

Oral health assessment and Treatment needs among Paliyar tribal people in Kodaikanal – A cross sectional survey

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Citation of this Article: Dr. S. R. Dhivya, Dr. T.V. Avinash Balaji, “Oral health assessment and Treatment needs among Paliyar tribal people in Kodaikanal – A cross sectional survey”, IJDSIR- April - 2022, Vol. – 5, Issue - 2, P. No. 67 – 72.

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Health is a prerequisite for normal human development and is essential to the well-being of mankind. Oral health is an important component of general health and can impact on a person’s ability to eat, speak or socialize. Health problems of community are influenced by the interplay of various factors including social, economic and political. People’s beliefs, customs and practices are also important influences on health.³ The Paliyarare Adivasi Dravidian people living in South India, especially in Tamil Nadu and Kerala. This pioneering study aims to assess the oral health status and treatment needs of the ‘Paliyar’ community to a more modern lifestyle. In this background this study was conducted to assess the oral health status and treatment needs among Paliyar tribal people in Kodaikanal. This Cross-sectional survey was undertaken to evaluate the oral hygiene status, dental caries, periodontal and prosthetic status. High Dental caries and Periodontal disease prevalence was seen among the Paliyar tribal people.

Keywords: Oral Health Assessment, Paliyar, Tribal People, Cross Sectional Survey

Introduction

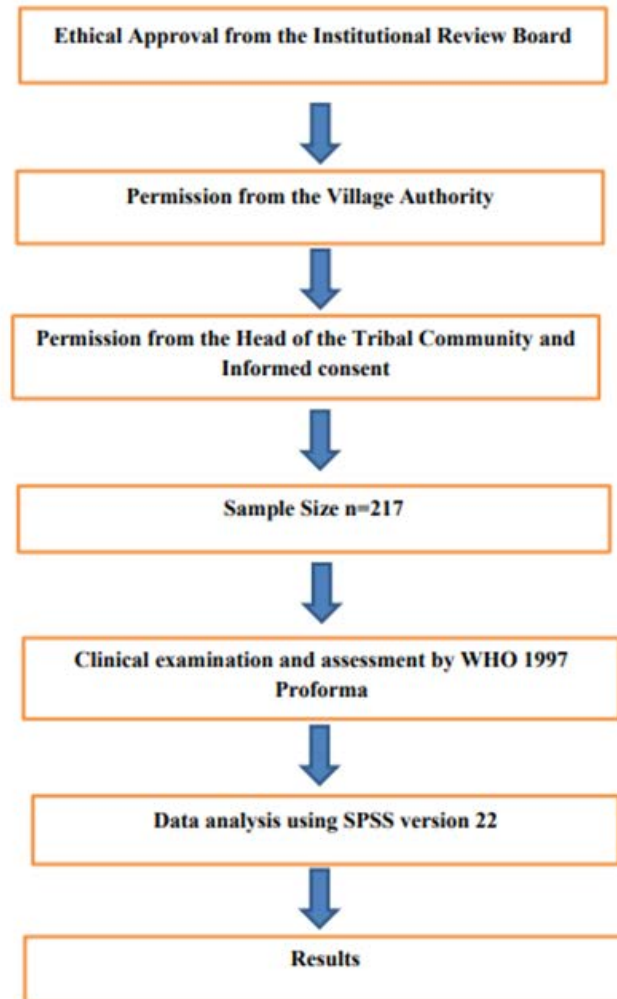
Despite remarkable worldwide progress in the field of diagnostic, curative and preventive medicine, still there are large communities which are living in isolation in natural and unpolluted surroundings far away from civilization and maintaining their customs, traditional values, beliefs and myths. They are commonly known as tribes and are considered to be the indigenous people of the land^[1]. The Paliyarare Adivasi Dravidian people living in South India, especially in Tamil Nadu and Kerala. This tribal community resides along the Western Ghats of Tamil Nādu. The Paliyar community are Tamil speaking and belongs to the lower socio-economic status. Paliyar. Most of them are traders of forest products, food cultivators and beekeepers. Historically, these tribal communities have survived on their traditional knowledge base. Traditional medicines are the primary healthcare resources for the Paliyar tribes to protect their health.^[2] People’s beliefs, customs and

practices are also important influences on health.^[3] An individual's willingness to seek care is influenced by health attitudes, knowledge about health care and the social and cultural definitions of health and illness that have been learned. Ethnic beliefs and values may act to reinforce or inhibit the use of health services and research has shown that low socio-economic and ethnic minority groups are less likely to utilize health services.^[4] A few folkloric research studies have been done among tribal communities, which describe the influence of modernization in the past two decades, on their cultural and socio-economic life, but none on their general or oral health status. It is important to assess and describe their oral health status in light of these changes. Hence this pioneering study aims to assess the oral health status and treatment needs of the 'Paliyar' community to a more modern lifestyle.

Materials and methods

A Cross sectional survey was undertaken to evaluate the oral hygiene status, dental caries, periodontal and prosthetic status among Paliyar tribal people in Kodaikanal. Ethical clearance was obtained from Institutional Review board and the purpose of the study and details of the examination to be conducted was explained to the village authorities and the nature and purpose and written permission was obtained to conduct the study in the village. Informed consent was obtained from the tribal people before the start of the study. The source of data was primary in nature which includes Type III clinical examination. Data were collected using a Modified Version of WHO proforma (1997). An asepsis protocol was developed and strict procedures were followed for infection control.

Figure 1 - Flowchart showing the Methodology



Results

The present study was an attempt to assess the oral health status and treatment needs of the 'Paliyar' community to a more modern lifestyle. A total of 217 participants were included in this study. Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) IBM SPSS statistics version 22.0.

- **Participant characteristics**

The age of the study participants ranged from 4 to 64 years old and above and out of the total population (217), 13(5.99%) were 4-11 years old, 8(3.68%) were 12-14 years old, 14(6.45%) were 15-17 years old, 100(46.08%) were 18-34 years old, 48(22.12%) were 35-44 years old, 39(13.36%) were 45-65 years old and

5(2.30%) were above 64 years old. The sample consisted of 121 males (72%) and 96 females (28%).

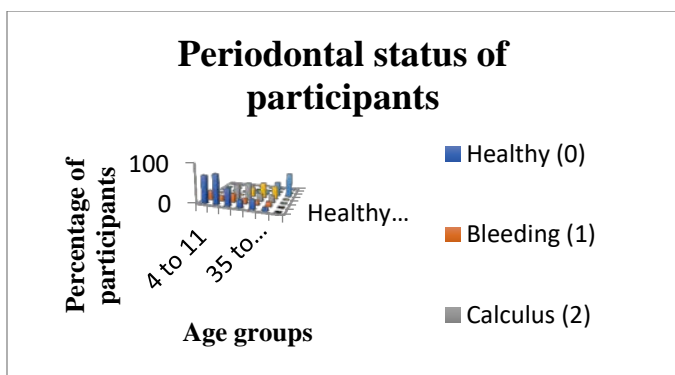
Table 1: Distribution of the study subjects according to age and gender

Age in years	Male	Percentage	Female	Percentage	Total	Percentage
4-11	8	6.61	5	5.20	13	5.99
12- 14	6	4.95	2	2.08	8	3.68
15- 17	5	4.13	9	9.38	14	6.45
18- 34	54	44.62	46	47.91	100	46.08
35- 44	27	22.31	21	21.88	48	22.12
45- 64	18	14.87	11	11.46	29	13.36
Above 64	3	2.47	2	2.08	5	2.30
Total	121	100	96	100	217	100

• Distribution of CPI scores according to the age groups.

More number of calculus sextant were found among the age group of 15 to 17 years old 19 followed by 35 to 45 and 45-64 years old 18.75 to 17.24 and bleeding was found to higher in 4-11 (23.07) and 15-17 (21.42) years old followed by for all the other age groups it is ranging from 12.5 to 10.34. The distribution of the CPI according to the age groups is illustrated in Graph 1

Graph 1: CPI Status according to age

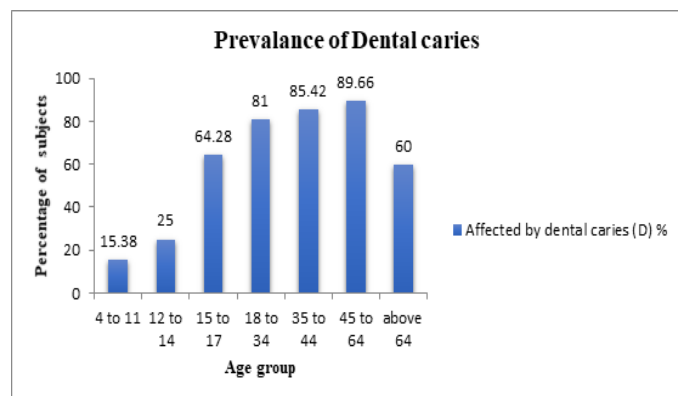


• Prevalence of dental caries according to the age groups

More number of dental caries were found among the age group of 18 to 34 years old 81% followed by 35 to 44 (85.42%) and 45-64 years old 89.66%. Were as in all other age group it was ranging from 64.28% to 15.38%.

The prevalence of dental caries according to the age groups is illustrated in Graph 2

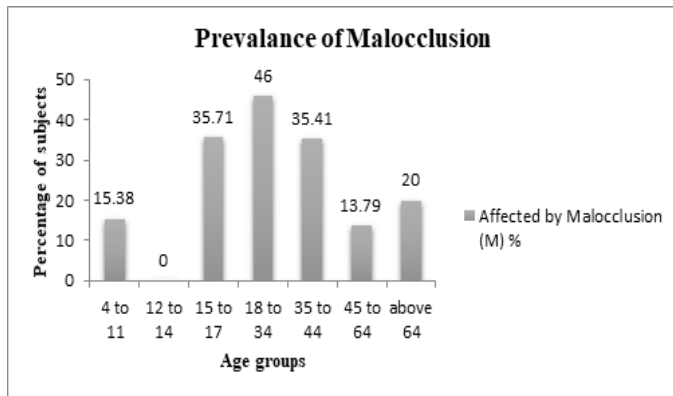
Graph 2: The prevalence of dental caries according to age



• Prevalence of malocclusion according to the age groups

The percentage of malocclusion were found more among the age group of 18 to 34 year sold 46% followed by 35 to 44 (35.41%) and 15-17 years old 35.71%. The prevalence of malocclusion according to the age groups is illustrated in Graph 3

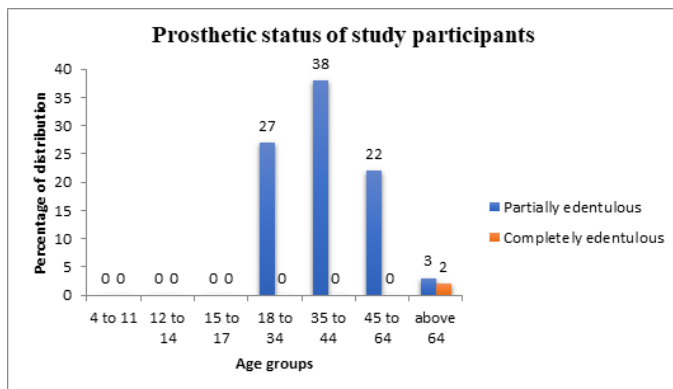
Graph 3: The prevalence of malocclusion according to age



• Distribution of Partially/completely Edentulous according to the age groups

The distribution of Partially/completely Edentulous according to the age groups is illustrated in Graph 4. More number of partiallye dentulous areas was found among the age group of 35 to 44 years old 38 followed by 18-34 years old.

Graph 4: Distribution of Partially/completely Edentulous according to the age groups

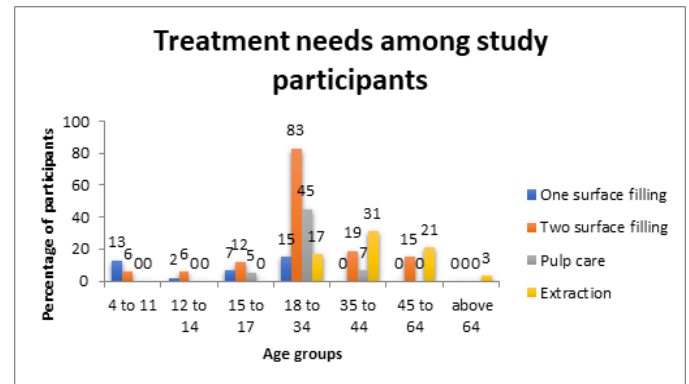


• Distribution of study subjects according to their treatment needs

Overall, the need for one surface filling was 30 in that majority were in the age group of 18-34 years old (15) and 4-11 years old (13) followed by least were in the age group of 15-17 (7) years old and 12-14 (2). The two surfaces filling were required by 40 study subjects with majority were in the age group of 18-34 (83) and the minimum were in the age group of 4-11 years old and

12-14 years old (6). Extractions were required by 72 of the study population. The maximum of them belong to 35-44, 45-64 and above 64 years old. These four were the most common modality of treatment required among the study subjects. (Graph 5)

Graph 5: Treatment needs among Study Participants



Discussion

Oral health is an essential and vital component of overall health and is much more than just healthy teeth. Despite adequate advancements in global oral health, problems still persist in many communities around the world, particularly among the underprivileged [3,5] Oral Health remains to be the ignored part. The tribal population is relying upon the traditional system of medicine to relieve toothache and other oral problems. The present study was an attempt to assess the oral health status and treatment needs of the ‘Paliyar’ community to a more modern lifestyle. The comparison of the present study with other studies is difficult due to differences in the population type, selected age group and period during which studies were conducted. Statistics clearly show that despite government initiatives, the existing socio-economic profile of the Paliyar community is low compared to the mainstream population.

The present study showed that a majority of the Paliyar suffered from various forms of periodontal disease. This finding was comparable to the findings of the study carried out by Peterson and Razanamihaja [6] on

Malagasy tribes in Madagascar. This might be due the traditional habit of chewing betel quid in the region might be a factor for the abundance of periodontal disease in the study group. Dental calculus was most commonly seen in all the age groups. The findings of the present study are in accordance with the findings of the study conducted by Varenne et al.^[7] and Naheeda et al.^[8] the present study, high dental caries prevalence was seen among the study participants, and this finding is consistent with the study findings conducted by Maurya et al.^[9] and Lang et al.,^[10] where the mean DMFT scores were quite high.

The present study showed (37%) needed one surface restoration, (61%) needed two surface restorations, (57%) needed pulp care and (72%) needed extraction. The reason for the accumulated treatment needs may be due to their beliefs about the dental treatment, lack of awareness, least importance to tooth and lack of dentist nearby. The present study showed 90 had one or more missing teeth in the upper and lower arch. Of which 11 needed complete denture in upper arch and needed full removable denture in lower arch. The minimal utilization of prosthetic service by the community may be due to less positive attitude towards oral health.

Conclusion

The present study was conducted to assess the oral health status and treatment needs of 'Paliyar' community. In the present study, high dental caries and periodontal disease prevalence was seen among the study participants. This study has brought to light a neglected and under-explored public health issue relating tribal people. The results of this study could form a baseline data for the health administrators for planning suitable programs for the betterment of oral health among the tribal population in the District of Madurai, as well as across the State of Tamil Nadu.

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