Oral Health Status, Dental Caries Experience & Treatment Needs of Population of Jammu City

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ABSTRACT

Objective: *Assess oral health status & treatment needs of population in Jammu and Kashmir.*
Methodology: *Study was conducted on 810 civilians in age group of 18-50 years with mean age 30.8 years. The oral health screening was based on clinical examination using DMFT and CPITN Index as per WHO format.*
Result: *Prevalence of caries was 67% and mean DMFT was 4.09. Decayed teeth had highest DMFT index of 67 %, filled teeth 61 % and missing component had 56%, of which 63% needed some prosthesis. CPI score 18% healthy periodontium, 28% bleeding on probing, 36% calculus, 11% pockets of 4-5mm depth and 7% had pockets > 6mm.*
Conclusion: *There was increased prevalence of caries and periodontal problem personnel residing in Jammu city. High need seemed to be due to lack of time and awareness about dental health, unfavorable environmental & difficult terrain.*

Key words: *DMFT, CPITN, CPI Score*

INTRODUCTION

Oral health is an integral part of overall health and is an important determinant of quality of life. WHO recommends epidemiological data regarding dental health and morbidity to be of primary importance.[1] Oral health assessment is based on the examination of incidence and frequency of dental caries and periodontal status. Its spread is determined by regional factors, dynamic migration, nutrition, oral hygiene and access to dental care.[2]

Epidemiological studies of caries use methodological standard especially the decayed, missing and filled teeth (DMFT) index as an indicator of the cumulative effect of caries on permanent teeth during life.[2] This protocol is based on clinical examination and excludes radiograph. Periodontal disease is an infection affecting the tooth supporting tissues and is one of the most common and oldest diseases in humankind in past and present. The Community Periodontal Index of Treatment Needs (CPITN) is used to record periodontal status and treatment needs. [3]

Lack of epidemiological information concerning the personnel oral health is a serious limitation as it is important for expanding and improvising oral health services to them.

This study was an effort to find out dentition and periodontal status using DMFT index and CPITN respectively, they being internationally accepted. This study shall help to formulate policies for future placements and dental review to maximize the benefits to the population of Jammu city.

MATERIALS AND METHOD

The study population consisted of civilians of Jammu city. The study was conducted from Jan 2013 to Jan 2014. A questionnaire interview was conducted which had collected name, age, the socio-demographic data, designation, oral hygiene practices, deleterious habits, felt need of treatment and reason for not seeking the same. A total of 810 personnel were interviewed and examined. A single trained examiner was instructed to assess for dental caries as per criteria's by 'WHO'. Two-trained assistant were taken for recording the data. Bite-wing radiograph was taken for each patient. Basic infection control procedures in hand hygiene and person protective equipment were adopted[5]. The instrument and supplies used were PMT sets, kidney trays, disposable mouth mask, disposable gloves and towels. After each day survey, all reused instrument were sterilized by autoclave. CPITN probe was used to record periodontal index. The subjects were made to sit on a stool /chair available and type III examination (using mouth mirror & probe under adequate illumination) was conducted.

'WHO' caries diagnostic criteria were used to determine permanent tooth 'DMFT' (Decayed, missing,

filled teeth due to caries). Periodontal status was recorded using 'CPITN Index'[3]. The various outcome measured are healthy periodontium, bleeding on probing, calculus, probing depth of < 4-5 mm and > 6 mm

Examination of subjects was followed by provision of free dental treatment to willing subjects at mobile dental van.

STATISTICAL ANALYSIS

All data were expressed as mean for continuous variables; frequencies and percentage were calculated for categorical data. The data was analyzed using SPSS (Version 13.0). The student t-test and ANOVA were applied for the statistical evaluation of differences in means whereas proportions were compared by use of chi-square test. Statistical significance of $P < 0.05$ was used.

Table 1: DMFT Index

	D	M	F	DMFT
NUMBER	543	434	494	**MEAN DMFT= 4.09**
PERCENTAGE	67%	56%	61%	
MEAN	**2.16**	**.83**	**1.10**	

Table 2: CPITN Index

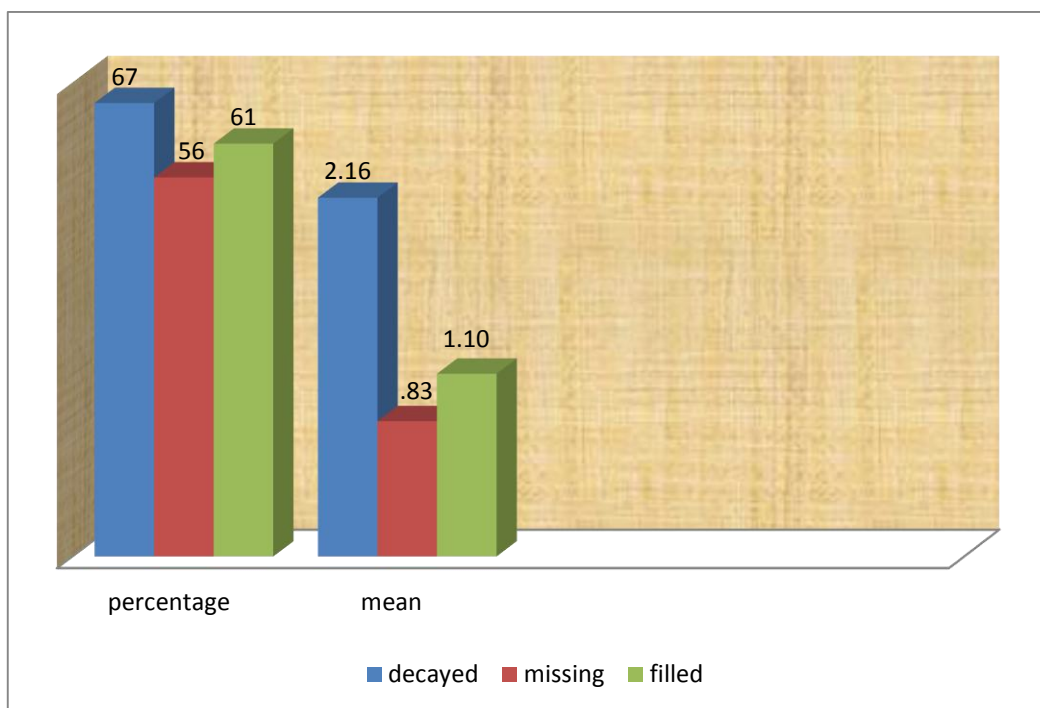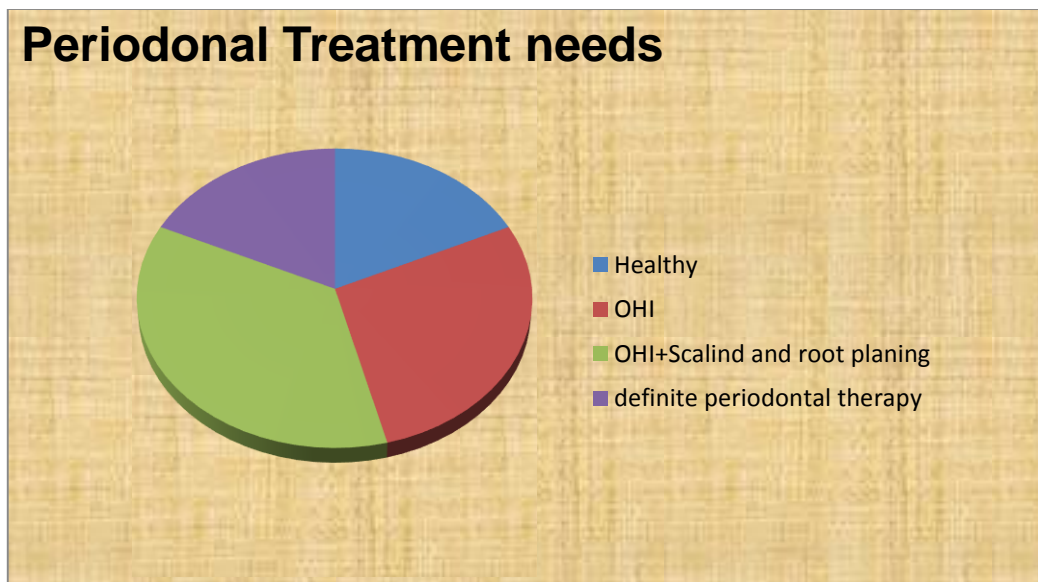| CPITN SCORE	Number	Percentage	MEAN CPITN SCORE =2.36
0 (Healthy)	146	18%	
1 (bleeding on probing)	227	28%	
2 (calculus)	292	36%	
3 (pocket<4-5mm)	88	11%	
4 (pocket>6mm)	57	7%	
TOTAL	**810**	**100**	

Fig. 1: DMFT Index

Fig. 2: Periodontal Treatment needs of the study population

RESULT

Subjective assessment of felt need of dental treatment was 38 % (308). 74 %(600) reported that they could not seek treatment due to service limitation and lack of time. Among the subjects 48 % (389) had habit of using tobacco.

The prevalence of dental caries was 67 %. Mean of untreated decayed teeth was 2.16 with DMFT ranging from 0-32. 61% Filled teeth with mean 1.10, While 56% missing teeth with mean 0.83 of which 63 % subjects needed prosthesis. (Table-1)(Fig-1)

Regarding CPITN the percentage distribution of survey subjects according to CPITN score is shown in Table-2. The various treatments needs as according to CPITN score is shown in fig-2. 18% had healthy periodontium, 28% needed OHI and 36% needed scaling and root planning while 18% needed definite periodontal therapy. Mean of this index was 2.36 in this study population.

DISCUSSION

Very few studies have been conducted to determine the oral health status and treatment need of personnel living in Jammu city.

Occupational environment plays a major role on health of the exposed personnel. The severity of health hazard increases when the duration of exposure increases more importantly in situation were 24 hours duty schedule is followed.[6] The physical and mental strain leaves no time to take care of oral health

As personnel are all from different socioeconomic and geographic ethnic group data of a particular region cannot be attributed to them.

Prevalence of dental caries was found to be quiet low as compared to studies by Hopcraft M[7] and Dale JW[8]. This may be because of increasing of awareness and motivation for oral health practices. Andreaw NH[9]

obtained a prevalence of nearing 100% with a mean DMFT of 19.13, Vrbric et al[10] obtained dental caries prevalence of 98% with a mean DMFT of 18, Normarks S[11] Reported a caries prevalence of 85% and Arvindson UB[12] obtained DMFT of 4.7. The reason of this difference in the present study could be due to better awareness in modern age and getting the restorations done at appropriate time through various Military Dental units. Therefore DMFT index is comparatively less in present study.

The periodontal status was compromised and presence of calculus was the most common finding with need of scaling and root planing being the most common treatment need. Similar to study of Smith AC[13] very few numbers of subjects had completely healthy periodontium. Presence of calculus was the most common periodontal condition similar to studies by Skaleric U[14] and Anil S[15]. Although presence of calculus was the most common finding, yet the proportion of these subjects was low compared to various studies as in, Smith AC[13] and Lo ECM[16]. The treatment need of this population is generally covered by motivation and scaling / polishing

Despite a high prosthetic need, only a small number of population possessed some form of prosthesis. This was contrary to the study reports of Lo ECM [16] and Ahuja A [17] where prosthetic need was low and a large number of subjects possessed some prosthesis when more than third of the subjects in the present study had felt need for some form of dental treatment but had not received the same, a low presence of prosthesis seems to be obvious.

The prevalence of tobacco use was higher than that of general population. The National Family Health Survey (NFHS) 1998-99 found tobacco use to be 46.5% among men.[17] This may be because of majority of subjects were males and according to cultural practices and

occupational constrains had higher tendency to use tobacco.

More than half had felt need for dental treatment and major reason reported for not taking treatment was lack of time due to jobs restriction. This was similar to the report by Kawamura M.[18] This highlights the lifestyle and employment restriction affecting the dental health of population.

The strength of the study includes the large sample size, multistage sampling, calibrated examiner and systemic data collection all of which were stable, accurate and externally generalizable outcome estimates. Among the limitation were that study was being performed on male sample.

The oral health data generated from 'WHO' oral health assessment form (1997) is useful for planning equipment, resources, research work and treatment by various specialists. Community dentistry approach of doing oral health survey of army personnel constitutes the basic criteria for prevention and control of dental diseases and promotion of oral health.

CONCLUSION

There was increased prevalence of caries and periodontal problem personnel residing in Jammu city. High need seemed to be due to lack of time and awareness about dental health, unfavorable environmental & difficult terrain.

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