Original Research Article

Understanding the oral health beliefs and behaviours among the tribal population of Chamarajanagar district, Karnataka

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ABSTRACT

Background: Regardless of the improvements in the field of healthcare, there is a section of people who live away from civilization known as 'indigenous people' or 'tribals'. Information regarding oral health status is instrumental in the planning and implementation of oral health policies and programmes related to promotion of oral health. The aim of the study was to understand the oral health beliefs and behaviour of the tribal population of Chamarajanagar district.

Methods: A cross-sectional survey of 256 tribals of Chamarajanagar district was conducted. A modified WHO oral health questionnaire (2013) was utilized to collect the data. The recorded data was statistically analysed using the Statistical Package for the Social Sciences version 24.

Results: Based on the age-category, majority of them belonged to the age group of 35-44 years. All the participants belonged to the sub-caste of Soligas. The results showed that the perceived barriers for seeking oral health care are high and poor utilization of the oral health care services were observed, but the participants had good knowledge regarding oral health which increases the cues for action.

Conclusions: The results of the study suggest that the participants might have favorable compliance for oral health promotional programs.

Keywords: Oral health, Tribals, Beliefs, Barrier, India

INTRODUCTION

Despite significant progress in global oral health, difficulties exist in many communities around the world, especially among the poor. People living in different geographic regions have a wide range of periodontal health, which could be attributed to disparities in lifestyles and dental hygiene habits. In emerging countries, urbanization and migration from rural regions result in changes in lifestyle and nutritional patterns, which have an impact on dental health.¹ Regardless of the improvements in diagnostic fields, curative and preventive health aspects,

there are people still living far away from civilization with their traditional beliefs and customs intact and they are known as 'indigenous people' or 'tribals'.² These tribal groups usually live in under-developed areas of the country which are known as hamlets. They are found in the interior forest areas and near the hill streams which are difficult to access to the outer world. Because of the isolated geographic terrains, there is often lack of proper communication facilities between the various tribal groups, or between the tribals and the outer world.^{3,4} The tribal populations are deprived of various privileges which are available to the other population groups. They have different health problems because of the variability in their

socio-economic and geographic development, traditional values, beliefs and customs.⁵ The cultural factors which binds people together, also impacts their lives. These factors which affect health are reflected in the values, beliefs, knowledge, and practice that individuals share. Oral health also belongs to the same domain. Oral disorders, like all other ailments, are the result of socio-economic, cultural, environmental, and behavioural factors. The cultural beliefs influence the oral health as well as the general health through dietary habits, health-care seeking behavior and dependence on home-remedies.

In India, there are many communities which are backward in terms of socio-economic, political and educational considerations. Tribal community is one among them which constitutes 8.6% of the total population of India, with 104 million populations (2011 census) they cover about 15% of the country's area. Karnataka state is the home to 42,48,987 tribal people, of whom 50,870 belong to the primitive groups. There are around as 50 different tribes notified by the Government of India, living in Karnataka, of which 14 tribes including two primitive ones, are primarily natives of this state.² Chamarajanagar district has various tribal groups like Jenu Kuruba, Kadu Kuruba and Soligas and according to 2011 census; there are more than 35,000 Soligas in the district.⁶

According to the WHO, for planning oral health policies, oral health surveys could be used to collect details on oral health status and treatment needs of a population.⁵ Oral diseases have profound side effects on general health, while several systemic conditions may show a reciprocal influence on oral health.⁷ Hence, oral health care needs to be addressed by a multi-professional approach and should be integrated into comprehensive health-promoting strategies and practices. Information regarding oral health behaviors and dental care utilization pattern provides a valuable tool in the planning, and implementation of oral health policies and programmes related to promotion of oral health.⁴ Statistics about the regional and socio-economic aspects of oral health related behaviors are also important from an oral health educational point of view.⁸ Numerous studies have been conducted on the health status of different primitive tribal communities in India but very few studies have been reported regarding the indigenous people of Karnataka, especially about oral health and reliable data is quite scarce. Till date there has been no report related to oral health among the tribal population of Chamarajanagar district, Karnataka. Hence, the present study aims to understand the oral health beliefs and behaviour among the tribal population of Chamarajanagar district, Karnataka.

Objectives

The objectives of this study were (a) to assess the beliefs and barriers related to seeking oral healthcare among the study population; and (b) to assess the utilization pattern of oral health care services among the study population.

METHODS

A cross-sectional study was conducted among the tribal colonies of Chamarajanagar district, Karnataka. Convenient sampling technique was employed and a total of 256 subjects were selected. There are 5 talukas in Chamarajanagar district (Chamarajanagar, Gundlupet, Hanur, Kollegal, Yelandur). Among these 5 talukas, 1 taluka i.e; Chamarajanagar taluka was selected randomly. All the tribal colonies in that taluka were line-listed. 10 tribal colonies were selected by lottery method. They were Attagulipura, Srinivasapura Colony, Hosapodu, Punajanuru, Banawadi, Kuntagudi colony, Shanivaramunti, Muratipalya, Bellattha and Kanneri Colony. Probability proportionate to size (PPS) sampling was done to identify the number of subjects to be included in each tribal colony. Convenience sampling technique was used to select the study participants. Subjects aged above 18 years, who have resided for at least 1 year in the particular tribal colony and those willing to participate in the study were included in the study. People with intellectual, psychiatric and emotional disturbances that could affect the reliability of their responses and non-tribes were excluded from the study.

The ethical clearance was obtained from the Institutional Ethical Committee at JSS Academy of Higher Education and Research, Mysuru. Permission was obtained from District Tribal Welfare Officer, Chamarajanagar district, Karnataka. Written informed consent was taken from the selected study participants.

Data was collected by using a modified WHO oral health questionnaire for adults (2013) which included demographic data, questions to assess oral health beliefs, knowledge regarding oral health and the barriers to utilization of dental care services. Data obtained was coded and entered in MS excel 2010 spreadsheet. SPSS version 24 software (licensed to JSSAHER) was used for statistical analysis.

RESULTS

A total of 256 participants were examined in the study among which 142 (55.5%) were males and 114 (44.5%) were females with ages ranging from 20-78 years. All 256 study participants belonged to the sub-caste of Soligas. 109 (42.6%) belonged to the middle class, 134 (52.3%) belonged to the lower middle. 57 (22.3%) study participants were illiterate, followed by 77 (30.3%) study participants who had completed their primary school, 55 (21.5%) participants had completed their middle school, 28 (10.9%) participants had completed their high school (Table 1). Among the study participants, 160 (62.5%) of them believed that 'clove relieves tooth ache', 110 (43.0%) believed that 'Zandu balm relieves tooth ache', 60 (23.4%) believed that 'alum or slaked lime provides relief from mouth ulcers', 50 (19.5%) believed that 'swelling in the mouth is reduced by application of heat' (Table 2).

When barriers to seek oral health care services was assessed, 88 (34.4%) of them gave the reason of lack of time for not visiting the dentist, 99 (38.7%) of them believe that dental treatment is expensive, 235 (91.8%) of them believed that it is not required to visit the dentist unless pain is present, 117 (45.7%) of them had the fear of dental procedures and 153 (59.8%) of them gave the reason that dentist is at a long distance, as barriers for visiting the dentist (Table 3). 252 (98.4%) of them believed that oral health problems are as important as other health problems, 251 (98.0%) believed that general body health has relationship with oral health, all the 256 (100.0%) subjects believed that it is important to take care of the teeth, all the

256 (100.0%) of them believed that regular tooth brushing prevents all tooth problems, all the 256 (100.0%) believed that sugars promote tooth decay, 255 (99.6%) believed that bleeding gums means diseased gums and 254 (99.2%) believed that visiting a dentist can reduce dental problems (Table 4).

When utilization pattern of oral health care services was assessed among the study participants, 31 (12.1%) of them had visited the dentist within last 2-5 years, 54 (21.1%) of them had visited the dentist in last 5 years or more, and 134 (52.3%) of them never received dental care (Figure 1).

Table 1: Socio-demographic characteristics of the study participants.

Characteristics	Category	Frequency (n=256)	Percentage (%)
Age (years)	18-24	21	8.2
	25-34	47	18.4
	35-44	75	29.3
	45-54	50	19.5
	55-64	30	11.7
	65-74	26	10.2
	75 and above	7	2.7
Gender	Male	142	55.5
	Female	114	44.5
Sub-caste	Soliga	256	100.0
Socio-economic status	i	1	0.4
	ii	4	1.6
	iii	109	42.6
	iv	134	52.3
	v	8	3.1
Education	Uneducated	57	22.3
	Primary	77	30.1
	Secondary	55	21.5
	High school	28	10.9
	Pre-university	15	5.9
	Degree/diploma	23	9.0
	Post graduate	1	0.4

Table 2: Description of oral health beliefs of the subjects.

Oral health beliefs	Frequency	Percent (%)
Clove relieves tooth ache	160	62.5
Zandu balm relieves tooth ache	110	43.0
Alum or slaked lime provides relief from mouth ulcers	60	23.4
Swelling in the mouth is reduced by application of heat	50	19.5
Removal of upper tooth affects vision	18	7.0
Professional cleaning of teeth causes loosening of teeth	11	4.3
Oral health is in no way related to general body health	4	1.6
Tooth problems are not serious and can be neglected	1	0.4

Table 3: Description of barriers among subjects for seeking oral health care.

Barriers for seeking oral health care	Frequency	Percent (%)
Lack of time	88	34.4
Dental treatment is expensive	99	38.7
Not required unless pain is present	235	91.8
Presence of fear of dental procedures	117	45.7
Dentist is at a long distance	153	59.8

Table 4: Description of knowledge of the participants regarding oral health.

Knowledge of the participants regarding oral health	Frequency	Percent (%)
Oral health problems are as important as other health problems	252	98.4
General body health has relationship with oral health	251	98.0
It is important to look after your teeth	256	100.0
Regular tooth brushing prevents all tooth problems	256	100.0
Sugars promote tooth decay	256	100.0
Bleeding gums means diseased gums	255	99.6
Visiting a dentist can reduce dental problems	254	99.2

Figure 1: Utilization pattern of oral health care services of the participants.

DISCUSSION

In India, indigenous populations, known as Adivasi, are among the poorest and most marginalized groups. They tend to show high levels of resignation and consequently their health perceptions often do not sufficiently correspond to their real health needs.

The present study was conducted on tribals living in Chamarajanagar taluk of Chamarajanagar district, Karnataka. A total of 256 (142 males and 114 females) participants were enrolled in the study. Among the 256 study participants, 160 (62.5%) of them believed that 'clove relieves tooth ache', 110 (43.0%) believed that 'Zandu balm relieves tooth ache', 60 (23.4%) believed that 'alum or slaked lime provides relief from mouth ulcers', 50 (19.5%) believed that 'swelling in the mouth is reduced by application of heat', 18 (7.0%) believed that 'removal of upper tooth affects vision', 11 (4.3%) believed that 'professional cleaning of teeth causes loosening of teeth', 4 (1.6%) believed that 'oral health is in no way related to general body health' and 1 (0.4%) believed that 'tooth problems are not serious and can be neglected'.

These findings were supported by the results of the study done by Kinra et al among the rural population of Bhopal and also the study report by Sindhu et al among the nomadic tribes called Todas in Tamil Nadu which stated that the participants had various beliefs; 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".^{9,10} Among 256 participants, it was observed that 122 (47.65%) had visited the dentist and 134 (52.3%) of them never received dental care. This is similar to the findings reported by Sindhu R among the nomadic tribes called Todas of Tamil Nadu which explained that 1/4th of the population treated themselves with home remedies, for their dental problems. They believed home remedies are better than consulting a dentist for the treatment. But this is not in agreement with the results of the study conducted by Kannan et al among the Paliyan and Pulayan tribes of Tamil Nadu where only 2.3% had received dental care.^{10,11}

As the study is cross-sectional in nature, it is hard to draw inferences on causal relationships. A larger sample size must be drawn from across the district and longitudinal studies must be undertaken to overcome this limitation.

CONCLUSION

The perceived barriers for seeking oral health care are high and poor utilization of the oral health care services was observed, but the participants had good knowledge regarding oral health which increases the cues for action. This suggests that the tribal population of ChamaraJanagar district might have favourable compliance for oral health promotional programs. Assessment of the oral health beliefs and behaviour plays a vital role in the process of planning and execution of appropriate oral health services. The results of the present study could provide baseline data for planning health services. This data would be useful to develop programmes in order to improve the oral health of the tribal population of ChamaraJanagar.

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