IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 18, Issue 3 Ser. 15 (March. 2019), PP 67-70
www.iosrjournals.org

Assesment of Periodontal status among Police Personnel in Yavatmal, Maharashtra India: A Cross Sectional study.

Dr.Asha B Kalbande[1], Dr.Smita V Khadse[2]
([1]Asso. Proffesor, Department of Dentistry, Shri Vasantrao Naik Govt. Medical College, Yavatmal, Maharashtra, India)
([2]Asst. Proffesor, Department of Dentistry, Shri Vasantrao Naik Govt. Medical College, Yavatmal, Maharashtra, India)
Corresponding Author: Dr.Smita V Khadse

Abstract:*A objective of this study was to assess the prevalence of periodontal disease among urban and periurban police personnel in Yavatmal, Maharashtra, India. A cross-sectional study was conducted on 495 police subjects, aged above 45 years .Type III examination of the police personnel was done by a single investigator. The periodontal status data were recorded on WHO FORMAT 1997. P-VALUE ≤0.05 was considered statistically significant.The mean age of subjects was 51.5 years, 97.7% were males and 2.2% were females, 46.67% were urban police and 53.33% were periurban police. Regarding highest CPI score, 0.20% subjects had a healthy periodontium whereas maximum subjects (48.88%) had a CPI score 2. The CPI scores showed a significant relationship with age and locality. Overall periodontal status of police personnel was poor with a high number of subjects requiring oral health education.*

Date of Submission: 12-03-2019 Date of acceptance: 28-03-2019

I. Introduction

Police personnel provide continuous service to the civilians and suffers from occupational stress due to the nature of work, irregular working hours, desired role and expectation from the society, changing shift routines, non police works, irregular eating and sleeping pattern, long hours of duty, absence of leaves, cancellation of leaves, neglected family life, quantitative overload, inadequate praise, exposure to severe environment affecting their general and oral health[123].

Canadian dental association defines oral health as a state where in the oral tissues contribute positively to an individual wellbeing in all dimensions of health by allowing them to eat, speak and socialize without any discomfort[4].

Oral health includes the health of craniofacial complex, the teeth, gums and peri oral tissue[5]. Gum comprises of gingiva, gingival fibres and periodontal fibers. Periodontal diseases constitute the major cause of tooth extraction in the adults. Periodontitis is a multifactorial disease, where host factor and environmental factors play an important role [6].

It is the responsibility of the society to safeguard the general and oral health of their own defenders. Keeping this in mind this study was undertaken to assess the periodontal status among urban and periurban police personnel above 45 yrs in Yavatmal, Maharashtra, India. Outcome of this study may useful in establishing preventive and curative services required with regard to oral health.

II. Materials and Methods

A descriptive cross sectional study was conducted to assess the periodontal status of police personnel above 45 yrs, who came to the institution (SVNGMC YAVATMAL) for medical examination. As a part of medical examination, dental check up was done. On an average 25-30 policemen were checked in a day. The sample size was 495 individuals, out of which, 231 were urban and 264 were periurban.

Type-III examination as recommended by American Dental Associationwhich includes inspection using mirror and probe under good illumination was conducted. The CPI periodontal probe was used. A single trained examiner, conducted all the examinations. Two well-trained assistants recorded the data. Subjects were examined seated in a chair, under natural daylight. Periodontal status assessment criteria were those proposed in the WHO's 1997 oral health assessment form1997 [7]. The index teeth examined in each of the six sextants were 17, 16; 11; 26, 27; 36, 37; 31; 46, 47. A sextant was only examined if there were at least two teeth not indicated for extraction, otherwise that sextant was excluded. If no index tooth was found in a sextant qualifying for examination, the remaining teeth in the sextant were examined and the highest score was recorded as the value for the sextant.

The data obtained were subjected to statistical analysis. The data so obtained were compiled systematically. chi-square Test, unpaired t test and annova test were used to analyze categorical variables. Statistical analysis was carried out using openepi. Significance level was fixed at $p \leq 0.05$.

III. Results

A total of 495 police personnel were examined out of which 484 (97.7%) were males and 11 (2.22%) were females. The study sample comprised of 231 (46.67%) urban police personnel and 264 (53.33%) periurban police personnel. All the subjects 100 % used tooth brush with tooth paste or tooth powder. About 486 (98.18%) of the subjects brushed their teeth once and 9(1.81%) subjects twice a day, respectively. Two population age groups were observed. The age group 45-52 years comprised of 248 police personnel, 247 police personnel belong to 53-60 years of age.

Of 495 police personnel, 1(0.20%) had healthy periodontium, bleeding was present in 8(1.61%) subjects, calculus was present in 242 (48.88%) subjects, pocket of 4-5 mm was present in 112 (22.62%) subjects, pocket of 6 mm or more was recorded in 127 (25.65%), 2 (0.40%) subjects were excluded and in 3 (0.60%) subjects it's not recorded.

Out of 495 police personnel, 142 (48.88%) had no loss of attachment. An attachment loss of 4–5 mm was present in 130 (26.26%) subjects, 6–8 mm attachment loss was present in 101(20.40%) subjects, 9–11 mm was present in 14(2.82%) subjects, more than 11mm was present in 3(0.60%) subjects in 2 (0.40%) subjects it was excluded and 3 (0.60%) subjects it's not recorded.

Table I: Age and Sex distribution of the study participants.

Age group	Male	Female	Total
45-52 yrs	248	9	257
53-60 yrs	236	2	238
Total	484	11	495

Table II: Urban and Periurban distribution of the study participants

Age group	Urban	Peri-urban	Total
45-52yrs	132	116	248
53-60 yrs	99	148	247
Total	231	264	495

Table III : Urban and Periurban distribution of male and female

Locality	Male	Female	Total
Urban	224	7	231
Peri-urban	260	4	264
Total	484	11	495

Table IV: Number of subjects in highest CPI codes by age, gender and locality

Age group	Total	CPI CODE							
		0	1	2	3	4	X	9	X2
45-52 yrs		1	6	94	69	56	0	2	22.26
53-60 yrs	248	0	2	148	43	71	2	1	Df=6
P-value	247								
Gender									
Male	484	0	6	239	109	125	2	3	64.64
Female	11	1	2	3	3	2	0	0	Df=6
P-value									
Locality									
Urban	231	1	8	102	60	57	1	2	13.27
Periurban	264	0	0	140	62	60	1	1	Df=6
P-value									

Table V: Number of subjects in highest Loss of attachment codes by age, gender and locality.

Age group	Total	Loss of attachment code							
		0	1	2	3	4	X	9	X2
45-52 yrs	248	144	49	47	5	1	0	2	13.47
53-60 yrs	247	108	71	54	9	2	2	1	Df=6
P-value									
Gender									
Male	484	242	120	101	14	3	2	3	7.397

Female P-value	11	10	1	0	0	0	0	0	Df=6
Locality									
Urban	231	135	42	45	6	1	0	2	14.1
Periurban	264	117	78	56	8	2	2	1	Df= 6
P-value									

IV. Discussion

Police personnel play important role in enforcing discipline and legislative stability in the society. There works are vivid from protection of life, safeguarding property, protection from criminal, enforcement of laws. authorative order etc. These nature of job lead to physical mental and emotional stress[3]. All these effect their general health, including the oral health. Furthermore, stress acts as a potential factor for engaging in deleterious habits like gutka chewing, ciggarette smoking, excessive alcohol consumotion etc, which then further deteriorates oral health.

A thorough literature search revealed very few studies related to periodontal health of police personnel. The present study to our knowledge is the first study related to periodontal health among district police personnel of yavatmal city and its periurban areas.

The study comprised of 495 (95.6%) males and 34 (4.4%) females. With 929 females against 1000 males[8] in Maharashtra state more females should be recruited in police force to provide equal gender distribution.

The oral hygiene practices of the police personnel revealed that all 495 police personnel(100%) used tooth brush and tooth paste for cleaning their teeth, out of this 486 (98.18%) of the subjects brush their teeth once and 9(1.81%) subjects twice a day. However, according to National Oral Health Survey and Fluoride Mapping 2002 (Maharshtra) [9] which reported only 54.7% respondents used tooth brush, 54.3% used tooth paste and 77.7% cleaned their tooth once daily. While Naveen and Reddy[10] reported 96% police personnel study population of Mysore city used tooth brush and tooth paste.

An assessment of periodontal status revealed that 99.79% subjects suffered from periodontal disease coinciding with police personnel of Mysore city (99.7%)[10]while police personnel of Ambala (75.9%)[11] and Ghaziabad (82.2%)[12] showed little less prevalence] The high prevalence of periodontal disease can be attributed to age, occupational stress and high prevalence of adverse deleterious habits. Mawa (kharra) chewing was the most common deleterious oral habit committed by this group of population, reason may be that this is socially acceptable and cultural practice of chewing betelnut.

There existed a significant difference across locality (P = 0.038) and age groups (P = 0.001), urban police personnel showed better CPI score than periurban . However Singh *et al*[13]. found that the urban subjects had higher prevalence of moderate and severe periodontitis as compared to rural subjects. In our study it can be attributed due to better access in urban area. A majority of the CPI scores of 1 and 2 were in the age group of 45-52 years . Scores 3 and 4 were found in the age group of above 53-60 years. The correlation between the CPI score and age was highly significant (P =0.002), which implied a concomitant rise in CPI score with age. periodontal conditions deteriorated rapidly in the older groups coinciding with all related studies. when the relationship of age and periodontal disease was assessed it was observed that, the severity of periodontal disease was increased with the advancing age . These findings could be attributed to the general deterioration in immune function and tissue integrity in the older age that may increase the vulnerability to the periodontal disease.

Demonstration of the progression of periodontitis requires documentation of additional attachment loss. In the present study, significant difference across locality (P = 0.028) and age groups (P = 0.036), police personnel were seen.48.88% subjects exhibited no attachment loss, which is in agreement to studies done by Basavraj et al. [11] and Naveen and Reddy[9].

These findings gave as opportunity to explore and understand periodontal disease so that effective oral health promotion and tobacco control strategies might be devised. Systematic dental services may improve the oral health of the police personnel. Regular screening is mandatory for this group of the population. Execution of primary health care education programs employing proper oral hygiene care.Special oral health care programs focusing on improving access to and use of preventive dental services should also be conducted.

V. Conclusion

The present study showed that the prevalence of the periodontal disease is higher in periurban compare to the urban police personnel.

Improved access to dental care, as well as dental health education along with periodic dental check-up, is mandatory to ensure optimum dental health.

References

[1]. Priya Xavier1 and Dr. K. Prabhakar. STRESS AMONG INDIAN POLICE AND CONCEPTUAL ISSUES. International Monthly Refereed Journal of Research In Management & Technology May'13 Volume II:60-66.

[2]. Bushara Bano. Job Stress among Police Personnel. 2011 International Conference on Economics and Finance Research IPEDR vol.4 ,(2011)IACSIT Press, Singapore:290-293.

[3]. Jayesh K.Joseph1, Dr. B. Nagarajamurthy2. Stress in Police officers. IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 19, Issue 10, Ver. V (Oct. 2014), PP 39-40

[4]. Devapriya Appukuttan, Anupama Tadepalli, Dhayanand John Victor and Smriti Dharuman. Oral health related quality of life among Tamil speaking adults attending a dental institution in Chennai, Southern India. Journal of clinical and Diagnostic Research.2016(oct);10(10):ZC114-ZC120.

[5]. Vinay Kumar Bhardwaj, KR Sharma1, P Jhingta2, RP Luthra3, D Sharma2. Assessment of oral health status and treatment needs of police personnel in Shimla city, Himachal Pradesh: A cross-sectional study. International Journal of Health & Allied Sciences • Vol. 1 • Issue 1 • Jan-Mar 2012:20-24.

[6]. Little Mahendra, Jaideep Mahendra, Ravi David Austin, S Rajashekar, R Mythili. Stress as an Aggravating Factor for Periodontal Diseases. Journal of Clinical and Diagnostic Research. 2011 August, Vol-5(4): 889-893.

[7]. World Health Organization. The world health report 1997. Geneva. Available on internet.

[8]. www.wikipedia.org/wiki/Yavatmal.

[9]. Bali RK, Mathur VP, Talwar PP, Chanana HB. National oral health survey and fluoride mapping, 2002-2003, India. Dental Council of India,2004.

[10]. Naveen N, Reddy CV, Oral health status and treatment needs of police oersonnel in Mysore city Karnataka.SRM Univ J Dent SCI 2010;1(2):156-60

[11]. Sohi R, Bansal V, Veeresha KL, Gambhir RS. Assessment of oral health status and treatment needs of police personnel of Haryana, India. Internet J Epidemiol 2010.

[12]. Basavraj P, Khuller N, Kumar P. Dental caries experince and periodontal status of police personnel in Ghaziabad city.J Indian Assoc Pub Health Dent 2011;17:44-48.

[13]. GPI Singh, J. Bindra, R.K.Soni, M.Sood. Prevalence of periodontal diseases in urban and rural areas of Ludhiana, Punjab.Indian Journal of Commuity Medicine.Vol .30,No-4, October-December,2005,128-129.

Dr.Smita V Khadse. "Assesment of Periodontal status among Police Personnel in Yavatmal, Maharashtra India: A Cross Sectional study." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 3, 2019, pp 67-70.