J. Int Oral Health 2012

P- ISSN
0976 – 7428

E- ISSN
0976 – 1799

Journal of International Oral Health

Community Dentistry

Original Research

Received: Jan, 2012
Accepted: May, 2012

Bibliographic listing:
EBSCO Publishing Database, Index Copernicus, Genamics Journalseek Database, Proquest, Open J Gate.

Understanding oral health beliefs and behavior among Paniyan tribals in Kerala, India

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Abstract:
Objective: Oral diseases make significant contributions to the global burden of disease. The underlying cultural beliefs and practices might have influence on the oral health. Tribals are people living in isolation with their traditional values, customs, beliefs and myth intact. The objective of the present study was to assess the oral health beliefs and behaviour among the Paniyan tribals.
Methods: A convenience sample of 180 was chosen from three tribal colonies of Kerala, India. The oral health beliefs were measured using a pretested questionnaire.
Results: The results showed that the perceived severity, perceived importance, perceived benefits are high and the perceived barriers, yet high are relatively low among the Paniyas which increases the cues for action and increased participation.
Conclusion: The results of the study suggest that the Paniyas might have favorable compliance for oral health promotional programs.
Keywords: Dental health promotion, dental services research, oral hygiene.

Introduction:

Despite remarkable world-wide progress in the field of diagnostics, curative and preventive health, there are people still living in isolation in natural and unpolluted surroundings far away from civilization with their traditional values, customs, beliefs and myth intact. They are commonly known as "tribals" and are considered to be the autochthonous people of the land.[1,2]

Every culture has its own concepts of health, sickness and health promotion depicting values, beliefs, knowledge and practices shared by its people. Being a part of an ethnic minority group does not inevitably lead a person to have poor health. It does suggest,

however that there may be certain beliefs and practices common to the people in these groups. Alike all health problems, dental and oral diseases are a product of economic, social, cultural, environmental and behavioral factors.[3-6]

The tribal societies throughout India have remained socially and culturally alienated from mainstream Indian society until developmental and conservation activities in tribal areas forced interactions between them. [7] A key public health challenge is to determine the health needs of indigenous populations using approaches that appropriately reflect their conditions and concerns while respecting their culture and identity.[8]

In spite of great improvements in the oral health status of populations across the world, oral diseases continue to be a major public health problem. Oral diseases make significant contributions to the global burden of disease, which is particularly high in the underprivileged groups of both developed and developing countries. The underlying cultural beliefs and practices influence the conditions of the teeth and mouth, through diet, care-seeking behaviors, or use of home remedies.[4]

India is a land of myriad culture and people. The different forms of people found here out numbers any country. The Paniya tribe is one such population mainly residing in parts of Kerala and Karnataka state. The word Paniyan is derived from the word 'Pani' which is a Malayalam word, meaning work. The people of this tribal community are majorly laborers and their past history also suggests the same. In fact, Paniyas are people who worked as bonded labors in the ancient period.[9-11] The Paniyas live in colonies (clusters of houses in a small geographical area) in peripheral areas; they rarely interact socially outside their own colony. Colonies have poor transportation linkages and are particularly vulnerable to flooding during monsoons.[12]

Statistics on change in oral health-related behaviors across time may provide a valuable tool in the planning, implementation, and evaluation of oral health promotion programs. Just as important, from an oral health educational point of view is information regarding the socioeconomic and regional distribution of oral health related behaviors. However, till date there has been no report related to oral health among Paniyan tribes. The present study deals with exploration of the oral health beliefs and behaviour among the Paniyan tribals of Wayanad district, Kerala, India.

Materials and Methods:

The list of tribal colonies in Wayanad was obtained from the Tribal Development office Mananthavady, Kerala and three tribal colonies of Paniyas in Mananthavady were identified for the study. Convenient sampling technique was employed and a total of 180 subjects were selected. The Informed consent was obtained from each participant and ethical approval was obtained from the Research and Ethical Committee at Coorg Institute of Dental Sciences, Virajpet.

The survey instrument, a questionnaire, was redesigned and reviewed many times to produce a questionnaire that would be friendly and easy to follow. It was tested in-house first, then in the real situation. The questionnaire was framed in the local language (Malayalam) after consulting with professional language translators. The reliability of the questionnaire was found to be good (Cronbach's alpha = 0.64).

The questionnaire consisted of 23 closed ended questions. The first part of the questionnaire included information on age, sex, education and occupation. Second part the questionnaire included information on oral health behaviour and oral health beliefs. Furthermore, the items related to oral health beliefs were categorized according to four domains (seriousness, benefit, barrier and importance) with individual items in each set to explore the same. Questionnaire was explained to study subjects who found it difficult to understand the questions. The collected data was classified and tabulated in Microsoft Office excel. Statistical Package for Social Sciences © for windows Version-16 (2007) was employed for statistical analysis.

Results:

A total of 180 Paniyas comprising of 104 male and 76 female subjects participated in the study. The majority of the study subjects belonged to the age group of 40 – 49 years.

The results of the present study found that 57.2 % of the subjects brushed their teeth twice daily, 33.9% of the subjects brushed once daily and 8.9% of the subjects brushed once a week. Fifty five(55%) of the subjects used finger for cleaning their teeth. It was found that, the source of oral health information was mainly by dentist (27%) followed by television (16.7%) and radio (13.3%), information from other sources like newspapers, school and friends were

Table 1: Responses of the subjects to perceived oral health belief questions

Oral health belief categories	Items	Responses of the subjects (%)	
		Yes	No
Perceived Seriousness	Do you believe that dental problems can affect your appearance?	60	40
	Do you believe that dental problems can be serious if neglected?	59.4	40.6
Perceived Importance	Do you believe that it is important to retain the natural teeth throughout their life?	68.3	31.3
	Do you believe that oral health problems are as important as other health problems?	64.4	35.6
Perceived barrier	I am not afraid visiting a dentist	59.4	40.6
	Do you have access to dental professional?	51.6	48.3
Perceived benefit	Do you think visiting a dentist can reduce dental problems?	74.4	25.6

insignificant. The results of the study also showed that 65.6% of the subjects visited a dentist and the main reason for the visit was pain.

Perceived seriousness:

More than half the subjects (n= 108, 60%) believed that dental problems can have an impact on their appearance. Most subjects (n = 107, 59.4%) believed that dental diseases can be serious if neglected (table 1).

Many subjects (n= 99, 55%) believed that poor teeth will affect their daily work or other aspects of their everyday life

Perceived importance:

Most of the subjects believed (n = 123, 68.3%) believed that it's important to retain their natural teeth throughout their life. The remaining subjects believed that losing teeth is a natural phenomenon. 116 (64.4%) subjects believed that dental disease is as important as other health problems.

Perceived Barrier:

107 (59.4%) subjects reported that they were afraid of visiting the dentist and 93(51.6%) subjects believed that dentists where available when they have a dental problem. (Table 1)

Perceived Benefit:

Majority of the subjects believed (n=134, 74.4%) that visiting a dentist can reduce dental problems. 58 (32.2%) subjects believed that visiting a dentist regularly is the best method to prevent dental disease. 70 (n=38.9) subjects believed reducing sugar intake as the best method and 52 (n=28.9%) subjects believed rinsing the mouth after food is a better option to prevent dental diseases

Discussion:

In India, indigenous populations, known as Adivasi or Scheduled Tribes (ST), are among the poorest and most marginalized groups. The Paniyas are also considered as the scheduled tribes and they tend to display high levels of resignation and lack the capacity to aspire; consequently their health perceptions often do not adequately correspond to their real health needs.[9]

To date, the most dependable mode of plaque control is mechanical cleaning with toothbrush. Many surveys in different part of the world have found brushing to be the best way to maintain oral health.[13] In order to prevent oral health problems, the American Dental Association (ADA) recommends toothbrushing at least once a day.[14] The Bhils (a tribal population) of Rajasthan clean their teeth only with mouthful of water.[3] Another study has shown that most of the tribal population used indegenous methods of oral hygiene[15]. In the present study it was found that a high proportion (91%) of the subjects reported that they clean their teeth every day. Among them, 43.9% used only indigenous tooth cleaning methods, charcoal was the most commonly used indigenous tooth cleaning method, followed by salt. These salt

and charcoal powders are coarse and they could abrade the enamel and damage to periodontal tissues.[16,17] More community based oral health education programs emphasising the ill effects of the indigenous tooth cleaning materials and benefits of using toothpaste or toothpowder are required among these populations.

The present study utilizes Health model[18] as the theoretical framework to understand the health behavior and possible reasons for noncompliance with recommended health action. The health belief model addresses four major components: perceived severity of the disease, perceived importance -belief that doing something about the disease is more salient than doing other things, perceived benefit belief that the action will be of benefit for either preventing or alleviating the seriousness of the disease, perceived barrier - perception that the action will cause inconvenience.[19,20]

Interestingly, it was seen that majority of the Paniyan subjects believed that dental diseases would have severe consequences if neglected and also were concerned about their esthetics. The perceived importance of retaining the natural teeth was high among the Paniyan population. This is in contrast with the beliefs of indigenous Chinese immigrants in UK who thought that it is natural to lose all their teeth as they get older.[21] The reason for these positive oral health beliefs may be attributed to the fact that some beliefs are culturally influenced.

A limitation of the study may be found in the lack of oral examination due to general reluctance among the subjects. Hence no comparison between the oral health beliefs and oral health status could be made.

Conclusion:

The perceived severity, perceived importance, perceived benefits are high and the perceived barriers, yet high are relatively low among the Paniyas which increases the cues for action and increased participation. The results of the study suggest that the Paniyas might have favorable compliance for oral health promotional programs.

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Source of Support: Nil

Conflict of Interest: No Financial Conflict