

## RESEARCH ARTICLE

# Prisoners' Perception of Tobacco Use and Cessation in Chhatisgarh, India - The Truth from Behind the Bars

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### Abstract

**Background:** Prisoners represent a population group that is disadvantaged, socially deprived and underprivileged, needing particular attention with regard to provision of necessary oral health care, health promotion and motivation and tobacco cessation. Considering the situation in prisons, smoking and tobacco chewing are burning issues related to health deterioration and economic loss that seem to be overlooked by the public health sectors. **Aim:** To assess prisoners' perception of tobacco use and cessation in Chhatisgarh, India. **Materials and Methods:** A pre-tested, close ended questionnaire was administered in the form of extensive face to face interviews, to assess perceptions regarding tobacco use and cessation in the central jail of Durg District of Chhattisgarh state, India. **Results:** Prevalence of tobacco usage amongst the prisoners was found to be 61%. Some 27% reported smoking, 44% used tobacco in the chewable form and 29% indulged in consuming tobacco in both forms i.e. smoked as well as chewed. Results suggest several recommendations for policy relevance such as provision of a prison dentist, a tobacco cessation counseling program and targeted eradication of oral cancer by educating the prisoners. **Conclusions:** Health is a fundamental human "right of everyone to the enjoyment of the highest attainable standard of physical and mental well-being". This applies to prisoners just as it does to every other human being. The alarming findings in the study suggest the need for dental treatment facilities and tobacco cessation counseling in prisons.

**Keywords:** Prisoners - smoking - tobacco - perception - tobacco cessation - India

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### Introduction

The oral cancer is emerging as a considerable Public Health problem in India. Oral cancer not only causing pain, functional and esthetic problem but also lead to loss of working man hours. Hence, in the long run they are bound to have significant impact on our economy.

Oral cancer the 5<sup>th</sup> most common cancer worldwide is a major cause of morbidity and mortality in India and ranks number 1 amongst men and number 3 amongst women in India. The main risk factors are tobacco and high level of alcohol consumption, the two acting synergistically. Oral cancer constitutes 12% of all cancers in men and 8% of all cancer in women. Smoking tobacco, chewing tobacco and tobacco mixtures are the high risk factors in India (Patil, 2005). Thus the prevention and control of adverse health effects associated with tobacco consumption is an emerging issue of public health significance (Parakh et al., 2013).

An individual's health is governed by a wide variety of factors which may include congenital, hereditary,

environmental and behavioral factors; from which the behavioral and environmental factors are the most crucial in promotion and maintenance of the oral health of the people (Bail et al., 2004). As per the world health organization Tobacco tends to be the growing global cause of death all around the world and also is associated with many fatal diseases. 200,000 death tolls annually around the world 46,000 particularly in India is being caused by tobacco usage. A well supported evidence exist in the favor of the fact that oral cancer is more common in developing countries than in developed ones. (Binnal et al., 2013).

One of the enduring puzzles of public health dentistry is, why some group of people are healthier than others. The answer to such apparently simple question, although complex to formulate, are crucial in understanding oral cancer and how they might be eliminated or controlled through the development of appropriate public policy and programs. The prisoners' health is perhaps complex and challenging of all. It is concerned with the key aspects of prisoners living and working circumstances and with their lifestyles.

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Prisoners have significantly greater oral health needs than the general population. Many prisoners in India are unemployed before being sentenced and come from communities with a high level of social exclusion. The demand for prison dental services has continued to increase in India especially because the members of sentenced offenders have increased. Alcohol, smoking 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. (World Health organization, 2007)

Tobacco use, in any form is a much greater public health challenge in India compared with other countries due to the many varieties in which tobacco is consumed. Different forms of tobacco products include smoke form such as bidis and cigarettes, cigars, hookah, and smokeless forms such as betel quid, gutkha, mawa and khaini-chewed in the oral cavity and snuff- inhaled through nose and creamy snuff, which is a tobacco paste marketed as dentifrice. Cigarette smoking is more prevalent among urban population while the indigenous forms like bidis, betel quid, etc. are common among rural people. Local brands of packed chewing tobacco products are freely available in India. (Philip et al., 2013).

Increase in criminality is attributed to people who are educationally and socioeconomically deprived. Considering the situation in prisons smoking and tobacco chewing are the burning issues that seem to be overlooked by the public health sectors, secondly smoking and tobacco consumption are invariably related to health deterioration and economic loss which needs estimation. National anti-tobacco strategies have not considered any correctional facility. Although a wide scope does exist in the smoking and tobacco cessation in the prisons, it is not supported by the pillars of attention. Scarcity of attention towards tobacco cessation amongst prisoners is till now the present scenario in the Indian prisons while it is a fact that the incarceration period can though be an ideal time to promote tobacco cessation. On the contrary very little literature is available investigating prisoners' perception and perceived barriers towards oral health. No knowledge is present about, whether prisoners are interested in tobacco cessation or reduction program. Also smoking cessation in prisoners has been the topic of little interest in many developed countries like for example, in Australia, where general community is considered as a high priority for tobacco control practice rather than the prisoners. Also in USA, very little is reported with respect to smoking intervention strategies in the last 25 years in contrast to various strategies being developed for anti smoking in the general community (Sieminska et al., 2006).

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 (World Health organization, 2007). The prisoners represent a population group that is disadvantaged, socially deprived and

underprivileged, which needs immediate attention in regards to provision of necessary oral health care, health promotion and motivation, tobacco cessation (Singh et al., 2012).

The prisoner population marked up velocrisiously over years which may be attributed to overstretch in the judiciary system and more disciplinary response to crime. Harsher laws in order to reduce the crime rate, made people stay in prison for a longer duration (Singh et al., 2012).

At present, there are 1382 prisons in our country 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 (National Crime Records Bureau, 2012).

Clinical problems in general population and in prisoners seem coherent, but some conditions in the later act as catalyst to worsen their situation like- communicable diseases, air-borne infections, depression and other mental health problems. Dispossession from freedom in almost every sense is imposed on the prisoners. Apart from this, environmental factors, fluctuation in mental condition, social isolation may cumulate causing psychological disturbances which invariably affect the general and oral health (Singh et al., 2012).

Dental Professionals are the first to note any changes that can occur due such as tobacco in the oral mucosa. Attempting tobacco cessation by oral physicians has not been published extensively in literature and limited publications were reviewed by the Cochrane database review (Pai and Prasad, 2012).

There are very few studies conducted on prisoners' knowledge, attitude and practice towards tobacco usage in India and as per our search, there is no such study reported in Chhattisgarh state, so this study makes an effort to probe into the prisoners' knowledge, attitude and practice towards tobacco usage and perception towards oral cancer in prisons of Chhattisgarh, India.

## Materials and Methods

The Central Jail in Durg district (Chhattisgarh) is a mix of remand and convicted prisoners and has a capacity of around 396 inmates, but according to the data available as on 31 August, 2013, it accommodates 1620 prisoners (Chhattisgarh State government, Jail Department, Lock up Statistics, 2013). Ethical approval for the study was taken from the Ethical Committee of Rungta College of Dental Sciences and Research. Prior permission for the study was taken from the jail authorities. Written informed consent was taken from the prison inmates and the participation in the study was totally voluntary.

Out of 1620 inmates, approximately 400 convicted prison inmates were kept apart from the study by the jail authorities due to some legal and administrative reasons. Amongst the remaining prison inmates, 506 agreed to participate in the study. 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 tobacco usage in prisons. The questionnaire was prepared covering socio-demographic details, duration of incarceration, and knowledge about oral cancer, tobacco usage and attitude towards quitting the habit.

The subjects were interviewed by a trained interviewer who was assisted by a recorder. The frequency and mean values of the collected data were calculated using statistical software IBM SPSS version 21.0.

## Results

The response rate was 100% as the survey was conducted via personal interview with the prisoners. All the prisoners underwent oral examination for the estimation of oral health status.

A total 506 prisoners were included to be the 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% (n=356) of the total population of the prison inmates were married which can be considered as a major quantifying factor in the deprived family life status in the prisons. The educational status of the prisoners was not uniform as some 19.8% (n=100) 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.

### Tobacco consumption and beliefs

When asked for whether, they (prisoners) ever used/ consumed any tobacco product, about 61% (n=306) responded with an answer 'Yes' which indicated a high prevalence of tobacco usage. When inquiring the form of tobacco being used 27% reported of smoking, 44% used

tobacco in the chewable form and 29% were indulged in consuming tobacco in both forms i.e. smoked as well as chewed.

Among smokers, 30% were bidi smokers and 70% were into cigarette smoking. The past tobacco chewers formed 44% of the whole prison population, when assessed for the present tobacco usage the response reduced to 19% which showed a highly significant decrease in tobacco consumption when imprisoned. But for the 19% of prisoners, who are still indulged in tobacco usage activity, can be attributed to a breach in the rules and regulations of the prison, as the Government of India has completely banned the use of tobacco and related products in the jail premises.

All the prisoners who were addicted to tobacco were asked a question 'are you interested in quitting tobacco?' to judge to perception and motivation of the prisoners towards quitting tobacco, after being away from tobacco usage during imprisonment, overwhelmingly about 94% prisoners answered with a 'Yes' and said they won't use any of the tobacco product after moving out of the jail. But remainders of 6% prisoners were still reluctant to quit the tobacco consumption habit, they were later explained about the harms of tobacco use, and motivated to quit tobacco after the survey was completed.

### Knowledge about Oral Cancer (Table 2)

With a growth in the prevalence of oral cancer and tobacco usage in India questions pertaining to the knowledge and information about oral cancer among the prisoners were administered. All the prison inmates (n=506) were asked, 'have you heard about oral cancer?' to which 74% replied 'Yes' but 26% were still lacking the knowledge and information about oral cancer. To know the source which is being helpful in spreading the awareness about oral cancer was assessed by asking 'from where did you got to know about oral cancer?' to which the response was as followed 17% awareness was from newspapers/ magazines, 63% from the television, 10% from the dentist and 10% from friends/relatives or some other sources. This shows mass media has a very high impact on spreading the knowledge, awareness and information about oral cancer.

To extract the information that oral cancer is fatal, is known to the prisoners or not, was assessed by a straight forward question 'do you think oral cancer can cause

**Table 1. Socio Demographic Characteristics of the Respondents**

Variables	Frequency	%
Mean Age=35.84, N=506		
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
High school & Higher Secondary	239	47.2
Graduate	66	13
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
Previous dental consultation		
Never consulted a dentist	319	63%
Before 6 months	78	15.4
1-2 years back	57	11.3
More than 2 years back	52	10.3

**Table 2. Frequency Distribution of Prisoners' Knowledge about Oral Cancer**

Question	Option	Frequency	Percentage
Have you heard about oral cancer?	Yes	378	74%
	No	178	24%
From where did you got to know about oral cancer?	Newspapers/magazines	65	17 %
	Television	239	63 %
	Dentist	36	10 %
	Friends/relatives	38	10 %
Do you think oral cancer can cause death?	Yes	354	70 %
	No	10	2 %
	Don't know	142	28 %

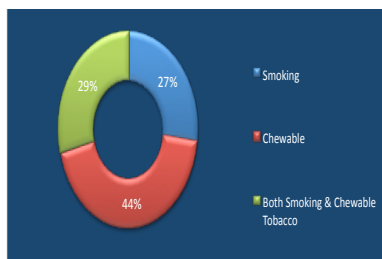


Figure 1. Percentage Distribution of Tobacco Consumed

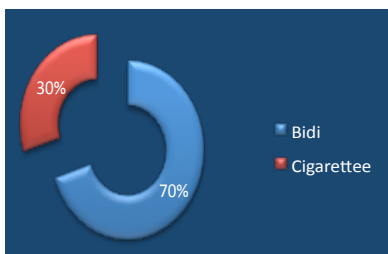


Figure 2. Percentage Distribution of Smoked Tobacco Consumed

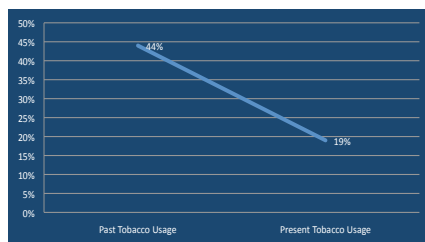


Figure 3. Decline in Tobacco Usage

death?', the responses obtained was 70% answered a 'Yes', 2% answered with a 'No' and 28% answered they 'Don't know'.

## Discussion

A very few studies have been carried out to assess the prisoners' knowledge, attitude and practice towards tobacco usage in prisons. 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 (Sieminska et al., 2006). Challenges comes in the life of prisoners during their stay in the prison and when they are out of prison let it be the overcrowding, neglect towards oral health, ignorance by the authorities, social deprived or it may be the lack of rehabilitation programs by the society, disliking and rejection by the society or family. All these factors predispose them to psychological stresses (Singh et al., 2012).

These all factors can be associated with the high prevalence of tobacco usage and detrimental effect on general and oral health, in the prisoners' population than the whole general population. High rate tobacco usages i.e. about 61% of prisoners were indulged in tobacco consumption in one or the other forms was assessed in the prisoner population. 44% reported consuming chewable form of tobacco, 27% reported of smoking tobacco and 29% were indulged in consuming both chewable and smoked form of tobacco.

When compared to the consumption of tobacco in the prisoners of UK reported by E Heidari et al. (2008), 80% of the study population reported tobacco smoking regularly, similar findings were reported by Alicja Sieminska et al. (2006) in which 81% of subjects were smokers. Another study reports (Global Adult Tobacco Survey 2009-10) prevalence of smokeless tobacco use (26%) is significantly more than that of smoking (14%). Amongst the tobacco users, 8.7% smoked only, 20.6% consumed only smokeless tobacco and 5.3% both smoked as well as consumed smokeless tobacco (Gupta Bhawna, 2013).

This shows the evidence supporting that majority of people are indulged in using chewable tobacco in India than the smoked form when compared to western countries, which may be due to the cheaper costs, easy availability, injudicious publicity to these chewable tobacco products despite of the well established fact that these are well known oral carcinogens. A marked reduction in the tobacco chewer population was seen after being imprisoned, the credit of which should go to the rules made by Government of India to ban any form of tobacco usage in the jail.

Overwhelming response of 94% was attained, when the prisoners were asked for their interest in quitting tobacco consumption which was also reported by Alicja Sieminska et al. (2006) as 75% of the prison inmates want to quit tobacco, another study carried out by Binnal et al among the smokers reported 85.7% of all the respondents intended to quit smoking (Binnal et al., 2013). A sustainable and effective Tobacco Cessation Counseling for the prisoners can help them to restrain themselves from tobacco usage and bring up a change good for them and the community.

Oral cancer now ranks the third in top three types of cancers in the country and considering the public health scenario, oral cancer now is a grave problem (Ken Russell Coelho 2012) so it was necessary to assess the knowledge of prisoners about oral cancer and its fatal outcome. 26% of the prisoner population lacks the knowledge of oral cancer and the rest 74% were those who know something about oral cancer. In studies conducted by Ariyawardana, (2002) in Sri Lanka and Warnakulasuriya, (1999) in Great Britain the authors found 47% and 76% respectively were aware that tobacco was a risk factor for oral cancer (Devadiga, Prasad, 2010). Television and mass media appeared to be the most promising source for spreading the awareness about oral cancer and its prevention due to its ready availability and reach to even small villages of the country and also watching television is free from the illiteracy barrier.

Various anti-tobacco campaigns and cessation programs are organized in schools, colleges and workplaces by the Department of Public Health Dentistry by sensitizing masses through their strong outreach component which holds a key in health promotion similarly programs should be organized in the prisons. A multidisciplinary approach at different levels like health promotion and education, clinical training and curative is ultimately required for the success of any tobacco dependence treatment strategy. (Mohanty et al., 2013)

The Government hospital remains to be the prime

responsible institute for the prisoners' health and there was no provision for a prison dentist to look out for and serve the dental needs of the prison population. When considering correctional institutions a health professional play 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 (Scott et al. 2010).

In conclusion, our findings suggest several recommendations for policy relevance. Firstly, there was a high prevalence of tobacco use amongst the prisoners with both chewable and smoked form of tobacco being used. The ban on tobacco use in the jail by the Government is indeed appreciable but there is an alarming need for building up a sustainable tobacco cessation counseling program for the inmates to help them quit tobacco, a provision for a prison dentist can be very helpful. Secondly, the best way to eradicate oral cancer is by educating the people about its cause and the ways of prevention as it goes with the saying "Prevention is better than Cure". 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.

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