society and consists of a large diversified population with various ethnic groups.^[11] This particular ethnic group was chosen for the study as the cultural beliefs were found to influence their behavior toward oral health. A slightly increased number of female participants were present than the male participants in the study. It was evident that nomads consider dignity as a factor when

Table 1: Distribution of study participants according to various variables

Variables	Number	Frequency
Gender		
Male	54	47%
Female	61	53%
Decayed teeth	73	63.5%
Missing teeth	22	19.1%
Filled teeth	6	5.2%
Gingival bleeding		
Absence of condition	27	23.5%
Presence of condition	88	76.5%
Probing pocket depth		
Absence of condition	82	71.3%
Pocket 4-5 mm	21	18.3%
Pocket 6 mm or more	12	10.4%

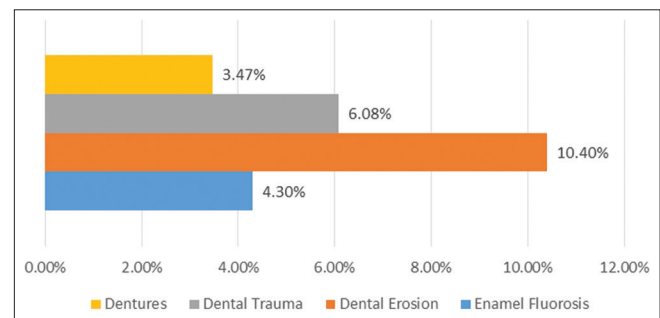


Figure 2: Percentage distribution of study participants with various dental conditions

Table 2: Responses of participants and Chi-square association between various variables

Parameters	n (%)	Chi-square value	P
Endure pain as pain is a weakness?	5 (4.3%)	91.171	0.001**
Visiting a dentist affects dignity?	4 (3.5%)		
Scared of being diagnosed with life-threatening conditions?	86 (74.8%)	13.385	0.045*
Would like to get treated after being diagnosed with any serious conditions?	9 (7.8%)		
Self-treat yourself?	19 (16.5%)	50.184	0.001**
Home remedies are better than treatments offered by a dentist?	28 (24.3%)		
Materials used to clean the teeth			NA
Toothbrush	74 (64.3%)		
Fingers with Toothpaste/Brick powder	37 (32.1%)		
Twigs	4 (3.5%)		
Gingival bleeding	88 (76.5%)	7.777	0.100
Probing pocket depth	33 (28.7%)	0.850	0.932
Use of fingers/twigs instead of toothbrush will be effective for maintenance of good oral hygiene?	17 (14.8%)	42.483	0.001**

*Significant $P < 0.05$, **Highly significant $P < 0.001$

Table 3: Responses of participants to the questions related to oral-health related beliefs

Questions	n (%)		
	Yes	No	Don't know
Chewing pan is good for oral health	18 (15.7%)	77 (67%)	20 (17.4%)
Placing cloves in a decayed tooth always relieves pain	37 (32.17%)	49 (42.60%)	29 (25.2%)
Only aged people get cancer in the mouth	29 (25.21%)	57 (49.56%)	21 (18.3%)
Swelling caused by painful tooth should be fomented with hot water	11 (9.6%)	97 (84.3%)	7 (6.1%)
Extraction of teeth of upper jaw causes loss of vision	65 (56.5%)	46 (40%)	4 (3.5%)
Drinking alcohol will reduce tooth pain	32 (27.82%)	78 (67.9%)	5 (4.34%)
Cleaning the teeth by a dentist causes loosening of teeth	76 (66%)	29 (25.2%)	10 (8.7%)

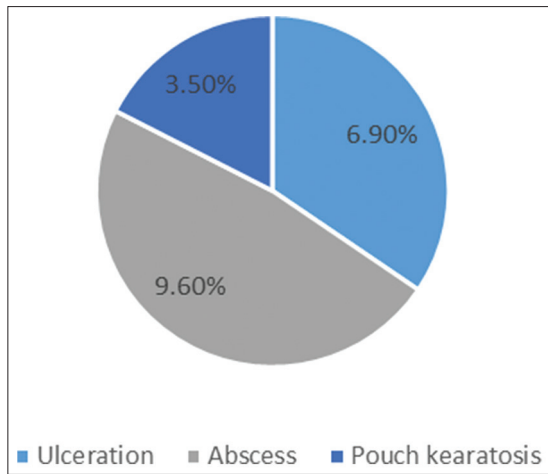


Figure 3: Percentage of study participants with various oral mucosal lesions

it comes to seeking oral healthcare irrespective of the illness. This was because of the western philosophy “Stoicism” existing among this population from ages where they endure pain as it is perceived as a weakness.^[12]

The majority of the population was scared of being diagnosed with life-threatening conditions; however, only a few were willing to seek or undergo treatment after being diagnosed with any condition. The reason for this was attributed to “fatalism,” which tends to make them assume fate as the reason for all the hardships and nothing can modify the burden.^[13] It was also because of the avoidance of discussing or even thinking about feared diseases such as oral cancer, which may be linked to lack of awareness about the treatment modalities.

Almost one-fourth of the population self-treated themselves for their oral health problems and reported such home remedies are better than seeking a dentist for the treatment. This was possibly because of “Self-reliance” where people think they can look after themselves without any assistance even during their illness. The majority of the nomadic subjects used toothbrush for cleaning, whereas some of them used fingers with a toothpaste or brick powder and a few used twigs for cleaning. It is thus evident that the awareness of brushing the teeth as well as using toothbrush for brushing has improved among the nomadic tribes.

More than three-fourths of the participants were affected with gingivitis irrespective of the usage of the toothbrush as a material for cleaning, and this was because of the improper technique followed by them for brushing. The difference was also found to be statistically non-significant. Similarly, periodontitis was also present among the study participants, but the results were not statistically significant. This could also be owing to biases such as information bias and social desirability bias where the participants tend to answer in a manner that will be viewed favorably by others.

Dental caries was found to be commonly present among the study subjects irrespective of age and the lesions were also found to

be extensive. This was because of the attitude of avoiding dental care as well as lack of awareness about preventing at the earliest. The most commonly perceived oral-health related fallacies include “extraction of upper teeth causes loss of vision” and “cleaning the teeth loosens the teeth”. This finding is similar to the finding reported by Vignesh *et al.*,^[14] this was owing to the exaggerated false information promoted by other people from their negative dental experiences; and upper teeth extraction is not linked to vision; also professional cleaning of teeth every 6 months is recommended.

A higher percentage of people responded that placing cloves in a decayed tooth relieves pain. It is well-known that cloves contain eugenol (phenyl propene), which is used as an anesthetic and local antiseptic extensively in dentistry. Cloves can act in such a way that it numbs the tooth and relieves pain, but it is not an alternative for treatment.^[15,16] This finding is in accordance to the findings reported by Sharma R *et al.*, who conducted a study regarding dental myths among the outpatients attending a dental institute.^[17] Number of participants had reported alcohol reduces tooth pain. The reason for this could be the analgesic property of alcohol that reduces the intensity of pain; however, the misuse of alcohol for pain relief is not advisable.^[18] Few participants had a misbelief that chewing pan is good for health, which is a serious misconception prevalent among pan-users, probably transmitted to justify their actions or needs of using pan. In reality, using pan for a period of time yields various harmful effects and causes oral cancer.^[19]

In spite these health outcomes, the negligence in seeking healthcare among the nomads is evident from the study. There is clearly the need to breach the barriers such as economic, physical or geographical, administrative, and cultural barriers^[20] to healthcare and bridge the gap between the indigenous population and healthcare professionals. Primary care serves as the first point of contact between people and the health professional and for all healthcare services.^[21] To effectively provide coordinated primary care, a comprehensive cluster of health services needs to be promptly available for the population. Strengthening such effective primary care is achieved by leading access to other levels of care and services through referral from primary care.^[22] Thus, primary care needs to be availed for such an indigenous nomadic population to generate communication, impart knowledge, and improve healthcare.

The limitations of the study need to be mentioned: some of the myths related to oral-health are left out in the current research; hence, scrutinizing research to know more about the prevailing myths among nomads is required. Further research on a large population is necessary to overcome the limitations of the current research.

Conclusion

Misbeliefs-related to oral-health is commonly prevalent among nomads, which acts as a barrier in seeking oral healthcare. The reason for such beliefs is owing to a lack of awareness about

the reality and the traditional philosophies followed by them. It is recommended to create awareness about oral health and its reality among the nomads, improve access to oral healthcare, and repeat advises to break misbeliefs.

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Conflicts of interest

There are no conflicts of interest.

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