THE PREVALENCE OF MENTAL DISORDERS AMONG OFFENDERS ADMITTED AT HEALTH FACILIITIES IN BIZZAH MAKHATE CORRECTIONAL SERVICE CENTRE, KROONSTAD, SOUTH AFRICA

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This study/article is submitted in accordance with the requirements for the Degree of

MASTER OF MEDICINE (MMED) IN PSYCHIATRY

November, 2019

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Declaration

I declare that the study/article hereby submitted by me for the Master of Medicine (MMEd) Degree in Psychiatry, at the University of the Free State, is my own independent work and has not previously been submitted at another university/faculty. I, furthermore, cede copyright of this study in favour of the University of the Free State.

Mosa Bonolo Modupi

November, 2019

Acknowledgements

I would like to express my appreciation to the following people who helped make this study achievable.

- Prof N.L. Mosotho Supervisor, for technical and scientific guidance.
- Ms. H.E. le Roux for careful and accurate way of editing the documents.
- To the colleagues at the Department of Psychiatry University of the Free State.
- To the personnel of Bizzah Makhate Correctional Centre for their assistance in accessing the study participants.

Dedication

I would like to dedicate this study to my son, Atlehang Modupi and my husband Seisa Modupi for their support and encouragement.

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Abstract

Mental disorders are reportedly more prevalent in prisons than expected. The aim of this study was to determine the prevalence of mental disorders among offenders admitted at the health establishments in Bizzah Makhathe Correctional Centre, Kroonstad, South Africa. Structured psychiatric interviews were conducted to elicit the information. The majority of the participants were young males, black Africans with low educational levels, coming from low socio-economic backgrounds. Crimes against human beings were jointly the most common ones committed by the offenders. The lifetime prevalence of mental disorders was 54.7%. Personality disorders, followed by substance and addictive disorders were the most prominent disorders among the study sample. Other psychiatric disorders noted were depressive disorders, schizophrenia spectrum, intellectual disabilities and neurocognitive disorders, etc. It is agreed that a notable number of prisoners suffering from mental disorders goes undetected, undiagnosed and untreated. Constructs of competency to stand trial and criminal responsibility should always be observed. There is a need to conduct more empirical studies on the prevalence and incidences of mental disorders in correctional service centres in South Africa.

Key words: prevalence, mental, disorders, correctional service centres, offenders, health facilities, diagnosis, crimes, demographics, psychiatric interview

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List of Abbreviations

APA	American Psychiatric Association
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th edition
HSREC	Health Sciences Research Ethics Committee
ICD-10	International Classification of Diseases
MSE	Mental Status Examination
UFS	University of the Free State
WHO	World Health Organisation

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A. Letter of approval from Health Sciences Research Ethics Committee

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CHAPTER 1

LITERATURE REVIEW

Introduction

International epidemiological studies have found that mental disorders are more common in correctional service centres than expected, with major psychiatric disorders 10 times more prevalent than in the general population (Andreoli et al., 2014). These findings are also supported by Watzke, Ullrich and Marneros (2006), who highlight that mental illness is prevalent in prisons; the admission rate to correctional service establishments has increased in many countries over the past few years. Zabala-Baños et al. (2016) explain that due to this phenomenon of high prevalence of mental disorders in prisons, the composition and typology of prison populations and criminal and behavioural patterns have been affected.

Although the findings of the epidemiological studies on mental health disturbances among prisoners may vary from country to country, the high prevalence of mental illness among prisoners remains the common factor. Data on the prevalence of mental illness in correctional service establishments are of utmost importance for the management of mental diseases and for the cost, planning and policy formulation by the departments of correctional services and health (Brown, Hirdes, & Fries, 2015).

The literature indicates that mental disorders are more prevalent in correctional service institutions than in the general population. There is a rapid growth in the admission rate of prisoners in correctional service facilities across different countries, estimated to be between 9 and 10 million prisoners at a time worldwide (Sepehrmanesh, Ahmadvand, Akasheh, & Saei, 2014). Based on recent published statistics, the prevalence of mental disorders in detained offenders has become a common debated subject. Lafortune (2010) reports that although there has been a significant increase in prison population in the last two

decades, a large number of admitted prisoners with mental illness are undiagnosed and untreated. Identification and treatment of mental disorders in detained offenders can be difficult if the disorder was missed by correctional services during admission (Graf et al., 2013).

The high prevalence of mental disorders in correctional services may be attributed to inadequate mental health services in the communities, absence of detection and identification mechanisms for the signs and symptoms of mental illness during court proceedings, and incarceration itself which may be a risk factor for the development of mental disorders (Audi, Santiago, Garcia Andrade & Francisco; 2018; Bebbington et al., 2017). Correctional service centres are described as an associated factor for the development of mental health disturbances; some individuals might have already been suffering from mental disorders before imprisonment or occasionally mentally healthy people develop emotional and psychological problems due to exposure to prison and the conditions of the prison environment. Social exclusion and inadequate health care provisions in correctional service facilities also largely contribute to the development of mental disorders in convicted offenders (López, Saavedra, López, & Laviana, 2016).

It is reported that mental illness is prevalent and is recognised as a public health matter worldwide (dos Santos, dos Santos Barros, & Andreoli, 2019). Therefore, the need for mental health services and scientific investigations in correctional service centres has grown in recent decades.

The assessment and screening of symptomatology of mental disorders at the entry points to services should be an integral part of mental health services in these institutions (Martin, Hynes, Hatcher, & Colman, 2016). Standardised routine screening of mental illness on admission can significantly reduce the number of untreated prison inmates and ensure early psychiatric interventions (Parsons, Walker, & Grubin, 2001). Regarding the background

information provided above, it can be said that mental illness in correctional service facilities is one of the budget burdens for governments (Al-Rousan, Rubenstein, Sieleni, Deol, & Wallace, 2017). The provision of mental health services in general, requires adequate and expensive physical and human resources. Undetected and untreated mental illnesses may result in fatal outcomes; therefore, regular administration of screening tools in correctional facilities is of the utmost importance.

These psychological and psychiatric disturbances are some of the main sources of morbidity among prisoners (Chow et al., 2018). Solomon, Mihretie and Tesfaw (2019) explain that common mental disorders are the second most common type of illness in developing countries. Common mental disorders refer to a cluster of psychiatric conditions that includes anxiety, depression and somatoform disorders. It has been widely documented that mental disorders are overrepresented in prisons. It is well known that psychiatric disorders usually expose individuals to the risk of developing suicidal tendencies and the risk of death during and after incarceration (Nacher et al., 2018). The incidences of suicide among prisoners are reportedly higher in comparison with the general population (Osasona & Koleoso, 2015).

Kang, Wood, Louden and Ricks (2018) conducted a study on the prevalence of internalising, externalising and psychotic disorders among low-risk juvenile offenders in the southwestern United States. The results revealed that young offenders presented with various mental disorders such as substance abuse disorders, disruptive disorders, mood disorders, anxiety disorders and psychotic disorders with varying prevalent rates, ranging between 2% and approximately 28%. In France, Combalbert et al. (2016) reported that the prevalence of mental disorders was markedly higher among old prisoners, estimated to range up to 70%. They found mood and anxiety disorders to be more prevalent among the old offenders, to the prevalence rate of more than 50%. A similar study on the prevalence of mental disorders

among male prisoners was conducted in Ecuador by Benavides et al. (2019) which found that one in five study subjects was diagnosed with both depression and a psychotic disorder at the same time. In general, there was a high prevalence of depression and psychosis in their study population. Furthermore, Ayhan et al. (2017) found the suicidal risk among prisoners in French Guiana to be just above 13%, while depression affected over 14%. These scientific reports collaborate what has been reported on the link between mental disorders and self-harming behaviours (Gates, Turney, Ferguson, Walker, & Staples-Horne, 2017). In Australia, Heffernan, Andersen, Davidson and Kinner, (2015) reported a high prevalence of post-traumatic stress disorder among Aboriginal and Torres Strait Islander individuals in correctional centres. Similarly, high trauma exposure was reported among inmates in the southeast of Spain in the study by Sánchez, Zargoza, Fearn and Vaughn (2017).

At the Horn of Africa, specifically Addis Ababa, Ethiopia, Solomon et al. (2019) found the prevalence of common mental disorders to be approximately 60%. A study on the prevalence of personality disorders was conducted among male prisoners in Portugal (Brazão, da Motta, Rijo, & Pinto-Gouveia, 2015) which revealed that 80% of male offenders met the full criteria for personality disorders, while more than half of those inmates were diagnosed with antisocial personality disorders. On the other side of Europe, research was conducted in Stockholm by Wetterborg, Långström, Andersson and Enebrink (2015) which found that almost 41% of the offenders on probation presented with a borderline personality disorder. There was also comorbidity of other disorders such as antisocial personality disorder, major depressive disorder, substance use/abuse disorder, attention deficit hyperactivity disorder (ADHD) and anxiety disorders among that study population. In Iran, it was found that ADHD affected 16.2% of the male prisoners (Hamzeloo, Mashhadi, & Fedardi, 2016). The results showed comorbidity of other psychiatric disorders like major depressive disorders, anxiety disorders, posttraumatic stress disorder (PTSD), personality

disorders and substance use disorders in offenders diagnosed with ADHD. Moreover, another study was conducted in Australia among New South Wales (NSW) prisoners to assess the prevalence of ADHD and psychiatric comorbidities which revealed that 17% of the study subjects were diagnosed with ADHD and there was no gender difference, while Aboriginal Australian inmates were diagnosed with adult ADHD more often than non-Aboriginal offenders (Moore, Sunjic, Kaye, Archer, & Indig, 2016). The findings of the said study were somehow different from what was reported in the Iranian study.

The global prevalence of mental health issues is likely to affect South Africa as well. It is important to note that there is dearth of data regarding the prevalence of mental disorders in South African correctional and rehabilitation facilities. Naidoo and Mkize (2012) write that South African correctional services centres are the most populated in Africa. In March 2015, South Africa had a total prison population of 159,241 according to the World Prison Brief; it has the 11th largest prisoner population globally. It is against this background that the principal researcher decided to conduct a study on the prevalence of mental disorders in a South African prison, Bizzah Makhate, in Kroonstad. The South African government policy is that the researchers should focus on their local communities to meet the needs of the communities. The principal researcher herself is part of the Kroonstad community. The documentation and description of the incidences and prevalence of mental disorders in correctional service centres will assist the government of South African to meet the basic needs of the mental health services for inmates.

Objectives

1. The objective of this study was to explore the literature on the prevalence of mental disorders in correctional facilities and to assess the socio-demographic characteristics associated with those disorders.

2. Therefore, the main aim of the study was to assess the prevalence of mental disorders and associated factors among offenders admitted to the health facilities at Bizzah Makhate Correctional Centre, Kroonstad, South Africa.

Research Questions

1. What is the prevalence of mental disorders among offenders admitted to the health facilities in Bizzah Makhate Correctional Centre?
2. What are the socio-demographic characteristics of those offenders admitted in those facilities?
3. What are the crimes committed by those offenders?
4. Is there any association between the diagnoses and crimes?

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CHAPTER 2

PUBLISHABLE MANUSCRIPT

Abstract

Mental disorders are reportedly more prevalent in prisons than expected. The aim of this study was to determine the prevalence of mental disorders among offenders admitted at the health establishments in Bizzah Makhathe Correctional Centre, Kroonstad, South Africa. Structured psychiatric interviews were conducted to elicit the information. The majority of the participants were young males, black Africans with low educational levels, coming from low socio-economic backgrounds. Crimes against human beings were jointly the most common ones committed by the offenders. The lifetime prevalence of mental disorders was 54.7%. Personality disorders, followed by substance and addictive disorders were the most prominent disorders among the study sample. Other psychiatric disorders noted were depressive disorders, schizophrenia spectrum, intellectual disabilities and neurocognitive disorders, etc. It is agreed that a notable number of prisoners suffering from mental disorders goes undetected, undiagnosed and untreated. Constructs of competency to stand trial and criminal responsibility should always be observed. There is a need to conduct more empirical studies on the prevalence and incidences of mental disorders in correctional service centres in South Africa.

Key words: prevalence, mental, disorders, correctional service centres, offenders, health facilities, diagnosis, crimes, demographics, psychiatric interview

Background

International epidemiological studies have found that mental disorders are more common in correctional service centres than expected, with major psychiatric disorders being ten times more prevalent than in the general population (Andreoli et al., 2014). These findings are also supported by Watzke, Ullrich, and Marneros (2006), who pointed out that mental illness in prisons is particularly prevalent, and that the admission rate to correctional service establishments has increased in many countries over the past few years. Other authors such as Zabala-Baños et al. (2016) explain that this phenomenon of the high prevalence of mental disorders in prisons has affected the composition and typology of prison populations, as well as both criminal and behavioural patterns.

Although the findings of epidemiological studies on mental health disturbances among prisoners may vary from country to country, the high prevalence of mental illness among prisoners remains the common factor. Data on the prevalence of mental illness in correctional service establishments is of utmost importance for the management of mental diseases, costing, planning and policy formulation by the departments of correctional services and health (Brown, Hirdes, & Fries, 2015). The available literature indicates that risk factors such as social exclusion and inadequate healthcare provisions in correctional service facilities largely contribute to the development of mental disorders in convicted offenders (López, Saavedra, López, & Laviana, 2016).

There is a rapid growth in the admission rate of prisoners in the correctional service facilities across different countries, with about 10 million prisoners at any time across the globe. In light of these recently published statistics, the frequency of mental disorders in detained offenders has become a popular debated subject. Lafortune (2010) reports that although there has been a significant increase in the prison population in the last two decades, a large number of prisoners admitted with mental illnesses are undiagnosed and untreated,

most of which are missed on admission. The identification and treatment of mental disorders in detained offenders can be difficult if the disorder was missed on admission to correctional services (Graf et al., 2013). Based on the published literature, the high prevalence of mental illnesses among offenders has become a global concern. Correctional centres worldwide are populated with a burden of more than nine million prisoners (Sepehrmanesh, Ahmadvand, Akasheh, & Saei, 2014).

Standardised routine screening of mental illness on admission could significantly reduce the number of untreated prison inmates and therefore ensure early psychiatric interventions (Parsons, Walker, & Grubin, 2001). Regarding the aforementioned background information, it can be said that mental illness in correctional service facilities may be a heavy burden for government budgets (Al-Rousan, Rubenstein, Sieleni, Deol, & Wallace, 2017). Generally, the provision of mental health services requires adequate and expensive physical and human resources. Sadly, undetected and untreated mental illnesses may result in fatal outcomes. Therefore, regular administration of screening tools in correctional facilities is of the utmost importance. The incidences of suicide among prisoners are reportedly higher in comparison to the general population (Osasona & Koleoso, 2015).

This global occurrence of the marked prevalence of mental health issues will likely also affect South Africa. It is important to note that there is a dearth of data regarding the occurrence of mental disorders in South African correctional and rehabilitation facilities. Naidoo and Mkize (2012) write that South African correctional service centres are the most populated ones in Africa. In March 2015, South Africa had a total prison population of 159,241 according to the World Prison Brief, which ranked it 11th on a scale of the largest prisoner populations globally. It is against this background that the researchers decided to conduct a study on the prevalence of mental disorders in the Bizzah Makhate prison in Kroonstad, South Africa.

The South African government's policy is that researchers should instead focus on their local communities in order to meet their needs; the principal researcher herself is part of the Kroonstad community. The documentation and description of the incidences and prevalence of mental disorders in correctional service centres will assist the government of South Africa in meeting the basic mental health needs of the inmates.

Ethical Considerations

Permission to conduct this study was obtained from the National Department of Correctional Services, Pretoria. The research was approved by the Health Sciences Research Ethics Committee (HSREC) of the University of the Free State (UFS). Informed consent was obtained from each participant, which was written in three of South African official languages (English, Afrikaans and Sesotho). Participants' confidential information was used only for the purpose of the study, and the personal particulars of the participant are not reflected in any documents published.

Aim of the Study

The study aimed to determine the prevalence of mental disorders among offenders admitted at the health establishments in Bizzah Makhate Correctional Service Centre, Kroonstad, South Africa. In addition, participants' socio-demographic characteristics and associated contributing factors were also studied.

Research questions:

- What is the prevalence of mental disorders among offenders admitted at health facilities in Bizzah Makhate Correctional Centre?
- What are the socio-demographic characteristics of those offenders admitted in those facilities?
- What are the crimes committed by those offenders?
- Is there any association between the diagnoses and crimes?

Methodology

The Moqhaka Municipality in South Africa was selected as a geographical area for the completion of this research, Bizzah Makhate Correctional Centre (formerly known as Kroonstad Prison) which accommodates 2 205 inmates. The study was conducted among offenders admitted at the health facilities within this correctional service centre. This was a quantitative, descriptive and empirical study. A systematic sampling technique was used for this purpose; systematic sampling is a sophisticated sampling method, which is practical when conducting a study in a population size where the researcher will not be including everyone but selecting possible candidates at equal intervals (Bless, Higson-Smith, & Sithole, 2015).

Additionally, systematic sampling designs are commonly used methods which make data collection much more straightforward and are likely to guarantee less biased sample selection (Huang, 2004; Valentine, Affleck, & Gregoire, 2009). Verma, Singh, and Singh (2014) clarify that this method of sampling is simpler, convenient and efficient. It allows researchers to select a sample starting from a fixed point and to continue selecting possible participants at equal intervals. Taking into consideration the large number (800) of offenders being evaluated and treated (for various health conditions) monthly at the health facility of the Correctional Service centre concerned (Bizzah Makhate Prison). The study participants consisted of 150 sentenced offenders admitted at the health facilities, both in and out patient departments, of the prison in 2018. There were approximately 800 inmates admitted in October 2018. The researchers (mental health professionals) decided to select every 4th healthcare service user to be included in the study sample. Other inclusion criteria were that participants were supposed to be between 18 and 65 years old. Both genders were represented in the sample. Those who are gravely ill and those who were under 18 were excluded from

the study because they were not competent to give informed consent. Moreover, interviews were conducted; the duration of the study was six months.

Instrument

Structured psychiatric interviews were conducted to elicit data. The current literature indicates that structured psychiatric interviews are considered to be valid and reliable for modern research and clinical work (Nordgaard, Revsbech, Saebye, & Parnas, 2012). This type of research instrument provides data on preliminary identification including demographic information and examinees' main complaints, personal description and history of illness (MacKinnon & Yudofsky, 1986; Nordgaard, Sass, & Parnas, 2013). The most crucial component of the psychiatric interview is the Mental Status Examination (MSE), which consists of physical appearance, attitude and behaviour, thought processes, perception, mood and affect, state of consciousness, orientation, memory, insight and judgment, tempo of speech, level of intelligence, mode of thinking, and both hypothalamic and autonomic functions. Lastly, it gives provision for diagnostic formulation. The authors used the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5; American Psychiatric Association [APA], 2013) and International Classification of Diseases, 10th edition (ICD-10; World Health Organisation [WHO], 1992) diagnostic criteria. The researchers conducted a pilot study on five participants in order to investigate the practical feasibility of the study and the validity and reliability of the psychiatric interview.

Data Analysis

The statistical and descriptive analyses were performed in the form of frequencies and percentages for the categorical data and means, standard deviations, medians and percentiles for the continuous data. Quantitative research is a method of collecting data and presenting through in numerical means such as tables, charts, graphs and statistics (O'Hara, Carter, Dewis, Kay, & Wainwright, 2011).

Results

One hundred and fifty offenders participated in this scientific investigation. The sociodemographic characteristics of the participants are presented in Table 1.

Table 1
Sociodemographic Characteristics

Variable	Frequency	%	Cumulative Frequency	Cumulative Percentage
Age				
18-25	116	77.3	116	77.3
26-35	19	12.7	135	90.0
36-50	12	8.0	147	98.0
51-65	3	2.0	150	100.0
Sex				
Male	129	86.0	129	86.0
Female	21	14.0	150	100.0
Race				
Black	144	96.0	144	96.0
Caucasian	2	1.3	146	97.3
Coloured	4	2.7	150	100.0
Marital Status				
Single	125	83.3	125	83.3
Married	20	13.3	145	96.7
Divorced	3	2.0	148	98.7
Widowed	2	1.3	150	100.0
District				
Fezile Dabi	26	17.3	26	17.3
Lejweleputswa	72	48.0	98	65.3
Mangaung	20	13.3	118	78.7
Thabo Mofutsanyana	11	7.3	129	86.0
Xhariep	21	14.0	150	100.0
Education				
None	4	2.7	4	2.7
Grade 1-8	56	37.3	60	40.0
Grade 9-11	73	48.7	133	88.7
Grade 12	12	8.0	145	96.7
Undergraduate	2	1.3	147	98.0
Postgraduate	3	2.0	150	100.0
Employment status				
Unemployed/looking for job	29	19.3	29	19.3
Unemployed/not looking for job	33	22.0	62	41.3
Formal employment	6	4.0	68	45.3
Informal employment	33	22.0	101	67.3
Self-employed	10	6.7	111	74.0
Disability grant	4	2.7	115	76.7
Pensioners	35	23.3	150	100.0

The majority of the study sample consisted of males (86%), and mainly black Africans (96%) followed by coloured participants. More than 80% of the research population was composed of single individuals. Only 8% of the participants managed to obtain Grade 12 certificate. There are five districts in the Free State Province, namely Fezile Dabi, Lejweleputswa, Mangaung (the capital city of the province), Thabo Mofutsanyana and Xhariep; Bizzah Makhathe Correctional Centre is located in Fezile Dabi. However, 48% of the study sample originated from Lejweleputswa, the neighbouring district of Fezile Dabi. Participants' history of unemployment before incarceration was relatively high, ranging around 40%. A marked portion of these prisoners were on a pension and/or social grant before imprisonment. The crimes committed by the study subjects are presented in Table 2.

Table 2

Crimes

	Frequency	%
Crimes Against a Person		
Assault	21	14.0
Murder	39	26.0
Hijacking	36	24.0
Attempted Murder	2	1.3
Rape	7	4.7
Kidnapping	6	4.0
Other	47	31.3
Crimes Against Property		
Fraud	1	0.7
Robbery	41	27.3
Burglary	34	22.7
Arson	2	1.3
Malicious Damage to Property	8	5.3
White-collar Crimes	1	16.7
Organised Crimes	5	83.3
Crimes Against the Community		
Drugs	16	10.7
Alcohol	1	0.7
Multiple Drug Use	5	3.3
Illegal Drug Business	1	0.7
Sex-related Crimes	1	0.7
Public Violence	15	10.0
Possession of Illegal Firearm	4	2.7
Other	3	2.0

Crimes against other human beings dominated the distribution of the offences among the sample. The researchers are referring to criminal acts such as robbery (27.3%), murder (26.0%), motor vehicle hijacking (24.0%) and assaults (14.0%), which are crimes

characterised by aggression and violence. Some prisoners were convicted of rape (4.7%) and kidnapping (4.0%). As far as property crime is concerned, it was found that burglary and malicious damage to property were common criminal acts. A notable portion of the study population was convicted of substances-related crimes like illegally dealing with alcohol and drugs, while 10.0% of the prisoners were found guilty of public violence crimes. Psychiatric diagnoses among the offenders are depicted in Table 3.

Table 3

Psychiatric Diagnosis

Disorders	Frequency	%
Prevalence of Mental Disorders	82	54.7
Intellectual Disability	7	4.7
Schizophrenia Spectrum	9	6.0
Bipolar and Related Disorders	4	2.7
Depressive Disorders	12	8.0
Neurocognitive Disorders	4	2.7
Personality Disorders	38	25.3
Substance and addictive disorders	23	15.3
Anxiety Disorders	1	0.7

As reflected in Table 3, it was found that the current prevalence of mental disorders among the prisoners was 54.7% according to DSM-5 criteria. Besides the high prevalence of personality disorders among the participants, the second prevalent diagnosis was substance and addictive disorders, accounting for 15.3% of participants. The researchers also found the notable prevalence of major depressive disorder (8.0%) and schizophrenia spectrum and other psychotic disorders at the rate of 6.0%, while 4.7% of the study population was diagnosed with intellectual disabilities. The least prevalent mental disorders were anxiety, (0.7%) and neurocognitive, bipolar and related disorders (2.7%). Regarding comorbidity, it

was found that that 8.7% of the participants who were diagnosed with personality disorders, had comorbidity of substance related and addictive disorders. There were also minor comorbid manifestations of personality and neurocognitive disorders among those who were suffering from depressive disorders and schizophrenia.

Discussion

The results of the study illustrate that young males are more vulnerable to committing crimes; this referred to individuals aged between 18 and 35. The finding is in accordance with what was reported by Diamond, Wang, Holzer III, Thomas, and des Anges Cruser (2001), who also reported the same trend in the US. At the time of the assessment, it was also noted that the majority of the prisoners were of single marital status, most of whom were black Africans. These results are not surprising, and are proportional to the population distribution of South Africa according to the 2011 Census (Statistics South Africa, 2012).

The mental status among the prisoners in Bizzah Makhate Correctional Service is markedly different from what was reported in Spain. In Spanish prisons, Vicens et al. (2011) found that 44.0% of their study participants were single in comparison with what was found in this study, whereby more than 80% of the offenders were of single marital status.

Regarding educational levels, it was found that the majority of the prisoners participating in this study did not complete grade 12 (secondary/high school education). This might be the reason why the majority of these participants were not formally employed due to their lack of skills required in the labour market. In this study, one surprising finding was that the large portion of this prisoner population was from Lejweleputswa rather than Fezile Dabi, where the centre is geographically located. In general, the socio-demographic characteristics of the participants in this study, in terms of age, gender, education levels and unemployment at the time of their incarceration, is similar to what was reported in Spain by Zabalar-Baños et al. (2016).

It is a worrying factor that the majority of crimes were directed at other human beings. In this study, it was found that the assault, murder, robbery and motor vehicle hijacking rates were high. These forms of crimes, especially assault and murder, were also reported in Germany by other authors such as Watzke et al. (2006). It was also found that more females than males were found guilty of murder and assault, while sex-related crimes were only perpetuated by men. As far as robbery is concerned, both men and women were almost equally responsible for this type of crime, while motor vehicle hijacking was committed by men only. The researchers' opinions are that the violent crimes committed by both genders is worrying. Furthermore, both male and female prisoners were almost equally criminally responsible for malicious damage to property.

Regarding mental disorders and the nature of the crimes, individuals diagnosed with intellectual disabilities were more often accused of rape (28.0%) and assault (15.0%), while those who were suffering from schizophrenia were also more likely to commit violent and aggressive crimes such as assault (33.0%), rape (28.4%) and murder (25.0%). Those who presented with bipolar and related disorders were mostly involved in malicious damage to property and burglary, when combined accounted for 72.0% of all crimes. Assault was more commonly committed by females than males diagnosed with bipolar mood disorders; 27.4% of males diagnosed with bipolar and related disorders were found guilty of sex-related crimes, especially rape. The notable prevalence of mental disorders among the participants in Bizzah Makhate Correctional Service Centre is of great concern to the researchers. It has been documented by various forensic mental health professionals that a mental illness itself may affect the faculties of competency to stand trial and the associated criminal responsibility. The finding that the prevalence of mental disorders was more than 50% is of marked concern. The fact that a marked portion of this study sample was diagnosed with mental disorders such as schizophrenia spectrum disorders and other psychotic disorders,

bipolar and related disorders, intellectual disabilities and neurocognitive disorders is a worrying factor regarding the administration of criminal justice. In South African Criminal Procedure Act 51 of 1977, Sections 77 (competency to stand trial), 78 (criminal responsibility) and 79 (psychiatric report on the mental status of the accused), (Department of Justice and Constitutional Development, 1997) dictates that people appearing before courts of law should be able to understand and follow legal proceedings and must have the mental capacity to understand the charges before them and be able to give sound instructions to their defence team. The researchers in this study wonder whether the participants who were diagnosed with intellectual disabilities and schizophrenia were fairly adjudicated by the criminal justice system before being sentenced to prison.

Conclusion

The results of this study confirmed what has been reported in the international literature: mental disorders are common in prison populations. It was found that prisoners at the correctional service centre studied were generally young males of a low socio-economic status. Furthermore, the criminal acts committed were mainly directed at human beings rather than at property. Severe mental disorders such as substance abuse/use disorders, personality disorders, mood disorders (such as major depressive disorder), intellectual disabilities and schizophrenia were found to be relatively prevalent among this study population.

The researchers argue that a large number of admitted offenders with mental disorders go undetected, undiagnosed and untreated, as is the case in Bizzah Makhate Correctional Service Centre. The authors recommend the standardised routine screening of the signs and symptoms of mental illness during admission. Early detection and intervention may facilitate the better management of mental disorders in prisons. This will help reduce the possibility of violent and suicidal behaviours among the inmates. It is also recommended that prisoners presenting with intellectual disabilities be placed in special designated units because they are

vulnerable to abuse and other forms of exploitation by the hardcore criminal elements in these centres.

Additionally, the criminal justice system should always take into consideration the constructs of competency to stand trial and criminal responsibility before sentencing the alleged offenders. The study provides a general picture of the prevalence and incidence of mental health issues in correctional service centres in South Africa. Moreover, it will contribute to the international literature regarding the subject of mental health among prison populations. Furthermore, the study has the capacity to assist policymakers and managers to meet the primary mental health needs of the offenders. Although the study provides valuable information on mental disorders in prisons, it should, however, be interpreted with caution as far as a generalisation is concerned, taking into consideration the small study sample and restricted area of research. The study was conducted in health establishments within the Bizzah Makhate Correctional Centre and therefore did not cover the whole prisoner population in this centre. One of the study limitations was that no special medical investigations were conducted which might have affected the holistic outcome of the study. Further more, there was no information that any of the participants (offenders) were ever referred for forensic mental examination. Lastly, access rules and regulations at the correctional service centres in South Africa, should be relaxed, and be user-friendly in order to allow academics and scientists to be able to easily conduct scientific research in this facilities.

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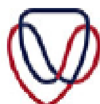
APPENDICES

A. LETTER OF APPROVAL FROM HEALTH SCIENCES RESEARCH ETHICS COMMITTEE



Health Sciences Research Ethics Committee

11-Oct-2018

Dear **Dr Mosa Modupi**

Ethics Clearance: **the prevalence of mental disorders among offenders admitted at health facilities in Bizzah Makhate Correctional Service Centre, Kroonstad, SOUTH Africa**

Principal Investigator: **Dr Mosa Modupi**

Department: **Psychiatry Department (Bloemfontein Campus)**

APPLICATION APPROVED

Please ensure that you read the whole document

With reference to your application for ethical clearance with the Faculty of Health Sciences, I am pleased to inform you on behalf of the Health Sciences Research Ethics Committee that you have been granted ethical clearance for your project.

Your ethical clearance number, to be used in all correspondence is:**UFS-HSD2018/0315/3010**

The ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the HSREC for approval to ensure we are kept up to date with your progress and any ethical implications that may arise. This includes any serious adverse events and/or termination of the study.

A progress report should be submitted within one year of approval, and annually for long term studies. A final report should be submitted at the completion of the study.

The HSREC functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act. No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2006); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; The International Conference on Harmonization and Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH Tripartite), Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines, Constitution of the HSREC of the Faculty of Health Sciences.

For any questions or concerns, please feel free to contact HSREC Administration: 051-4017794/5 or email EthicsFHS@ufs.ac.za.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours Sincerely

Dr. SM Le Grange
Chair : Health Sciences Research Ethics Committee

Health Sciences Research Ethics Committee
Office of the Dean: Health Sciences
T: +27 (0)51 401 7795/7794 | E: ethicsfhs@ufs.ac.za
IRB 00006240; REC 230408-011; IORG0005187; FWA00012784
Block D, Dean's Division, Room D104 | P.O. Box/Posbus 339 (Internal Post Box G40) | Bloemfontein 9300 | South Africa

B. RESEARCH APPLICATION DOCUMENTS FROM THE CORRECTIONAL SERVICES

DEPARTMENT OF CORRECTIONAL SERVICES

RESEARCH IN THE DEPARTMENT OF CORRECTIONAL SERVICES

INSTRUCTIONS:

1. **This form caters for research carried out by a team or an individual**
2. **Please complete in PRINT-Using blank ink**
3. **Mark with an X where applicable**
4. **Please attach the following documents to your application: (I) A detailed research proposal and proposed method**
   (ii) Certified copies of your ID Book(s)/ Passport(s)
   (iii) Current proof of registration from the institution where you are studying (Students only)

A. PERSONAL INFORMATION

A1: For research conducted by an **individual** (**Note:** If it is a research by a team of individuals details of the team leader should also be included here)

1) Title ___________2) Surname ____3) Initials ________________

4) Full Name(s)____5) ID Number [   ]

6) Country of Origin ____

If not a S.A. Citizen: Passport No [   ]

A2: For research conducted by a **team of individuals**

7) Details of team members must be completed in the table below (If more than five include others on the separate sheet)

	Surname	Initials	ID/ Passport Number	Highest Qualification Obtained
1.				
2.				
3.				
4.				
5.				

8) Postal Address: Code:	12) Residential Address: Code:
9) [H] Telephone No: Area Code:	13)[W] Telephone No: Area Code:
Number:	Number:
10) Fax Number: Area Code:	14) Cellular Phone Number:
Number:	
11) E-Mail Address:	

15) Academic Qualifications

Diploma / Degree/Certificate	Institution	Date obtained

16) Present Employer ____

17) Position Occupied ____

18) If you are a member of the Department of Correctional Services: Persal Number [ ]

19) Station ____

B. INDIVIDUAL/GROUP'S PREVIOUS RESEARCH AND/OR PUBLICATIONS

20) Title	21) Publisher	22) Magazine	23) Date

C. PLANNED RESEARCH

24) Title ____

25) Is your planned research required to obtain a qualification? * Yes No

If yes, specify field of study____

____

If no, stipulate purpose of research ____

____

____

26) Does your planned research have any connection with your present field of work? * Yes No

27) Subject to the conditions that may be set in this regard, do you intend to publish or orally present the findings of your research/ dissertation/ thesis or parts thereof during lectures/ seminars? * Yes No

If yes, in which way, and at what stage? ____

____

____

28) At which Area(s) of Command/ Prison(s) do you plan to do your research?

____________________ ____________________

____________________ ____________________

____________________ ____________________

____ ____

29) Which of the following will be involved in your research?

	Yes	No	Specify
Offenders			
Personnel			
Official documents of the Department			
Interviews			
Questionnaires			
Observations			
Psychometric tests			
Technological Devices			
	Yes	No	Specify
Medical Tests including: • Physical Assessment • Laboratory tests (blood, sperm, urine) • X-ray examination • Other			

D. SUPPLEMENTARY INFORMATION

30) For which tertiary institution/ Organisation/ Company are you conducting the research? _____________________________

_______________________________________Department/ Division/ Section/ Component/ Unit _________________________

____Project or Group Leader/ Promoter/ Lecturer: Title_____________

31) Surname ____ Initials __________

32) What value is your planned research to the Department of Correctional Services? __________________________________

____

____

____

____

33) Do you receive any financial assistance for your planned study in the form of a Scholarship / Loan/ Bursary/ Sponsor? * Yes No

If yes, do your sponsor/ loaner/ funder have any copyrights to the study?

If yes specify____

____

____

____

E. COMMENTS/ RECOMMENDATIONS OF THE CHAIR PERSON OF THE RESEARCH ETHICS COMMITTEE ACADEMIC INSTITUTION'S WITH REGARD TO THE APPLICATION

____

____

____

____

____

34) Title ___________ 35) Surname ____36) Initials _____________

_________________________   _________________________
Signature   Date

Official stamp of the Institution/ Organization/ Company

F. DECLARATION STATEMENT BY APPLICANTS:

I/We confirm that:

1. the particulars mentioned above are true, and

2. if this application is favourably considered, I/ We will comply with the conditions which may be set with regard to the application.

Note: If it is a research carried by a team, the Team Leader's signature must appear on the space provided below together with the signatures of two other members of the team as witnesses.

___________________________	___________________________	___________________________
Applicant/Team Leader's Signature	Witness's Signature	Witness's Signature
___________________________	___________________________	___________________________
Date	Date	Date

FOR OFFICE USE BY HEAD OFFICE ONLY

In case of Bursary Holders of the Department of Public Service and Administration please refer to the Director: Policy and External Training

Referred by ____ Date ___________________________

Application

* APPROVED	AMENDED	NOT APPROVED

____   ___________________________
Chairperson: Research Ethics Committee   Date

| DEPARTMENT OF CORRECTIONAL SERVICES

AGREEMENT REGARDING CONDITIONS APPLICABLE TO RESEARCH DONE IN CORRECTIONAL CENTRES WHICH ARE UNDER THE AUTHORITY OF THE NATIONAL COMMISSIONER OF CORRECTIONAL SERVICES

I ____ (name & surname) wish to conduct research titled ____

____

in/at institutions which falls under the authority of the National Commissioner of Correctional Services. I undertake to use the information that I acquire in a balanced and responsible manner, taking in account the perspectives and practical realities of the Department of Correctional Services (hereafter referred to as "the Department") in my report/treatise. I furthermore take not of and agree to adhere to the following conditions:

1.1 INTERNAL GUIDE

The researcher accepts that an internal guide, appointed by the Department of Correctional Services will provide guidance on a continual basis, during the research. His/her duties will be:

1.1.1 To help with the interpretation of policy guidelines. He/she will therefore have to ensure that the researcher is conversant with the policy regarding functional areas of the research.

1.1.2 To help with the interpreting of information/statistics and terminology of the Department which the researcher is unfamiliar with.

1.1.3 To identify issues which could cause embarrassment to the Department, and to make recommendations regarding the utilization and treatment of such information?

1.1.4 To advise Correctional Management regarding the possible implementation of the recommendations made by the researcher.

With regard to the abovementioned the research remains the researchers own work and the internal guide may therefore not be prescriptive. His/her task is assistance and not to dictate a specific train of thought to the researcher.

1.2 GENERAL CONDITIONS WHEN DOING RESEARCH IN PRISONS

1.2.1 All external researchers; before conducting research must familiarize themselves with guidelines for the practical execution of research in prisons as contained in the handbook (see par.11 of Research Policy).

1.2.2 Participation in the research by members/offenders must be voluntary, and such willingness must be indicated in writing.

1.2.3 Offenders may not be identified, or be able to be identified in any way.

1.2.4 Research Instrument such as questionnaires/schedules for interviews must be submitted to the Department (internal guide) for consideration before they may be used.

1.2.5 The Department (Internal Guide) must be kept informed of progress and the expected completion dates of the various phases of the research an progress reports/copies of completed chapters furnished for consideration to the Department should this be requested by the Department.

1.2.6 The Research Ethics Committee of the DCS must be provided with soft copy and two hard copies of the researcher's report.

1.2.7 The Researcher's report must be submitted for evaluation two months prior to presentation and publication for the National Commissioner's approval (see par.9 of Policy).

1.2.8 Research findings or any other information gained during the research may not be published or made known in any other manner without the written permission of the Commissioner of Correctional Services.

1.2.9 A copy of the final report/essay/treatise/thesis must be submitted to the Department for further use.

1.2.10 Research will have to be done in the researchers own time and at his own cost unless explicitly stated otherwise at eh initial approval of the research.

1.3 CONDUCT IN CORRECTIONAL CENTRES

1.3.1 Arrangements to visit a correctional centre (s) for research purposes must be made with the Area Manager of that particular centre. Care should be taken that the research be done with the least possible disruption of offender's routine.

1.3.2 Office space for the conducting of tests and interviews must be determined in consultation with the Area Manager of that particular centre.

1.3.3 Research instruments/interviews must be used/ done within view and hearing distance of a member (s) of the South African Correctional Services.

1.3.4 Documentation may not be removed from files or reproduced without the prior approval of the Area Manager of the Centre.

1.3.5 Any problem experienced during the research must be discussed with the relevant Head of the Correctional centre without delay.

1.3.6 Identification documents must be produced at the centre upon request and must be worn on the person during the visit.

1.3.7 Weapons or other unauthorized articles may not be taken into the correctional centre.

1.3.8 Possession of the Researcher taken into the correctional centre and other necessary articles that are worn on the researcher's person are at his own risk. Nothing may be handed over to the offenders except that which is required for the process of research; e.g. manuals, questionnaires, stationery, etc.

1.3.9 The research must be done in such a manner that offenders /members cannot subsequently use it to embarrass the Department of Correctional Services.

1.3.10 Researchers must be circumspect when approaching offenders with regard to their appearance and behavior, and researchers must be careful of manipulation by offenders. The decision of the Head of Centre in this regard is final.

1.3.11 No offender may be given the impression that his/her co-operation could be advantageous to him/her personality.

2. INDEMNITY

The researcher waivers any claim which he may have against the Department of Correctional Services and indemnifies the Department against any claims, including legal fees at an attorney and client scale which may be initiated against the latter by any other person, including a offender.

3. CANCELLATION

The National Commissioner of Correctional Services retains the right to withdraw and cancel authorization or research at any time, should the above conditions not be adhered to or the researcher not keeps to stated objectives. In an event of the researcher deciding to discontinue the research, all information and data collected from the liaison with the Department must be returned to the Department and such information may not be published in any other publication without the permission of the National Commissioner of Correctional Services. The National Commissioner of Correctional Services also retains the right to allocate the research to another researcher.

4. SUGGESTIONS

The researcher acknowledges that no other suggestions except those contained in this agreement; were made which had led him/her to the entering into this agreement.

Signed at ______________________________ on the _______ day of _____________ month

_____________ year.

RESEARCHER: ____________________

WITNESSES

Above-mentioned researcher signed this agreement in my presents.

Name & Surname:______________________________ Date: ____________________

ENDORSEMENT BY PROMOTER OR EMPLOYER OF THE RESEARCHER WHERE APPLICABLE

I have taken cognizance of the contents of this agreement and do not have any reservation with the conditions of this agreement.

Signature: _______________________

C. APPROVAL LETTER FROM DEPARTMENT OF CORRECTIONAL SERVICES

correctional services

Department:
Correctional Services
REPUBLIC OF SOUTH AFRICA

Private Bag X136, PRETORIA, 0001 Poyntons Building, C/O WF Nkomo and Sophie De Bruyn Street, PRETORIA
Tel (012) 307 2770

Dr MB Modupi
93 Gascony Street
Pentagon Park
Bloemfontein
9300

Dear Dr MB Modupi

RE: APPLICATION TO CONDUCT RESEARCH IN THE DEPARTMENT OF CORRECTIONAL SERVICES ON: "THE PREVALENCE OF MENTAL DISORDER AMONG OFFENDERS ADMITTED AT HEALTH FACILITIES IN BIZZAH MAKHATE CORRECTIONAL CENTRE, KROONSTAD, SOUTH AFRICA"

It is with pleasure to inform you that your request to conduct research in the Department of Correctional Services on the above topic has been approved.

Your attention is drawn to the following:

- The relevant Regional and Area Commissioners where the research will be conducted will be informed of your proposed research project.
- Your internal guide will be **Ms M Mabena: Deputy Commissioner Health Care Services, Head Office.**
- You are requested to contact her at telephone number (012) 307 2310 before the commencement of your research.
- It is your responsibility to make arrangements for your interviewing times.
- Your identity document and this approval letter should be in your possession when visiting.
- You are required to use the terminology used in the White Paper on Corrections in South Africa (February 2005) e.g. "Offenders" not "Prisoners" and "Correctional Centres" not "Prisons".
- You are not allowed to use photographic or video equipment during your visits, however the audio recorder is allowed.
- You are required to submit your final report to the Department for approval by the Commissioner of Correctional Services before publication (including presentation at workshops, conferences, seminars, etc) of the report.
- Should you have any enquiries regarding this process, please contact the REC Administration for assistance at telephone number (012) 307 2770.

Thank you for your application and interest to conduct research in the Department of Correctional Services.

Yours faithfully

ND SIHLEZANA
DC: POLICY COORDINATION & RESEARCH
DATE: 08/10/2018

D. PERMISSION LETTER FROM HEAD OF DEPARTMENT

free state psychiatric complex

Department of Health
Free State Psychiatric Complex
FREE STATE PROVINCE

Prof PJ Pretorius
Head Department of Psychiatry
Free State Psychiatric Complex
4 Pres. Brand Street
Oranjesig
9301

7 December 2017

The Chairperson
Health Science Research Ethics Committee (HSREC)
Health Sciences Faculty
PO Box 339
Bloemfontein
9300

Approval to conduct research, Dr Modupi

I herewith give Dr Modupi permission to continue with her research "The prevalence of Mental Disorders among offenders admitted at health facilities in Bizzah Makhate Correctional Service Centre, Kroonstad, South Africa." For the purpose of completing her Mmed dissertation.

Kind regards

Prof PJ Pretorius
Head: Department of Psychiatry

E. COPY OF RESEARCH PROTOCOL APPROVED BY HEALTH SCIENCES RESEARCH ETHICS COMMITTEE

The prevalence of Mental Disorders among offenders admitted at health facilities in Bizzah Makhate Correctional Service Centre, Kroonstad, South-Africa.

Introduction

International epidemiological studies have found that mental disorders are more common in correctional service centres than expected, with major psychiatric disorders being 10 times more prevalent than in the general population (Andreoli et al., 2014). These findings are also supported by Watzke, Ullrich, and Marneros, (2006), who point out that mental illness in prisons are prevalent; and the admission rate to correctional service establishments has increased in many countries over the past few years. Other authors such as Zabala-Baños et al., (2016) explain that due to this phenomenon of high prevalence of mental disorders in prisons, it has affected the composition and typology of prison populations, criminal and behavioural patterns.

Although the findings of the epidemiological studies on mental health disturbances among prisoners may vary from country to country, the high prevalence of mental illness among prisoners still remain the common factor. Data on the prevalence of mental illness in the correctional service establishments is of utmost importance for the management of mental diseases, costing, planning and policy formulation by the departments of correctional services and health (Brown, Hirdes, & Fries, 2015).

Literature indicates that risk factors such as social exclusion and inadequate health care provisions in correctional service facilities also contribute largely to the development of mental disorders in convicted offenders (López, Saavedra, López, & Laviana, 2016).

There is a rapid growth in the admission rate of prisoners in the correctional service facilities across different countries, with about 10 million prisoners at a time world-wide. With recent

published statistics the prevalence of mental disorders in detained offenders has become a common debated subject. Lafortune (2010) reports that although there has been a significant increase in the prisons population in the last two decades, a large number of admitted prisoners with mental illness are undiagnosed and untreated, most which are missed on admission. Identification and treatment of mental disorders in detained offenders can be difficult if the disorder was missed on admission to correctional services (Graf et al., 2013).

Based on the published literature, the high prevalence of mental illnesses among offenders has become a global concern. Correctional centers worldwide are populated with a burden of more than 9million prisoners (Sepehrmanesh et al., 2014).

Standardized routine screening of mental illness on admission can significantly reduce the number of untreated prison inmates and therefore ensure early psychiatric interventions (Parsons, Walker, & Grubin, 2001). Regarding the above given background information, it can be said that mental illness in correctional service facilities may be one of the budget burdens for the governments (Al-Rousan et al., 2017). Provision of mental health services in general, require adequate and expensive physical and human resources. The undetected and untreated mental illnesses may result in fatal outcomes, therefore, regular administration of screening tools in correctional facilities is of utmost importance. The incidences of suicide among prisoners are reportedly higher in comparison with general population (Osasona & Koleoso, 2015).

This global occurrence of marked prevalence of mental health issues should be affecting South Africa as well. It is important to note that there is dearth of data regarding the prevalence of mental disorders in South African correctional and rehabilitation facilities. Naido & Mkize (2012) write that South African correctional service centres are the most populated ones in Africa. In March 2015 South Africa had a total prison population of

159,241 according to the World Prison Brief, which placed it among the 11th with the largest prisoner populations globally. It is against this background that the principal researcher decided to conduct a study on the prevalence of mental disorders in South African prison, Bizzah Makhate, in Kroonstad.

The South African government policy is that the researchers should rather focus on their local communities in order to meet the needs of the communities. The principal herself is part of the Kroonstad community. The documentation and description of the incidences and prevalence of mental disorders in correctional service centres will assist the government of South Africa in meeting the basic needs of mental health services of the inmates.

Aim of the study

The aim of the study is to determine the prevalence of mental disorders among offenders admitted at the health establishment of the correctional service centers in Bizzah Makhate, Kroonstad, South Africa. In addition, the socio-demographic characteristics and contributing factors will also be determined.

Methodology

Moqhaka Municipality in South Africa is selected as a geographical area for the completion of this research. The study will be conducted among offenders, at the health facilities within the correctional service centre, in Bizzah Makhate Prison, Kroonstad, South Africa. This is a descriptive and empirical study. Systematic sampling technique will be used for this purpose. Systematic sampling is one of the sophisticated methods of sampling that is practical when conducting a study in a population size where researcher will not be including everyone, but selecting each possible candidate at equal intervals (Bless, Higson-Smith & Sithole, 2015).

Additionally, systematic sampling designs are commonly used methods which make data collection much simpler and likely to guarantee less biased sample selection (Huang, 2004; Valentine, Affleck, & Gregoire, 2009). Verma, Singh and Singh (2014), clarify that this method of sampling is much simpler, convenient and efficient. It allows the researcher to select a sample starting from a fixed point and to continue selecting possible participants at equal intervals. Taking into consideration the large number (80 offenders) being evaluated and treated daily at the health facility of the Correctional Service centre concerned (Bizzah Makhate Prison); the researcher has decided to select every 4th health care service user to be included in the study sample. Other inclusion criteria are that participants must be aged between 18 and 65 years. Both genders will be represented in the sample. The researcher aims to evaluate approximately 150 participants/offenders. Those who are gravely ill and juveniles will be excluded from the study. The interviews will be conducted after their clinic consultation. The duration of the study is estimated to be within 6 months.

Methodological Error

For safety and control purposes the study will be conducted at the prison hospital. We also acknowledge that the screened sample may not represent the whole prison population.

Instrument

Structured psychiatric interview will be conducted to elicit data. Current literature indicates that structured psychiatric interview is considered to be valid and reliable for modern research and clinical work (Nordgaard, Revbech, Saebye & Parnas, 2012).

This type of research instrument provides data on preliminary identification including demographic information, main complaint by the examinee, personal description and history of illness (MacKinnon & Yudofsky, 1986; Nordgaard, Sass & Parnas, 2013).

The most important component of psychiatric interview is the Mental Status Examination (MSE), which consists of physical appearance, attitude & behaviour, thought processes, perception, mood and affect, state of consciousness, orientation, memory, insight and judgment, tempo of speech, level of intelligence, mode of thinking, and both hypothalamic and autonomic functions.

And lastly it gives provision for diagnostic formulation. It has been decided to use DSM-5 (APA, 2013), and ICD-10 (WHO, 1992) diagnostic criteria.

Data Analysis

The statistical analysis will be performed by the department of Biostatistics, University of the Free-State. Descriptive statistics namely, frequencies and percentages for categorical data, and means and standard deviations or medians and percentiles for continuous data, will be used.

Pilot Study

The researcher will conduct a Pilot study on 5 participants in order to investigate the practical feasibility of the study, validity and reliability of psychiatric interview. If no changes are needed on the questionnaire or methodology these information collected will be included in the main study.

Significance of the study

There is no sufficient information on the prevalence of mental illnesses in South African correctional centres. This study will provide information and data on the impact and prevalence of mental disorders in these institutions. Further more it will assist policy makers and managers to meet the basic mental health needs of the offenders. It will also contribute

markedly to the international literature as far as provision of mental health services in the correctional facilities is concerned.

Ethics approval

Permission to conduct this study will be requested from the regional offices of the Department of Correctional Services. The final ethical approval will be solicited from Health Sciences Research Ethics Committee of the University of the Free State.

The informed consent will be obtained from each participant which will be in 3 official languages (English, Afrikaans and Sesotho). The participant's confidential information will be used only for the purpose of the study, and the personal particulars of the participant will not be reflected in any documents to be published.

Time schedule

Literature review	October 2016-November 2017
Planning and Protocol writing	November 2017
Health Sciences Research Ethics Committee	November 24 2017
Conduction of pilot study	April 2018
Data collection	April- June 2018
Analysis	July- September 2018
Report writing	October- December 2018

Budget

The study will be funded by the researcher herself. And the budget estimates are as follows:

Transport	R3500
Printing of psychiatric interview	R2000

Stationery R500

Total R6000

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Informed consent

Dear participant,

You are hereby invited to take part in a study on the prevalence of mental disorders in correctional services. Your answers will help us document the extent of mental health disturbances among offenders in this centre. The interview may from time to time upset you, and you are free to stop and withdraw at anytime.

You may also refuse to answer any question if you feel so. Your refusal or withdrawal from the study will not, in any manner, affect the quality of services you are entitled to in this establishment. Your responses will be used for the purpose of the study only. All responses will be kept confidential.

Thank you

Participant's signature ………………………. Date ……………………….

Researcher's signature ………………………. Date ………………………

Translator's signature ………………………. Date ……………………….

Lengolo la tumello

Madume Mokgatatema

O memelwa ho nka karolo dipatlisisong tsa ho fuputsa bo teng ba mafu a kelello batshwarueng ba ditjhankaneng. Dikarabo tsa hao di tla sebediswa ho fumana boleng ba mahloko a hlooho tjhankaneng ena. Ela hloko hore ho tlaba le moo dipotso tsa tokomane ena di tla o kgopisang teng.

O dumelletswe ho emisa diphuputsong tsena kapa wa kgaotsa ho nka karolo ha o ultwa o ameha maikutlo haholo. O na le hona ho ka hana ho araba dipotso nakong ya dipatlisiso. Ho se nke karolo kapa hona ho kgaotsa ha hona sitisana le ditshwanelo tsa hao le thlokomelo ya hao eo e o loketseng mona tjhankaneng.

Lesedi leo o refang lona le tla sebedisetswa dipatlisiso tsena feela, mme ditaba tse buueng etlaba tsa sephiri.

Ke a leboha.

Mokgetatema tekena mona……………… Letsatsi ke la…………………

Mofuputsi tekena mona…………… Letsatsi ke la…………………

Mohlalosi tekena mona………………. Letsatsi ke la…………………

Ingelig toestemming

Gedagte deelnemer,

U word uitgenooi om aan ‘n studie oor die voorkoms van geestessiektes in korrektiewe dienste deel te neem. U antwoorde sal ons help om die omvang van geestessiekte by oortreders in hierdie sentrum te dokumenteer.

Die onderhoud kan u met tye ontstel, en u het die reg om die onderhoud enige tyd te staak en van die studie te onttrek. U mag ook weier om sekere vrae te beantwoord indien u dit so verkies. U weiering of onttrekking van die studies sal geensins die kwaliteit van dienste waarop u geregtig in hierdie sentrum beïnvloed nie. U antwoorde sal slegs vir die doeleindes van hierdie studie gebruik word. Alle antwoorde sal konfidensieel handteer word.

Deelnemer handtekening………………. Datum………………..

Navorser handtekening………………… Datum………………..

Vertaler handtekening…………………. Datum………………..

Information document:

The prevalence of mental disorders among offenders admitted at health facilities in Bzzah Makhate Correctional Service Centre, Kroonstad, South-Africa.

Dear participant

I, Dr M.B Modupi, am conducting a study on the prevalence of mental illnesses among inmates admitted at Bizzah Makhate Correctional Service Facilities. The purpose of the research is to determine the prevalence of mental disorders among detained offenders, which go undiagnosed on admission to the correctional service facilities.

I am inviting you to participate in this research study, which aims to answer the question stipulated above. If you agree to part take in the study, a questionnaire will be completed on your behalf by the researcher conducting the interview. The interview may last 20 to 30 minutes. The questionnaire includes questions which may be deemed sensitive or considered personal. The Health Science Research Ethics Committee of the University of the Free State may at any time inspect the research records and data analysis.

Should the study be published this may lead to cohort identification.

Contact details of researcher: 051 407 9911

Lengolo la boitsebiso

Ho ata ha mahloko a kelello batshwaruweng ba kwalletsweng tjhankaneng ya Bizzah Makhate Correctional Service Centres, Kroonstad South-Africa.

Madume Bakgatatema

Nna ngaka M.B Modupi ke etsa difuputso tsa ho tseba ka mafu a kelello a teng batshwarueng ba tjhankaneng ena ya Bizzah Makhate mona Kroonstad.

Lebaka la ho etsa diphuputso tsena ke ho lekanya mafu a kelello a teng batshwaruweng a sa tlohang a fupuditswe nakong eo batshwaruwa ba tshwarwang .

Ke le memela ho nka karolo diphuuputsong tsena e le hore re fumane karabo ya dipatlisiso tsena. Ha o dumela ho nka karolo difuputsong tsena, lengolo la ho nka karolo le tla tlatswa ke mofuputsi.

Dipotso ditla nka nako e kabang metsostso e mashome a mabedi ho ya mashome a mararo. Lengolong la dipotso ho tla ba teng dipotso tse tla o ama maikutlo ha bohloko. Tsohle tse tla buuwa e tla ba sephiri. Komiti ya Saense ya Diphuputso ya Yunivesithi ya Freistata e tla ba yona e tla thusang ka ho lekodisisa hantle diphuputso le lesedi le fumanweng. Ha diphuputso tsena di ka haswa, ho ka etsahala hore bakgatatema ba tsebahale.

O ka fumana mofuputsi nomorong tsena: 051 407 9911

Inligtingsdokument

Die voorkoms van geestesversteurings onder oortreders wat opgeneem word in gesondheidsentrums in Bizzah Makhate Korrektiewe Fasiliteite, Kroonstad, Suid-Afrika.

Gedagte deelnemeer

Ek, Dr M.B Modupi, doen ń studie oor die prevalensie van geestesversteurings onder oortreders wat opgeneem is by Bizzah Makhate Korrektiewe Fasiliteite. Die doel van die navorsing is om vas te stel wat die prevalensie van geestesversteurings in die populasie is wat ongediagnoseer is tydens opname.

Ek nooi u om deel te neem in die studie om bogenoemde vraag te beantwoord. Indien u instem om deel te neem, sal ń vraelys namens u deur die navorser voltooi word tydens ń onderhoud. Die vraelys maag 20 tot 30 minute neem mom te voltooi. Persoonlike of sensitive vrae mag tydens die onderhoud gevra word. Personlike inligting sal so vêr moontlik vertoulik hanteer word.

Die Gesondheidwetenskappe Navorsings-etiekkomitee van die Universiteit van die Vrystaat kan te enige tyd die navorsingsrekords en data-ontleding inspekteer.

Indien die studie gepubliseer word, mag dit lei tot kohortidentifikasie.

Kontak besonderhede van navorser: 051 407 9911

F. INFORMED CONSENT

Informed consent

Dear participant,

You are hereby invited to take part in a study on the prevalence of mental disorders in correctional services. Your answers will help us document the extent of mental health disturbances among offenders in this centre. The interview may from time to time upset you, and you are free to stop and withdraw at anytime.

You may also refuse to answer any question if you feel so. Your refusal or withdrawal from the study will not, in any manner, affect the quality of services you are entitled to in this establishment. Your responses will be used for the purpose of the study only. All responses will be kept confidential.

Thank you

Participant's signature ………………………. Date ……………………….

Researcher's signature ………………………. Date ………………………

Translator's signature ………………………. Date ……………………….

Lengolo la tumello

Madume Mokgatatema

O memelwa ho nka karolo dipatlisisong tsa ho fuputsa bo teng ba mafu a kelello batshwarueng ba ditjhankaneng. Dikarabo tsa hao di tla sebediswa ho fumana boleng ba mahloko a hlooho tjhankaneng ena. Ela hloko hore ho tlaba le moo dipotso tsa tokomane ena di tla o kgopisang teng.

O dumelletswe ho emisa diphuputsong tsena kapa wa kgaotsa ho nka karolo ha o ultwa o ameha maikutlo haholo. O na le hona ho ka hana ho araba dipotso nakong ya dipatlisiso. Ho se nke karolo kapa hona ho kgaotsa ha hona sitisana le ditshwanelo tsa hao le thlokomelo ya hao eo e o loketseng mona tjhankaneng.

Lesedi leo o refang lona le tla sebedisetswa dipatlisiso tsena feela, mme ditaba tse buueng etlaba tsa sephiri.

Ke a leboha.

Mokgetatema tekena mona……………… Letsatsi ke la…………………

Mofuputsi tekena mona…………… Letsatsi ke la…………………

Mohlalosi tekena mona………………. Letsatsi ke la…………………

Ingelig toestemming

Gedagte deelnemer,

U word uitgenooi om aan ‘n studie oor die voorkoms van geestessiektes in korrektiewe dienste deel te neem. U antwoorde sal ons help om die omvang van geestessiekte by oortreders in hierdie sentrum te dokumenteer.

Die onderhoud kan u met tye ontstel, en u het die reg om die onderhoud enige tyd te staak en van die studie te onttrek. U mag ook weier om sekere vrae te beantwoord indien u dit so verkies. U weiering of onttrekking van die studies sal geensins die kwaliteit van dienste waarop u geregtig in hierdie sentrum beïnvloed nie. U antwoorde sal slegs vir die doeleindes van hierdie studie gebruik word. Alle antwoorde sal konfidensieel handteer word.

Deelnemer handtekening………………. Datum………………..

Navorser handtekening………………… Datum………………..

Vertaler handtekening…………………. Datum………………..

G. QUESTIONNAIRE/PSYCHIATRIC INTERVIEW

PSYCHIATRIC INTERVIEW

Patient number ☐☐☐ FOR OFFICE USE

1. Age

a) 18-25	☐1	
b) 26-35	☐2	☐1
c) 36-50	☐3	
d) 51-65	☐4	

2. Gender

a) male	☐ 1	☐2
b) female	☐2	

3. Marital status

a) single	☐ 1	
b) married	☐2	☐ 3
c) divorced	☐3	
d) widowed	☐4	
e) unknown	☐5	

4. Race

a) black	☐ 1	
b) Caucasian	☐2	☐ 4
c)coloured	☐ 3	
d) asian	☐4	
e) other	☐5	

specify…………………………………………

5.Free State	a) Fezile Dabi	☐ 1	
District of	b) Lejweleputswa	☐ 2	
Origin	c) Mangaung	☐ 3	☐5
	d) Thabo Mofutsanyana	☐ 4	
	e) Xhariep	☐ 5	
6. Highest level of	a) None	☐ 1	
education	b) grade 1-8	☐2	
	c) grade 9-11	☐3	☐6
	d) grade 12	☐4	
	e) graduate	☐5	
	f) postgraduate	☐6	
	g) other	☐7	
	specify……………………………………		
7. Employment	a) unemployed and looking for a job	☐1	
	b) unemployed and not looking for a job	☐ 2	☐ 7
	c) formally employed	☐3	
	d) informally employed	☐4	
	e) self-employed	☐ 5	
	f) disability grant	☐6	
	g) pensioner	☐7	
	h) student	☐ 8	

8. Income p/m a) less than R1000 ☐1

b) between R1000-R5000 ☐2 ☐8

c) above R5000 ☐3

d) unknown ☐4

9.Clinical Picture

9.1 Behaviour

a) Echopraxia (pathological imitation of movements) ☐1 ☐9

b) Catatonia ☐2 ☐10

c) Negativism ☐3 ☐11

d) Cataplexy (temporary loss of muscle tone) ☐4 ☐12

e) Hyperactivity ☐5 ☐13

f) Mimicry (imitation motor activity of childhood) ☐6 ☐14

g) Aggression ☐7 ☐15

h) Stereotypy ☐8 ☐16

i) Mannerism ☐9 ☐17

j) Automatism (automatic performance of an act) ☐10 ☐18

k) Mutism ☐11 ☐19

l) Acting out ☐12 ☐20

m) Abulia (reduced impulse to actor think) ☐13 ☐21

n) Other (specify up to 1 month ☐14 ☐22

9.2Consiousness

a)Clear ☐ 1

b) Cloudy ☐ 2

c) Coma ☐ 3

d) Stupor ☐ 4 ☐ 23

e)Delirium ☐ 5

9.3 Orientation

9.3.1 **Person**

a) Orientated ☐ 1

b) Disorientated ☐ 2 ☐ 24

9.3.2 **Time**

a) Orientated ☐ 1

b) Disorientated ☐ 2 ☐ 25

9.3.2**Place**

a) Orientated ☐ 1

b) Disorientated ☐ 2 ☐ 26

9.4 Attention

a) Attentive ☐ 1

b) Distractible ☐ 2

c) Apathic (nonresponsive) ☐ 3 ☐ 27

9.5Thought process and language

9.5.1 Form disturbance

a) None	☐ 1	☐28
b) Neologism (new word created by a patient)	☐ 2	☐29
c) Word salad (incoherent mixture words and phrases)	☐ 3	☐30
d) Circumstantiality (indirect speech that is delayed in reaching the point)	☐4	☐31
e) Tangentiality (inability to have goal-directed association of thoughts)	☐ 5	☐ 32
f) Incoherence	☐ 6	☐33
g) Perseveration	☐7	☐34
h) Verbigeration (excessive, meaningless and repetitive speech)	☐8	☐35
i) Echolalia (repetition of words or phrases of one person by another)	☐9	☐36
j) Irrelevant answers	☐10	☐ 37
k) Loosening of associations	☐11	☐38
l) Derailment	☐12	☐39
m) Flight of ideas	☐ 13	☐40
n) Blocking	☐14	☐ 41
o) Pressure of speech	☐ 15	☐42
p) Poverty of speech	☐ 16	☐ 43
q) Disturbed articulation	☐ 17	☐ 44
r) Other (specify)	☐18	☐ 45

9.5.2 Disturbance in content of thought

a) Suicide ideation ☐ 1 ☐ 46

b) Overvalued ideas ☐ 2 ☐ 47

c) Homicide ideas ☐ 3 ☐ 48

d) Obsessions ☐ 4 ☐ 49

e) Compulsions ☐ 5 ☐ 50

f)Paranoid delusions ☐ 6 ☐ 51

(i) Delusions of persecuction ☐ 7 ☐ 52

(ii) Delusions of grandeur ☐ 8 ☐ 53

(iii) Delusions of reference ☐ 9 ☐ 54

(iv)Delusions of self-accusation ☐ 10 ☐ 55

(v) Delusions of control ☐ 11 ☐ 56

g)Somatic delusions ☐ 12 ☐ 57

h) Bizarre delusions ☐ 13 ☐ 58

9.6 Memory

9.6.1 Short-term memory

a) Good ☐ 1

b) Fair ☐ 2 ☐ 59

c) Poor ☐ 3

9.6.2Recent memory

a) Good ☐ 1

b) Fair ☐ 2 ☐ 60

c) Poor ☐ 3

9.6.3Long-term memory

a) Good		☐1	
b) Fair		☐2	☐ 61
c) Poor		☐3	

9.7 Perceptions

9.7.1 Auditory hallucination	**-yes**	☐1	
	-no	☐ 2	☐62
9.7.2 Visual hallucination	**-yes**	☐1	
	-no	☐ 2	☐ 63
9.7.3 Olfactory hallucination	**-yes**	☐ 1	
	-no	☐ 2	☐64
9.7.4 Gustatory	**-yes**	☐1	
	-no	☐2	☐65
9.7.5 Tactile hallucination	**-yes**	☐1	
	-no	☐2	☐ 66
9.7.6Somatic hallucination	**-yes**	☐1	
	-no	☐2	☐67
9.7.7 Hallucinosis	**-yes**	☐1	
	-no	☐ 2	☐ 68
9.7.8 Illusions	**-yes**	☐1	
	-no	☐2	☐ 69
9.7.9 Depersonalization	**-yes**	☐1	
	-no	☐2	☐ 70
9.7.10 Derealization	**-yes**	☐1	
	-no	☐2	☐ 7 1

9.8Affect

a) Appropriate affect	☐1	
b) Inappropriate affect	☐2	
c) Restricted or constricted affect	☐ 3	
d) Flat/Blunted affect	☐ 4	
e) Combination	☐ 5	
f) Other (specify)	☐ 6	☐72

9.9Mood

a) Euthymic mood	☐1	☐73
b) Dysphoric mood	☐ 2	☐74
c) Expansive mood	☐3	☐ 75
d) Irritable mood	☐4	☐ 76
e) Mood swings	☐5	☐77
f) Elevated mood	☐6	☐78
g) Euphoria	☐7	☐79
h) Depressed mood	☐8	☐80
i) Anhedonia	☐9	☐81
j) Grief or mourning	☐10	☐82
k) Alexthymia	☐11	☐ 83
l) Anxiety	☐12	☐84
m) Agitation	☐ 13	☐ 85
n) Panic	☐ 14	☐ 86
o) Apathy (indifference, unresponsiveness)	☐ 15	☐ 87
p) Ambivalence	☐ 16	☐88

q) Abreaction (emotional discharge after recalling

a painful experience) ☐ 17 ☐ 89

r) Shame ☐ 18 ☐ 90

s) Guilt ☐ 19 ☐ 91

t)Other (specify) ☐ 20 ☐ 92

9.10 Insight

a) Good insight ☐ 1

b) Poor insight ☐ 2 ☐ 93

9.11Judgment

a) Good ☐ 1

b) Poor ☐ 2 ☐ 94

9.12 Intelligence

a) Above average ☐ 1

b) Average ☐ 2

c) Below average ☐ 3

d) Borderline intellectual functioning ☐ 4 ☐ 95

9.13 Mode of Thinking

a) Concrete thinking ☐ 1

b) Abstract thinking ☐ 2 ☐ 96

9.14Hypothalamic Functioning

9.14.1Sleep patterns

a) Normal sleep	☐ 1	
b)Insomnia	☐ 2	☐ 97
c)Hypersomnia (excessive sleep)	☐ 3	

9.14.2 Appetite

a) Normal	☐ 1	
b) Increase in appetite	☐ 2	
c) Decrease in appetite	☐ 3	☐ 98

9.14.3Libido

a) Normal	☐ 1	
b) Increased	☐ 2	
c) Diminished	☐ 3	☐ 99

9.14.4Autonomic Dysfunctions

a) None	☐ 1	☐ 100
b) Constipation	☐ 2	☐ 101
c) Palpitations	☐ 3	☐ 102
d) Excessive sweating	☐ 4	☐ 103
e) Headaches	☐ 5	☐ 104
f) Fainting	☐ 6	☐ 105
g) Dizziness	☐ 7	☐ 106
h) Anxiousness	☐ 8	☐ 107
i) Other (specify)	☐ 9	☐ 108

10. Criminal behavior	a) assault (AGBH)	☐ 1	☐ 109
	b) rape	☐ 2	☐ 110
	c) robbery	☐ 3	☐ 111
	d) murder	☐ 4	☐ 112
	e) hijacking	☐ 5	☐ 113
	f) kidnapping	☐ 6	☐ 114
	g) possession of illegal firearm	☐ 7	☐ 115
	h) attempted murder	☐ 8	☐ 116
	i) other	☐ 9	☐ 117
	specify……………………..		
11. Property crimes	a) larceny	☐ 1	☐ 118
	b) fraud	☐ 2	☐ 119
	c) burglary	☐ 3	☐ 120
	d) fencing	☐ 4	☐ 121
	e) arson	☐ 5	☐ 122
	f) malicious damage to property	☐ 6	☐ 123
12. Organizational Criminality	a) white collar crime	☐ 1	
	b) organized crime	☐ 2	☐ 124
13. Public order Crimes	a) drugs	☐ 1	☐ 125
	b) alcohol	☐ 2	☐ 126
	c) multiple drug use	☐ 3	☐ 127

	d) illegal drug business	☐4	☐128
	e) sex-related crimes (e.g prostitution, pornography	☐5	☐129
	f) public violence	☐6	☐130
	g) other specify……………………………	☐7	☐131
14. Public order Crimes	a) Intellectual disabilities	☐1	☐132
	b) Schizophrenia Spectrum and other psychotic disorders	☐2	☐133
	c) Bipolar and related disorders	☐3	☐134
	d) Depressive disorders	☐4	☐135
	e) Neurocognitive disorder	☐5	☐136
	f) Personality disorders	☐6	☐137
	g) Sexual dysfunctions	☐7	☐138
	h) Gender dysphorias	☐8	☐139
	i) Paraphilic disorders	☐9	☐140
	j) Substance related and addictive disorders	☐10	☐141
	k) Anxiety disorders	☐11	☐142
	l) No mental disorders	☐12	☐143

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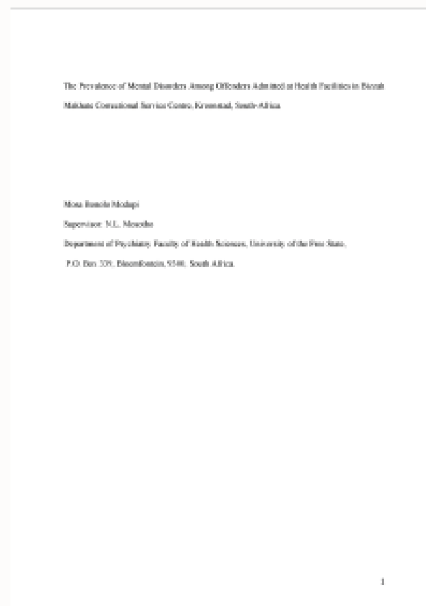

The Prevalence of Mental Disorders Among Offenders Admitted at Health Facilities in Bizzah Makhate Correctional Service Centre, Kroonstad, South Africa.

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