Original Article

Oral Health in Correctional Facilities: A Study on Knowledge, Attitude and Practice of Prisoners in Central India

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Abstract

Objective: The prisoners represent a population group that is disadvantaged, socially deprived underprivileged and needs immediate attention in regards to provision of necessary oral health care, health promotion and motivation, tobacco cessation. This study makes an effort to assess the prisoners' knowledge, attitude and practice towards oral health and barriers faced to oral health care in the jail.

Study design: A cross-sectional study was conducted in 5 Central Jails of Chhattisgarh State in a sample of 506 prisoners. The data collection process involved the selected prisoners in groups and a pre-tested, close ended questionnaire was administered in the form of extensive face to face interview covering socio-demographic details, past dental attendance, tobacco consumption habits, duration of incarceration, knowledge, attitude and practice towards oral health and barriers to oral health. Descriptive statistics was used to analyze the data.

Results: 52.1% of the prisoners were aware that tooth brushing helps in preventing gum diseases. 88.5% reported that they had some or the other dental problems during their stay in the jail. A majority of the prisoners (64.82%) reported consuming tobacco can cause gum disease. 63% prisoners never consulted a dentist. 75% prisoners did not get proper dental treatment for their problem. When inquiring the form of tobacco being used 26.98% reported of smoking, 43.80% used tobacco only in the chewable form and 29.22% were indulged in consuming tobacco in both forms i.e. smoked as well as chewed. 30% were bidi smokers and 70% were into cigarette smoking.

Conclusion: Prisoners form the isolated and weaker sections of the society, but it is the responsibility of every health care worker to serve them as the incarceration period can give an ideal opportunity to improve and promote good oral health. An urge persist for the development of a basic oral health care package that for all inmates.

Key Words: KAP, India, Oral Health, Prison, Tobacco.

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Introduction

Health is a fundamental human right. Oral health has been considered as the mirror of general health by Sir William Osler and is recognized as important as the general health[1]. An individual's health is governed by a wide variety of factors which may include congenital, hereditary, environmental and behavioral factors; the behavioral and environmental factors are most crucial in promotion and maintenance of the oral health of the people[2]. The high prevalence of dental diseases, apart from leading to ill effects on the health of the people afflicted, also causes economic loss and significant absenteeism[1]. Keeping in consideration their high prevalence and incidence, oral diseases tend to qualify as a major public health problem in all parts of the world. Because of the high costs of dental treatment, they mostly affect the underprivileged and socially deprived population. In India, dental caries experience and distribution remains high and skewed in all age groups and increases as the age advances. Secondly, the prevalence of components of periodontal disease (bleeding, calculus, pockets) was found to be as high as 80%[2]. Also tobacco consumption in any form has shown to have detrimental effects on oral health and is an established causative factor for oral cancer. This indicates an immediate, high priority for treatment, but with prime attention to the prevention and control of oral diseases which may be done through a combination of high risk and whole population strategy to achieve the greatest benefits[3].

In Canada the Corrections and Conditional Release Act mandates the provision of dental care to prisoners in federal facilities, and CSC's (Correctional Service of Canada) policies define dental care as an essential health service and their reports suggest that a functioning dentition is a basic necessity for prisoners[2]. The provision in Article 12 of the International Covenant on Economic, Social and Cultural Rights (United Nations, 1966) establishes "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health". This applies to prisoners just as it does to every other human being[4].

The prisoners represent a population group that is disadvantaged, socially deprived and underprivileged, which need immediate attention in regards to

provision of necessary oral health care, health promotion and motivation, tobacco cessation[5]. The Indian Criminal Justice System has three main constituents and prison institutions are one of them. With evolving and changing times a considerable change has occurred in the social perceptions towards the prisoners, with prisons no longer being called as punishment places instead are referred to as correctional facilities or an alternate training school, where attention is paid towards alleviating the prisoners' condition so that it has a healthy effect on the prisoners. The composition of Indian prison population is demographically skewed, and is an important determinant of health needs. They are predominantly male and contain disproportionately high numbers of people from ethnic minorities, poorer backgrounds and groups with lower literacy rates[6]. Usually people from criminality are the people who are educationally and socioeconomically deprived. Hanratty and colleagues recommended that in order to assess the availability of a health service across socioeconomic groups, one should consider it in relation to the different groups' level of health needs[7]. They are also more likely to practice health damaging behaviours such as smoking, drinking and recreational drug use that contribute to poorer oral and general health. People from lower social classes show a tendency towards irregular dental attendance and are more likely to visit the dentist only when in pain[8]. Very little literature supports investigating prisoners' knowledge, attitude and practice towards oral health and barriers faced to oral health care in the jail.

Alcohol, smoking, tobacco consumption and substance misuse also contribute to poor oral health. Excessive alcohol consumption and tobacco use increase the prevalence and severity of periodontal disease and are by far the greatest risk factors for oral cancer[4]. Smoking and tobacco consumption by the prisoners are the issues which seems to be completely neglected by the health care sector and also these two things are invariably related to oral health deterioration and economic loss which needs an estimation. No correctional facility has been given consideration by the National anti-tobacco strategies[9].

As per the Crime Records Bureau-India, at present, there are 1382 prisons in India with a total available capacity of 3, 32,782 against the total number of inmates 3,72,926 bringing the occupancy rate to 112.1% in 2011. In Chhattisgarh state, the overcrowding of jail comes out more strikingly, since the available capacity is of 5430 which is accommodating 13%, 918 prisoners making up the occupancy rate to 256.7 which is indeed alarming[6].

A challenge in terms of providing health care to the prisoners comes in the way that hardly any health professionals choose to work in the prison system. A lack of health concern, facilities and expertise further deteriorates the health of inmates. This explains the reason for such limited studies conducted in the prison system, especially in India. Several studies have reported higher prevalence of dental caries and periodontal diseases among incarcerated individuals[10].

India is on the fast track of development but in terms of oral health problems of prisoners and barriers to oral health, has received a very little attention which makes the information sparse. There are very few studies conducted on prisoners' oral health in India[6,10] and as per our search, there is no such study reported in Chhattisgarh state, so this study makes an effort to probe into, and assess the prisoners' knowledge, attitude and practice towards oral health and barriers faced to oral health care in the jail.

Materials And Methods

The Central Jails in Chhattisgarh is a mix of remand and convicted prisoners[11]. A cross-sectional study was conducted in 5 Central Jails of Chhattisgarh State from September 2013 to March 2014, following ethical approval from the Ethical Committee of Rungta College of Dental Sciences and Research. Prior permission for the study was taken from all the jail authorities. Informed consent was taken from prison inmates and the participation in the study was totally kept voluntary.

Sample Size

The sample size was calculated based on the pilot study conducted previously in one of the Central Jails situated in Durg District of Chhattisgarh state, India. Based on the results of the pilot study the sample size required was 506. Totally 5 Central Jails were selected randomly by a lottery method and from each of the 5 jails, the prisoners were randomly included in the study making a total of 506 participants in the study.

Inclusion Criteria

- Prisoners who were present on the day of examination were included in the study.
- Prisoners who agreed to give the consent for participation in the study.

Exclusion Criteria

- Prisoners with the history of systemic disease like epilepsy etc.
- Mentally or physically challenged prisoners.
- Those prisoners who are not willing to take part in the study.
- Prisoners absent on the day of study.

Training

The investigator was trained and calibrated for conducting the interview, under the guidance of a senior faculty member. Calibration of examiner was done on 20 individuals who were interviewed twice using the pre-tested, close ended questionnaire on successive days, and then the results were compared to know the variability. Agreement for assessment was 90 percent.

Data Collection

The data collection process involved the selected prisoners in groups to the interview by investigator (previously calibrated). The interviewers offered reassurance to the participants about their anonymity. Each prisoner was individually interviewed, and was asked to return to the cell block on completion of the examination. Each interview lasted between 10 to 15 minutes.

Questionnaire survey

Questionnaire: A pretested, close ended questionnaire was administered in the form of extensive face to face interview keeping in mind the restriction due to illiteracy among the inmates, to assess the prisoners' knowledge, attitude and practice towards oral health and the barriers faced to oral health care in the jail. The questionnaire was prepared covering socio-demographic details, tobacco consumption habits, duration of incarceration, knowledge, attitude and practice towards oral health and oro-dental problems, past dental attendance and barriers to oral health.

Statistical Analysis

The data were then entered manually into the computer, tabulated and analyzed. Descriptive statistics using the Statistical Package for Social Sciences, IBM (SPSS) version 16 was used to analyze the data.

Results

Socio demographic characteristics of the respondents (Table 1) : A total 506 prisoners were included to be part of the study out of which the population of males in the prison was 87% (n=440) and that of female prisoners was 13% (n= 66). The mean age of the total sample size was found to be 35.84. 70.4% (n=356) of the total population of the prison inmates were married. The educational status of the prisoners was not uniform as 19.8% (n=100) of them were illiterate. Those among the educated were 20% (n=101) who just had primary school education, 47% (n=239) had high school education and 13% (n=66) were graduates.

Oral health knowledge

A majority of the prisoners (74.5%) knew that tooth brushing helps in preventing caries, and 52.1% of the prisoners were aware that tooth brushing helps in preventing gum diseases. A substantial number of prisoners (86.1%) were not aware that dental floss helps in preventing caries. A majority of the prisoners (64.82%) reported that consuming tobacco can cause gum disease. (Table 2)

TABLE 1: Socio demographic characteristics of the respondents

Mean Age = 35.84
N = 506

Variables	Frequency	Percentage (%)
Gender		
Male	440	87
Female	66	13
Age Group		
18-40 years	352	69.6
41-60 years	136	26.9
≥ 61 years	18	3.56
Marital Status		
Single	150	29.6
Married	356	70.4
Education		
Illiterate	100	19.8
Primary	101	20.0
High school & Higher Secondary	239	47.2
Graduate	66	13.0
Duration Of Stay In Jail		
0-2 years	223	44.1
3-5 years	144	28.4
6-9 years	100	19.8
≥10 years	39	7.7

Table 2 Frequency table for question and answers

S.No.	Question	Response	Number	Percentage
1	Do you know whether tooth brushing helps in preventing caries?	Yes No	377 128	74.50 25.5
2	Do you know whether tooth brushing helps in preventing gum diseases?	Yes No	264 242	52.17 47.83
3	Do you know whether dental floss helps in preventing caries?	Yes No	436 70	86.16 13.84
4	Does consumption of tobacco cause gum disease?	Yes No	328 178	64.82 29.83
5	Do you want to know more about how to keep your teeth clean?	Yes No	495 11	97.82 2.18
6	Do you know what to do after dental injury?	Yes No	448 348	88.53 11.47
7	Who is responsible for your dental treatments?	Yourself Jail authority	160 346	31.62 68.37
8	Do you think oral health is as important as general health?	Yes No	414 92	81.81 18.18
9	Do you clean your teeth with a toothbrush and dentifrice?	Yes No	480 26	94.86 5.13
10	How many times in a day do you brush your teeth?	Once Twice	303 203	59.88 40.11

11	Have you consulted any dentist before?	Yes No	318 188	62.84 37.15
12	After moving out of here will you visit to a dentist regularly?	Yes No	485 21	95.84 4.16
13	Were any dental checks up camps organized for you in last 6 months?	Yes No	333 173	65.81 34.19
14	Do you think dental camps should be organized for you regularly?	Yes No	495 11	97.82 2.18
15	Have you experienced dental problem during your stay in the jail?	Yes No	448 58	88.53 11.46
16	If you experienced dental problem during your stay in the jail what did you do for it?	Medication Dental visit Ignored	179 76 193	39.96 16.96 43.08
17	Did you get proper dental treatment for your problem?	Yes No	112 336	25 75
18	What was the reason for not getting proper dental treatment for your problem?	No Facility Ignorance by authorities Self Ignorance	251 40 45	74.70 11.90 13.40
19	Have you experienced sensitivity in your teeth to hot or cold?	Yes No	330 176	65.21 34.78
20	What did you do for the sensitivity in your teeth to hot or cold?	Treatment Ignored	270 60	81.81 18.18

Oral health practice

A very strong agreement came in case of using a tooth brush and a dentifrice for the cleaning of teeth as it was used by about 95% (n=480). 59.88% of the respondents reported that they cleaned their teeth once daily and 40% of the prisoners reported brushing twice daily. Most of the inmates reported that they performed horizontal brushing technique for cleaning their teeth.

63% (n=319) among the prisoners were the ones who have never consulted a dentist till date. When difference with regards to number of dental visits was observed, the educated prisoners tend to have more dental visits than the uneducated.

Another question was instilled asking, 'after moving out of here will you visit to a dentist regularly?' to which 95.84% prisoners replied with a 'Yes', which highlights a positive attitude towards future dental care among the prisoners. (Table 2)

Barriers faced towards oral health in jail (Table 2)

Facility provided for dental care was assessed by asking if there were any dental check up camps organized in the last 6 months. 66% answered with a 'No'. Another question which relates to the prisoners' realization of importance and need of conducting dental treatment and check up camps regularly was asked as, 'do you think dental camps should be organized for you regularly', to which 98% of the prisoners answered a 'Yes'. This shows a high need and demand for dental treatment facility by the prison inmates.

Out of the 506 prisoners surveyed 88.53% (n=448) reported that they had some or the other dental problems during their stay in the jail for which 39.96% took medication to resolve the dental problem, 16.96% asked for a dental visit and the rest 43.08% prisoners somehow ignored their dental problem either due to lack of dental treatment facility or lack of motivation toward oral health care.75% (n=336) of the total prisoners having dental problems (n=448) said they did not get proper dental treatment for their problem which was due to several factors (Figure.1).

Dentinal hypersensitivity was one of the major finding i.e. 65.21% of the total prison inmates suffered from dentinal hypersensitivity. For which 81.81% opted for ignoring the condition whilst only 18.18% took the dental treatment. Figure 2 shows the Barriers faced by the prisoners.

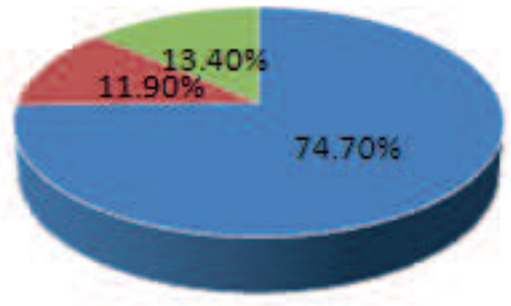

Figure 1 - Reason for not getting proper dental treatment problem

- No dental treatment facility
- Ignored by the authorities
- Didn't think dental treatment was important

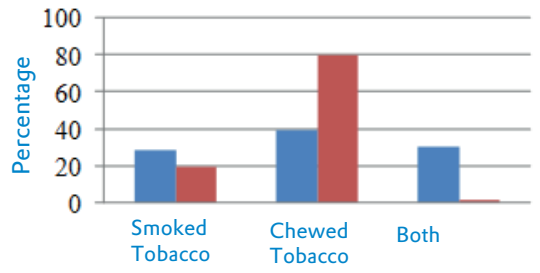

Figure 2 - Tobacco Consumption

Male

Female

Tobacco Consumption

About 62.25% prisoners had consumed tobacco in some or the other form in their lifetime. When inquiring the form of tobacco being used 26.98% reported smoking, 43.80% used tobacco only in the chewable form and 29.22% indulged in consuming tobacco in both forms i.e. smoked as well as chewed (Figure 2). Among smokers, 30% were beedi smokers and 70% were into cigarette smoking.

Discussion

Very few studies have been carried out on the knowledge, attitude and practice towards oral health and the barriers faced to oral health care in the jail. But many studies carried out in other parts of the world show that the oral health of the prisoners is much more deteriorated than that of the general population[12]. The prisoners do differ from the general population invariably in many senses that may be in terms of level of education, psychosocial factors, economical factors or it may be related to substance abuse, attitude towards health[13]. Overcrowding, neglect towards oral health, ignorance by the authorities, social deprivement or it may be the disliking and rejection by the society or family. All these factors predispose them to psychological stress[14]. All these factors can be associated with the high detrimental effect on general and oral health, in the prisoners' population than the whole general population.

It is already proven that the prisoners have significantly greater oral health needs than the general population. Many prisoners are unemployed before being sentenced and come from communities with a high level of social exclusion. There is a need and demand for emergency, urgent and routine care due to the nature of prison stays. An increase in number of prisoners has lead to increase in demand for prison dental services and for being more responsive to their clinical needs[4].

The tooth brush and tooth paste for cleaning the teeth were provided by the jail authorities to all the inmates and that can be the reason for the prisoners' ability to use them in their routine oral hygiene. Tooth brush and tooth paste was used by 95% of the prisoners to clean their teeth and these results match the study reports by Shah et al[15]. The low attendance for a previous dental visit can be attributed to the illiteracy, lack of motivation and knowledge towards oral health, access, cost and anxiety as coinciding with the study reports[16], many of these barriers can be overcome by providing sound education to the prisoners and by incorporation of oral health screening into the general health screening; the same was suggested by Jones et al[17].

66% of the inmate population reported that there had not been any dental check-up camps conducted in the last six months to satisfy their dental needs, 98% responded that dental check-up should be done regularly and majority of the inmates (88.5%) had some or the other dental problems during their jail stay; all these contribute to their perceived needs and high demand for dental treatment. This high perceived need for dental treatment matches with the previous study reports[18]. The major need for dental care in the prison was established by the fact that 88.5% of the inmates had suffered from some or the other dental ailment and majority (75%) of the inmates facing dental ailment during their stay in jail reported that they could not get proper treatment, the barriers as reported by the prisoners themselves were: no dental treatment facility in the jail premises, ignorance by the jail authorities and self ignorance. This highlights a major issue of lack of oral health care facility in the jail premises and negligence by the jail authorities for the provision of necessary oral health care.

A high prevalence of tobacco consumption (61%) was observed from the study reports, which is in fact considered a major quantifying factor in causing morbidity and mortality in case of general health and oral health. Chewable/smokeless tobacco consumption among the inmates is previously established in the literature reports as a known etiological factor in the causation of pre-cancerous lesions, precancerous condition and oral and pharyngeal cancer[19,20]. Also oral and pharyngeal cancers cause significant morbidity and mortality; data on the annual global estimates show an incidence of about 275000 cases of oral cancer and 130300 cases of pharyngeal cancer in the developing countries[21].

There is no provision for a dentist in Indian jails to look out for and serve the dental needs of the prison population. When considering correctional institutions a health professional plays a vital role in leadership and management of correctional institutions. As a leader, health professional who is involved in an administrative position can contribute to the health of the inmates by virtue of his knowledge about the correctional programs. A health professional should work to develop effective and rational programs for patients dealing with any sort of addiction[22].

Conclusion

Our findings suggest several recommendations for policy relevance. Firstly they indicate lack of dental treatment facility for the prisoners' population, and also an absence of provision for a dentist in the prison serves as the prime barrier to the utilization of dental services.

Secondly, there were a majority of inmates who never had consulted any dentist even once in their life time; this can be attributed to the lack of access, illiteracy, high cost, fear and very low motivation towards oral health care. Lastly prisoners form the isolated and weaker sections of the society, but health for all being the prime concern, it is the responsibility of every health care worker to serve them, as the incarceration period can give an ideal opportunity to improve and promote good oral health. An urge persists for the development of a basic oral health care package that for all inmates and to be more attentive to oral health promotion in the inmates as eventually many of them will be returning to their respective communities and be a part of the main stream.

Conflict of Interest

The authors declare no conflict of interest.

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