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Research Article

ADVERSE HABITS, ORAL MUCOSAL LESIONS AND PROSTHETIC STATUS IN FEMALE PRISONERS

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ABSTRACT

Introduction: Oral health is an integral part of general health. The prisoners also deserve equal rights for their health attention.

Methodology: A cross sectional study was with 185 female inmates to evaluate the adverse habits, oral mucosal lesions and prosthetic status /needs of Lucknow city.

Results: Inmates belong to the age range of 18-80 years, with the mean age of 37.3±11.8 years. The subjects were broadly divided into 6 age groups. Chewing tobacco was most prevalent ($p < .05$) 38 (20.54%) habit in comparison to smoking 2(1.08%) and combination of smoking and chewing tobacco 2 (1.08%) habits. In total 18 (1.7%) female inmates's leukoplakia was present. It shows that some form of prosthetic need was present in all age groups except 15-24 yrs age groups. Prosthetic status of female inmates was very poor.

Conclusion: The results of the survey shows considerably higher proportion of unmet dental needs in the prison population.

Keywords: Female inmates, Adverse habits, Oral mucosal lesions, Prosthetic status.

INTRODUCTION

Oral health is an integral part of general health. It has long been recognized that preventive oral care is important in the prevention of oral diseases, which also has significant impact on general health¹⁻⁴.

Prisons and prison regimes have been provided and developed with the adult male prisoner in mind, as they constitute the vast majority of prisoners in prisons. As a consequence, the special needs of minority group prisoners are too frequently ignored. The groups of most concern were women, young people, and those from racial/ethnic minority populations.

Most of the prisoners are from poor socioeconomic group and owing to their low literacy rate they have inadequate knowledge about the general and oral health.² Poor access to general and dental health services further adds up to their plethora of health problems.

Studies done on the habits of prisoners in prison by Tielking et al⁵ in 2003, Betsy Mahoney⁵ in 2003, Data from Office for National Statistics 1999 Germany revealed that the habit of smoking was higher in the prisoners when compared to their

general counterparts⁵. The use of adverse habits like smoking, pan chewing, pan masala and tobacco chewing also related to various pre malignant lesions and conditions.

Prisons presented a unique opportunity to reduce the health problems associated with drug abuse and addiction while also giving some attention to the causes of offending behavior.⁵

In India and in most developing countries oral health status and treatment needs of various population groups have been assessed using the various methods. Most of the studies covered adult groups and elderly, some of them including special under privileged and handicapped groups. Very few studies have been published about the oral health status of prisoners in outside countries of India. Practically almost nil studies have been published in India for this population.

This community is neglected like the old age people by the society and profession. Even though new found sporadic attention is given to this population with medical facility almost nil attention is given for their oral health care.

The prisoners also deserve equal rights for their health attention. Keeping the above matter in consideration a specific oral health survey has been taken up on the inmates of

prisoners of Lucknow prison in state of Uttar Pradesh to assess their oral health status so that needed treatment can be planned accordingly by concerned authorities.

In this paper special focus is given to present adverse habits, oral mucosal lesion and prosthetic status of female prisoners of Lucknow.

METHODOLOGY

The research work has been taken on the prisoners of Lucknow city. Permission from the concerned higher authorities (U.P prison department) was obtained. A cross sectional study was designed to evaluate the oral health status and treatment needs of prisoners of Lucknow city. Detailed methodology has been given elsewhere⁷. The study was conducted among the prisoners of Lucknow city among three jails namely District jail, Model jail and Nari bandi niketan⁶.

The prison is situated in the Gosaiganj area in the out skirts of Lucknow city. Prisoners who were in the jail for more than 3 years have been included in this study. The Nari bandi niketan had 432 female prisoners at the time of survey, out of which 250 prisoners have been convicted for more than 3 years and 185 female inmates consented for study.

A pre designed world health organization (W.H.O.) oral health assessment form 1997⁸ proforma with some additional indices and modifications were used. Ethical clearance was taken from the institution ethical committee of Sardar Patel post graduate institute of dental and medical sciences, Lucknow. A written consent letter was obtained from the concerned jail authorities' before the commencement of this survey.

The proforma has two parts; the first part was the general information, which facilitates collection of patient's identification, demographic variables, educational status, marital status, their total years of sentences, their total years been in the jail, and reason for that sentence, oral hygiene practices, habits related to oral cavity, adverse habits and dietary pattern. The second part consists of clinical assessment using world health organization (WHO) oral health assessment form 1997. The kappa value of the intra examiner reliability was >0.8. The survey was conducted from August 2009 to January 2010 for a period of 6 months.

Any oral disease or pathological conditions observed during examination were informed to the subjects, and they were advised to seek treatment for the same. The matters of the individuals requiring emergency treatment were brought to the notice of the medical officer of the jail for needful attention.

Data was analyzed using SPSS software version 13. Data analysis began with tabulation of the results. The values were represented in number, % and mean \pm S.D and appropriate test were applied.

RESULTS

Table 1: Shows age wise distribution of the female inmates. Inmates belong to the age range of 18-80 years, with the mean age of 37.3 \pm 11.8 years. The subjects were broadly divided into 6 age groups. 59 (31.8%) inmates belonged to 35-44 yrs age group, followed by 45-54 (21%), >64 (20), 25-34 (16%), 55-64 (7%), and 15-24(1.6%) yrs age groups.

Table 2: Shows age wise distribution of female inmates according to adverse habits. Chewing tobacco was significant 38 (20.54%) habit in comparison to smoking 2(1.08%) and combination of smoking and chewing tobacco 2(1.08%) habit in female inmates. It was equally present in all age groups except 15-24 yrs age group.

Table 3: Shows age wise distribution of oral mucosal conditions among female inmates. In total 18 (1.7%) female inmate's leukoplakia was present, which was almost equally distributed among all age groups except 15-24 years age group in which it was absent. Other condition which includes (Gingival condition and OSMF) was present in 176 (95%) inmates. Most common age group for other condition was 35-44 years age group (5.7%:58) followed by 45-54 years group (4.1%:42), \geq 65 years group (3.3%:33), 25-34 years group (2.7%:28) and least in 25-34 years group (1.4%:15).

Table 4: Shows age wise distribution of female inmates according to prosthetic needs. It shows that some form of prosthetic need was present in all age groups except 15-24 yrs age groups. Need for multi unit prosthesis increases from 25-34, 35-44 and 45-54 yrs age group in increasing order. Need for complete denture U/L was exclusively present in only 55-64 and > 64 yrs age group female inmates.

Prosthetic status of female inmates: Apart from huge prosthetic need prosthetic status of female inmates was very poor. Researcher did not found any single female inmate using any type of prosthesis.

Table 5: Describes the association of oral mucosal lesion with the adverse habits in inmates. There was no significant correlation ($p>0.5$) was present between adverse habits and oral mucosal lesion. Chewing tobacco was most common adverse habit present with the oral mucosal lesion 23 (12.43%), followed by smoking and smoking +chewing 4 (2.16%) habit.

It shows that only 38 female prisoners were using tobacco in some form, out of which 23 female prisoners were having oral submucosal fibrosis (60%) and overall 31 female prisoners (16.75%) were having pre cancer condition/ lesions.

DISCUSSION

The prison population is unique and challenging one with many health problems including poor oral health. Prisoners have greater oral health needs than the general population.^{1,2}

STUDY SAMPLE

The study comprised of a sample of 185 females, representing approximately 37% of total female prisoners. A similar proportion of female inmates (40%) were included in the study of Osborn *et al.*¹ A higher proportion of female inmates (93%) were studied by Stephen J⁹.

AGE GROUP

The age range of study inmates was 18-80 years with mean age of females was 46.8 years. The study subjects of Osborn *et al.*¹ belonged to similar age range of 18-77 years with the mean age of women 33.3 years. However the in the study of Stephen J⁹. the mean age of females was 27.5years.

ADVERSE HABITS

Regarding the prevalence of adverse habits in inmates, almost 4% females used some form of tobacco.

Females used only chewable tobacco. Life style diseases are closely related to oral disease and it is important to consider the wider social determinants of health when looking at treatment options.¹ Also it has been found that after mental health and substance abuse, the most common health problems affecting prisoners are smoking and dental health issues¹⁴.

ORAL MUCOSAL CONDITIONS

About 19.6% of the inmates had leukoplakia (males – 17.9%; females-1.7%). No comparison could be made due to lack of sufficient literature age group wise. A probable explanation for the higher prevalence of leukoplakia and oral sub mucous fibrosis in the younger age groups could be that there was a higher prevalence of tobacco smoking and chewing habits among the inmates of these age groups¹⁵.

PROSTHETIC NEED –

In this study prosthetic need was almost 50% in both the U/L jaws in some form (one unit, multiunit, combination, complete denture). In study done by Osborn *et al.*¹ the need was lower about 18%.

PROSTHETIC STATUS

The study findings reveal huge prosthetic need among inmates. There was no dental service of any kind available in the prison to attend the inmates. Only in emergency conditions (like extraction, root canal treatments) the inmates are referred to dentist to the government hospital for treatment.

CONCLUSION

The results of the survey show that adverse habits, oral mucosal lesions and prosthetic need were present in female prisoners. Specially a strong relation between tobacco chewers and presence of oral submucous fibrosis and prosthetic status/ need condition was in a pathetic condition.

SUGGESTION AND RECOMMENDATION

1. It is important to include oral health in initiatives design to promote health in general as many of the main factors that can lead to poor oral health are also common factors for other diseases.
2. Oral health should be seen in the context of population health approach. Hence working in collaboration with other health sectors to identify the required health gains for those most at risk is needed.

3. Smoking cessation programmes appropriate to the prison environment should be developed and implemented.
4. A long term oral health education programme is required as a part of effective preventive dental programmes to increase in awareness of oral health among prisoners.
5. Prison administration and health services should closely work with public health to ensure an appropriate quality of health care to the prisoners.
6. All prisons should make available of a qualified dental team to provide appropriate dental services.

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Table 1: Age wise distribution of female inmates

Age group	Inmates Female	
	(N)	%
15-24 yrs	3	1.62
25-34yrs	31	16.7
35-44 yrs	59	31.8
45-54yrs	40	21.6
55-64yrs	13	7.02
≥65yrs	39	20.6
Total	185	

Table 2: Age wise distribution of female inmates according to adverse habits

Adverse habits- N (%)				
Age group	Smoking	Chewing tobacco	Smoking + Chewing tobacco	Alcohol
	Female	Female	Female	Female
15-24 yrs	0	0	0	0
25-34yrs	0	8 (4.32)	0	0
35-44 yrs	2 (1.08)	8 (4.32)	2 (1.08)	0
45-54yrs	0	9 (4.86)	0	0
55-64yrs	0	5 (2.70)	0	0
≥65yrs	0	8 (4.32)	0	0
Total	2 (1.08)	38 (20.54)	2 (1.08)	0

Table 3: Age wise distribution of female inmates according to oral mucosal condition

Age group	Oral mucosal condition - N (%)							
	1=Malignant tumour	2=Leukoplakia	3=Lichenplanus	4=Ulceration (Apthous, Herpetic, Traumatic)	5=ANUG	6= Candidiasis	7=Abscess	8=Other condition
15-24 yrs	0	0	0	0	0	0	0	0
25-34yrs	0	2 (1.08)	0	0	0	0	0	28 (15.13)
35-44 yrs	0	7 (3.78)	0	0	0	0	0	58 (31.35)
45-54yrs	0	2 (1.08)	0	0	0	0	0	42 (22.70)
55-64yrs	0	2 (1.08)	0	0	0	0	0	15 (8.10)
≥65yrs	0	5 (2.70)	0	0	0	0	0	33 (17.83)
Total	0	18 (9.72)	0	0	0	0	0	176 (95.13)
χ^2	10.51							
"p"	0.39							

Table 4: Age wise distribution of female inmates according to prosthetic need

Age group	Prosthetic status- N (%)							
	One unit prosthesis		Multi unit prosthesis		Need for combination		Need for complete denture	
	U	L	U	L	U	L	U	L
15-24 yrs	0	0	0	0	0	0	0	0
25-34 yrs	4 (2.16)	5 (2.70)	3 (1.6)	4 (2.16)	0	0	0	0
35-44 yrs	4 (2.16)	8 (4.32)	3 (1.6)	9 (4.86)	2 (1.08)	0	0	0
45-54 yrs	4 (2.16)	10 (5.40)	16 (8.64)	13 (7.02)	8 (4.32)	12 (6.48)	0	0
55-64 yrs	2 (1.08)	0	6 (3.24)	7 (3.78)	0	2 (1.08)	2 (1.08)	0
>65 yrs	7 (3.78)	0	0	7 (3.78)	7 (3.78)	8 (4.32)	6 (3.24)	3 (3.24)
Total	21 (11.35)	23 (12.43)	28 (15.13)	40 (21.62)	17 (9.18)	22 (11.89)	8 (4.32)	3 (3.24)

Table 5: Oral mucosal lesions associated with adverse habits in female inmates

	Oral mucosal lesions- N%				
	Leukoplakia	Lichenplanus	OSMF	Oral cancer	Total
Smoking	4 (2.16)	0	0	0	4 (2.16)
Chewing tobacco	18 (9.72)	0	5 (2.70)	0	23(12.43)
Smoking +chewing tobacco	4 (2.16)	0	0	0	4 (2.16)

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