

Original Research Article

Spectrum of depression among the inmates of correctional homes of North Eastern India

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ABSTRACT

Background: Imprisonment, like other forms of incarceration, is a significant stressful event in an individual's life. Stress and depression are two major psychological problems among the prison population. The study was planned to determine pattern of depression and associated factors among the inmates of correctional homes.

Methods: An observational cross-sectional study was conducted at three correctional homes situated in Darjeeling district of West Bengal, India in between 2019 to 2020. Census inmate population fulfilling the inclusion criteria were included maintaining their voluntary participation, anonymity and confidentiality. Assessment of depression was done using patient health questionnaire (PHQ-9).

Results: All the inmates had depression; mild depression was noted among 31.8%, minimal and moderate (both 25.8%) and moderately severe depression among 13.9% of the inmates. Certain risk factors were associated statistically significant with depression viz. the proportion of inmates with moderate to severe depression was lower in hilly areas (13.1%); higher among the under-trial inmates (41.3%); higher among the age group ≤ 20 years (56.5%); higher among the unmarried/separated/divorced inmates (48.8%). However, the proportion of moderate to severe depression was slightly higher among females (46.4%) and inmates having period of imprisonment ≤ 12 months (38.9%) which were not statistically significant.

Conclusions: The study results call for modification of orientations to diagnose depression for clinical evaluation and interventions to help them back in mainstream population.

Keywords: Correctional homes, Inmates, Depression

INTRODUCTION

Imprisonment produces significant changes in physical, psychological and social functioning. Despite our ability to cope and adapt as humans, traumatic incidents may change biopsychosocial balance to such an extent that the memory of a particular negative event overshadows all other experiences and affects the ability to cope with reality.^{1,2}

Research has estimated that, between 16% and 64% of individuals who are incarcerated or having history of involvement in criminal justice system suffer from mental disorders.³⁻⁶ Depression among inmates is higher due to environmental condition and their detachment from outside world. Present study was conducted with objectives to assess background information, pattern of depression and associated factors among inmates of correctional homes.

METHODS

An observational cross-sectional non-interventional study was conducted from May 2019 to September 2020 among all the inmates of three correctional homes (Siliguri special correctional home, Darjeeling district correctional home and Kurseong subsidiary correctional home) in Darjeeling district, West Bengal.

Inclusion criteria

Willing inmates who have spent at least 1 month in the correctional home setup and had provided written consent were included in the study.

Exclusion criteria

Seriously ill and non-cooperative inmates were excluded.

The study was initiated after submitting the protocol to the “institutional ethics committee” of North Bengal Medical College and Hospital, Darjeeling and getting approval from there. Permission was also sought from the Director General of Correctional Services (DGCS), Government of West Bengal and from the concerned authorities of three correctional homes. They were briefed about the purpose of the study and their support and cooperation were solicited with detailed plan of visit prior to data collection. Initially all 570 inmates residing in these three correctional homes were approached, but as 36 inmates did not fulfil the inclusion criteria, finally the researcher could collect data from 534 inmates.

Each participant was counselled regarding the objectives of the study and written informed consent was obtained from each participant separately without any coercion. Data were collected by interviewing the inmates with the help of a predesigned and pretested schedule. The schedule was translated into Bengali and Hindi vernacular versions and validated by back-translation prior to data collection. Pilot testing was done taking around 30 study participants to sensitize the inmates during initial phase at Siliguri special correctional home. Assessment of depression was done using patient health questionnaire (PHQ-9), which is an index and screening tool designed to qualitatively assess the type of depression present, based on the specified key points.⁷ For diagnosing depression ICD-10 criteria was used with the recommended list of 10 depressive symptoms.⁸

To reduce the risk of biohazards in this unprecedented COVID-19 pandemic in the later part of data collection, all the additional precautions were strictly followed during data collection, report writing and returning back to the institute. ICMR and state government suggested highest form of precautions were undertaken to prevent biohazards including use of protection mask, double gloves by the investigator, physical distancing, and all the sanitization measures. The data have been strictly kept confidential with the investigators and will never be disclosed for the

assessment, management, intervention or any other purposes. Following the assessment of depression and other morbidities, brief feedback was provided to the stakeholders and were informed about level of depression.

Study tools

Predesigned and pretested data collection tool that was divided into following parts-basic socio-demographic and socio-economic characteristics; personal history; brief overview of imprisonment details; basic clinical examination; patient health questionnaire (PHQ-9) to assess the depression among the study participants.

Collected data were checked for consistency and completeness and entered in excel date sheet built by Microsoft corporation. Further analysis was done with the help of the software IBM statistical package for the social sciences (SPSS) for Windows, version 22, Armonk, NY: IBM Corporation. Data were organized and presented using the principles of descriptive statistics. Relationship between depression and other variables were determined in multivariate analyses using logistic regression test with 95% confidence interval (CI) and p value ≤ 0.05 was considered significant.

RESULTS

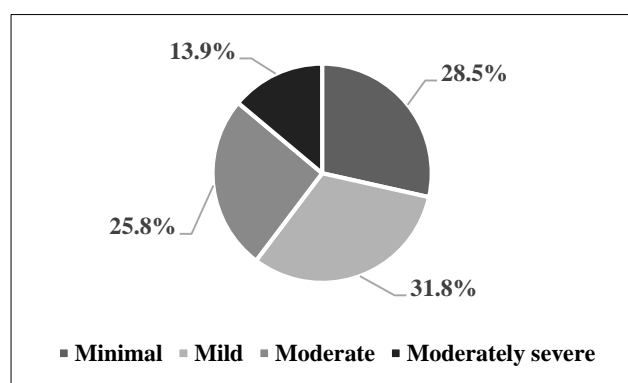
Present study revealed that, all the study participants had some form of depression. It was observed that 25.8% of them had minimal depression, 31.8% had mild depression, 25.8% had moderate depression and least (13.9%) of them had moderately severe depression (Figure 1).

The proportion of moderate to severe depression was lower in hilly areas (13.1%) than in non-hilly areas (47.6%) and among married inmates (36.3%) than their counterparts (46.2%) (Table 1). Higher proportion of moderate to severe depression was observed among under trial inmates (41.3%), inmates less than 20 years of age (56.5%), illiterate persons (60.4%) and subjects with previous history of addiction (42.2%). Slightly higher proportion of moderate to severe depression was also recorded among the female inmates (46.4%) than male inmates (38.9%) and among them who had period of imprisonment less than one year (Table 1). Proportion of moderate to severe depression was less among prisoner who were permanent residents of India (38.9%) and whom family members regularly come to meet (33.8%) than their counterpart.

Multivariate logistic regression analysis showed that, odds of occurring moderate to severe depression was higher among non-hilly areas (OR: 0.17), under trial inmates (OR: 15.47), age group (≤ 20 years) (OR: 2.11), female inmates (OR: 0.73), inmates who are unmarried, widow/widower, divorce/separated (OR: 0.66), illiterate (OR: 2.78), with history of addiction (OR: 2.27), period of imprisonment ≤ 12 months (OR: 1.17) and none of the family members came to meet them (OR: 0.46) (Table 1).

Table 1: Relationship between severity of depression among the inmates with different socio-demographic parameters (n=534).

Variables	Severity of depression (%)		Total (%)	AOR (95% CI)	P value
	Minimal to mild depression	Moderate to severe depression			
Correctional home					
Non-hilly	216 (52.4)	196 (47.6)	412 (100)	1 (referent)	0.00*
Hilly	106 (86.9)	16 (13.1)	122 (100)	0.17 (0.01-0.29)	
Type of inmates					
Convicted and condemned	22 (95.7)	1 (4.3)	23 (100)	1 (referent)	0.00*
Under trial	300 (58.7)	211 (41.3)	511 (100)	15.47 (2.07-115.68)	
Age (years)					
≤20	20 (43.5)	26 (56.5)	46 (100)	1 (referent)	0.01*
≥21	302 (61.9)	186 (38.1)	488(100)	2.11 (1.15-3.89)	
Gender					
Male	292 (61.1)	186 (38.9)	478 (100)	1 (referent)	0.27
Female	30 (53.6)	26 (46.4)	56 (100)	0.74 (0.42-1.28)	
Marital status					
Married	223 (63.7)	127 (36.3)	350 (100)	1 (referent)	0.02*
Others*	99 (53.8)	85 (46.2)	184 (100)	0.66 (0.46-0.95)	
Country of origin					
Indian	301 (61.1)	192 (38.9)	493 (100)	1 (referent)	0.21
Others	21 (51.2)	20 (48.8)	41 (100)	0.67 (0.35-1.27)	
Education level					
Illiterate	36 (39.6)	55 (60.4)	91 (100)	1 (referent)	0.00*
Literate	286 (64.6)	157 (35.4)	443 (100)	2.78 (1.75-4.42)	
H/O addiction					
Absent	56 (75.7)	18 (24.3)	74 (100)	1 (referent)	0.00*
Present	266 (57.8)	194 (42.2)	460 (100)	2.27 (1.29-3.98)	
Period of imprisonment (months)					
≤12	117 (57.9)	85 (42.1)	202 (100)	1 (referent)	0.38
≥13	205 (61.7)	127 (38.3)	332 (100)	1.17 (0.82-1.67)	
Meeting with family members					
No	79 (47.3)	88 (52.7)	167 (100)	1 (referent)	0.00*
Yes	243 (66.2)	124 (33.8)	367 (100)	0.46 (0.32-0.65)	

**Figure 1: Grades of depression among the inmates.**

DISCUSSION

The study was conducted to generate information regarding depression among the inmates of different

correctional homes in a geographically very distinct and diverse district of West Bengal situated in the lap of mighty Himalayas, to know the prevalence of depression among the study subjects in this area. Findings of total 534 study participants had revealed that, 100% of the study participants suffered from some sort of depression. Using the same PHQ-9 questionnaire, in their study by Reta et al and Beyen et al had shown the prevalence of depression among 44% and 43.8% of the prisoners.^{9,10} Such high proportion of depression in the present study might be due to the possibility that, the study was done in a border area where most of the inmates were found with accused of drug trafficking and some were found addicted to drugs which might be a factor for aggravating depression among them.

Most of the study participants (31.8%) were seen suffering from mild depression, followed by 28.5% minimal, 25.8% moderate and 13.9% moderately severe depression (Figure 1). In a study conducted by Uche et al in a Nigerian prison,

revealed that, 14.8% of prisoners were suffering from mild depression, 14.2% were suffering from moderate depression, 10.7% were suffering from severe depression.¹¹ Similarly, Valizadeh et al in their study done in Iran had found that prevalence of major depression was 42%, Baranyi et al in their study had revealed that, prevalence of major depression was 16%, and Bhattarai et al in Nepal, found that, prevalence of moderate depressive episode among 23.1% of the subjects which is higher than the present study.¹²⁻¹⁴ So, it can be said that, in the present study though 100% of the population were found suffering from some grades of depression but the prevalence of severe depression was lesser than similar type of other studies.

This study also revealed that, moderate to severe depression was observed higher among the non-hilly areas compared to hilly areas, this might be due to the pleasant weather and less crowding of the hilly areas compared to non-hilly areas. Statistically significant higher proportion of depression was noted among the under-trial inmates (41.3%) which corroborates with the findings of a study done by Majekodunmi et al in Nigeria, where they found that, for awaiting trials (AT) 30.1% were more depressed.¹⁵ Moderate to severe depression was observed significantly higher among the age group ≤ 20 years (56.5%). Similar findings of greater proportion of depression among younger age group was reported by Osasona et al in their study conducted at Benin City, Nigeria and in another study by Abdu et al in Jimma town.^{16,17}

Proportion of moderate to severe depression was higher among the female inmates (46.4%) than the male inmates (38.9%), and among those inmates who had ≤ 12 months period of imprisonment (42.1%) than those who had ≥ 13 months period of imprisonment (38.3%) in the present study, however these findings were statistically not significant (Table 1). This finding corroborates with a study done by Fazel et al among the elderly prisoners, where they had observed prevalence of major depression was 10.2% in male prisoners and 14.1% in female prisoners.¹⁸ In a similar study done by Valizadeh et al found that, overall, 44% of male prisoners and 33% female prisoners were diagnosed with major depression, which was contrast to the present study.¹² Reta et al in their study conducted at Debre Berhan Town, reported that, 5-10 years of sentence to imprisonment was associated with more depression.⁹

Statistically significant higher proportion of moderate to severe depression was noted among the illiterate (60.4%) than the literate (35.4%) and unmarried/separated/divorced/widow inmates (46.2%) than the married inmates (36.3%) (Table 1). Contrast to this, in a study by Reta et al found that, those inmates who were educated up to college or university level were found to be more depressed and Osasona et al, in their study reported that married prisoners were significantly associated with more depression.^{9,16} Similarly, statistically significant higher proportion of moderate to severe

depression was observed among those inmates who had previous history of addiction (42.2%) than those who didn't have any history of addiction (24.3%). In a study by Abdu et al in Jimma town reported that, lifetime alcohol use had significant association with depression.¹⁷

Another unique finding of the present study was that, depression was much higher among those inmates to whom none of the family members came to meet (52.7%) than their counterpart (33.8%) (Table 1), which indicate importance of visit by family members whenever possible for favorable psychological outcome. So, overall findings of the present study revealed that, prevalence of depression among the inmates was much higher in the studied area and also showed that many other factors play a crucial role in increasing the severity of depression among the inmates. Minimization of these factors for development of depression can easily be done through implementation of effective preventive measures in the prison.

Limitations

Due to surge of COVID-19 cases during the second half of the study and COVID associated stigma towards the health care personnel in initial stage, the researcher could not get enough time for interview of the study subjects. During the interview, the participants had to recall few things to answer some questions, so recall bias might have happened. Lastly, in this self-funded study in the overburdened infrastructure poor setting, burnt-out manpower and logistics-crunch system, we could not initiate our study early to help imbibe our observation in the clinical practice guidelines earlier.

CONCLUSION

From the above findings of the present study, it can be concluded that, prevalence of depression in correctional setting is significantly high than the community rates as reported in various literatures. There is urgent need of predictable clinical parameters along with suitable clinical practice guidelines to diagnose depression and proper evaluation with systems approach.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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