

Original Article

# Mental Health and Healthcare Provision in Zambian Correctional Facilities

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## ABSTRACT

**Objective:** The aim was to determine the prevalence of psychiatric disorders, mental health problems and mental health care service provisions in Zambian correctional facilities

**Study sample:** 240 inmates interviewed using the MINI, the WEMWBS and demographic questionnaire

**Research Design:** This was a cross-section point prevalence

**Results:** Prevalence rates: Current psychiatric disorders 46.2%. Current and past 63.3%. Major depressive episode 47(19.6%), Psychotic disorder current 38(15.8%), Psychotic disorder lifetime 18(7.5%), Major depressive episode past 17(7%), Substance dependence current and Posttraumatic disorder 14(5.8%) each, Manic episode current 5(2.1%) and the rest below 2%. Suicide risks had 49 inmates out of 240(20.4%). Out of 49, 20(40.8%) had high- risk, 8(16.3%) moderate and 21(42.9%) low risk- levels. Medium had the highest prevalence of inmates at risk of suicide 31(63.3%). Out of 31, 17(54.8%) had low, 6(19.4%) moderate and 8(25.8%) high-risk levels. Second highest was maximum 18(20%): out of 18, 4(22.2%) had low, 2(11.1%) had moderate and 12(66.7%) high- risk levels. Inmates in maximum correctional facility were more likely to have suicidal ideations and attempts than their counterparts in medium. Substance dependence is higher in medium (11%)

compared to maximum (3%) and current substance abuse at 2% in both and 1% current alcohol abuse in medium.

## Mental Well-being

WEMWBS mean score (cut-off point) at 50.7, Minimum (50.7) showed good and stable mental Wellbeing compared to Medium and Maximum whose participants recorded poor mental Wellbeing 36.2 and 37.4.

**Conclusion:** There is a high prevalence of psychiatric disorders and mental health problems with total absence of mental health care services among inmates in the three Zambian correctional facility categories. Majority of these inmates are not screened and treated. Greater mental health awareness and provision of mental health services focusing on staff training programmes to detect mental illnesses are needed and further research is recommended throughout Zambia.

## INTRODUCTION

The current study was study-1 of the bigger research which was divided into study-1(socio-epidemiological assessment) and study-2 (follow-up). Zambia's general population is rapidly growing with estimated figures at 17,816,270.<sup>1</sup> Zambian's correctional facility statistics indicate that total population (including pre-trial detainees/remand is 20,000; population rate is 125 per 100,000, pre-trial detainees/remand 23.2% of the correctional facility population.<sup>2</sup> The number of female inmates is at 2.5% of the total correctional facility population and

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1.0% accounting for juveniles.<sup>3</sup> The official holding capacity of the Zambia Correctional Service is estimated at 8,100, however, the total number of incarcerated inmates currently stands at 20,000.<sup>3</sup>

International studies have demonstrated a high prevalence of mental health problems and disorders in prisons compared to the general population globally. It is estimated that globally, psychiatric disorders account for 12% of the burden of diseases and this is likely to keep on increasing every year especially in countries with limited resources like Zambia to 15% by 2020.<sup>4</sup> The World Health Organisation estimates that globally, about 25% of a country's population will suffer from a psychiatric disorder at some point in their lives.<sup>5</sup> It has also been indicated that at any point in time, it is estimated that 10% of people suffer from a psychiatric disorder with 1% suffering from a severe form of mental disorder.<sup>5</sup> Applying global estimates to Zambia both at national and correctional facility levels based on recent population statistics, (17,816,270) and (20,000) respectively, suggest that 1,781,627 Zambians may have some form of psychiatric disorders and about 2,000 inmates could be suffering from some form of psychiatric disorders. For example, 66% of Zambian inmates are said to be suffering from psychological distress.<sup>6</sup>

A study conducted in South African Durban prison, demonstrated that 55.4% of inmates had psychiatric disorders. The commonest disorders being substance and alcohol use disorders (42.0%). 23.3% of inmates were diagnosed with current psychotic, bipolar, depressive and anxiety disorders. 46.1% were diagnosed with antisocial personality disorder. Majority of inmates diagnosed as having psychiatric disorders, were neither diagnosed nor treated in the prison.<sup>7</sup> A similar study in Ethiopia, found the prevalence of psychological distress among inmates to be 83.4%.<sup>6</sup>

Mental healthcare is almost non-existent in most of the Zambian correctional facilities, this fact combined with broad societal misconceptions and

legal inadequacies surrounding mental disorders mean that a huge proportion of inmate population suffer from psychiatric disorders and receive no treatment. However, it is important to note that the Zambia Correctional Service has only three correctional facilities designated to house inmates with diagnosed mental disorders and offer specialised mental health services namely; Kamfinsa, Livingstone and Chainama East correctional facilities respectively. Most of other correctional facilities around the country have only medical services (Clinics) and can consult and refer the psychiatric inmates to relevant mental health facilities if need arise.<sup>3</sup> Outside the general population, mental health services are highly centralized with only eight (8) hospitals offering mental health services in Zambia.<sup>3</sup> This situation has left correctional facilities with limited access to mental health services especially rural based.

## **METHODS**

### **Study Design**

This was a cross-section point prevalence study. Data were collected from three categories of correctional facilities (minimum, medium and maximum) based on correctional facility security levels.

### **Sample site.**

Sites were: Mukobeko maximum-security in Kabwe, Mwembeshi maximum-security in Mwembeshi, Lusaka central medium-security in Lusaka and Mwembeshi Open Air minimum-security in Mwembeshi. Four large facilities were purposively selected based on geographic spread and a range of three security level category. Mukobeko and Mwembeshi maximum represented one security risk category which was maximum. Two maximum-security facilities were selected in order to have equal representation of inmates because Mwembeshi maximum does not house female, death row and life sentence inmates whilst Mukobeko does.

## Study Sample

Sample size was calculated using the formula:  $n = (z^2 \times p \times q / d^2)$  and increasing it by 10% to cater for participant's refusal.  $n$  stands for the required sample size, "d" represents margin of error, set at 5%; "z" is set at 1.96 and  $p$  is the postulated prevalence of psychiatric disorder in Zambian correctional facilities, which is at 63.1%,<sup>8</sup> and  $q$  is  $100-p$ . The study recruited 40 inmates from minimum, 104 from medium and 96 from both maximum correctional facilities (total 240).

## Sampling frame

Inmates were classified according to age, gender, levels of education, length of prison stay, risk security level of the correctional facility, marital status, criminological characteristics (Violent, Non-violent and Drug related crimes), first or repeat offenders, and type of psychiatric disorders

## Declarations

The study applied stringent ethical consideration rigorously because, inmates are vulnerable population due to involuntarily institutionalisation and are thus prone to coercion and undue influence.<sup>4</sup> Inmates were counselled regarding their ability to choose whether to willingly participate in the current study or not. They were informed that any information they would provide and disclose would remain confidential and that they will remain anonymous. Participation had no any form of influence regarding their trial, sentence and stay in the correctional facility. However, inmates found with psychiatric disorders and mental health problems received the recommended 'gold' standard treatment and care with assisted referrals to appropriate health care services. Written Informed consent was obtained. The current study commenced after clearance from the University of Zambia Biomedical Research Ethics Committee and Ministry of Home Affairs through Zambia Correctional Service Headquarters

## Instruments

MINI was used to screen inmates for the presence or absence of psychiatric disorders. The MINI is designed as a brief structured diagnostic interview for major psychiatric disorders.<sup>9</sup> MINI was used because it has sections examining psychiatric disorders which seem to be common in correctional facilities and has been used in similar African correctional facilities (South Africa) like Zambia. There is also a brief screen for suicidality.<sup>9</sup>

WEMWBS was used to screen for general mental wellbeing among inmates. WEMWBS was developed to enable the monitoring of mental wellbeing in the general population and the evaluation of projects, programmes and policies, which aim to improve mental wellbeing.<sup>10</sup> WEMWBS is a 14-item scale with five response categories, summed to provide a single score ranging from 14-70. The cut-off point is 50.7, below indicates poor mental wellbeing and above means improved or stable mental wellbeing. A Sociodemographic Survey was used to collect demographic and mental healthcare data.

## Interviewing and enrollment process

The process comprised four sections namely: administration of demographic questionnaire, MINI, WEMWBS and informed consent. The process started with the PI giving a brief talk about the study to facility authorities at the correctional health facility. PI was then given access to inmates (cell captains), cell captains are in-charge of health matters in the cells. Cell captains went into their respective cells to disseminate and distribute information sheets. Inmates who volunteered to participate in the study registered at the correctional clinic facility for a debrief with the PI. Volunteers were asked to sign a written informed consent and enrolled into the study

## Statistical analysis

Statistical analysis was done using SPSS version 16.0. Pearson's Chi-Square test was used to confirm

the relationship between psychiatric disorders and drug use. The confidence level was at 95% and a p value <0.05 was considered as statistically significant.

## RESULTS

### Socio-demographic characteristics

(n=240). Majority were married 130(54%), highest level of education attained primary school (5-7years). 146(61%) were unskilled labour. Out of 240, 129(53.8%) age range was 20-35 years, 2406(3%) were females and 234(97%) males. This over-representation of male inmates reflects the demographics of the inmate population in the Zambian correctional facilities.

### Average inmate population per correctional facility

Mukobeko maximum had daily average inmate population of 2,065 against the planned capacity of 400, Lusaka Central with official holding capacity of 288 has a daily average inmate population of 1,402; Mwembeshi (minimum) which has 350 daily average inmate population was officially planned for 100 inmates. Mwembeshi (maximum) whose official planned capacity of 600 had an average daily inmate population of 600.

### Participant's criminological characteristics

Majority, 159 of inmates were incarcerated due to violent crimes (e.g. Murder, burglary, assault, armed robbery, manslaughter, rape, defilement and indecent assault) followed by non-violent 66 (e.g. fraud, theft, obtaining money by false pretense and housebreaking) crimes, and drug-related 15 (e.g. possession of or dealing in illegal substances) crimes. 20(8.3%) were repeat offenders. Of the three types of crime, violence had many repeat offenders 12 compared to non-violent and drug related crimes respectively. There is a positive and significant relationship between violent crimes and recidivism. Inmates who committed violent crimes are more likely to reoffend than those who committed non-violent and drug-related crimes

### Prevalence rate

#### *Prevalence of psychiatric disorders across correctional facilities*

Prevalence of current psychiatric disorders was 46.2%. Combined (current and past) 63.3%. Major depressive episode current was the most prevalent 47(19.6%), Psychotic disorder current 38(15.8%), Psychotic disorder lifetime 18(7.5%), Major depressive episode past 17(7%), substance dependence current and Post-Traumatic Stress Disorder at 14,14(5.8%), Manic episode current 5(2.1%) and the rest below 2%. The prevalence data was calculated for each individual disorder which could have been overlapping; that is, some inmates had more than one disorder and each disorder was counted once. Number of inmates with suicide risks was 49 out of 240(20.4%). Out of 49, 20(40.8%) had high- risk, 8(16.3%) had moderate and 21(42.9%) had low risk- levels.

#### *Substance Use*

Substance dependence current was higher in medium 11% compared to maximum 3%. Current substance abuse was 2% for both maximum and medium . Only 1% in medium had current alcohol abuse and dependence. Out of 240 inmates, 15(6.2%) had substance use across all the facilities. Out of 240, 8(3.3%) used Marijuana, Cocaine 2(0.8%), THC 1(0.4%), heroin and codeine 4(1.7%).

#### *Relationship between psychiatric disorders and substance use disorders*

Inmates with Major depressive disorder abused drugs 12(18.8%) followed by those with suicidality risk 8(15.7%). There is a positive and significant relationship between psychiatric disorders (Major depressive episode and suicidality) and substance use disorders. Inmates with major depressive disorder and have suicidal risks, were likely to have substance use disorders as further confirmed by Chi-square  $\chi^2=73.865$ ,  $df=6$ ,  $p=0.000$

## **Mental Well-Being and Mental Healthcare Service Provision for Inmates**

(WEMWBS cut-off point of 50.7). Minimum (50.7) showed good and stable mental Well-being compared to Medium (36.2) and Maximum (37.4). The key finding for mental healthcare provision was inadequate (almost nonexistence) provision of mental health services to inmates.

### **Comparison with international studies**

Limited comparisons have been made with western studies, as their findings are unlikely to reflect the unique challenges that face prisons in low-income countries like Zambia. However key findings indicate that major depressive disorder is highest in most correctional facilities globally. The other studies which are non-Western were conducted in Iran and South Africa. Iranian study used the same tool and had very similar results with the current study which found current psychiatric disorders to be high just like our study.<sup>11</sup> The South African study found a high prevalence (55.4%) of psychiatric disorders compared to 46.2% in our study.<sup>7</sup> All the studies despite different methodologies, indicate high prevalence of psychiatric and mental health problems with limited mental healthcare provision.

### **Comparison to Zambian Studies**

Studies by Mweene and Siziya; and Egelund had similar results especially the one conducted by Egelund which found depression to be the most prevalence with Mweene and Siziya's study indicating prevalence of mental disorder at 29.2%.<sup>12,8</sup> Despite different methodologies, both Zambian studies are suggesting similar results with our study of high prevalence of psychiatric disorders and mental health problems.

## **DISCUSSION**

### **Prevalence rates**

This could be among the first known studies undertaken in Zambia to determine the prevalence of psychiatric disorders and mental health status in

multi-centre correctional facilities. In keeping with international studies, high prevalence (46.2%) of current psychiatric disorders was found among inmates. It is however important to appropriately interpret the results in the context of how the prevalence was calculated. The prevalence of 46.2 percent was based on the count of each psychiatric disorder because some inmates had one or more psychiatric disorders. Consistent with international prevalence of psychiatric disorders among inmates, the current study found similar high prevalence. In most of these studies, major depressive disorder comes out as the most prevalent just like our study. Psychotic disorders, suicidality, substance abuse current and substance dependence current are among the commonest type of disorders in correctional facilities. It is therefore correct to suggest that the prevalence of psychiatric disorders in Zambian correctional facilities like many global and regional correctional facilities is equally high.

There was a high current substance dependence in medium compared to maximum. There is insignificant abuse and dependence on alcohol. The reason could be attributed to the fact that consumption of alcohol is not allowed and is a punishable offence in correctional facilities. Apart from alcohol being criminalised, there is very limited access and difficult to smuggle. Significantly, though inmates reported having access to marijuana, cocaine, heroin and codeine; they however reported not having access to alcohol due to limited access and difficulty in concealing it.

We found substance dependence current in medium to be higher compared to maximum. In addition, there was substance abuse in both medium and maximum with each at 2%. It is also important to note that substance abuse did not involve injecting drugs; inmates used other routes of drug administration (e.g. oral, sniffing, inhaling and smoking). Injecting drug use is almost nonexistence in the Zambian correctional facilities. It is however important to note that substance use could be under reported by inmates due to fear of being punished

and limited access especially for inmates in maximum who do not interact with the outside world. The under reporting could also be attributed to inmates' perception that if they reveal their substance use, correctional facility authorities may not consider them for possible parole. Minimum recorded only 1% of substance use. This could be attributed to inmates' fear that if they are discovered by authorities, their sentence may be extended or may not be considered for early release. As a way of exhibiting good behaviour, inmates could be abstaining from substance use in order to show good and rehabilitated behaviour.

### **Relationship between Psychiatric disorders and Substance Abuse**

Inmates with Major depressive disorder abused drugs 64(18.8%) followed by those with suicidal ideations 51(15.7%). This is in line with Major depressive disorder. Results are similar with the general outside population where data indicates that people who are depressed tend to abuse drugs and suicidal ideation is a key feature in the diagnosis of the disorder. There is a connection between depression and substance abuse, with those diagnosed with disorder being twice as likely to abuse substances than a person without the disorder.<sup>13</sup> In one American study, 7.9 million adults had two simultaneous mental health issues, such as a substance use disorder and depression, in 2014 alone<sup>13</sup>. And in another study, 27 percent of people who had major depressive disorder had a drug addiction as well<sup>13</sup>.

### **Mental Well-being**

When the mean scores were statistically compared, Minimum (50.7) showed good and stable mental Well-being compared to Medium and Maximum whose inmates recorded poor mental Well-being 36.2 and 37.4 respectively. This may mean that inmates in medium and maximum have more mental health problems compared to their counter-parts in the minimum.

This could be true because other results indicate high prevalence of psychiatric disorders in medium and maximum compared to minimum. One possible contributing factor could be overcrowding and lengthy of incarceration. Inmates in medium and maximum have longer prison sentences compared to minimum where inmates are remaining with a shorter period of time before release. Besides that, inmates in minimum have more interaction with the outside world, freedom of movement, less prison authority supervision and fewer hours of lock-down.

### **Limitations**

Study's limitations include (1) the MINI screens for the major psychiatric disorders only,(2) Only six females enrolled ,(3) researcher bias and (3) inmates not proportionally sampled, making the generalizability of the findings limited

### **CONCLUSION**

We conclude that high prevalence of psychiatric disorders and mental health problems are in keeping with the significant high rates internationally. The large number of inmates who have psychiatric disorders but remain undetected, undiagnosed and not on treatment in the facilities is of great concern. These findings present a cogent argument for greater mental health care awareness and services at correctional centres. It is highly recommended that a brief screening instrument be completed (e.g. MINI) on inmates possibly at reception. It is the recommendation of the current study that further research be undertaken at correctional centres around the country to determine the prevalence rates of psychiatric disorders amongst inmates so that findings may be compared and generalized. Further, research detailing the mental health care services currently available for inmates should be undertaken and any disparity between mental health care needs and services should be investigated

## Acronyms

|        |  |
|--------|--|
| MINI   | Mini International Neuro-psychiatric interview |
| WEMWBS | Warwick-Edinburgh Mental Well-being scale      |
| SPSS   | Statistical Package for the Social Sciences    |
| PI     | Principle investigator                         |
| THC    | Tetrahydrocannabinol                           |

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