



ORAL HYGIENE STATUS AND UNMET NEEDS AMONG POPULATION VISITING OUT REACH PROGRAMS IN YANAM-A CROSS SECTIONAL STUDY.

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ABSTRACT **Background:** The challenge for health care professionals is not only to adequately address the healthcare needs of population, but also to enable them to live a more productive and enjoyable life. Oral health care plays a vital role in preventing oral morbidities. It comprises of change in attitude of people toward oral health, prevention, timely and appropriate diagnosis, and professional care seeking as and when required. There is scarcity of epidemiological data on representative population in Yanam district. Thus, the present study was undertaken on adults of Yanam to find the prevalence of oral morbidities and the unmet needs for oral health services. **Objective:** To assess oral hygiene status and unmet needs among the population visiting outreach programs in Yanam, Puducherry. **Methodology:** A total of 191 older adults aged 40- 60 years & above visiting outreach programs during the study period and those who were willing to participate and gave informed consent were included in this study. Participants with psychiatric/neuropsychiatric diagnosis (i.e., autism spectrum disorder, depression) were excluded from the study. Oral hygiene status and periodontal status were assessed using Oral hygiene index (OHIS) and CPITN index by a single examiner under artificial illumination with mouth mirror, explorer and CPITN probe respectively. **Results:** The Statistical Analysis was done using SPSS v.25 software IBM.,Corp. Descriptive analysis of the data was presented as frequencies, by using Chi-Square test. The mean age of the patients was 52.6 years. The average mean of OHI-S was 2.6 ± 1.3 and CPI was 1.79 ± 1.08 . Among the study population, poor OHI-S score was seen among 75(38.9%) and loss of attachment of score 3 was seen among 62(32.1%) who needs dental extraction and periodontal therapy. **Conclusion:** The majority of the participants showed unmet oral health needs indicating poor oral hygiene status.

KEYWORDS : Unmet Needs, Oral Hygiene Status, Adults, Dental Care

INTRODUCTION :

According to the World Health Organisation (WHO), health is defined as state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Irrespective of distinction based on race, religion, political belief, economic or social condition health is considered as one of the fundamental right which defines enjoyment of the highest attainable standard of well-being. Oral health being an indicator of overall health impacts the well-being and quality of life of an individual. Poor oral health is characterised by a range of diseases and conditions that hinder the normal functioning of oral health such as dental caries, dental sensitivity issue, periodontal problems, tooth loss, oral cancers and other premalignant and benign lesions, orodental traumatic lesions and birth defects such as cleft lip and palate. Our oral health is vital as it equally affects our general systemic health. Oral health is an essential and integral component of overall health, yet unmet health care needs and poor oral health are pervasive. Poor oral health care is associated with increased use of medical services, increased risk for several chronic conditions (including heart disease and diabetes), as well as reduced quality of life and employment opportunities. There is growing momentum both nationally and internationally for increased understanding and use of a more holistic social-ecological perspective to understanding and addressing oral health disparities.

National recommendations suggested that addressing oral health disparities would require a more fundamental shift toward viewing oral health as a medical issue. Improving access to primary care that includes education and training on the importance of oral health care during medical visits might be a solution to improving oral health equity.

Elucidating the true magnitude of oral health disparities and unmet needs, including the complex network of population-level predictors, is often limited. A 2010 report by the World Health Organization

identified several research gaps, including understanding the social determinants and modifiable risk factors for poor oral health.

The Association for State and Territorial Dental Directors (ASTDD) has developed tools, such as the Basic Screening Survey (BSS) protocol, for use in adults. However, access to representative population-based studies of adults is not often feasible or cost effective for most state-based programs. Consequently, most prevalence estimates of unmet oral health needs are based on self-reported, telephone based surveys that do not include data on predictors, such as tooth brushing, psychosocial factors, and community-level data.

Our goals were to identify who were at greatest risk for poor oral health in the region of Yanam, puducherry and to examine how social-ecological and individual factors, such as health behaviors and mental health, focusing on some of the often over looked social determinants, predict adverse oral health outcomes (i.e., cavities) or unmet oral health care needs.

The challenge for health care professionals is not only to adequately address the healthcare needs of this population, but also to enable them to live a more productive and enjoyable life. So, the aim of this study was to assess oral hygiene status and unmet needs among the population visiting outreach programs in Yanam, Puducherry.

MATERIALS & METHODOLOGY:

The present study is a cross -sectional study conducted among the population visiting reaching out reach programs in the district of Yanam, Puducherry. Primary data was recorded in the questionnaire. Considering the effect size to be measured (d) at 0.3, power of the study at 95 % and the margin of the error at 0.05%, the total sample size is 191. All the participants who were willing to participate and being physically present during the oral checkup were included in the study. A total of 191 adults participants who were willing to give informed

consent, in the age groups between 40-60 years were included in this study. Participants with psychiatric/neuropsychiatric diagnosis (i.e., autism spectrum disorder, depression) were excluded from the study.

Data Collection:

A detailed case history was documented for every participant. After a preprocedural 5 mL Betadine (povidone-iodine) mouth rinse a thorough oral health checkup was done for every participant. A single experienced examiner, performed the clinical oral examinations with the participant seated in an ordinary dental chair under adequate illumination, using sterile mouth mirror, CPI (Community Periodontal Index) probe, tweezers and cotton rolls. The OHIS (Oral Hygiene Index Simplified) and WHO Oral Health Assessment forms were used to assess the oral hygiene status, the dentition status and periodontal status of older adults. Clinical examination was conducted by a single examiner under artificial illumination, by using mouth mirror, Explorer and CPI probe with the study participants seated on dental chair.

Statistical Analysis: The Statistical Analysis was done using SPSS v.25 software IBM.,Corp.

Data was entered in the excel spread sheet, the descriptive analysis of the data was presented as frequencies, by using Chi-Square test. The level of significance was set at $p < 0.05$.

RESULTS:

In this study, Majority of the participants were of 45-55 years of age (51.3%), 38.74 % were of 55-65 years of age, very few of them were greater than 65 years of age. Males were (56.0 %) in majority when compared to females (43.9 %). About 45.02% of them were dentulous, 43.97% were partially edentulous and very few of them were completely edentulous 10.9%.

Tab 1: Demographic Characteristics

Characteristic	Number (n)	Percentage (%)
Age,		
45-55	98	51.3%
55-65	74	38.74%
>65	19	9.94%
Gender,		
Male	107	56.0%
Female	84	43.97%

Tab.2 Dentition Status Of The Participants

Dentition status	n	Percentage(%)
Dentulous	86	45.02%
Partially edentulous	84	43.97%
Completely edentulous	21	10.9%

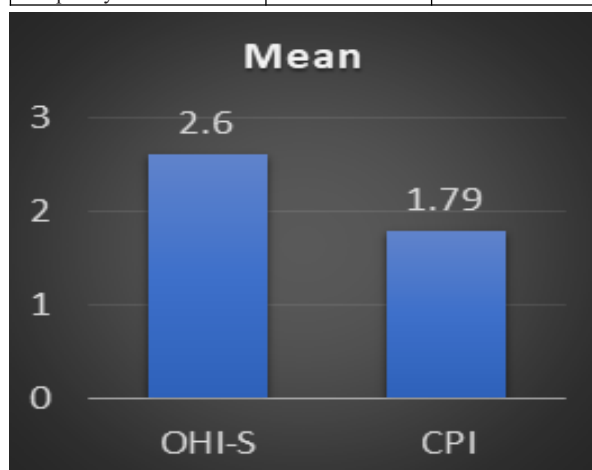
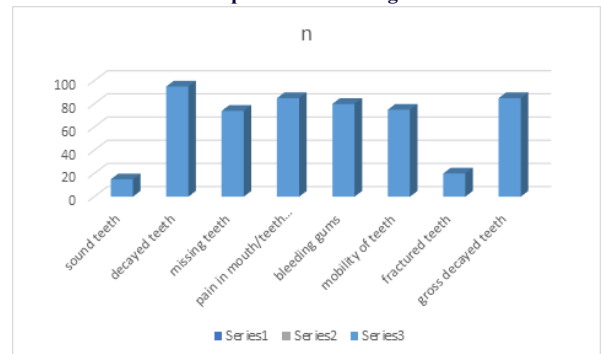


Fig 1: Mean of OHI-S and CPI scores

The mean OHI-S and CPI scores of the participants included in the study were 2.6 and 1.79 respectively. Most of the subjects showed Good oral hygiene scores $n = 90$ (46.6%) and 38.9% ($n = 75$) of them showed poor oral hygiene scores. CPI revealed 32.1% showed a loss of attachment code 3, 29.0% showed loss of attachment code 2 and 25.4% showed a loss of attachment code 1. The distribution of participants including unmet dental needs were listed in Table 3.

Tab.3 Distribution Of Population Including Unmet Dental Needs



Tab.4 Percentage Of OHI Scores Of Participants

OHI-S	EXCELLENT	GOOD	POOR
N	28	90	75
(%)	14.5%	46.6%	38.9%

Tab.5 Percentage Of CPI Scores Of Participants

CPI	Interpretation Of CPI Scores			
LOSS OF ATTACHMENT	0.00	1.00	2.00	3.00
N	26	49	56	62
%	13.5%	25.4%	29.0%	32.1%

DISCUSSION:

Over the years, dental technology has impressively advanced and so has the understanding of oral diseases, yet disparities remain in both, between the rates of dental disease and access to dental care among various strata of population. Huge differences exist in health status including oral health between urban and rural population especially in India and other developing countries. Although dental care is a part of primary health care in India, dental care services are available in very few states at a primary health care level.

From this population, 170 (88%) participants were dentulous or partially edentulous and 21 participants (10.09%) were completely edentulous. Ninety participants (46.6%) had good oral hygiene, assessed using the OHIS. This finding was not in accordance with the studies done by Hoeksema et al and by Kulkarni.³ A total 74 participants of the study population had teeth missing due to caries.

This has already been documented in a review by Ornstein et al that described a similar trend among patients who showed a high prevalence of tooth loss due to caries. A total of 95 participants of the study population had decayed teeth, which is consistent with a study by Kulkarni and Ornstein et al.⁴

The study done by Torwane NA et al., in 2014 found the assessment of the periodontal status among eunuchs population of Bhopal city in Madhya Pradesh. This study showed 10.1% of eunuchs had attachment loss of 6-8 mm and 6.3% eunuchs had attachment loss of 12 mm or more.⁷ And another study done by Sarvannan N et al., in 2014 found the Assessment of the periodontal status and measures to improve the periodontal condition of eunuch in Chennai city which showed about 5.73% had vivid stages of periodontal diseases and loss of periodontal attachment was present in 16.8% population.⁸

Roma et al critically assessed unmet oral health needs and oral health related quality of life among old age inhabitants in Karnataka in which a total of 60 participants (84.50%) of the study population had decayed teeth,¹⁰ which is consistent with a study by Kulkarni and Ornstein et al.^{3,4} In the above mentioned study the majority of our participants had CPI code 2, but as per the statistics by Peterson et al.,¹ the majority of the Indian population showed CPI code 3 and 68 participants (70.8%) of the older adults needed periodontal therapy. This information is in strong correlation with the literature review.^{12,13} and 68 participants (70.8%) required prosthetic rehabilitation of their teeth compared to Dable et al¹³ who reported 50% of the participants required dental prosthesis in their study.

In our study the majority of our participants had CPI code 3, which is similar to the study done by Peterson et al.,¹ the majority of the Indian population showed CPI code 3. According to the results of the present study, 118 participants (61.1%) of the older adults needed periodontal therapy. This information is in strong correlation with the literature review. The present study calls for strategies to improve the oral health

of adults residing in Yanam, puducherry to achieve the highest oral health-related quality of life.

CONCLUSION:

From the assessed data of studied sample population of the aged, the following conclusions were drawn. Majority of the participants had untreated dental caries indicated for dental extraction, required periodontal therapy, and prosthodontic rehabilitation. Majority of the participants showed unmet oral health needs and higher CPI and OHI scores indicating lower oral health-related quality of life. Unless steps are taken to improve availability of and access to oral health care, the oral health of this growing and vulnerable segment of the elderly population will continue to have easily treatable oral health problems that cover the full spectrum from dentally easily treatable to dentally complex to treat, all superimposed on a vast set of co-morbidities, each ranging from early to late stage. Mobile dental vans, regular dental camps, and dental outreach programs need to be undertaken among the population to spread awareness and for early diagnosis of oral morbidities.

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