**Oral health knowledge, attitude and practice (KAP) among prison inmates of Ambala District, Haryana (India).**

**Abstract**

**Aim** of the study was to assess the oral health knowledge, attitude and practice among prison inmates of Ambala district (Haryana) India. **Materials and method** It was a cross sectional study conducted on 570 prisoners after meeting the eligibility criteria. A 23 item closed ended structured questionnaire was used to assess the oral health related knowledge, attitude and practice among prison inmates. **Results** shows that oral health knowledge was poor among prisoner as 51% of the subjects did not know about the meaning of gum bleeding and 83% of subjects have no knowledge of dental plaque. Knowledge about injurious effects tobacco was better. Prisoner shows their negative attitude towards dental treatment as 45.6% of the subjects think, it is necessary to visit a dentist and 62.24 % 0f the subjects had never visit to a dental clinic even before imprisonment. 38.66 % of the subjects had their last visit for more than five year ago. Tooth extraction (27.4%) was the most common cause of last visit. Practice among prisoner reveals, 58% of the subjects do brush their teeth at least once a day and most of the subjects 90% use toothbrush and paste for cleaning their teeth. Most of the subjects (79%) brush their teeth in morning and 59% perform brushing for more than 2 minute. **Conclusion** Oral health education should be imparted to the prisoner time to time and De-addiction clinics or programs should be establish in the prisons.

Key words: Knowledge, Attitude, oral heath, prison inmates, Smoking

**Oral health knowledge, attitude and practice among prison inmates of Ambala District, Haryana (India).**

**INTRODUCTION**

Health is a fundamental right of every individual and oral health is an integral part of general health, one cannot have without other1. It has been recognized and well established fact that preventive oral care is important in the prevention of oral diseases, which also has significant impact on general health2. In spite of being achievements in the oral delivery system and oral health of different population globally, problems still remain in many communities around the world as well as within the country, particularly among underprivileged groups in developed and developing countries. Prisoner’s population is one of such underprivileged population where negligence, poor knowledge about health and liberty which is the main barrier for access to health care system leads to various chronic disease related to general as well as oral health3.

Population is not unique but dynamic. Each population group have needs based on which different strategies can be plan to resolve health problem of the unique population groups by study their health problems and explore methods for health care.2 Prisoners make a special group of population as they are different from other people in context of their “freedom of movement. 3 Prisoners are psychologically, socially and morally affected group and are usually from low socioeconomic background.

 Socio demographic factors are closely associated with poor health status and when they are admitted to correctional institutions (prisons), they are deprived of their liberty for a period that may be long or of uncertain period 3,4 All these conditions have an impact on the health of an individual physically and psychological as they give less importance to their health.

Many prisoners entered the prison with poor oral health requiring emergency treatment this may be due to lack knowledge about good oral health practices. Substance misuse contributes to high levels of tooth decay and gingival disease. Tobacco use increases the prevalence and severity of periodontal diseases and by for the greater risk of oral cancer.4,5  Negative attitude and lesser preference toward treatment might be another cause of poor health. There is no such literature available which reveal the knowledge, attitude and practices among the prison inmates about oral health so that comparison can be done in order to find out differences between general population and prisoners. Therefore, present study is being taken to reveal their knowledge, attitude and practices about oral health.

**Materials and method**

The study was conducted to assess the oral health knowledge, attitude and practice among 570 inmates of Ambala district (Haryana) India.

Prior to the onset of the study, the ethical clearance and permission was sought from the concerned authorities to carry out the study.

The eligibility criteria includes those subjects who were willing to participate The entire prisoners were included in the study that was willing to participate and hard Core Prisoner, those were not allowed to get out of cell for more than one hour per day were excluded.

A 23 item closed ended structured questionnaire was used to assess the oral health related knowledge, attitude and practice among prison inmates. The questionnaire reviewed by experts to ensure the content validity and then translated to the local language (Hindi) for better understanding of the subjects. Pilot was study done on 30 subjects in oral health checkup camp held in jail premises by public health department to determine the reliability of the survey questions in the present scenario. After the pilot study, necessary changes done in the questionnaire.

Descriptive statistics obtained and mean, standard deviation and frequency distribution were calculated. Data was analyzed using the statistical package for social science 17.0 (SPSS 17.0).

**Results**

**Results**

 The demographic details of the subject shows mean **age** was 35.26 years with a standard deviation of 12.29 years. The minimum subject age was 18 years while the maximum was 88 years. Table 1 shows the distribution of study subjects according to gender, educational qualification and occupation prior to imprisonment. A total of 52 (9.12%) females and 518 (90.9%) males were explored in the study.

 Distribution of education level amongst the prisoners with maximum subjects (26%) being illiterate followed by 20.6 % with high school education. 10% of the study subjects having graduation degree with 7.2% and 2.8% of the subjects having graduation and post graduation degree respectively.

Distribution of the subjects according to the occupation before imprisonment, on interview, it was revealed that maximum prison subjects examined belonged to class V clerical, shopkeeper, former partly (30.05%) before entry into prison. 14.2% of the subjects belong to class 1 unemployed. Although 15.38 % of the subjects were belongs to the semiprofessional class.

Table 2 showing the knowledge of study subjects regarding oral health. Most of the subjects (95.4%) agreed with the fact that oral health is a part of general health. 47% of the subjects were aware about the dental caries and 80% of the subjects believes that brushing of teeth can prevent dental decay. However, 51% of the subjects were unaware about the meaning of gum bleeding, whereas 40.8% of the subjects had some knowledge of it. Knowledge about, how to prevent from gum bleeding was poor, as 48% of the subject did not know about it. When the subjects were asked about dental plaque, 83% of subjects had no knowledge of it. Most of the subjects (86.81%) were aware that smoking is injurious to health and 72.05% of subjects were aware about chewing tobacco can cause oral cancer.

Table 3showing attitude of prison inmates regarding oral health. 45.6% of the subjects think that it is necessary to visit a dentist and 62.24 % of the subjects had never visited to a dental clinic even before imprisonment. Out of those who had a dental visit before imprisonment, 38.66% of the subjects had their last visit for more than five year ago. Tooth extraction (27.4) was the most common cause of last visit. The most common reason given by the subjects (60.7%) for their last visit to dental clinic was dental pain. However, 49% of the subjects were not afraid at all when they visited to a dentist for the first time. Those who never visited to a dentist gave the most common reason (42%) that there is no pain to go to the dentist.

Table 4 shows distribution of practice score among prison inmates regarding oral health. Practice about oral health among the subjects was satisfactory as 58% of the subjects do brush their teeth at least once a day and most of the subjects 90% use toothbrush and paste for cleaning their teeth. Most of the subjects (79%) brush their teeth in morning and 59% perform brushing for more than 2 minutes.However, the tobacco use practice among inmates was high as 59.4 % of subjects use tobacco in any form and smoking was the most common form of tobacco use.

**Discussion**

The present study was undertaken to assess the oral health knowledge, attitude and practice among the prison inmates of the Ambala district, Haryana. 570 subjected were enrolled in the study. The mean age of the study population in our study was 35.26 years with minimum subject age was 18 years while the maximum was 88 years, which is similar to other studies. 1, 2, 5  Male to female ratio (10.08:1) was similar to other studies. 6 7, 9 While most studies were conducted only on male prisoners 8, 9 Only one study was found to be conducted exclusively on female inmates .6

The Education level varied amongst the prisoners with maximum subjects (26%) being illiterate followed by 20.6 % with high school education. Total subjects having graduation degree were only 10%. The level of education of the study subjects was similar to study reported by Dhanker K et al (2013),1 Nobile C G A(2007),10 where around 35 % of the study subjects had no or only elementary education. Subjects holding a degree were 9.95%, which was lower than Nobile C G A (2007).10 High percentage of subjects with less education in prison could be because such people will have less opportunity for jobs and resort to illegal activities and land up in jail. Overall literacy rate was similar to the study reported by Sajid A et al (2006).11

 In our study, one third of the study subjects fall in the category of clerical, shopkeeper and former followed by semiprofessional and least was the unskilled, which is similar to other study done by Salive M E et al (1989). 12 The reason for being maximum subjects in the category of farmer and clerk is that, they might have less education and have less opportunity to get good job placements.

In present study, the knowledge about the oral health found to be poor. Only 47% of the study subjects know about the dental caries. More than half of the subjects do not know that how to protect from gum disease, which is accordance with other study done by Cheah W L (2009),14 but lesser than the study done by the Humagain M (2011)13 and Al Omiri et al (2005).15

Only 8.3% of the subjects know about dental plaque, which is not accordance with other study done by Arlappa N et al (2011)16on general population showing the lesser level of knowledge among the prisoners about oral health. Although 86.81% of subjects believe that smoking is injurious to health and 72.05% subjects knew that it could cause cancer. This might be due to the warning sign over the tobacco products.

 In our survey, more than half of the study subjects agreed that it is necessary to visit a dentist, which is accordance with study done by Humagain M (2011).13

Although contrary to it, 62.24% of subjects had never visited to dentist even before imprisonment, which is lesser than the study done by Dhanker K et al (2013)1, and Peterson PE (2005).18 The reason might me restricted freedom of movement in the prison which is main barrior to access to oral health care services.

In the present study 38% of the population had past dental visit which is in accordance with other studies conducted by Nobile C G A et al (2007)11 and Osborn M et al (2003)5. Out of total population most common reason for visit is dental pain which is in accordance with study conducted by E. Heidari (2007),2 Cheah W L (2009)14 in general population and 27.44% of subjects had tooth extraction in last visit. This may be due to the fact that prisoner with low knowledge of oral health and they seek treatment only in dental emergencies.

 However, most of subjects 90.0% use tooth brush and toothpaste as cleaning aid which is similar which is similar to the other studies done byJones C M et al (2002)19 and Heidari E et al (2007).2 Out of total population 58% of the subjects brush their teeth once a day. Although more than half of the study subjects used to smoke tobacco, it was found to be lesser than that found in other studies Cropsey K L et al (2007)20, Nobile C G A et al (2006) 10. Along with smoking tobacco, quite of large number of subjects were habitual of chewing tobacco. Hence, the overall use of tobacco was found to be similar to Cropsey K L et al (2007).20

**Conclusion**

Prisons are no more the detention or punishment centers. They are the centers for correction of social behavior. Hence, the prisoners’ health becomes the total responsibility of the state government. Total medical and dental examination should be made mandatory for people before admission to the prisons to prevent further complications and to treat the existing conditions. Oral health education should be imparted to the prisoner time to time and De-addiction clinics or programs should be established in the prisons..

**References**

1.Dhanker K, Ingle N A, Kaur N, Gupta R. Oral Health Status and Treatment Needs of Inmates in District Jail of Mathura City – A Cross Sectional Study. J Oral Health Comm Dent 2013; 7(1)24-32

2. Heidari E, Dickinson C, Wilson R, Fiske J: Oral health of remand prisoners in HMP Brixton, London. British Dental Journal 2007; 1 – 6.

3. Singh S K, Sabyasachi S, Jagannath G V, Singh P. Nature of Crime, Duration of Stay, Parafunctional Habits and Periodontal Status in Prisoners. J Oral Health Comm Dent 2012; 6(3)131-134

4. Berkman A: Prison health: the breaking point. American Journal of Public Health December 1995; 85 (12): 1616 – 1618.

5. Osborn M, Butler T, Barnard PD. Oral health status of prison inmates- New South Wales, Australia. Australian Dental Journal 2003;48(1):34-38.

6. Heng C K, Morse D E: Dental caries experience of female inmates. Journal of Public Health Dentistry 2002; 62(1): 57 – 61

7. Mack F, Mojon P, Budtz-Jorgenser E, Kocher T, Splieth C, Schwahn C, Bernhardt O, Gesch D, Kordab B, John U, Biffar R: Caries and periodontal disease of the elderly in Pomerania, Germany: results of the study of health in Pomerania. Gerodontology 2004;21:27-36.

8. Wyatt C C L: Elderly Canadians residing in Long-term care hospitals: Part II. Dental caries status. Journal of Canadian Dental Association 2002; 68(6): 359-363

9. Avon S L: Oral mucosal lesions associated with use of quid. Journal of Canadian Dental Association 2004; 70 (4): 244- 248.

10. Nobile C G A, Fortunato L, Pavia M, Catanzaro I F A: Oral health status of male prisoners in Italy. International Dental Journal 2007; 57: 27–35.

11. Sajid A, Nalini S, Elizabeth D: Prevalence and socio-demographic factors associated with tobacco smoking among adult males in rural Sindh, Pakistan. Southeast Asian Journal of Tropical Medicine & Public health 2006; 37(5): 1054-1060.

12. Salive M E, Carolla J M, Brewer T F: Dental health of male inmates in a state prison system. Journal of Public Health Dentistry 1989; 49(2): 83–86.

13. Humagain M . Evaluation of Knowledge, Attitude and Practice (KAP) About Oral Health Among Secondary Level Students of Rural Nepal - A Questionnaire Study. Webmed Central dentistry 2011;2(3).

14.Cheah W L, Tay S P, Chai S C, Bong C S. Luqmanul H B, Zhuleikha B. Oral health knowledge, attitude and practice among secondary school students in Kuching, Sarawak. Archives of Orofacial Sciences 2010; 5(1): 9-16.

15. Al- Omiri MK, Board J, Al-Wahadni AM, Saeed KN. Oral health attitudes, knowledge and behavior college going students in North Jordan. Journal of Dental Education 2005; 70 (2): 179- 187. 8.

16. Arlappa N, Aatif Qureshi I, Srinivas R. Fluorosis in India: an overview. Int J Res Dev Health. April 2013; Vol 1(2).

17. Zhu L, Peterson PE, Wang HY, Bian JY, Zhang BX. Oral health knowledge, attitudes and behavior in China. Int j Dent.

18. Petersen P E, Bourgeois D, Ogawa H, Day S E, Ndiaye C: The global burden of oral diseases and risks to oral health. Bulletin of the World Health Organization 2005; 83: 661-669

17. Jones C M, McCann M, Nugent Z: Scottish prisons’ dental health survey 2002. Scottish executive, Edinburgh 2004.

18. Cropsey K L, Crews K M, Silberman S L: Relationship between smoking status and oral health in a prison population. Journal of Correctional health care 2006; 12 (4): 240 – 24

.