



## PREVALENCE AND CORRELATES OF PSYCHIATRIC ILLNESS AMONG CONVICTED PRISONERS IN A DISTRICT JAIL IN NORTH INDIA

**Dr Pranshu Agarwal**

Consultant Psychiatrist, District Hospital, Sitapur, (U.P)

**Dr Priyanka Sharma\***

Assistant Professor, Department of Psychiatry, G.R.M.C & J.A.H. Gwalior (M.P.)

\*Corresponding Author

### ABSTRACT

**Background:** Prison inmates comprise a disadvantaged population that is highly vulnerable to psychiatric illnesses, however, its exact burden and correlates are not properly understood, especially in India. The present study explores the prevalence of psychiatric morbidity and its correlates among convicted prisoners at a district jail in North India. **Materials and Method:** A total of 287 convicted prisoners both male and female who were inmates during the period of mid June to mid September 2019 participated in the study. Socio-demographic data, clinical history and criminological history were collected from each individual. Psychiatric morbidity was assessed using MINI-Plus. Data analysis was done using Statistical Package for Social Sciences, version 21.0. Independent samples 't'-test and chi-square tests were applied. **Results:** A total of 198 (69.2%) had a current mental illness. 70.3% of subjects were from rural population. Mood disorders were found in about 58.1%, Substance use disorders were found in 5.2%, antisocial personality disorders were found in 2.7%, Psychotic disorders were found in 4.5%, Adjustment disorders were found in 1.7%. Nearly 5% of prisoners among those with psychiatric disorders reported of suicidal ideations. No significant association of age, gender, rural/urban status, education, marital status and annual family income was seen with psychiatric disorder. However, religion, occupation, duration of imprisonment and type of crime showed a significant association with psychiatric disorder. **Conclusion:** The prevalence of mental disorders was quite high in convicted prisoners and was driven mainly by prolonged jail term. Religious beliefs might have a protective role.

**KEYWORDS :** Convicted prisoners, psychiatric illness, jail inmates, mood disorders, prolonged jail term.

### INTRODUCTION

Prison is a place of social isolation marked with subnormal conditions like overcrowding, various forms of violence, enforced solitude or conversely, lack of privacy, lack of meaningful activity, isolation from social networks, insecurity about future prospects (work, relationships, etc), and inadequate health services. [1] The challenging conditions of prison are threat to physical and mental well-being of prison-inmates, however, in view of the inadequacy of health services, the correct picture of health conditions, particularly mental health condition, of prison inmates is not available. Estimation of mental well-being of prisoners, particularly that of convicted prisoners is an important issue as the modern concept of punishment revolves around reforming the criminal through individualization and to make him a valuable citizen once the prison term is over. [2] Considering the estimation of psychiatric illnesses as a step forward in the direction of making the prisons more humane and reformatory, a number of studies in the western developed countries have tried to estimate the prevalence of psychiatric illness among prison inmates. [3-6] These studies from different parts of the world have indicated a high prevalence of psychiatric illness among different categories of prisoners. Prevalence of different types of psychiatric illnesses among prisoners have been reported to range from 3.6 to 60%. [6,7] Though questions are raised regarding the methodology of such estimation, nevertheless the high prevalence of psychiatric illnesses among prisoners across the world has not been ruled out.

In India, the prison conditions are far below the western world. Indian prisons are often criticized for substandard living conditions, marked overcrowding, human rights issues, poor administration and discriminatory treatment owing to political or financial influences. [8,9] Under such conditions, the mental health of the prisoners is jeopardized and is susceptible to high risk of mental illnesses. Attempts to understand the mental health status of the jail inmates in different Indian prisons have been made from time to time in order to understand the magnitude of the problem and to suggest appropriate preventive strategies. [10-13] However, compared to western world, the number of such studies is too fewer and as such the role of factors determining the occurrence of psychiatric illness among prison inmates has not been fully highlighted. Moreover, a number of these studies have not differentiated the undertrial and convicted patients, in view of the different psychosocial and environmental milieu.

Uttar Pradesh is the biggest state in India in terms of population as well as in terms of highest number of prison inmates. As per Ministry of Home Affairs report, there were as many as 95336 prison inmates in

the prisons of Uttar Pradesh on 31<sup>st</sup> December, 2016. [14] According to the data available on the website of the UP Prisons Administration and Reform Services, at least 63 of the 72 jails across Uttar Pradesh are overcrowded, one of them by as much as 498% of the capacity as in November, 2019. [15] In such a scenario, it is of interest to study the prevalence and determinants of psychiatric illnesses in convicted prisoners in District Jail, Sitapur as a representative of mental health status of convicted prisoners in Uttar Pradesh, India.

### MATERIAL AND METHOD

A cross-sectional study was conducted at District Jail, Sitapur. A total of 287 convicted prisoners both male and female who were inmates during the period of mid June to mid September 2019 participated in the study. Under trial prisoners and prisoners convicted for "short term" ( $\leq 6$  months) or "to death" were excluded from the study.

All the study subjects were personally contacted and socio-demographic data, clinical history and criminological history were collected from each individual. Psychiatric morbidity was assessed using the Mini-International Neuropsychiatric Interview-Plus (MINI-Plus). [16] The MINI-Plus is a structured and standardized diagnostic interview used to determine the most common psychiatric disorders according to axis I DSM-IV-TR [17] and the International Classification of Diseases and Related Health Problems (ICD-10). [16] For this study, we used the diagnoses of (1) mood disorders (depression and dysthymia), (2) Substance use disorders, (3) Personality disorders, (4) Adjustment disorders, (5) Psychotic disorders, and (6) Suicidal ideation.

**Data Analysis:** Data was analyzed using Statistical Package for Social Sciences, version 21.0. Chi-square and Independent samples 't'-tests were used. A 'p' value less than 0.05 was considered to be reflective of a statistically significant association.

### RESULTS

Age of convicted prisoners ranged from 20 to 86 years. Mean age of participants was 46.84 $\pm$ 16.54 years. Most of them (86.8%) were males. Male-to-female ratio of study population was 6.58. The study sample comprised primarily of Hindus (84.3%). There were 42 (14.8%) Muslims and 3 (1%) Sikhs. Before being imprisoned, majority of participants were farmer/unskilled labourer (63.4%) followed by shopkeepers/clerk (17.1%), skilled labourers/vendors (11.5%), housewives (6.3%) and students (1.7%) respectively. There was a dominance of rural (70.4%) over urban (29.6%) residents. More than one-third (35.9%) prisoners were illiterate followed by those

educated upto junior high school (21.3%), high school (14.6%), intermediate (12.2%), primary school (10.5%) and graduation or above (5.6%) respectively. Majority of participants were married (83.3%). Maximum participants reported an annual family income  $\leq$ Rs 50,000/- followed by Rs 50,000-100,000/- (28.6%), Rs 100,000-200,000/- (25.8%), Rs 300,000-500,000/- (7%) and Rs 200,000-300,000/- (5.9%) respectively (Table 1).

Maximum number of participants were in prison for  $\leq$ 1 year (29.6%) followed by those in prison for 6-10 years (24%), 2-3 years (19.9%), >10 years (14.3%) and 4-5 years (12.2%) respectively. Murder/attempt to murder (64.5%) was the most common type of crime for which prisoners were convicted followed by crime against women including rape and dowry (24.4%). Narcotics, kidnapping, culpable homicide and financial irregularities/theft comprised 1.4% to 2.8% of crimes. A total of 8 (2.8%) prisoners were convicted for multiple crimes (Table 2).

Majority of convicted prisoners (69.2%) had psychiatric illness. Mood disorders were found in about 58.2%. Substance use disorders were found in 5.2%, antisocial personality disorders were found in 2.7%, Psychotic disorders were found in 4.5%, Adjustment disorders were found in 1.7%. Nearly 5% of prisoners among those with psychiatric disorders reported of suicidal ideations (Table 3).

No significant association of psychiatric illness was observed with mean age, gender, habitat, education, marital status and total annual family income. However, Hindus and Sikhs as compared to Muslims, students and housewives as compared to other occupational groups were at a significantly higher risk of psychiatric illness. A bimodal relationship between duration of imprisonment and psychiatric illness was observed with those imprisoned for  $\leq$ 1 year and those imprisoned for >5 years peaking the psychiatric illness rate. Interestingly, those imprisoned for crime against women and kidnapping had significantly lower psychiatric illness rate as compared to other crimes. Psychiatric illness rate was maximum for those imprisoned for culpable homicide, financial irregularities/theft and narcotics (100%) (Table 4).

## DISCUSSION:

Psychiatric illness, particularly mood disorders were highly prevalent in jail inmates. Compared to western studies this prevalence is quite higher. In present study, 69.2% of inmates had mental illness as compared to only 7-10% in western studies. [3,4] The reason for this could be the relatively poor conditions of Indian prisons as compared to that in western countries. Prevalence of mental disorders in general has been reported to be quite high in Indian studies. [10-12,18,19] One of the reasons for relatively higher prevalence of psychiatric illness in present study could be inclusion of mood disorders as a mental illness. Most of the previous studies have not reported it to be a mental illness. However, Sureka *et al.* [20] in their study not only identified it as an important mental illness but also suggested Yogic therapy for the purpose of mental health improvement. Unfortunately, the study population in present study was not involved in any such exercise.

In present study, apart from mood disorders, Substance use disorders (5.2%), psychotic disorders (4.5%), antisocial personality disorder (2.7%) and adjustment disorders (1.7%) were the other psychiatric illnesses affecting the jail inmates. Compared to present study, Kumar *et al.* in their study found psychosis, schizophrenia, depression, adjustment disorder, antisocial personality disorder and bipolar affective disorder in 14.8%, 14.1%, 14.1%, 11.1%, 9.7% and 3.7% inmates respectively. [11] In another study, Ayirolimeethal *et al.* reported antisocial personality disorder (19.2%) to be the most common mental illness among jail inmates followed by adjustment disorder (13.7%) and psychosis (3.3%) respectively. [10] The difference in prevalence and spectrum of psychiatric illnesses in different studies show a high influence of jail environment and possible institutional strategies addressing the mental health issue of inmates. Unfortunately, we found that in our study population there was adoption of no such functional strategy.

In present study, we found that sociodemographic factors in general did not have an influence on mental illness. Among these factors, only religion seemed to have a role. Religion is considered to have an influential role in moulding the mental well-being and the rituals of different religions might offer different coping strategies.

In present study, we found that psychiatric illness rate was significantly

lower in Muslim inmates as compared to Hindu and Sikh inmates. Interestingly, in another study conducted in Nigeria, Majekodunmi *et al.* prevalence of depression to be lower in Christian as compared to Muslim convicted inmates whereas it was a reverse relationship among undertrial inmates, however, for neither of two the association was significant statistically. [21] It is doubtful whether religion plays a protective role against psychiatric illnesses. However, different religions claim about the ability of religion to combat psychological stress and hence a possible role in reduction of psychiatric illness. [22-24]

As far as influence of a bimodal pattern of duration of imprisonment with prevalence of mental illness is concerned, it might reflect the changing environment in the early stage and situation of helplessness in the inmates staying longer than five years. With respect to influence of type of crime, we found that illness rate was maximum for those imprisoned for culpable homicide, financial irregularities/theft and narcotics while it was minimum among those imprisoned for crime against women and kidnapping. Surprisingly, while crimes against women are most criticized in society, the prevalence of mental illness was lowest in these inmates, probably owing to these crimes often being committed even by so-called white-collared people who get a better treatment in jail owing to their influence or a higher sociodemographic profile.

The findings of the study highlighted a high prevalence of psychiatric illnesses among convicted jail inmates. The findings indicate a need of implementation of long-pending jail reforms. In view of social isolation and stigmatization of convicted prisoners, it is essential that they must be involved in activities that could reduce the level of psychological stress. Promotion of meditation, yogic exercises, sports, physical activities in prisons could help in reducing the prison related stress and related burden of psychiatric illness.

## CONCLUSION

Mental health problems among prisoners were quite high. Prisoners are at high risk of acquiring mental health problems. Government and policy makers should plan appropriate strategies to reduce psychological stress among prison inmates to reduce the burden of psychiatric illness among jail inmates.

**Table 1: Demographic profile of prisoners enrolled in the study (n=287)**

SN	Variable	No. of prisoners	Percentage
1.	Mean Age $\pm$ SD (Range) in years	46.84 $\pm$ 16.54	(20-86)
2.	Sex		
	Male	249	86.8
	Female	38	13.2
3.	Religion		
	Hindu	242	84.3
	Muslim	42	14.8
	Sikh	3	1.0
4.	Occupation		
	Farmer/unskilled labourer	182	63.4
	Skilled labourer/vendor	33	11.5
	Shopkeeper/clerk	49	17.1
	Student	5	1.7
	Housewife	18	6.3
5.	Place of residence		
	Rural	202	70.4
	Urban	85	29.6
6.	Education		
	Illiterate	103	35.9
	Primary	30	10.5
	Junior High School	61	21.3
	High school	42	14.6
	Intermediate	35	12.2
	Graduate and above	35	5.6
7.	Marital Status		

	Married	239	83.3
	Unmarried	48	16.7
8.	Annual family income (in Rs)		
	<50,000	94	32.8
	50,000-100,000	82	28.6
	100,000-200,000	74	25.8
	200,000-300,000	17	5.9
	300,000-500,000	20	7.0

**Table 2: Time spent in Prison and Type of Crime for which convicted (n=287)**

SN	Description	No. of prisoners	Percentage
1.	Time spent in prison so far (years)		
	<1 Year	85	29.6
	2-3 Years	57	19.9
	4-5 Years	35	12.2
	6-10 Years	69	24.0
	> 10 Years	41	14.3
2.	Crime for which convicted		
	Murder/ Attempt to murder	185	64.5
	Crime against women including Rape and Dowry	70	24.4
	Culpable homicide	5	1.7
	Kidnapping	7	2.4
	Narcotics	8	2.8
	Financial irregularities/ Theft	4	1.4
	Multiple charges	8	2.8

**Table 3: Prevalence and type of Psychiatric illness among Convicted prisoners included in the study**

SN	Description	No. of prisoners	Percentage
1.	No psychiatric illness	89	30.8
2.	Psychiatric illness*	198	69.2
	Mood disorders	167	58.2
	Substance use disorder	15	5.2
	Psychotic disorder	13	4.5
	Antisocial personality disorder	10	3.5
	Suicidal ideation	14	4.9
	Adjustment disorders	8	2.8

\*Some inmates had multiple disorders

**Table 4: Association of different sociodemographic variables with Psychiatric illness in convicted jail inmates (n=287)**

SN	Variable	Psychiatric illness (n=198)		No psychiatric illness (n=89)		Statistical significance	
		No.	%	No.	%	2	'p'
1.	Mean Age±SD (Years)	47.85±17.00		44.60±15.33		't'=1.544; p=0.124	
2.	Sex						
	Male	172	69.1	77	30.9	0.007	0.935
	Female	26	68.4	12	31.6		
3.	Religion						
	Hindu	174	71.9	68	28.1	9.386	0.009
	Muslim	21	50.0	21	50.0		
	Sikh	3	100	0	0		
4.	Occupation						
	Farmer/uns killed labourer	127	69.8	55	30.2	12.77	0.012
	Skilled labourer/ vendor	17	51.5	16	48.5		
	Shopkeeper/ clerk	32	65.3	17	34.7		

	Student	5	100	0	0		
	Housewife	17	94.4	1	5.6		
5.	Habitat						
	Rural	134	66.3	66	33.7	2.244	0.134
	Urban	64	75.3	21	24.7		
6.	Education						
	Illiterate	76	73.8	27	26.2	7.715	0.173
	Primary	23	76.7	7	23.3		
	Junior	34	55.7	27	44.3		
	High school	29	69.0	13	31.0		
	Intermediat	26	74.3	9	25.7		
	Graduate and above	10	62.5	6	37.5		
7.	Marital status						
	Married	168	66.9	79	33.1	2.791	0.095
	Unmarried	38	79.2	10	20.8		
8.	Total Annual Family income (Rs)						
	<50,000	70	74.5	24	25.5	6.855	0.143
	50,000-100,000	55	67.1	27	32.9		
	100,000-200,000	45	60.8	29	39.2		
	200,000-300,000	15	88.2	2	11.8		
	300,000-500,000	13	65.0	7	35.0		
SN	Variable	Psychiatric illness (n=198)		No psychiatric illness (n=89)		Statistical significance	
		No.	%	No.	%	2	'p'
9.	Duration of imprisonment						
	<1 Year	64	75.3	21	24.7	14.77	0.005
	2-3 Years	30	52.6	27	47.4		
	4-5 Years	20	57.1	15	42.9		
	6-10 Years	55	79.7	14	20.3		
	> 10 Years	29	70.7	12	19.3		
10.	Type of						
	Murder/ Attempt to murder	130	70.3	55	29.7	18.21	0.006
	Crime against women including Rape and Dowry	40	57.1	30	42.9		
	Culpable homicide	5	100	0	0		
	Kidnapping	3	42.9	4	57.1		
	Narcotics	8	100	0	0		
	Financial irregularities/ Theft	4	100	0	0		
	Multiple charges	8	100	0	0		

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