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.⁰ 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’.¹ 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.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
Objective: 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 Attagalupura, Srinivasapur Colony, Hosapodu, Punjaonuru, Banawadi, Kuntagudi colony, Shanivaramunti, Muratipalya, Bellattha and Kanner 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”. 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 where only 2.3% had received dental care.
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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**Conflict of interest:** None declared

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