

A study of diagnostic categories in prisoners with psychiatric disorders

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Abstract

Background: There are very few recent studies regarding the diagnostic categories in prisoners with psychiatric disorders in the Indian setting. **Methodology:** The study was conducted on 50 prisoners admitted to a closed prisoner's ward. The patient's history was recorded and their mental status examination was done. The Kuppaswamy's socio-economic scale and the MINI Plus were administered to the patient. The diagnostic categorization of the prisoners was done according to ICD-10 research criteria. **Results:** There were 46 males and 4 female prisoners. Out of the 46 male prisoners, 14 were convicted and 32 were under-trial and all the four females were under-trial. 46 males and 4 female prisoners were evaluated and most were from the lower socioeconomic class and rural areas. Schizophrenia, bipolar affective disorder-mania, major depressive disorder, and psychotic disorder NOS, psychotic disorder due to general medical condition and psychosis with mental retardation were the main diagnostic categories observed. The most common diagnostic category was schizophrenia in both males and females prisoners. Murder, attempt to murder, rape, kidnapping, grievous injury and theft were the crimes committed by the prisoners. Murder was the most common crime committed by both male and female prisoners. Most prisoners with violent crimes (murder) had a diagnosis of schizophrenia. **Conclusion:** This has implications for mental health services, training of mental health professional research and policy in forensic psychiatry in the Indian setting.

Keywords: prisoners, psychiatric disorders.

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These studies have been done mostly during the period of 1933 to 2011. Prisoners with psychiatric disorders are required to operate in accordance with security rules and regulations. This is an area of conflicting priorities between clinical treatment and security measures which presents with many challenges. This study will evaluate the socio-demographic profile, diagnostic categories and the associations in prisoners with psychiatric disorders in a closed prisoner psychiatric ward. This has implications for mental health services, training of mental health professional, research and policy in the field of forensic psychiatry in India.

INTRODUCTION

Various studies had been done on psychiatric illness in prisoners; however there is a difference in the study designs, psychiatric diagnostic categories and the nature of crime committed by prisoners reported in those studies. There are hospital studies, prison studies, community based studies and some rare gender specific studies exclusively on male or female prisoner^{1,2,3}. A few review articles are also available in the literature.⁴ Most of these studies are foreign studies but also a few Indian studies.

AIM

To study psychiatric disorders in prisoners admitted to a closed prisoners ward.

OBJECTIVES

1. To study the socio-demographic profile of prisoners
2. To study the diagnostic categories of prisoners

- To study the associations if any between the socio-demographic profile and psychiatric diagnostic categories of the prisoners

Methods

Sample: The study sample consisted of prisoners admitted to a closed prisoners ward.

Size of sample: 50 prisoners

Inclusion criteria were

- Both male and female prisoners
- Prisoners who gave consent for the study
- Both convicted and under-trial prisoners
- Prisoner for whom permission was granted by Superintendent

Exclusion criteria were

- Prisoners having serious medical illness requiring urgent referral
- Prisoners without proper medical and legal records

Tools

- ICD-10 Diagnostic Criteria for Research⁵
- Kuppuswamy's socio-economic scale (revised 2011)⁶
- MINI plus⁷

Methodology

The study was conducted on 50 prisoners admitted to the closed prisoner's ward. The study protocol was approved by the Institutional Ethics Committee. The prisoners were selected after they met the inclusion and exclusion criteria. They were given information about the nature of the study and then the consent of the prisoner and/or relative were taken. The consent was recorded. The permission of the Superintendent of the closed prisoner wards was also taken. The patient's history was recorded and their mental status examination was done. The Kuppuswamy's socio-economic scale and the MINI Plus were administered to the patient. The diagnostic categorization of the prisoners was done according to ICD-10 research criteria and MINI Plus. The results obtained were tabulated and statistical analysis was done.

RESULTS

Male to female ratio was 11.5:1 of the total 50 prisoners. 46 (92%) males and only 4 (8%) female prisoners. 30-39 years was the most common age group of prisoners [around 52% (26)], while rest [48% (24)] were in other age groups. Most [60% (30)] were rural dwellers and the rest were urban dwellers [40% (20)]. 84% (42) were from the lower socioeconomic status and 16% (8) from the middle socioeconomic group. None of the prisoner was from the upper socio economic status. 22% (11) were illiterate, 48% (24) were below the SSC level and 12% (6) were having higher education above HSC. 26% (13) were unemployed, 30% (15) were farmers, 18% (9) had secured jobs and 26% (13) had other jobs. 32% (16) of the prisoners were unmarried, 64% (32) were married and 4% (2) were widow/ widowed. 70% (35) of the prisoners had schizophrenia while the rest 30% (15) had other diagnostic categories. 86% (43) were in the age group >30 years and 14% (7) were in the age group <30 years. In age group >30 years 69.7% (30) had schizophrenia and in the age group <30 years 71.4% (5) had schizophrenia. An equal number of prisoners both above and below 30 years age group had a diagnosis of schizophrenia. 67.34% (31) of males had schizophrenia and 8% (4) females had schizophrenia. 77.14% (27) below SSC educated had schizophrenia and 53.33% (8) educated above SSC had schizophrenia. 68.57% (24) of prisoners with schizophrenia were married and 31.42% were unmarried or widowed. 53.33% (8) of the non-Schizophrenics were married and 46.66% (7) were unmarried/ widowed. 14.28% (5) schizophrenic prisoners were in the middle socioeconomic status and 85.71% (30) were in the lower socioeconomic status. Among non-schizophrenics 20% (3) were in the middle socioeconomic status and 80% (12) were in the lower socioeconomic status. The number of prisoners who were belonging to the lower socioeconomic status was more than other socioeconomic class. 57.14% (20) of schizophrenic prisoners were living in rural area and 42.85% (15) in the urban areas. 66.66% (10) non-schizophrenic prisoners were living in the rural areas and 33.33% (5) were in the urban areas.

Table 1: Diagnostic categories of prisoners

Diagnostic category	No. of cases	%
Bipolar affective disorder, mania (BAD M)	2	4
Major depressive disorder (MDD)	1	2
Psychotic disorder NOS (PSY)	5	10
Psychotic disorder due to general medical condition (PSY/GMC)	2	4
Psychotic disorder NOS in a case of Mental Retardation (PSY/MR)	5	10
Schizophrenia (SCH)	34	68
Schizophrenia in a c/o general medical condition (SCH/GMC)	1	2
Total	50	100

Table 2: Diagnostic categories

Diagnostic categories	No. of cases	%
Schizophrenia (SCH)	35	70
Non-Schizophrenia (Others)	15	30
Total	50	100

DISCUSSION

Various studies on prisoners with psychiatric illness had been done in different settings with difference in their study design, diagnostic categories and nature of committed crime. Few studies with specific gender population^{1,2,3} were also found. In our study socio-demographic profile, diagnostic category, crime and their correlations were evaluated at a closed prisoners ward in 50 prisoners.

Socio-demographic data

Commonest age group of the prisoners was 30-40 years. A greater number of male prisoners as compared to the female prisoners with a ratio of M: F of 11.5: 1 was found. 60% of the prisoners were living in the rural area and 84% were in lower socioeconomic status. 22% of them were illiterate and 48% had a primary level of education. 64% of them were married. Our study finding compares with those of the hospital based studies which had a smaller sample size and a greater male: female ratio, as compared to the prison based and community studies which had a larger sample size and a lower male: female ratio.⁸⁻¹⁴

Diagnostic categories

Schizophrenia, psychotic disorders not otherwise specified, major depressive disorders, bipolar affective disorders, psychotic disorders with mental retardation and psychotic disorders due to general medical condition were the diagnostic categories observed in our study.

These findings compare with the following studies:

Schizophrenia 338 (33.70%), major depressive psychosis 329(32.80), toxic psychosis 132(13.16%), epileptic psychosis 53 (5.28%), mental deficiency 37(3.69%), psychopathic states 17(1.69%) and others 97 (9.68%) were the diagnostic categories reported by Jha *et al.*¹⁵ Schizophrenia 68 (45.3%), manic depressive type psychosis 6 (4%), psychosis with arteriosclerotic and paranoid trend 7 (4.7%), with alcohol 5(3.3%), general paresis 2 (1.3%), psychopathic personality 34(22.7%), mental deficiency 8 (5.3%), seizure disorder 4(2.7%) were the diagnostic categories reported by Lanzkron *et al.*¹⁶ Psychosis 5 (5.4%), major depressive disorder 8 (8.5%), anxiety disorder 8 (8.6%), substance use disorder 61 (65.2%), and other mental illness were the diagnostic categories reported by Brenda *et al* in their study exclusively on female prisoners.¹ Schizophrenia 136 (.40%), bipolar disorders 458 (1.33%), substance abuse disorders 7353 (21.41%), major depression 3138 (9.14%) were the diagnostic categories reported by Elbogen *et*

*al.*¹⁷ Louis *et al* in their cohort found depressive disorder 17.9%, anxiety disorder 17.7%, manic episode 2%, eating disorders 1.4%, alcohol dependence 9.8%, marijuana dependence 9.5% and schizophrenia spectrum disorder 4.1%.¹⁸ Fazel *et al* in their systemic review found 3.7% had psychotic illness, 10% major depression, 65% personality disorder (47% antisocial personality). In women 4% had psychotic illness, 12% major depression, 42% personality disorder (21% antisocial personality).⁴ Our study had prisoners with a diagnostic category mainly of psychotic disorders, whereas the prison based and community studies had in addition prisoners with substance abuse disorders, personality disorders and neurotic disorders. Our study used ICD-10 criteria whereas the other studies used various other classification systems.^{13,14,19,20}

Associations: Between

- **Age and diagnostic categories:** 86% (43) were in the age group >30 years and 14% (7) were in the age group <30 years. In age group >30 years, 69.7% (30) had schizophrenia and in the age group <30 years, 71.4% (5) had schizophrenia. No significant association was found between age and diagnostic categories using Fisher's Exact test (0.652).
- **Sex and diagnostic categories:** 67.34% (31) males had schizophrenia and all 8% (4) females had schizophrenia. Most males and females had schizophrenia. No significant correlation was found between sex and diagnostic categories using Fisher's Exact test (0.302).
- **Education and diagnostic categories:** Schizophrenia was found in 77.14% (27) who were below SSC level of education and in 53.33% (8) who were above SSC level of education. No significant correlation was found between education and diagnostic categories using Chi square test (0.178).
- **Marital status and diagnostic categories:** 68.57% (24) of the schizophrenic prisoners were married and 31.42% unmarried or widow. 53.33% (8) of the non-schizophrenics were married and 46.66% (7) unmarried/ widowed. No significant correlation was found between marital status and diagnostic categories using Chi square test (0.479).

- **Socioeconomic status and diagnostic categories:** 14.28% (5) of prisoners with schizophrenia were in the middle socioeconomic status and 85.71% (30) were in the lower socioeconomic status. 20% (3) of the prisoners without schizophrenia were in the middle socioeconomic status and 80% (12) were in the lower socioeconomic status. Most of the prisoners were in the lower socioeconomic status. No significant correlation was found between socioeconomic status and diagnostic categories by using Fisher's exact test (0.683).
- **Location and diagnostic categories:** 57.14% (20) of prisoners with schizophrenia were living

in rural areas and 42.85% (15) in urban areas. 66.66% (10) of non-schizophrenic prisoners were living in rural areas and 33.33% (5) in urban areas. A greater numbers of prisoners were living in rural areas. No significant correlation was found between location and diagnostic categories using the Chi-square test (0.753).

- **Diagnostic categories and crime:** 66.66% (4) of non-violent prisoners had schizophrenia and 33.33% (2) had other non-schizophrenia diagnostic categories. 70.45% (31) of the violent prisoners had schizophrenia and 29.54% (13) had other non-schizophrenia diagnostic categories.

Table 3: Association between diagnostic categories and crime

Diagnostic category	Nature of crime		Fisher's Exact Test P
	Non-violent	Violent	
Schizophrenia	4	31	1.0 NS
Non-Schizophrenia	2	13	

No significant correlation was found between diagnostic categories and crime by using the Fisher's exact test.

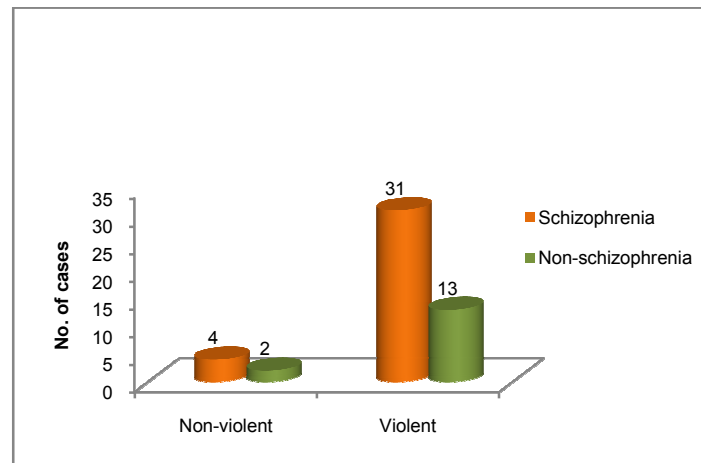


Figure 3: Association between diagnostic categories and crime

CONCLUSIONS

The study evaluated the socio-demographic data, diagnostic categories, crime and their correlations in 50 prisoners admitted to a closed prisoner's ward using ICD-10 diagnostic criteria, Kuppuswamy's socioeconomic status scale and MINI plus interview. The following conclusions were drawn.

- 50 prisoners (46 males and 4 females) were evaluated.
- The age range of male prisoners was from 25-55 years and of female prisoners was 29-50 years. The mean age of both male and female was 35 years. There were a greater number of males compared to females and a greater male: female ratio 11.5: 1.

- The socioeconomic status of the patient was mostly from the lower socioeconomic class. The location of most prisoners was from rural areas.
- According to ICD-10 criteria and MINI plus, schizophrenia, bipolar affective disorder-mania, major depressive disorder, and psychotic disorder NOS, psychotic disorder due to general medical condition and psychosis with mental retardation were the main diagnostic categories observed. There were no neurotic disorders, substance use disorders or personality disorders. The most common diagnostic category was schizophrenia in both males and females prisoners.

Limitations

The study was conducted on a small, specific group of prisoners admitted at a closed prisoner's ward over a short period of two years. This may not be a representative of all prisoners with mental disorders in India. A larger study of such type of prisoners with psychiatric disorders admitted to different hospitals in India, need to be undertaken. There were also a small number of female prisoners. As these patients were admitted through a criminal detention or reception order at times there were no informants or relatives with the patients. At times we had to rely on medical record, legal documents and reports given by the patients when the relatives were not available. All these factors have been taken into consideration during the data analysis.

Strengths

The study has been carried out on a specific, neglected, marginalised and doubly stigmatized population of prisoners with mental disorders. This study in a small way sheds light on the diagnostic categories prisoners with psychiatric disorders at prisoner wards in the Indian setting. It also highlights the differences in psychiatric disorders between prisoners at hospitals, prisons and the community at large.

Implications

This study has important implications for mental health **services, training** of mental health professional, **research and policy planning** in the field of forensic psychiatry in India. The study highlights the diagnostic categories of prisoners in closed prisoner wards. It will help us provide better customised **services** and plan suitable interventions for such prisoners who have to be treated for their psychiatric disorders within the constraints of the penal and legal system. Very few mental health professionals are exposed to the management of such type of prisoners with psychiatric disorders. Hence **training** needs to be imparted to mental health, penal and legal workers not having the opportunity to work with such type of prisoners. Very few Indian studies are available on prisoners with psychiatric disorders hence further **research** needs to be done in this neglected area. The study will also help in **policy** planning for prisoners with psychiatric disorders.

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