Prevalence and Factors Associated with Depression among Prisoners in a Rural Setting in Kisii County, Kenya

Elvin Kemunto[1]*, Linnet Ongeri[2], Dennis Magu[3], Merab Odero[4], Tele Kapkirwork[2], and Christine Njambi[2]

[1]Kenya Medical Research Institute Graduate School, Nairobi, Kenya; [2]Kenya Medical Research Institute, Centre for Clinical Research, Nairobi, Kenya; [3]Jomo Kenyatta University of Agriculture and Technology, School of Public Health, Nairobi, Kenya and [4]Kenya Medical Research Institute, Centre for Public Health Research, Nairobi, Kenya.

*Corresponding Author: Elvin Kemunto. Email address: elvinkemmy95@gmail.com

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Abstract

BACKGROUND

Compared to the general population, mental disorders, particularly depression, are prevalent among prisoners. Depression among prisoners has been linked to individual factors such as marital status, trauma history, age, history of mental illness, gender, and education, as well as environmental factors like violence, bullying, overcrowding, duration of incarceration, and social support. Despite high depression rates, there is limited data from Kenyan prisoners, particularly in medium-security prisons. This study assessed the prevalence and factors associated with depression among prisoners at Kisii Main and Women's Prison, addressing this gap in medium-security settings.

METHODOLOGY

A cross-sectional approach was utilised at Kisii Main and Women's Prisons, with 289 prisoners selected through systematic random sampling. Depression prevalence and severity were evaluated using the Patient Health Questionnaire. Bivariate and multiple logistic regression analyses were performed in STATA 15.1.

RESULTS

Depression prevalence among inmates was high at 51.4%, with 51.8% in males and 50.6% in females. Among males, having chronic illness (AOR = 26.951), being bullied (AOR = 4.176), being physically violated (AOR = 22.056), and experiencing more than ten traumatic events (AOR = 15.804) increased depression risk, whereas receiving moderate (AOR = 0.238) or high (AOR = 0.043) social support decreased the risk. Among females, past drug use (AOR = 45.502) and experiencing more than ten traumatic events (AOR = 22.308) increased depression risk, while a history of alcohol use (AOR = 0.044), and receiving high social support (AOR = 0.035) decreased the risk.

CONCLUSION AND RECOMMENDATIONS

There was a high burden of depression among the prisoners, for the males, physical violence, chronic illness, trauma history, social support, and bullying were significant predictors of depression, while for females, trauma history, social support, and a history of substance abuse were important factors. The high depression prevalence highlights the urgency for enacting effective prevention and intervention strategies.

Keywords: *Prisoners, Depression, Prevalence*

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Background

Depression is a mood disorder marked by low mood, disinterest in life, fatigue, disturbed sleep, guilt, hopelessness, changes in appetite and weight, and recurrent thoughts of death (1). Anxiety and depression significantly contribute

to the global health burden (2). Among incarcerated individuals, the global prevalence of depression is estimated at 36.9% globally with rates of 33.1% in developed countries and 39.2% in developing countries (3).

Mental conditions are more common among inmates than in the general public (4), with depression being the most prevalent (5,6). During incarceration, psychological distress is linked to individual factors such as marital status, age, gender, and substance abuse as well as environmental factors including violence, lack of social support, overcrowding, and bullying, which can contribute to or magnify mental disorders (7).

Mental disorders among inmates can lead to victimisation, self-harm, recidivism, and suicide (8,4), with depression reported as the key risk factor for self-harm and suicide (9). Rates of depression among inmates vary across countries: 34.3% in Kenya (8), 37% in Nigeria (10), 56.6% in Ethiopia (11), and 20.6% in Brazil (12). Studies have identified diverse factors associated with depression, including gender (8), age, marital status (10), chronic illness, physical abuse, mental illness history, poor social support (11), drug use and religion (12).

Kenyan prisons are classified by sentence length, age, and security needs. Kisii Main (Male) and Women's Prison, located in Kisii town, a rural area, is a medium-security prison that houses inmates with shorter sentences for less severe offences (13). Despite high depression rates among prisoners, there's limited research on medium-security prisons and this could be because maximum prisons report higher rates of suicide than minimum prisons, which tend to attract more research focus (14).

Previous studies in Kenya have focused on maximum prisons and have not examined sociodemographic factors, alcohol use, and depression (8,15). This study aims to address this gap by determining the prevalence of depression among medium-security prisoners and examining associated sociodemographic, clinical, environmental and history of substance use factors, to inform effective prevention and intervention strategies.

Methodology

Study design and area

A cross-sectional approach was used at Kisii Main and Women's Prison.

Sample size determination

Cochran's formula was used to determine the sample size (16), considering a 34.3% prevalence of depression (8), a 5% margin of error, and a 95% confidence interval, which yielded a sample size of 346. Using the finite population correction for a population of 850, the adjusted sample size was 246. Accounting for a 15% non-response rate, the final sample size was 289.

Sampling technique

Participants were selected using systematic random sampling, and males and females were proportionately allocated to determine the male and female sample sizes. Separate lists of males and females were created based on their names, and every third prisoner was selected from each list until a desired sample size of 204 males and 85 females was achieved.

Inclusion and exclusion criteria

The study included prisoners who provided written informed consent. Individuals who did not speak English or Kiswahili, or who had less than two months remaining on their sentence, were excluded to minimise loss to follow-up due to early release.

Interview process

Face-to-face interviews were conducted in a private office, with a police warden stationed outside for security and guidance. Participants signed a consent form, with a welfare officer witnessing for inmates unable to read or write. The researcher, trained by a psychiatrist, administered the PHQ-9 and other self-report tools. Each session lasted approximately one

hour, with breaks provided upon request, and responses were recorded in real-time on printed tools.

Data collection tools

To collect sociodemographic, clinical, environmental and substance use history information from study participants, an interviewer-administered questionnaire was used.

Depression and severity were evaluated using the Patient Health Questionnaire (PHQ-9) (17). It comprises nine items, each assigned a score of 0, 1, 2, or 3 representing categories of not at all, several days, more than half of the days, and nearly every day, respectively. Scores are classified as minimal (0-4), mild (5-9), moderate (10-14), moderately severe (15-19), and severe (20-27).

The Multidimensional Scale of Perceived Social Support was used to evaluate social support (18). It consists of 12 items, each rated on a 7-point Likert scale with responses ranging from 1 (*very strongly disagree*) to 7(*very strongly agree*). Scoring classifications are as follows: 1-2.9 = low, 3-5 = moderate, and 5.1-7 = high.

Trauma history was assessed using the Life Events Checklist (19). It is designed to screen for traumatic events that respondents are exposed to during their lifetime. It comprises 17 items, each response rated on a 6-point nominal scale ranging from 1= happened to me; 2 = witnessed it; 3 = learned about it; 4 = part of my job, 5 = not sure and 6 = does not apply.

Social desirability bias

To address social desirability bias, participants were assured of confidentiality, using serial numbers instead of names in data collection tools. The researcher emphasised that honest responses would help in understanding the true problem and devising solutions. Additionally, non-judgmental language was used during the interviews.

Ethical considerations

Ethical approval was obtained from the Scientific and Ethics Review Unit (Protocol No KEMRI/SERU/CPHR/030-10-2021/4441), and a research permit was issued by the National Commission for Science, Technology and Innovation. Authorisation was granted by the Commissioner General of Prisoners. Participation was voluntary to uphold respect for persons, and justice was ensured through a fair selection of participants using systematic random sampling. Participants were advised to visit the prison clinic if they experienced any discomfort, minimising risk. Privacy was upheld by storing tools in a secure cabinet and computer data in password-protected areas.

Data analysis

Data was cleaned in Microsoft Excel and imported to STATA/SE 15.1 for analysis. For descriptive analysis, frequencies and percentages were calculated. For inferential analysis, Fisher's Exact test, Chi-square test, and multiple logistic regression were used. The chi-square test assessed the association between depression and independent variables, while Fisher's Exact test was used in cases of small sample sizes. Multiple logistic regression was adjusted for confounders and identified the magnitude of association. Statistical significance was set at a p-value < 0.05. Variables for multivariate analysis were selected based on statistical significance. Given the separate housing of males and females, gender-stratified analysis was conducted to account for different environments.

Results

Prevalence of depression

Based on the PHQ-9, most respondents experienced mild symptoms (30.9%), while the fewest had moderately severe symptoms (11.9%) as shown in Figure 1. A probable diagnosis of depression was set at a threshold score of 10 or above (17). Although severity was measured, the outcome was classified as binary based on

Kroenke's criteria. Results indicated that 51.4% of prisoners met the criterion for probable depression, while 48.6% did not.

Sociodemographic characteristics

The majority of the participants were male (70.1%), 42.5% were aged 25-34 years, 51.4% were married, and 43.5% attained a secondary level of education. 272 (97.8%) were Christians, and the majority of the participants were self-employed, 162 (58.3%).

Clinical characteristics

Out of the respondents interviewed, 8% reported a past mental diagnosis, 12% indicated having a chronic illness, approximately 39.2% experienced less than six traumatic events, and 13% reported a history of family mental illness.

History of substance use information before incarceration

Alcohol and drug use information among prisoners was based on self-reporting. The majority of prisoners (54.0%) had no history of alcohol use, and 75 (27.0%) of inmates reported drug use in the past.

Environmental characteristics

The majority of the respondents received moderate social support, 43.5% and 32.7% were incarcerated for more than six years. 48 (17.3%) of the inmates were bullied, 35(12.6%) were violated physically, 5(1.8%) were violated sexually, and 24(8.6%) had a previous incarceration history. The majority of the respondents were first imprisoned at an age of <= 24 years (37.8%).

Table 1 showed no significant association between sociodemographic factors and depression in either gender ($p > 0.05$). However, among males, past mental illness, trauma history and presence of chronic illness were significantly associated with depression, while trauma history was significantly associated with depression among females ($p < 0.05$). (In Table 1.

Table 2 illustrates a significant association between history of drug use, duration of incarceration and social support with depression among females. Among males, bullying, physical violence and social support showed a significant association with depression ($p <0.05$).

As shown in Table 3, the odds of developing depression were 26.951 times higher among male inmates with chronic illness compared to those without, highlighting a strong positive association.

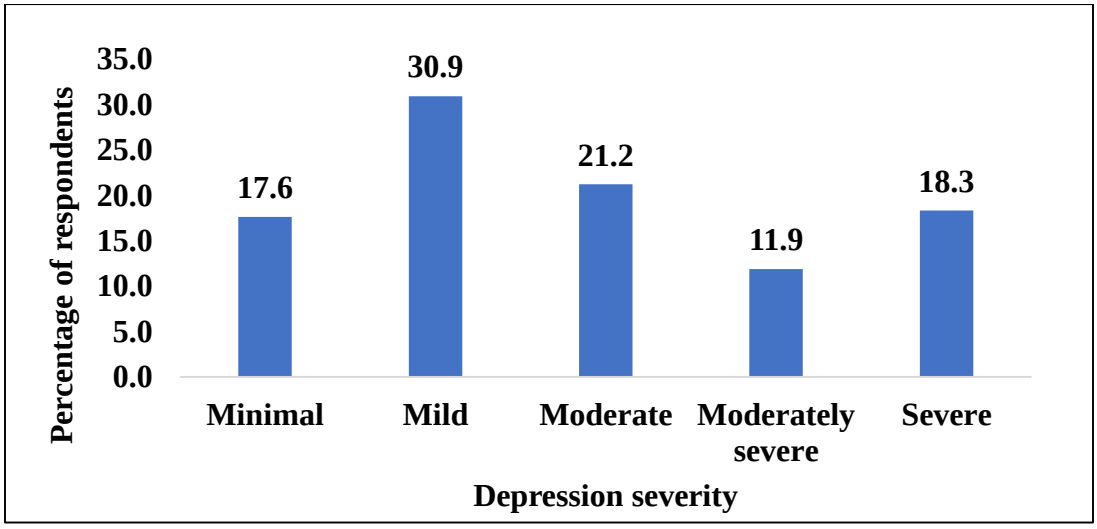

Figure 1
Depression Severity among Prisoners

Table 1

Sociodemographic and Clinical Factors Associated with Depression.

Variables	Categories	Depression (M) Yes (n, %)	Depression (Male) No (n, %)	P-Value (Male)	Depression (Female) Yes (n, %)	Depression (Female) No (n, %)	P-Value (Female)
Age (years)	18-24	34 (50.8%)	33 (49.3%)	=1.699 P=0.637	9 (64.3%)	5 (35.7%)	=1.296 P=0.730
	25-34	45 (53.6%)	39 (46.4%)		16 (47.1%)	18 (52.9%)	
	35-44	11 (42.3%)	15 (57.7%)		10 (47.6%)	11 (52.4%)	
	>=45	11(61.1 %)	7 (38.9%)		7 (50.0%)	7 (50.0%)	
Marital status	Single	34 (44.7%)	42 (55.3%)	=3.208 P=0.201	14 (56.0%)	11 (44.0%)	=0.971 P=0.615
	Married	58 (58.0%)	42 (42.0%)		22 (51.2%)	21 (48.8%)	
	Widowed / Divorced	9 (47.4%)	10 (52.6%)		6 (40.0%)	9 (60.0%)	
Religion	Christian	99 (52.4%)	90 (47.6%)	Fisher's exact=0.431	42 (50.6%)	41 (49.4)	-
	Others	2 (33.3%)	4 (66.7%)		-	-	
Education level	Primary	33 (49.3%)	34 (50.8%)	=3.530 P=0.171	29 (52.7%)	26 (47.3%)	Fisher's exact=0.817
	Secondary	46 (48.4%)	49 (51.6%)		12 (46.2%)	14 (53.9%)	
	Tertiary	22 (66.7%)	11 (33.3%)		1 (50.0%)	1 (50.0%)	
Occupation	Employed	23 (48.9%)	24 (51.1%)	=1.122 P=0.571	5 (55.6%)	4 (44.4%)	Fisher's exact=0.185
	Self-employed	59 (55.1%)	48 (44.9%)		31 (56.4%)	24 (43.6%)	
	Unemployed	19 (46.3%)	22 (53.7%)		6 (31.6%)	13 (68.4%)	
Chronic illness	No	81 (46.8%)	92 (53.2%)	=15.195 P < 0.001*	35 (49.3%)	36 (50.7%)	=0.335 P=0.562
	Yes	20 (90.9%)	2 (9.1%)		7 (58.3%)	5 (41.7%)	
Mental Illness History	No	86 (48.3%)	92 (51.7%)	=9.905 P=0.002*	40 (50.6%) 2 (50.0%)	39 (49.4%) 2 (50.0%)	Fisher's exact=1.000
	Yes	15 (88.2%)	2 (11.8%)				
Trauma history	Less than six events	30 (37.5%)	50 (62.5%)	=21.591 P < 0.001*	12 (41.4%)	17 (58.6%)	=11.146 P=0.004*
	6 – 10 events	29 (47.5%)	32 (52.5%)		14 (40.0%)	21 (60.0%)	
	> 10 events	42 (77.8%)	12 (22.2%)		16 (84.2%)	3 (15.8%)	
Family history of mental illness	No	84 (50.0%)	84 (50.0%)	=1.566 P=0.211	37 (49.3%)	38 (50.7%)	Fisher's exact=0.713
	Yes	17 (63.0%)	10 (37.0%)		5 (62.5%)	3 (37.5%)	

* Indicates variable is significant

- Lack of observations in some cells limited statistical testing, resulting in missing p-values
- Others include Muslim and Pagan.

Table 2

Environmental and History of Substance Use Factors Associated with Depression.

Variables	Categories	Depression (Male) Yes (n, %)	Depression (Male) No (n, %)	P-Value (Male)	Depression (Female) Yes (n, %)	Depression (Female) No (n, %)	P-Value (Female)
History of alcohol use	Never	45 (46.9%)	51 (53.1%)	χ^2=2.178 P=0.336	27 (50.0%)	27 (50.0%)	χ^2=0.930 P=0.628
	Moderate	32 (59.3%)	22 (40.7%)		7 (43.8%)	9 (56.3%)	
	Daily / Almost daily	24 (53.3%)	21 (46.7%)		8 (61.5%)	5 (38.5%)	
History of drug use	No	65 (50.4%)	64 (49.6%)	χ^2=0.302 P= 0.582	34 (46.0%)	40 (54.0%)	Fisher's exact=0.029*
	Yes	36 (54.6%)	30 (45.5%)		8 (4.6%)	1 (4.4%)	
Duration of incarceration	<1 years	8 (50.0%)	8 (50.0%)	χ^2=5.830 P=0.212	0 (0.0%)	4 (100.0%)	Fisher's exact=0.019*
	1-2 years	16 (36.4%)	28 (63.6%)		10 (40.0%)	15 (60.0%)	
	3-4 years	23 (54.8%)	19 (45.2%)		7 (38.9%)	11 (61.1%)	
	5-6 years	14 (58.3%)	10 (41.7%)		9 (64.3%)	5 (35.7%)	
	>6 years	40 (58.0%)	29 (42.0%)		16 (72.7%)	6 (27.3%)	
History of incarceration	No	87 (50.0%)	87 (50.0%)	χ^2=2.085 P=0.149	40 (50.0%)	40 (50.0%)	Fisher's exact=1.000
	Yes	14 (66.7%)	7 (33.3%)		2 (66.7%)	1 (33.3%)	
Age at first imprisonment (years)	<= 24	45 (51.7%)	42 (48.3%)	χ^2=1.454 P=0.693	12 (66.7%)	6 (33.3%)	χ^2=2.758 P=0.430
	25 – 29	20 (45.5%)	24 (54.6%)		7 (53.9%)	6 (46.2%)	
	30 – 39	25 (54.4%)	21 (45.7%)		15 (44.1%)	19 (55.9%)	
	>=40	11 (61.1%)	7 (38.9%)		8 (44.4%)	10 (55.6%)	
Work in prison	No	63 (51.2%)	60 (48.8%)	χ^2=0.044 P=0.834	6 (37.5%)	10 (62.5%)	χ^2=1.361 P=0.243
	Yes	38 (52.8%)	34 (47.2%)		36 (53.7%)	31 (46.3%)	
Bullying	No	64 (43.0%)	85 (57.1%)	χ^2=19.777 P < 0.001*	40 (49.4%)	41 (50.6%)	χ^2=2.001 P=0.157
	Yes	37 (80.4%)	9 (19.6%)		2 (100.0%)	0 (0.0%)	
Physical Violence	No	69 (43.1%)	91 (56.9%)	χ^2=26.837 P < 0.001*	42 (50.6%)	41 (49.4%)	-
	Yes	32 (91.4%)	3 (8.6%)		-	-	
Sexual violence	No	96 (50.5%)	94 (49.5%)	Fisher's exact=0.06	42 (50.6%)	41 (49.4%)	-
	Yes	5 (100.0%)	0 (0.00%)		-	-	
Social support	Low	48 (70.6%)	20 (29.4%)	χ^2=25.131 P < 0.001*	17 (77.3%)	5 (22.7%)	χ^2=11.375 P=0.003*
	Moderate	44 (51.8%)	41 (48.2%)		18 (50.0%)	18 (50.0%)	
	High	9 (21.4%)	33 (78.6%)		7 (28.0%)	18 (72.0%)	

* Indicates variable is significant

- Lack of observations in some cells limited statistical testing, resulting in missing p-value .

Furthermore, experiencing more than ten traumatic events showed a strong positive association, with 15.804 times higher odds of developing depression compared to those who experienced fewer than six events.

A strong, significant positive association was observed between physical violence and depression, with those who experienced physical violence being 22.056 times more likely to develop depression than their counterparts.

Table 3:
Predictors of Depression among Male Prisoners.

Variables	Categories	AOR (95% CI)	P-Value
Education level	Primary	1	
	Secondary	1.555 (0.562, 4.302)	0.396
	University/college	2.165 (0.471, 9.952)	0.321
Past mental illness	No	1	
	Yes	0.891 (0.102, 7.752)	0.917
Presence of chronic illness	No	1	
	Yes	26.951 (4.268, 170.190)	P < 0.001*
History of drug use	No	1	
	Yes	0.910 (0.266, 3.109)	0.880
Trauma history	< six events	1	
	6 – 10 events	1.563 (0.571, 4.280)	0.385
	> 10 events	15.804 (4.718, 52.940)	P < 0.001*
Age (years)	18 – 24	1	
	25 – 34	0.652 (0.212, 2.007)	0.456
	35 -44	0.425 (0.076, 2.371)	0.329
	>=45	0.757 (0.123, 4.668)	0.764
Physical violence	No	1	
	Yes	22.056 (3.828, 127.068)	0.001*
Family history of mental illness	No	1	
	Yes	3.455 (0.791, 15.098)	0.099
Bullying	No	1	
	Yes	4.176 (1.227, 14.205)	0.022*
Duration of incarceration	<1 year	1	
	1 -2 years	0.286 (0.038,2.139)	0.223
	3 – 4 years	1.276 (0.188, 8.662)	0.803
	5 – 6 years	0.717 (0.092, 5.615)	0.752
	>6 years	2.013 (0.301, 13.440)	0.470
Social support	Low	1	
	Moderate	0.238 (0.086, 0.658)	0.006*
	High	0.043 (0.010, 0.189)	P < 0.001*
History of alcohol use	Never	1	
	Moderate	1.678 (0.500, 5.630)	0.402
	Daily/almost daily	0.337 (0.077, 1.466)	0.147
History of incarceration	No	1	
	Yes	0.737 (0.130, 4.182)	0.730
Occupation	Employed	1	
	Self-employed	0.895 (0.304, 2.635)	0.840
	Unemployed	0.823 (0.211, 3.212)	0.779
Marital status	Single	1	
	Married	1.896 (0.577, 6.232)	0.292
	Divorced/Widowed	3.705 (0.699, 19.636)	0.124

Additionally, bullying exhibited a positive association, with victims having 4.176 times higher odds of developing depression. Conversely, social support demonstrated a strong negative association with depression. Male inmates who received moderate social support were 0.238 times less likely to develop depression, while those who received high social support had even lower risk, at 0.043 times less likely compared to those with low social support.

As shown in Table 4, the history of drug use exhibited a very strong association with depression, with female inmates who had past drug use reporting 45.502 times higher odds of developing depression compared to their counterparts. Additionally, female inmates who experienced more than ten traumatic events were 22.308 times more likely to develop depression compared to those who experienced less than six events. On the other hand, both moderate alcohol intake in the past and high social support showed a very strong negative association with depression. Female inmates who drank moderate alcohol in the past were 0.044 times less likely to develop depression compared to those who never drank alcohol.

Table 4

Predictors of Depression among Female Prisoners.

Variables	Categories	AOR (95% CI)	P-Value
Education level	Primary	1	
	Secondary	1.166 (0.246, 5.526)	0.847
	University/college	.051 (0.085, 191.994)	0.477
Past mental illness	No	1	
	Yes	0.023 (0.000, 1.129)	0.058
Age (years)	18 – 24	1	
	25 – 34	0.613 (0.069, 5.449)	0.660
	35 – 44	0.405 (0.027, 6.013)	0.511
	>=45	0.709 (0.028, 17.870)	0.835
History of drug use	No	1	
	Yes	45.502 (1.595, 1297.852)	0.026*
Presence of chronic illness	No	1	
	Yes	1.852 (0.142, 24.149)	0.638
Social support	Low	1	
	Moderate	0.357 (0.062, 2.073)	0.251
	High	0.035 (0.004, 0.338)	0.004*
Family history of mental illness	No	1	
	Yes	12.868 (0.357, 463.759)	0.162
History of alcohol use	Never	1	
	Moderate	0.044 (0.003, 0.590)	0.018*
	Daily/Almost daily	0.298 (0.034, 2.625)	0.276
History of incarceration	No	1	
	Yes	18.470 (0.643, 530.293)	0.089
Trauma history	< six events	1	
	6 – 10 events	0.469 (0.092, 2.376)	0.360
	More than 10 events	22.308 (1.938, 256.728)	0.013*
Occupation	Employed	1	
	Self-employed	4.716 (0.348, 63.869)	0.243
	Unemployed	0.271 (0.015,4.922)	0.377
Marital status	Single	1	
	Married	1.368 (0.152, 12.339)	0.780
	Widowed/Divorced	0.463 (0.034, 6.381)	0.565

Similarly, female inmates who received high social support were 0.035 times less likely to develop depression compared to those who received low social support.

Discussion.

The overall depression prevalence was 51.4%, aligning with prior studies with rates ranging from 50.3% to 55.9% (5, 6, 20). However, it was higher than findings from Nigeria (37%), Brazil (20.6%) and Nepal (18.8%) (10, 12, 21). These discrepancies may stem from methodological differences as well as variations in prison environments, and cultural and socioeconomic conditions across countries (3, 12). In our study, the depression prevalence of 51.8% among males and 50.6% among females.

Depression and chronic illness coexistence may increase mortality rates (22). In this study, chronic illness was associated with depression among male prisoners. This finding concurs with a study conducted in Meru Prison, where a significant correlation was reported between chronic illness and depression severity (23). This may be attributed to the burden of suffering, including emotional or physical disability, which cultivates feelings of loneliness, sadness and worthlessness, major symptoms of depression (22).

Psychological distress in prisoners may stem from isolation, violence, lack of social support and separation from loved ones (7). Our study found that moderate or high social support decreased depression risk in males, while high social support decreased depression risk in females. This concurs with findings from (11), which reported that poor social support increases depression risk. The absence of social support weakens coping mechanisms for stress, increasing depression risk, whereas receiving social support enhances hope and self-esteem, acting as a protective factor against depression (24), underscoring the importance of social support.

Past drug use was a predictor of depression among female prisoners. This finding aligns with Spanish research which found that female inmates with a history of drug use were 1.8 times more likely to experience symptoms of anxiety and depression (25). Substance abuse and mental illness often coexist, with depression being prevalent among women who use drugs due to psychosocial and biological risk factors (26). Psychosocial challenges like gender inequality, social exclusion, and intimate partner violence may drive women to use drugs and alcohol as coping mechanisms (27).

Excessive alcohol consumption can lead to depression; moreover, individuals may indulge in drinking to cope with depression (28). In this study, moderate alcohol intake was associated with a decreased risk of depression among females. This finding aligns with a study conducted in the general population, which reported lower depression risk among women who consumed alcohol moderately (29). One possible explanation is that moderate alcohol drinking may enhance social interaction, an aspect known to lower depression rates (30).

In this study, male prisoners who experienced physical violence were more likely to develop depression compared to those who did not. This finding is consistent with a study conducted in Ethiopia which reported an association between physical abuse and depression (11). General life stressors are identified as major contributors to depression. These stressors often lead to self-negativity, sadness, isolation and feelings of worthlessness, which are characteristics of depression (31).

Bullying was significantly associated with depression among male prisoners, consistent with studies showing higher stress and depression among both bullies and victims (32). Bullying can distort thoughts, emotions, and behavior, fostering hopelessness and increasing depression risk (33).

Experiencing over ten traumatic events increased depression risk in both genders, consistent with findings linking childhood trauma to anxiety and depression (34). A systematic review showed that prison conditions, such as violence and isolation, amplify pre-existing trauma, triggering stress responses and brain changes that heighten depression risk (35).

Strengths and Limitations

This study addressed a significant research gap by focusing on a medium prison. However, a cross-sectional design was utilised; therefore, we reported associations rather than causality. The generalizability of our findings may be limited due to the varied nature of prison institutions. This study had a limited sample size among females, leading to wider confidence intervals.

Conclusion

There was a burden of depression among the prisoners at 51.4%. Among males, physical violence, chronic illness, trauma history, social support, and bullying were significant predictors of depression. For females, trauma history, history of substance use, and social support were significant predictors of depression.

Public health implications

Integrating comprehensive mental health care and targeted rehabilitation programs in prisons can reduce self-harm, suicide, and depression, support successful reintegration, lower recidivism and rearrest costs, and enhance overall public safety.

Recommendations

We recommend implementing routine trauma screening, ensuring access to medical care for chronic illnesses, and providing gender-specific substance use rehabilitation programs for prisoners. Additionally, we recommend the implementation of social support and anti-violence programs to foster belonging and equip prisoners with conflict resolution and anger management skills. Future studies should use larger samples and employ longitudinal designs to enhance precision and understand causality.

Abbreviations

PHQ-9: Patient Health Questionnaire;
AOR: Adjusted Odds Ratio;
CI: Confidence Interval.

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