International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Socio-Demographic Predictors of Psychiatric Morbidity among Women Inmates at a Prison in Northern India

Navpreet[1*], Naveen K Goel[2*], Anupama Dhiman[3*],Paramjeet Kaur[4**], Balwant S Sidhu[2#], Gurmeet Singh[5##]

[1]Assistant Professor, [2]Professor & Head, [3]Demonstrator, [4]Ex-Professor & Head, [5]Associate Professor,
[*]Department of Community Medicine, Government Medical College, Chandigarh, India - 160030.
[**]Department of Community Medicine, Government Medical College, Patiala (Punjab), India-147001.
[#]Department of Psychiatry, Government Medical College, Patiala (Punjab), India-147001.
[##]Department of Community Medicine, Government Medical College, Patiala (Punjab), India-147001.

Corresponding Author: Navpreet

Received: 05/08/2016 *Revised: 23/08/2016* *Accepted: 24/08/2016*

ABSTRACT

Aims: To describe the prevalence of psychiatric morbidity among women inmates in a prison of north India, and possible association of sociodemographic factors with psychiatric morbidity among women inmates.

Materials and Methods: Cross-sectional point prevalence study was conducted at a prison in Patiala during August 2007 to July 2008. All 65 women prison inmates were recruited in study. The inmates were interviewed by using a pre-designed pre-tested questionnaire. General Health Questionnaire-12 was used to assess the psychological status of inmates. Chi-square test was used as test of significance. Logistic regression was used to find risk factors of psychiatric morbidity.

Results: The prevalence of psychiatric morbidity was found among 40 (61.5%) women inmates. The significance difference was found between psychiatric morbidity and variables i.e. age group (p=0.03) and receiving any visitor (p=0.04). On regression analyses, being older (OR=13.6, p=0.01) and occurrence of untoward happening during childhood (OR=7.5, p=0.02) were found to increase the risk of psychiatric morbidity in women prison inmate whereas lower socio-economic status (OR=0.1, p=0.04) was a protecting factor.

Conclusion: The burden of psychiatric morbidity among women prison inmates was found to be substantial. There is definite need to improve provision of services for psychiatric disorders in the prison as well as community-based rehabilitation services, considering the potential complexity of their mental health needs.

Keywords: India, Psychiatric morbidity, Women prison inmates.

INTRODUCTION

Women offenders contribute a numerically smaller proportion than that of male offenders. There is an upward trend in the number of crimes committed by women. The number of women prison inmates has increased from 13 976 (03.9%) to 17 681 (04.2%) over a decade between 2005 and 2014 in India. [1,2] There are different reasons which led to commitment of crime by women in comparison to their male counterpart. [3] In Indian context, society has been passing through drastic and fundamental changes due to industrialization, westernization and urbanization, which has positive as well as negative impacts. Family disorganization, marital discord, high aspiration level and

frustration due to non-fulfillment, stress and failure in coping process among women led to their involvement in criminal activities. [4]

Women prisoners have more complex histories of trauma and victimization, mental and physical health issues, and substance abuse. Such contextual variables have been shown to be correlated with high-risk behaviors among women. [5,6] They found to have higher rates of mental illness than women in the general population. Most women prison inmates reported a prolonged history of abuse physical, emotional and/or sexual abuse. They often struggle with depression, anxiety and post-traumatic stress. [7-9] Moreover, the prison environment contributes to stigmatization, altering the prisoner's conduct and leading to temporary or even irreversible psychic sequelae. [10] There are feelings of inadequacy, anticipated suffering in life outside of imprisonment, fear of family abandonment, losing their right to the social importance of work, identity loss, social discrimination that impairs prospects for working outside of the criminal context, and social recognition. [11-13] There is limited literature available on women prison inmates from low- and middle-income countries (LMIC) including India. The present study aims to describe the prevalence of psychiatric morbidity among women inmates in a prison of north India, and possible association of sociodemographic factors with psychiatric morbidity among women prison inmates.

MATERIALS AND METHODS

Study area, Study design, Study population

The present cross-sectional point prevalence study was conducted between August 2007 to July 2008 at the prison 'Central Jail' in Patiala (Punjab), northern India. There were 1555 inmates (1490 men and 65 women) present at time of study, against its capacity to keep 1500 inmates (1470 men and 30 women).Women inmates were kept, in separate 'women cell' within the prison, more than double its actual capacity. The inmates were stratified, firstly according to gender into men and women. Due to less number of women inmates, all of them (65 women inmates) including both 'sentenced' and 'under-trials' were selected for study. Inmates who did not give their consent were excluded. In addition, 200 male inmates were recruited in study after further stratified according to category of crime. This paper pertains to data about women inmates only to keep the study group homogenous.

Data collection

The data was obtained on a pre-designed pre-tested questionnaire. The inmates were interviewed by author himself after establishing a rapport with them and maintained confidentiality. Informed consent was taken from all participants. They were informed that information disclosed during the interview would remain confidential and they were assured of anonymity. It was also explained that they would not be victimized should they chose not to participate or withdraw themselves from the study at any point in time. The inmates were also informed that the interview in no way assist them with their legal proceedings. The questionnaire includes information on socio-demographic variables and imprisonment related variables. General Health Questionnaire-12 (GHQ-12) was used as the screening instrument to assess the psychological status of inmates. [14] It contained 12 questions, each score from 0 to 3 on Likert scale. The score of more than 15 suggests evidence of distress and more than 20 suggests severe problems and psychological distress. It has been validated in India. [15] The GHQ-12 score of 16 & above was considered as presence of psychiatric morbidity. It did not differentiate or diagnosed particular type of psychiatric morbidity.

Statistical analysis

Data was analysed using Microsoft Office Excel 2007 and SPSS version 16. Discrete data was analysed using percentages, mean, standard deviation and Pearson's Chi-square test. After descriptive

data analysis, psychiatric morbidity was related to other variables through regression analysis. All statistical tests were considered significant if $p < 0.05$. The study was approved by the Faculty Medical Sciences, Baba Farid University of Health Sciences, Faridkot (Punjab, India). Approval was also obtained from the Punjab Prisons Headquarter in Chandigarh.

RESULTS

Table 1 summarizes the demographic details of women inmates. The mean age (± SD) of inmates was 42.7 (± 16.3) years. Forty-five inmates (69.2%) lived in rural area. Majority of the inmates (34, 52.3%) belonged to Sikh religion followed by Hindu (28, 43.1%). Majority (38, 58.5%) of the inmates were from General caste. Only 15 (23.1%) inmates were educated up to primary level. Twenty-four inmates (36.9%) were homemakers followed by 22 (33.9%) inmates who were unskilled workers before imprisonment. None of the women was semi-professional or professional. Majority of the inmates (40, 61.5%) belonged to lower socioeconomic class. The overcrowding was present in house of 35 (53.8%) inmates. Twenty-three (35.3%) inmates had experienced traumatic event due to untoward happening during childhood in the forms of abuse or loss of near one. There was history of alcohol/substance use in family members of 23 (35.4%) inmates whereas only one inmate had history of alcohol/substance use. Eighteen (27.7%) women inmates had history of conflict between family members, either related to ownership of agricultural land, ancestral house, marital discord, children etc. Fourteen (21.5%) inmates gave history of presence of psychiatric problem in family member, for which treatment was received, although they were not aware about actual diagnosis.

Almost two-third of inmates (42, 64.6%) were undergoing trial at time of study and rest (23, 35.4%) were convicted for various crimes. Majority of the inmates were facing charges for murder (20, 30.8%) followed by dowry (19, 29.9%), drug related (08, 12.3%), theft (08, 12.3%), fraud (01, 01.5%) and other crimes (09, 13.8%).Only three inmates had past history of imprisonment. Majority (45, 69.2%) of the inmates received visitors, either family members or friends.

Among 65 women interviewed, 25 (38.5%) women inmates had GHQ-12 score as 15 and below followed by 22 (33.8%) inmates had it between 16-20 and rest 18 (27.7%) inmates had above 20. Thus, the evidence of distress was found in 22 inmates (33.8%) and another 18 inmates (27.7%) had severe problem and psychological distress; thereby40 (61.5%) women inmates had psychiatric morbidity. The mean ± SD of GHQ-12 score was 16.8 ± 6.0 among women inmates.

Table 1: Socio-demographic profile of participants

Variables	N=65 (%)
Age group (years)	
18-30	14 (21.5)
30-50	28 (43.1)
Above 50	23 (35.4)
Area of residence	
Rural	45 (69.2)
Urban	20 (30.8)
Educational status	
Illiterate	37 (56.9)
Literate	28 (43.1)
Occupation	
Homemaker	24 (36.9)
Employed	41 (63.1)
Socioeconomic Status of Family	
Lower class	40 (61.5)
Middle class	25 (38.5)
Type of Family	
Nuclear	20 (30.8)
Joint	32 (49.2)
Broken	13 (20.0)
Marital Status	
Unmarried	07 (10.8)
Married	33 (50.8)
Divorced/Widower	25 (38.4)

The comparison of factors related with psychiatric morbidity was shown in Table 2. The proportion of elder inmates (age 30 years & above) with psychiatric morbidity was significantly higher as compare to younger inmates (87.5% vs. 64.0%) (p=0.03). Psychiatric morbidity was found to be more among women from rural background (75.0%), employed (60.0%), illiterate (60.0%), from lower socio-economic class (57.5%), living in a joint

family (50.0%), and presently married (57.5%). However, none of the differences for these variables was found to be significant. Majority of women inmates (84.0%) who received visitor or anybody comes to meet them had significantly higher 'No psychiatric morbidity' as compare to inmates not receiving visitors (p=0.04).

Table 2: Correlates of psychiatric morbidity

Factors	Psychiatric Morbidity		Total N=65 (%)	Chi square; P
	No N=25 (%)	Yes N=40 (%)		
Age group (Years)				
30 and above	16 (64.0)	35 (87.5)	51 (78.5)	5.0; 0.03[a]
Below 30	09 (36.0)	05 (12.5)	14 (21.5)	
Place of residence				
Rural	15 (60.0)	30 (75.0)	45 (69.2)	1.6; 0.20
Urban	10 (40.0)	10 (25.0)	20 (30.8)	
Occupation				
Unemployed	08 (32.0)	16 (40.0)	24 (36.9)	0.4; 0.52
Employed	17 (68.0)	24 (60.0)	41 (63.1)	
Education				
Illiterate	13 (52.0)	24 (60.0)	37 (56.9)	04; 0.53
Literate	12 (48.0)	16 (40.0)	28 (43.1)	
Socio-Economic Status				
Lower class	17 (68.0)	23 (57.5)	40 (61.5)	0.7; 0.39
Middle/Upper class	08 (32.0)	17 (42.5)	25 (38.5)	
Type of Family				
Nuclear	09 (36.0)	11 (27.5)	20 (30.8)	0.7; 0.70
Joint	12 (48.0)	20 (50.0)	32 (49.2)	
Broken	04 (16.0)	09 (22.5)	13 (20.0)	
Marital status				
Unmarried/Divorce/Widow	15 (60.0)	17 (42.5)	32 (49.2)	1.9; 0.17
Married	10 (40.0)	23 (57.5)	33 (50.8)	
Overcrowding in house				
Yes	15 (60.0)	20 (50.0)	35 (53.8)	0.6; 0.43
No	10 (40.0)	20 (50.0)	30 (46.2)	
Untoward happening during childhood				
Yes	07 (28.0)	16 (40.0)	23 (35.4)	0.9; 0.32
No	18 (72.0)	24 (60.0)	42 (64.6)	
History of alcohol/substance abuse in family				
Yes	08 (32.0)	15 (37.5)	23 (35.4)	0.2; 0.65
No	17 (68.0)	25 (62.5)	42 (64.6)	
Type of imprisonment				
Sentenced	09 (36.0)	14 (35.0)	23 (35.4)	0.0; 0.94
Under trial	16 (64.0)	26 (65.0)	42 (64.6)	
Anybody comes to meet you in prison				
Yes	21 (84.0)	24 (60.0)	45 (69.2)	4.1; 0.04[a]
No	04 (16.0)	16 (40.0)	20 (30.8)	

[a]Significant

Table 3: Regression analysis of factors and their relation with psychiatric morbidity

Variables	OR[a]	95% CI[b]	P
Age group	13.6	1.8 - 102.9	0.01[c]
Area of residence	3.4	0.6 - 18.8	0.16
Occupation	0.9	0.2 - 3.6	0.90
Literacy	2.5	0.4 - 13.2	0.26
Socio-economic status	0.1	0.0 - 0.9	0.04[c]
Type of family	1.2	0.2 - 5.7	0.84
Marital status	0.4	0.1 - 1.6	0.23
Overcrowding in house	4.7	0.6 - 35.5	0.12
Untoward happening during childhood	7.5	1.3 - 44.5	0.02[c]
Alcohol/substance abuse in family	1.2	0.3 - 5.3	0.78
Type of imprisonment	0.3	0.1 - 1.7	0.18
Nobody comes to meet in prison	2.6	0.5 - 13.0	0.23

[a]OR: Odds ratio, [b]CI: Confidence Interval, [c]Significant.

In regression analysis, age group, socio-economic status, and untoward happening during childhood were found to be significant factors for psychiatric morbidity (Table 3). Being older and occurrence of untoward happening increased the risk of psychiatric morbidity. However, lower socio-economic status was a protecting factor for psychiatric morbidity.

Nineteen (29.23%) women inmates had taken medical services for various psychological problems during imprisonment. Majority (17, 89.5%) of them had taken it from Doctor at prison hospital.

There was no regular psychiatrist or psychologist in the prison. Only four (23.5%) inmates were satisfied with treatment at prison hospital. Rest two women inmates were taken to psychiatrists at local tertiary care hospital. Both of them were satisfied with treatment.

DISCUSSION

Imprisoned women usually come from marginalized and disadvantaged backgrounds and are often characterized by histories of violence, physical and sexual abuse. [16] They generally have more specific health problems than male prisoners and tend to place a greater demand on the prison health service than men do. Women prison inmates frequently suffer from mental health problems like post-traumatic stress disorder, depression and self-harming. [17]

The prevalence of psychiatric morbidity was found among 61.5% women inmates (33.8% having evidence of distress and another 27.7% had severe problem and psychological distress). It was almost similar to overall psychiatric morbidity found among male and women prison inmates at Patiala (62.6%) by Navpreet et al (2015). [18] Math et al. (2011) observed in Bangalore prison that 79.6% prison inmates could be diagnosed as having a diagnosis of either mental illness or substance use. [19] However, it was found to be higher than observed by Goyal et al. (2011) among prisoners in Amritsar prison (23.8%). [20,19] Pinese et al (2010) in study at Brazil found that 82.0% women inmates had indicative signs of depression (33.0%, 29.0% and 20.0% inmates had light, mild and severe depression, respectively). [21] Teplin et al (1996) in Chicago found that over 80% of the incarcerated women met criteria for one or more lifetime psychiatric disorders. [22] Jordan et al (1996) found that between one-third and one-half of the British women prison inmates presented some type of mental disorder. [23] Another Brazilian study by Moraes and Dalgalarrondo (2006) demonstrated a low prevalence (26.6%) of psychiatric cases among the women prison population. [11] The difference in prevalence rate may be attributed to use of different diagnostic criteria and/or instruments for psychiatric morbidity, different classification systems, socio-cultural norms, and availability of health services including psychiatric services in community and in prisons.

The women inmates were maximum (43.1%) in age group 30-50 years followed by 35.4% above 50 years. Dahiya & Bhan (2004) also found majority (36.0%) of women inmates were in the age group 30-50 years in two of the jails of Haryana. [24] Pandey (2004) also found the predominance of women offenders (46.7%) was in middle age group i.e. 31-50 years in jails of Uttar Pradesh. [25] It could be due to prevailing customs and social values in our society that the young girl remains more confine through parental control. It could also be due to the fact that the young women and unmarried girls are protected by their elder ones to avoid the consequences of going to prison. The elder inmates (age 30 years & above) shown significantly higher psychiatric morbidity as compare to younger inmates (p=0.03). However, Pinese et al [20] found that higher percentage of younger women (under 29 years of age) showing signs of depression although the difference was not found to be significant (p=0.21). Further, the regression analysis in our study showed that being in the age group 30 years old or more was a risk factor for psychiatric morbidity. This corroborates what is known about the association between old age and depression.

In present study, nearly 70% of women inmates belong to rural area. Similar findings were observed in other studies. Dahiya & Bhan [24] found that vast majority (64.8%) of women offenders were from rural area. Aggarwal et al (2005) also found that majority (74.0%) of inmates belonged to rural area in Amritsar jail. [26] This could be due to the fact that majority of population (62%) in Punjab live in rural area. [27] The religion wise and caste wise distribution of

inmates was comparable to demographic profile of Punjab. [28] Majority 56.9% women inmates were illiterate in present study, and only 23.1% inmates were educated up to primary level. Dahiya & Bhan [24] found that majority (69.6%) of women inmates were illiterate whereas rest of the respondents were literate i.e. up to primary (10.8%), middle (09.6%) and matric and above (10.0%). Pandey [25] found 55.6% women inmates were illiterate. Majority of women were homemakers (36.9%) in our study. This could be due to the fact that most of them were illiterate, from rural area and they had household and family duties. All the inmates were either from lower class or middle class (Grade III to V). Other studies found that majority, around three-fourth of prisoner inmates were from Grade III to V. [20,19,29]

According to socioeconomic status, lower class was found to be protective factor against psychiatric morbidity among women inmates on regression analysis. This could be due to fact that these women inmates were involved in crimes like theft, drug related offences and immoral trafficking activities to full fill their daily needs. On the other hand, women inmates from middle class were involvedin more serious crimes related to dowry or murder, which predispose them to develop stress, depression, and other psychiatric problems.

Nearly half (49.2%) of the inmates were living in joint families in present study. Dahiya & Bhanhad showed similar finding where majority (65.2%) women offenders were from joint family. [24] However, Pandey found that only 26.6% women inmates belong to joint family. [25] Majority of inmates (50.8%) were married at time of study. Dahiya & Bhan [24] and Pandey [25] found that majority of women respondents were married (80.4% and 74.7%, respectively). In western countries, most of the offences are committed by young unmarried persons. Hardesty et al (1994) found only 28.6% women incarcerated for Murder were married in study at Oklahoma (United States) jail. [30,29] Among women with psychiatric morbidity, majority (20/40, 50.0%) were from joint family and majority (23/40, 57.5%) were married. Most of these women were either charged for murder of family members including their husbands, or charged for dowry. The problem of adjustment in a family is very much associated with its size and composition which has impact on the psychology of individuals. This may also be explained by the fact that most of the marriages were arranged by the parents without taking into consideration their children, especially daughters. On other hand, many runaway couples got married against the wishes of their parents. As a result, the couple might have lack of maturity and lack of responsibility. Many times, these women offenders had an unhappy married life and had to content not only with an unsympathetic husband, but also with nagging and possessive in laws. Saxena (1994) found that the majority of women offenders convicted for homicidal activities were poorly adjusted to the family settings. [31] In many cases, their offence directly stemmed from their husband and in-law's cruelty, rejection and humiliation.Being married is associated with a lower rate of depression in men; however, being single is a condition associated with a lower rate of depression in women, as found in gender specific studies. [32,33] The history of untoward happening during childhood, as found in 35.4% women inmates, could be because of overcrowding in house, exposure to more members in joint families, gender bias and illiteracy. The untoward happening during childhood was also found to be risk factor for psychiatric morbidity on regression analysis. Such acts have negative impact on behaviour of child and predispose her to commit crime later in life. Similarly, the conflict in family, as found in 27.7% of women inmates, may lead to distortion of social fabric of family. It also has negative effect on the family members especially on the children. Schilling et al (2007) conducted a study to relate adverse childhood experiences in a

community sample of high school seniors to three mental health outcomes-depressive symptoms: drug abuse, and antisocial behaviour. They found that girls reported much higher rates of sexual abuse/assault, physical abuse and serious neglect than boys. They concluded that public health impact of childhood adversity is evident in the very strong association between childhood adversity and depressive symptoms, antisocial behavior, and drug use during the early transition to adulthood. [34]

In present study, women inmates (84.0%) who received visitor had significantly less psychiatric morbidity as compare to inmates not receiving visitors (p=0.04). During imprisonment, women are also forced into separation from their children and family, causing distress, loneliness, and regret. However, regular visit by family members or friends may act as positive supports to prison inmates. Only 23.5% inmates were satisfied with treatment at prison hospital in comparison to both the inmates who were taken to psychiatrists at local tertiary care hospital and found to be satisfied. This shows that medical services for psychiatric problems in prison are inadequate.

CONCLUSION

There is substantial burden of psychiatric morbidity among women inmates in prison. There require availability as well as accessibility of mental health services to prison inmates, preferably within the prison e.g. services of psychiatrists, counsellors, recreational activities etc. The staff working with women prisoners should undergo gender-sensitivity training to raise awareness and improve response to mental and health needs of women prison inmates. The protection and promotion of women prisoners' health requires multidimensional approach including women empowerment policy, prison reforms, rehabilitation and social reforms.More emphasis should be required on alternatives to imprisonment of women offenders, with more effort towards community-based services in assessing and supporting women in their own place of residence, preferably in cases where they have committed a non-violent or minor crimes.

ACKNOWLEDGEMENT

We would like to acknowledge the Punjab Prisons Headquarter, Chandigarh for giving permission to visit the prison for this study. We gratefully acknowledge prison staff for their co-operation. There was no funding source. There was no conflict of interests.

REFERENCES

1. Prison Statistics India. National Crime Records Bureau. Ministry of Home Affairs. New Delhi, India; 2005.
2. Prison Statistics India. National Crime Records Bureau. Ministry of Home Affairs. New Delhi, India; 2011.
3. Banwell S. Gendered narratives: women's subjective accounts of their use of violence and alternative aggression(s) within their marital relationships. Feminist Criminology 2010; 5: 116-34.
4. Pattanaik JK, Mishra NN. Social change and women criminality in India. Social Change 2001; 31(3):103-10.
5. Grella CE, Stein JA, Greenwell L. Associations among childhood trauma, adolescent problem behaviors, and adverse adult outcomes in substance-abusing women offenders. Psychol Addict Behav. 2005; 19(1):43-53.
6. Messina N, Grella C, Burdon W, Prendergast M. Childhood adverse events and current traumatic distress: A comparison of men and women prisoners. Criminal Justice and Behavior. 2007; 34:1385-401.
7. Bloom BE, Covington S. Addressing the mental health needs of women offenders. In: Gido RI, Dalley LP, editors. Women's Health Issues across the Criminal Justice System. Prentice Hall; Upper Saddle River, NJ, USA; 2009.
8. Glaze LD, Maruschak LM. Parents in Prison and Their Minor Children: Bureau of Justice Statistics. U.S. Department of Justice; Washington, DC, USA; 2009.
9. Dalley L, Michels V. Women destined to failure: Policy implications of the lack of proper mental health and addiction treatment for women offenders. In: Gido RL, Dalley L, editors. Women's Health Issues across the Criminal Justice System. Prentice Hall; Upper Saddle River, NJ, USA; 2009.

10. Muakad IB. Prisaoalbergue.3. Sao Paulo, Brazil: Atlas; 1998.
11. Moraes PAC, Dalgalarrondo P: Women imprisoned in São Paulo: mental health and religiosity. J Bras Psiq.2006; 55:50-6.
12. Fernandes R, Hirdes A. Convicts' perception of prison an of privation of liberty. Rev Enf UERJ 2006; 14:418-24.
13. Golderberg D, Williams P. A user's guide to the general health questionnaire. Slough, UK: NFER-Nelson; 1988.
14. Gautam S, Nijhawan M, Kamal P. Standardization of Hindi version of Goldberg's general health questionnaire. Indian J Psychiatry1987; 29(1):63-6.
15. Van den Bergh BJ, Gatherer A, Fraser A, Moller L. Imprisonment and women's health: concerns about gender sensitivity, human rights and public health. Bull World Health Organ. 2011; 89(9):689-94.
16. World Health Organization. Declaration on women's health in prison: correcting gender inequity in prison health. Copenhagen: World Health Organization Regional Office for Europe; 2009.
17. Navpreet, Goel NK, Kumar D, Kaur P, Sidhu BS, Singh G. Correlates of psychiatric morbidity among inmates at a prison in northern India. Int J Physical Social Sci. 2015; 5(10):530-43.
18. Math SB, Murthy P, Parthasarthy R, Kumar CN, Madhusudhan S. Mental Health and Substance Use Problems in Prisons: Local Lessons for National Action. Publication, National Institute of Mental Health Neuro Sciences. Bangalore, Karnataka; 2011.
19. Goyal SK, Singh P, Gargi PD, Goyal S, Garg A. Psychiatric morbidity in prisoners. Indian J Psychiatry 2011; 53(3):253-7.
20. Pinese CS, Furegato AR, Santos JL. Demographic and clinical predictors of depressive symptoms among incarcerated women. Ann Gen Psychiatry. 2010; 9:34.
21. Teplin LA, Abram KM, Mcclelland GM. Prevalence of psychiatric disorders among incarcerated women: I. pretrial jail detainees. Arch Gen Psych. 1996; 53:505-12.
22. Jordan BK, Schlenger WE, Fairbank JA, Caddell JM. Prevalence of psychiatric disorders among incarcerated women. Arch Gen Psych. 1996; 53:513-9.
23. Moraes PAC, Dalgalarrondo P. Women imprisoned in São Paulo: mental health and religiosity. J Bras Psiq. 2006;55:50-56
24. Dahiya M, Bhan C. Female prisoners in Haryana. Social Welfare 2004; 51(5):26-8.
25. Pandey SP. Children of women prisoners in Jails: A study in Uttar Pradesh. Final report. Planning Commission, Govt. of India. New Delhi, India: 2004; 44-83.
26. Aggarwal A, Arora U, Nagpal N. Seroprevalence of HIV in Central Jail Inmates of Amritsar. Indian J Community Med. 2005; 30(4):151.
27. Census of India. Ministry of Home Affairs, Government of India. New Delhi, India. [Cited 2015 Aug 22]. Available from: http://www.census2011.co.in/census/state/chandigarh.html.
28. International Institute for Population Sciences and Macro International. National Family Health Survey (NFHS-3), 2005-06:India. Mumbai, India: IIPS, 2007.
29. Singh G, Verma HC. Murder in Punjab: A psychosocial study. Indian J Psychiatry. 1976; 18(4):243-51.
30. Hardesty CL, O'Shea K, Fletcher B. Profile of Women Incarcerated for Murder in Oklahoma. Journal Oklahoma Criminal Justice Research Consortium 1994; 1:45-54.
31. Saxena R. Women and Crime in India: A Study in Scoio-Cultural dynamics. Inter-India Publications, New Delhi; 1994.
32. Almeida-Filho N, Lessa I, Magalhães L, Araújo MJ, Aquino E, James SA, Kawachi I. Social inequality and depressive disorders in Bahia, Brazil: interactions of gender, ethnicity and social class. SocSci Med. 2004; 59:1339-53.
33. Hernandez P, Alonso S (Eds). Women and depression. New York, NY: Nova Science; 2009.
34. Schilling EA, Aseltine RH Jr, Gore S. Adverse childhood experiences and mental health in young adults: a longitudinal survey. BMC Public Health. 2007; 7: 30.

How to cite this article: Navpreet, Goel NK, Dhiman A et al. Socio-demographic predictors of psychiatric morbidity among women inmates at a prison in northern India. Int J Health Sci Res. 2016; 6(9):40-47.

****