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**Title Page**

## DENTAL CARE SEEKING BEHAVIOUR AMONG FEMALE JAIL INMATES OF BHOPAL CITY: - A CROSS SECTIONAL SURVEY.

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**ABBREVIATIONS-**

GB-Gingival Bleeding.

**COMPETING INTERESTS-**

No competing interest exists in interpretation of data or presentation

of information.

**ABSTRACT**

**Aims& Objective**-Literature on oral health care related behaviour of female prisoners is scanty.Hence this study is designed to provide information on dental care seeking of female prisoners and serve as baseline data to astound upon the prison authorities, the need to further plan preventive curative and rehabilitative services in the Jail Premise.**METHODS**-This cross-sectional study was done on 177 female prisoners residing in central jail, Bhopal, M.P, INDIA, by interviewing, interrogating and entering the WHO basic oral health survey methodology 2013.Statistical analysis was done using SPSS version 17. **RESULT**-On compiling the data collected, the result unveiled that majority of the female prisoners did not concern dentist ever in spite of having poor oral hygiene and dental problems.**CONCLUSION –** Concluding details of the contemporary study was overall dental awareness, dental health seeking behaviour among female prisoners residing in Central prison Bhopal was wretched. Due to stressful milieucomprising desertion from the society as well as family, the prisoners underrate their health issues primarily and thus did not even care to consult dentist regarding their oral health issues.

**KEYWORD-** female prisoners, Oral Health, Dental Care, Jail, Inmates.

**INTRODUCTION**

Oral health is a critical but an overlooked component of inclusive health and wellbeing.Oral health problems such as dental caries, periodontitis and oral cancer are pandemic and has high global health burden.1

Although, dental care is a part of primary health care in India, dental care services are rarely available, literacy level is low moreover in terms of oral health it is all the more low. So in a specific cohort like prisoner oral health is even more depreciated . Prisoners are psychologically, socially,morally and economically affected group.1These people are cast out from society and are furthermost neglected. So definitely forming a destitute group, the health of prisoners is of great concern particularly because the number of persons under the jurisdiction of correction systems, including those on probation or parole, continue to increase dramatically.

Prison population consists of an over representation of members of the most marginalized groups in society, people with poor health and chronic untreated conditions. This population is an underserved section of the society. Often their oral health problems are neglected. They carry a much greater burden of illness than other members of the society; they harbour diseases that are determined both by the environment out of which they come and by the prison in which they live. “Prison” means any jail or place used permanently or temporarily under the general or special orders of the state government for the detention of prisoners and includes all lands and buildings appurtenant thereto. It is not a place where someone would like to live. Whatever are the reasons behind incarceration? Whether it is seen as a punishment or as a mode of rehabilitation? The normal life of the inmate is restricted, freedom of movement is curtailed, and private space is limited. Many of the prisons over the globe are overburdened; the population confined behind bars in the US in 2008 was in excess of 1.6 million2. In India too, the situation is no better. There are about 1276 prisons in the country with an authorized accommodation of 2,77,304; however, the total number of jail inmates is nearing 4 lacs indicating severe overcrowding in prisons and there is 16,951 female inmates in different jails in India3.

Health care systems in Indian prisons are built on the model of “access by demand” and triage for a level of care felt appropriate by people other than the patients themselves.4It is difficult to expect oral health to be priority in such settings and extraction of teeth becomes a common parlance.

Being in prison, they face lack of inevitabilities and quality living, hygiene and nutritious food. Unhygienic living circumstances, mentally stressful conditions and abandonment resulting in unhealthy web of causation for morbidity. Multifactorial causation and destructive facets of life nevertheless health and unambiguously oral health perpetually upsurge in deleterious habits like tobacco, alcohol etc. rebounds with poor oral and medical conditions.5

Their low esteem makes them underrate their health related issues as well. Invariable increase in and morbidity below the tip of the ice-burg. Consequently health care seeking behaviour stays extreme missing resulting in deterioration in health among prisoners, marginalized cohort of society .

Women are the most pre-eminent segment of Indian society who have long been bypassed or overlooked in the course of empowerment .Many have little or no access to education and basic health services, so is the scenario with female prisoners or even worse. Considering the importance given by policy maker across various nation to the group approach while conceptualizing, formulating and implementing any scheme on program for the welfare of marginalized and underprivileged women, we identified the need to critically examine and explore the dental care seeking behaviour of female prisoners.6

Rates of imprisonment are increasing dramatically in many countries around the world. According to the World Prison Population List, prison populations have increased by 73% over a relatively short period of time. The number of female, who are already overrepresented in the prison population, is rapidly increasing as well.As a result of rising imprisonment rates nationally and globally, researchers, advocates, correctional providers and policy makers are paying more attention to the experiences of prisoners prior to, during, and after being released from prison. One area that is receiving noticeably more thoughtfulness is the health and well-being of prisoners, as well as prison health services. A growing awareness of the need to provide health services similar to the standards of health care in the community has emerged.7The need for more research on the health of provincial prisoners and health services in jail emerged from a study that found that poor health among female prisoners and the lack of health services available in provincial jail were key issues for women during incarceration and negatively influenced their ability to successfully reintegrate in the community after they were released from jail.8Heading towards these evidences the attempt is made to assess oral health care related behaviour of female prisoners in central jail Bhopal to enterprise further preventive ,curative and rehabilitative oral health care intensifying program in the women wing of Central jail Bhopal.

**METHODOLOGY**

The present study is a cross sectional study conducted to assess dental seeking behaviour, by using modified WHO 2013 questionnaire, of all women prisoners in Central Jail of Bhopal, Madhya Pradesh, India.

The statistical frame consisted of 178 female prisoners during the study in the Central Jail Bhopal. Only convicted female prisoners were available during the study. Minors were excluded from the study design. Under trial women prisoners (89) were not available due to parole and court hearing. Due to crippled health (12) were under medical care so failed to be the part of our study. Naxalites and terrorist (3) and (8) were not co-operative psychologically so were excluded from the study. So in nut and shell female prisoners who positively consented were sixty-six comprising in the study meeting the definite selection criteria . Women present on the day of interview and who consented to participate were only included in the study.

Before conducting the survey the training and calibration of examiners was done in the department of public health dentistry. Interview training for the use of assessment was performed via pilot survey on 10 subjects.

The ethical clearance was taken from ethics committee People’s Dental Academy, Bhopal, Madhya Pradesh, research committee. Before the start of the survey official permission was obtained from Inspector General of Police and Inspector General of Prison officer, Bhopal.The present cross sectional study was conducted of a period of two months from July to August 2014.SPSS version 19 (SPSS Pty Ltd, Chicago, IL, USA) was used for the statistical analysis. The statistical tests used were the chi-square test for categorical data. A level of <0.05 was considered statistically significant.

The jail authorities were assured that the result of the on-going study

will be reported to them as soon as possible for the oral health improvement of the female Jail inmates.

**RESULT-**

The present study was undertaken to assess the dental care seeking behavior of female prisoners in central jail,Bhopal, Madhya Pradesh.The result of it is the illustrations of modest state of oral health and identified considerable levels of unmet dental treatment needs, 22.7% female prisoners had received dental care and 77.3% did not Receive dental care.(Table 1)

1.5% of the females visited dentist for consultation, 16.7% visited with complain of pain, 3% underwent treatment while 78.8% did not Visit the dentist. (Table 2)

28.8% of female prisoners experienced pain during biting the food, 22.7% experienced pain during chewing the food while 48.5% were Unknown of the problems due to state of teeth or gums. (Table 3)

67% (52) of prisoners' last dental visit had been because of pain, swelling, infection or trauma. A further 12% (9) gave check-up as the reason for their last dental visit and a similar percentage had last visited the dentist for routine treatments, such as scaling & polishing and restorative care.

**DISCUSSION-**

The present descriptive study reveals the dental health care seeking behaviour of incarcerated women inmates of Central Jail, Bhopal. Overall oral health comprising oral hygiene practices was remarkably debauched as unawareness and illiteracy (53.1%) was in abundance. Thus health literacy and beyondoral health literacy was completely compromised. Basic health literacy was low so perpetually oral health literacy was trifling.

It is evident that socio-environmental determinants, oral disease is highly related to these lifestyle factors, although as large number of prison population is from low socioeconomic status suggesting higher prevalence of poor oral hygiene practices,9because of less access to nutritious food and health care morbidity increases manifold so is oral health . Hurlen et al concluded that oral health is the matter of least concern and as it due to socially being deprived health is being deserted.10These barriers to the health care has shown a influence in our present study as it was found that 6% female prisioners have never cleaned there teeth as well as oral hygiene practices among the female prisoners showed that 6% of the female population never cleaned their teeth while 27.9% inmates maintain their oral hygiene once a month and 42.4% were brushing once a day. According to the survey females those who are maintaing there oral hygiene regularly were maintaing by using finger (31.8%) whereas (68.2%) using toothbrush.As well as only 9% of them were using toothpaste and 30.3% did not use out. These distinct findings of the present study were not in support with the study counducted by E. Heidari et al where 70% of the prison population reported brushing their teeth twice daily even though the overall opinion of the prison issue toothbrush and toothpaste was that they were substandard.11 Similar findings by Stanley L Wellins12 and Neil C.13 Chamielin where they also reported improper oral hygiene maintenance due to lack of dental care pervasiveness in the prison population. The study done by Marcel E Salive 14 disclosed that the inmates had more missing teeth at every age and a greater percentage of unmet dental needs so are the findings of our studies In divergence by a study done by Michael Rose15 the dental services were done efficiently and congenially with follow up so the basic difference was in the oral health care seeking behaviour.

Oral hygiene practices were of very retrograde model. Verdict in seeking health care in case of dental disorders is diminished. Although dental diseases like dental caries, gingivitis and periodontal diseases are pandemic. The illustrations of our study states 77.3% female prisoners did not receive any kind of dental care (Table 1) and very low percentage of female prisoners visited dentist for consultation(1.5%), for the reason of pain(16.7% )visited 78.8% did not visit the dentist at all. (Table 2)which is majorly in disparity with the study in Britain16 where 67% of prisoners' last dental visit had been because of pain, swelling, infection or trauma. A further 12% gave check-up as the reason for their last dental visit and 73% claimed to have visited the dentist during the last year. Principally, their most recent dental visit was in prison (54%). Analogous study by Rouxel et al 17 quantified the same.Similarly this survey too has demonstrated the poor state of oral health and identified considerable levels of unmet dental treatment needs female prisoners had more decayed and fewer filled teeth. This could be due to many challenges exists in delivering services in the prison system including service provision with respect to the security procedures, restricted number of dental sessions provided in prisons, recruitment and retention of dental staff compared with strong demand and lucrative remuneration for dentists in private practice, decreasing finance available for facilities, equipments and staffing.Other factors such as deprivation, high mobility, and poor general health may also have contributed to their barriers to obtaining access to dental services. Cunningham *et al*. have suggested that prisoners' high levels of anxiety, mental illness, history of substance abuse, blood borne infections and backlog of unmet dental treatment undoubtedly make them a challenging group for whom to provide dental treatment.18

Above all prisoner population being neglected in all course of life.Prisoners were more likely than the general female population to engage in oral health damaging behaviors and dental care seeking is seldom pragmatic so is the finding of our study. In a similar study by E. Heidari et al remand prisoners have compromised general and oral health compared with the general population. They exhibit poor oral health, which is contributed to by their lifestyles and health behaviours.16

**Limitation of our study**

There is a nonexistence of information about the oral health of prisoners , among the studies that exist; In the light of these issues and in order to provide fundamental and valuable information on the dental characteristics and service utilization needs of prisoners inmates, this study was taken to assess the oral health status of female prisoners in Central Jails of Madhya-Pradesh.

The availability of prisoner population is limited only under-trial prisoners were only and easily accessible. Other convicts, hard core murderers, law-breakers and terrorists were not reachable. So special efforts to be made on government level to take care of the oral health as health is a fundamental right. All men are born equal and are endowed by their creator with some basic rights. These rights are mainly right to life and liberty, but if any person doesn’t comply with ethics of the society then that person is deprived of these rights with proper punishment. In order to ignite realization within an individual it is sometimes essential to punish a person. Imprisonment is one medium of punishment. Many experts believe that the main objective of prisons is to bring the offenders back to the mainstream of the society.

**CONCLUSION-**

The present study was conducted on the female prisoners of the CENTRAL JAIL, BHOPAL, M. P, India.It was concluded that majority of the female prison population showed very a reduced amount ofconcern towards dentist despite of poor oral hygiene and presence of dental problem.Being behind the bars, isolated and neglected from society and family as well, makes them underestimate their health related issues. Oral health care facilities to be incorporated in prison settings exclusively for female prisoners which would intercept the progress of dental diseases and minimise tooth mortality.As the prison population continues to grow, impeding continuity of care and their behavior as clients can be demanding. Lack of motivation or ability to practice good oral hygiene can shift expectations towards treatment rather than prevention. These problems are compounded by prison-specific supply and resourcing issues including lack of adequate space, equipment and facilities, shortages in dental time exacerbated by security measures, difficulties in provision of out-of-hours cover and poor recruitment and retention of prison dentists and other members of the dental team. Turnover of prisoners is high, and the barriers to the provision of effective oral healthcare must be overcome.

Improving oral health of inmates is a difficult task. Inmates are more likely to have disadvantaged backgrounds or come from the localities with increased level of social exclusion, with a high proportion unemployment prior to sentencing. As a consequence, oral health requirement of prisons at admission may be particularly high with a significant amount of unmet treatment needs. This study of ours is made to assess oral health care related behaviour of female prisoners to design further treatment and oral health care intensifying program in female prison wing of central jail Bhopal.

**Recommendation:**

As to improve the oral health of Prisoners, the following recommendations are given:

* Oral health promotion through well-structured oral health education program can create positive change in awareness.
* Regular interval screening programs to assess the oral health and treatment needs of prisoners and provision of treatment as per the need.
* Prison inmates should be made aware of the need for oral healthcare and harmful effects of smoking, inadequate plaque control, and inadequate treatment facilities
* Approach for general promotion of good oral hygiene practices should be carried out on a large scale for control and prevention of oral diseases.
* Suitable toothbrushes and fluoride toothpaste should be made freely available in prisons.
* Government should consider employing a full-time dentist along with a physician to serve prisons located within distinct geographical localities.
* Intervention strategies including health education on personal hygiene are required.
* 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.

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**TABLES**

TABLE 1 : Dental Care seeking Attitude among Female Prisoners

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Visit to dentist | Age ( in Years) | | | | | | | | | | | | Total | | |
| 20-35 | | | 36-50 | | | | 51-65 | | | | |
| N | | % | | | N | % | | | N | % | | N | | % |
| ≤6 months | 2 | | 3.0% | | | 2 | 3.0% | | | 0 | 0.0% | | 4 | | 6.1% |
| 6-12 months | 3 | | 4.5% | | | 0 | 0.0% | | | 0 | 0.0% | | 3 | | 4.5% |
| 1-2 years | 0 | | 0.0% | | | 1 | 1.5% | | | 0 | 0.0% | | 1 | | 1.5% |
| 2-5 years | 1 | | 1.5% | | | 2 | 3.5% | | | 0 | 0.0% | | 3 | | 4.5% |
| 5years or more | 2 | | 3.0% | | | 1 | 1.5% | | | 1 | 1.5% | | 4 | | 6.1% |
| Never received dental care | 29 | 43.9% | | | 12 | | 18.2% | | 10 | | 15.2% | 51 | | 77.3% | |
| Total | 37 | 56.1% | | | 18 | | 27.3% | | 11 | | 16.7% | 66 | | 100% | |

Chi square value is 9.685

P value is 0

TABLE 2 SHOWING AGE WISE DISTRIBUTION OF REASONS TO VISIT TO DENTIST AMONG FEMALE PRISONERS.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason | Age ( in Years) | | | | | | | | Total | |
| 20-35 | | 36-50 | | | 51-65 | | |
| N | % | | N | % | | N | % | N | % |
| Consultation | 0 | 0.0% | | 1 | 1.5% | | 0 | 0.0% | 1 | 1.5% |
| Pain | 6 | 9.1% | | 4 | 6.1% | | 1 | 1.5% | 11 | 16.7% |
| Treatment | 2 | 3.0% | | 0 | 0.0% | | 0 | 0.0% | 2 | 3.0% |
| Don’t know/Don’t remember | 29 | 43.9% | | 13 | 19.7% | | 10 | 15.2% | 52 | 78.8% |
| Total | 37 | 56.1% | | 18 | 27.3% | | 11 | 16.7% | 66 | 100% |

Chi square value is 5.255

P value is 0.512.

TABLE 3 SHOWING AGE WISE DISTRIBUTION OF PROBLEMS DUE TO STATE OF TEETH OR GUMS AMONG FEMALE PRISONERS.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Problems | Age ( in Years) | | | | | | | | Total | |
| 20-35 | | 36-50 | | | 51-65 | | |
| N | % | | N | % | | N | % | N | % |
| Not aware | 21 | 31.8% | | 6 | 9.1% | | 5 | 7.6% | 32 | 48.5% |
| Difficulty in biting food | 11 | 16.7% | | 6 | 9.1% | | 2 | 3.0% | 19 | 28.8% |
| Difficulty in chewing food | 5 | 7.6% | | 6 | 9.1% | | 4 | 6.1% | 15 | 22.7% |
| Total | 37 | 56.1% | | 18 | 27.3% | | 11 | 16.7% | 66 | 100% |

Chi square value is 5.139

P value is 0.273