

Research Article

The Association between Substance use Disorder and Type of Crimes Committed by Inmates in Kobar Jail, Sudan

Fawaz Ahmed Gali¹, Abdul-Aziz Ahmed Omer² and Mohammed Ibrahim Hassan^{1,3*}

¹Erada Complex for Mental Health and Addiction, Tabuk, KSA

²Department of Psychiatry, Faculty of Medicine, University of Khartoum, Sudan

³Department of Psychiatry, Sudanese Medical Research Association, Sudan

Abstract

Background: Substance use is an overwhelming factor in many types of crimes, not merely law violations of alcohol and drug. Substance use disorders among jail inmates are at epidemic proportions. Prison and jail inmates are seven times likely than are individuals in the general population to have a substance use disorder.

Objectives: The aim of this study is to study prevalence of alcohol and drug use disorder among inmates in Kobar, and to determine the common types of substance use by the prisoners, and to test the association between alcohol and drug use disorder with type of crimes committed by inmates.

Methods: A cross-sectional study conducted in Kobar jail. One hundred fifty (150) participants were enrolled, all of them were males. Data collected using structured interview closed question questionnaire contains 18 questions. Ethical clearance was obtained from Sudanese medical specialization board, jail administration was taken also.

Results: The dominant age group of the participants was 18 years to 29 years (54%). Overall, nearly 53% of the participants have substances use disorder about half of them (48%) using alcohol and 32.5% cannabis. The commonest crime committed was stealing (25%). The percentage of the drug dealers was 11%, and murders were 12%.

Conclusion: This study showed that there is significant association between the type of the crime and the use of substance. This emphasizes the serious need to provide more addiction and rehabilitation centers to control the spread of the substance use disorders, and reduce the magnitude of the relevant crime.

Keywords: Substance use disorder; Crimes; Inmate's jail; Drugs; Chi square test

Introduction

Background

Substance use may have important outcomes like criminal activity and social problems. The literature suggests increasing evidence for the association between substance use and criminal act, and also suggests high prevalence of substance use disorders in prison inmates [1].

This can be found in considerable number of countries. For instance in United States a survey has been done and found almost two-thirds (64.5%) of the inmate population (1.5 million) meet medical criteria for an alcohol or other drug use disorder [2]. Prison and jail inmates are seven times likelier than are individuals in the general population to have a substance use disorder [2]. In order to

meet the health needs of substance-involved offenders and reduce crime and its costs to society, the criminal justice system must address risky substance use as a preventable health problem and addictive disorders as medical problems [2].

Sudan is in need for a serious shift in overall thinking about how drug addicts should be treated. Drug addiction might cause of many social distress which can result in offensive act. Additionally it can cause psychological problems including, psychosis, depression, mania and violence, and also can lead to serious physical ailments, including heart attack, stroke, organ failure and death. In addition there are a lot of social impacts; for example substance user cannot be able to hold a job, relate to other human beings, and to take care for their personal hygiene and health [3].

Problem statement

Recently there is obvious increase in the use of drugs and alcohol in Sudan. Perhaps there is a relationship between committing crimes and use of drugs and alcohol. This research aims to study this link.

Justification: The local literature is deficient of studies addressing this issue. Thus this study will help the decision makers to pay attention for the significance of controlling the phenomenon of substance abuse.

Objectives

The fundamental objective of this research was to study the

Citation: Gali FA, Ahmed Omer AA, Hassan MI. The Association between Substance use Disorder and Type of Crimes Committed by Inmates in Kobar Jail, Sudan. Med Life Clin. 2020; 2(2): 1017.

Copyright: © 2020 Fawaz Ahmed Gali

Publisher Name: Medtext Publications LLC

Manuscript compiled: Sep 04th, 2020

***Corresponding author:** Mohammed Ibrahim Hassan, Department of Psychiatry, Sudanese Medical Research Association, Erada Complex for Mental Health and Addiction, Tabuk, KSA, E-mail: dr.moayyed@gmail.com

association between substance use disorders with type of crimes committed by inmates in Kober jail. While the specific objectives were to study the Socio-demographic data of inmates, and to determine the common types of substance use by the prisoners, as well as to identify the manner of crimes.

Literature review

In Sudan there is no research carried out on substance use among prisons inmates. However the types of the most common substances used in Sudan were studied. There was study done in Hayat center for addiction rehabilitation in Khartoum to find out the most common substances used in Sudan, the results showed that the most common drugs used are; cannabis 75%, alcohol by 57%, opioids 37% and 28% Benzodiazepines [4].

Regionally there was a study in Kenya examined substance use among inmates at the prison. It found that criminal activity and social problems are recognized as important outcomes of substance use and abuse. Lifetime prevalence of substance use was 66.1%, while that of alcohol use was 65.1%. The prevalence of cannabis use was 21%. Other substances used included amphetamines (9.4%), volatile inhalants (9.1%), sedatives (3.8%), tranquilizers (2.3%), cocaine (2.3%), and heroine (1.3%) [5]. Another study was done in Nigeria; it was a review which aimed to highlight the relation between homicide and alcohol use. It found that there is strong association between homicides and alcohol abuse [6].

Internationally a lot of studies were carried out to address this issue. One study was done in New South Wales in 2010 where a prison population drawn from the Biennial Data Collection series [7]. The study shows that 73% of males and 77% of females reported that at least one of their current criminal offences was related to their use of alcohol and/or other drugs. The study also found the illicit drug use while in the community in the six months prior to the current prison episode was reported by near to three in four inmates (73%). In addition it found that use of 'heavy-end' (heavy core) drugs (i.e., heroin, amphetamine or cocaine) in the six months prior to current imprisonment was reported by one in two inmates (50%, 48% of males and 62% of females) [7].

On the other hand in America; alcohol plays a dominant role in criminal act; it represents about 56.6% of all jail's inmates. In addition to the inmates who were convicted of an alcohol law violation; 51.6% of drug law violators, 55.9 % of those who committed a property crime, 57.7% of inmates who committed a violent crime, and 52% of those who committed other crimes were either under the influence of alcohol at the time of the crime, had a history of alcohol treatment or had an alcohol use disorder [2].

Use of drug at youth is a strong factor to start crime at early age, as a study done in Los Angeles, USA discovered that 35% of methamphetamine users aged 18 years to 25 years old were found to have committed violence while they were under influence of the drug [8].

Another study was carried out in USA to address the gap of substance use disorder treatment. This study showed that 1.5 million prison and jail inmates met clinical diagnostic criteria of substance use disorder in 2006; only 11.2% had received some type of professional treatment since admission. Only 16.6% of facilities offer treatment in specialized settings which can produce better outcomes for offenders as measured by drug use and arrests post-release [2].

Regarding the cost-effectiveness of rehabilitation program in comparison to imprisonment; it was found that in a long term; investing on residential and vocational treatment, and training and support services are lower costing. A comprehensive review by the National Institute on Drug Abuse found that the return of investing in treatment may exceed the ratio of 12:1; that means every dollar spent on treatment can reduce future burden costs by \$12 or more in reduced substance-related crime and criminal justice and health care costs. Moreover for each extra year that a former inmate stays substance free, employed and out of prison, society would receive an economic benefit of approximately \$90,953 [2].

Another study was done in Columbia University supporting the same concept that half of the imprisonment's cost could be saved if the participant had been sent to rehabilitation program, (the expenditure of 25 month program is \$32,974 instead of \$64,338 cost of imprisonment) [9].

Another study in Maryland concluded that Treatment as an alternative to incarceration is already saving money [10].

Methods

The design of this study was cross-sectional institutional based study. It was carried out in the period between Septembers to December 2017 in Kober jail (old prison located in Khartoum North, Sudan, accommodating 1542 inmates).

Regarding the population of this study it targeted all male prisoners in the jail. This study included the Sudanese above the age of 18 years. The sample size was taken according to the equation: $n = N / 1 + N(d^2)$ (while n =Sample size, N = whole population, d = precision), thus $n = 1215 / 1 + 1215(0.0064)$; $n = 1215 / 8.8 = 137$. But the actual sample collected was 150 participants to ensure higher reliability. The sampling technique used was systematic random sampling. The data collection tool was structured interview questionnaire. The data was analyzed using SPSS version 24, and Microsoft Excel.

The ethical clearance was obtained by taking approval from Sudanese Specialization Board ethical committee, in addition to permission of data collection taken from the administration of Kober jail, a written consent was taken from participants as well.

Results

The present study enrolled 150 prisoners; all of them were male (because the jail accommodates males only).

Sociodemographic features

The majority of the participants were in the age group 18 years to 29 years with percentage of 54.6%, and 27.3% were in the age group 30 years to 39 years. Other age groups were not exceeding 10%. About the marital status of the respondents we found 52.67% single, 46.67% married, 0.67% divorced.

Three quarters of the participants (75%) reside inside Khartoum (the capital of Sudan), while 25% reside outside Khartoum. Regarding the education level; about half of the sample (50.6%) received elementary educations 8% were illiterate, and 10% achieved university level. Most of them were self employed (68%). The employees were 26.6% while the students 4% and 1.3% were jobless. The sociodemographic features are illustrated in the Figures 1-3.

Substance use among participants

We found that 80 prisoners out of 150 prisoners participated in this study use substance (53.3%). The most common used substance

was alcohol with percentage of 48.7%, then cannabis (32.5%). There were small percentages that use tramadol (3.7%), benzhexol (5%) and heroin (2.5%). Other substances like cough syrup and glue inhalers represented 7.5% as shown in Figure 4.

About the duration of substance use; 15% of the substance users in this study have duration of one year or less, and 85% use for more than one year. A 68% used substance for more than 3 years. Figure 5 illustrates the frequency of substance use among the responders.

Regarding the dependence criteria; 91.25% of the users reported tolerance, and 30% reported withdrawal symptoms. About the relapse we found that 73.75% of the substance users in this study have a non successful trials to stop substance use.

Crimes and its link to substance use

About 21% of the responders have previous imprisonments, and

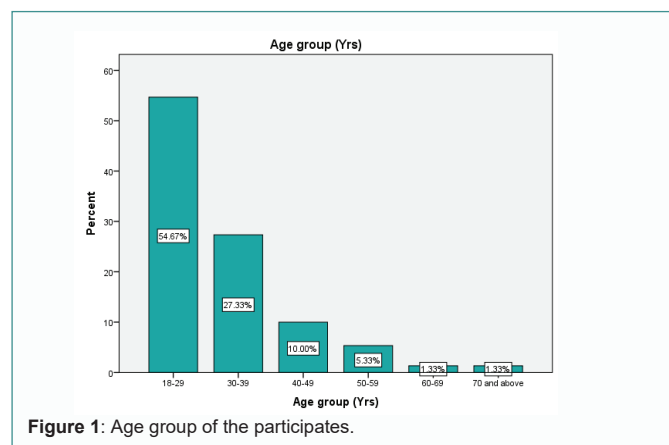


Figure 1: Age group of the participants.

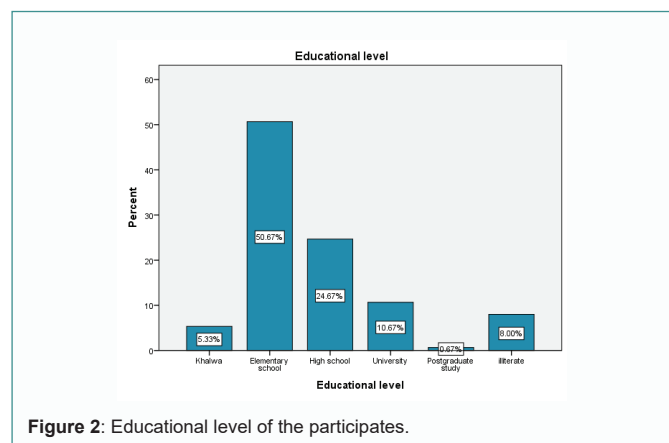


Figure 2: Educational level of the participants.

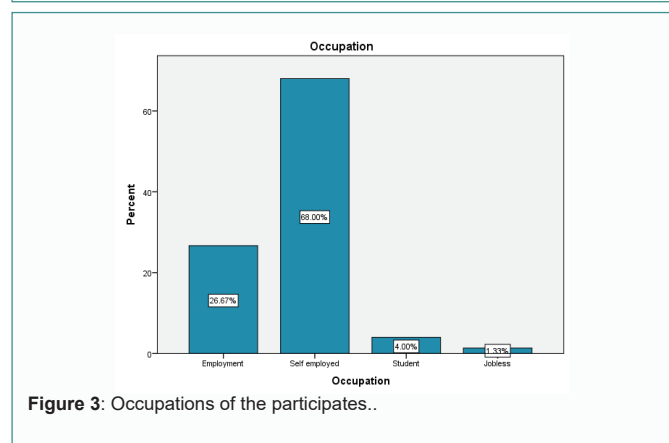


Figure 3: Occupations of the participants.

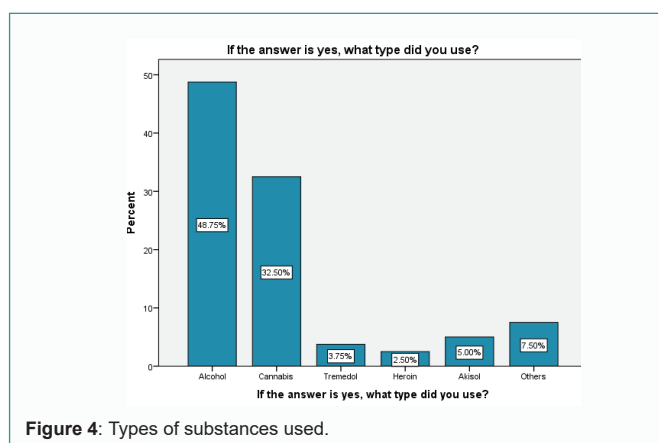


Figure 4: Types of substances used.

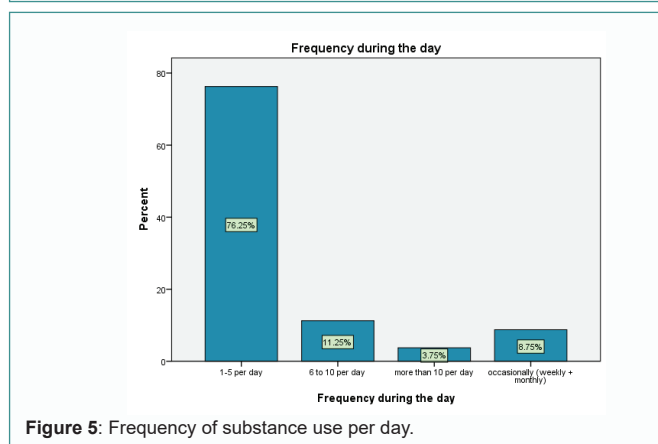


Figure 5: Frequency of substance use per day.

35% have previous police case due to substance use. We found that 47.5% of substance users in this study have used substance in the last 5 days prior o their crime commitment.

About the type of crime; one quarter of the respondents were convicted with stealing, and 11.3% of the participants were convicted with drug dealing. Other types of crimes are illustrated in Table 1. The last time of substance use before committing the crime is illustrated in Table 2.

Chi square test revealed that there is a significant association between type of crime and substance and alcohol use (p-value: 0.02). In addition; odds ratio revealed that prisoners with substance use disorder are 12 times risk for multiple imprisonments than who are not users, as shown in Table 3.

Discussion

The present study was done in the period between Septembers to December 2017 in Kobar jail in Sudan, it enrolled 150 male prisoners, most of them were young (55% in the age group 18 years to 29 years) and about half of them received elementary educations. The implication of these findings is that this sample represents the common demographic background; young people with limited education, this suggests that those circumstances can provide more opportunities for substance abuse. Similarly, Odek Ogunde et al. [11] reported a rate of 19.7% in a study among students at a Kenyan University. Factors associated with life time cannabis use included being a student, unmarried, living in an urban residence and of the male gender. The implication is that peer influence and availability and accessibility of cannabis play a role in cannabis initiation and use.

The lifetime prevalence of substance use in this study was 53.3%,

Table 1: Type of crime.

Crime	Frequency	Percent
Murder	18	12
Rape	3	2
Stealing	38	25.3
Drug dealer	17	11.3
Others	74	49.3
Total	150	100

Table 2: Last substance use before crime.

Last time use	Frequency	Percent
less than 5 days	38	47.5
6 days to 2 weeks	6	7.5
2 wks to 1 month	10	12.5
more than 1 month	26	32.5
Total	80	100

Table 3: Previous imprisonment *versus* substance or alcohol use.

Previous imprisonment	Substance use		Total
	Yes	No	
Yes	29	3	32
No	51	67	118
Total	80	70	150

we can compare this rate with a similar study done among prisoners in Uganda which that found 65% reported substance use in their life [12].

The most common used substances in our study were alcohol with percentage of 48.7%, then cannabis 32.5%. Few number of participants reported misuse of tramadol, benzhexol, and heroin. We can compare these results with another study which was conducted in a prison in Kenya; we can find that there are similarities; the mainly two common substances used were also alcohol with percentage of 65% and cannabis with percentage of 21% [5].

Regarding the duration of substance use; we can find that in our study there were 85% used substance for more than one year which is essential criteria to diagnose substance and alcohol use disorder. Interestingly 68% of the participants mentioned that they have been using substance for more than 3 years, this reflects that this problem is serious and needs prompt attention. This is consistent with what we found in the literature that substance use disorders are known to be associated with violent crimes [13,14].

Another important finding that about half of participants (48%) used alcohol or substance within five days prior imprisonment. This short time could be a sign that the crime was due to intoxication or withdrawal effect. Comparing that with a study done in Wales which found 73% among prisoners used substance six months prior imprisonment [7]. Fortunately our study was more specific in the duration which has been categorized in smaller period.

Concerning the frequency of substance used per day we can find that in our study; 76.25% use once to five times per day, 11.2% use six to ten times per day, and 3.7% ten and more per day, and people who use occasionally were 6.7%. Regarding the remain of substance dependence criteria, the tolerance was found in 91.3%, history of abstinence attempt 73.8%, withdrawal symptoms 30% physical problems was 22.5%.

History of previous imprisonment was occurred in 32 (21.3%) from total of 150 prisoners, we found also 29 (90%) prisoners with history of previous imprisonment met the criteria of substance use disorder, when we calculate the odds ratio it revealed that prisoners with substance use disorder have 12 times risk for multiple

imprisonments than those who are not users. Moreover the association between alcohol and substance use disorder with type of crimes is significant, (p value 0.02). This shows the serious effect of substance and alcohol in the community. We can notice that in another study in Scotland where 71% of criminals testing positive for illicit drugs at the time of their arrest s.

Conclusion

- There is a strong association between substance use disorders and crime.
- The inmates with drug use disorder not exposed to rehabilitation center have 12 times imprisonment again than non drugs use disorder people.
- The most substance used was Alcohol.

Limitations

- This research might give more generalizable result if a larger sample was used.
- With more financial support, a higher quality of this study may be obtained.
- A lot of obligations were faced during data collection which limited the number of participants.

Recommendation

- Increase the awareness of the government about substance and alcohol use disorders to treat them as disordered people rather than criminals, which is responsible for many psychological problems and serious physical problems.
- Establish adequate number of rehabilitation center to reduce substance and alcohol use disorders and decrease number of crimes overall.
- Consider introducing rehabilitation program inside prison appropriate for inmates to prevent recurrent crimes.

Acknowledgement

We would like to express our gratitude to Kobar Jail administration who gave us the permission for data collection inside the jail. Also we would like to thank all the participants who donated their time to participate in this research.

References

1. Greenfield LA. Alcohol and crime: an analysis of national data on the prevalence of alcohol involvement in crime. 1998;NCJ:168632.
2. Pickard H, Fazel S. Substance abuse as a risk factor for violence in mental illness: some implications for forensic psychiatric practice and clinical ethics. *Curr Opin Psychiatry*. 2013;26(4):349-54.
3. Drug addiction is an illness, not a crime. 2017.
4. Omer A, Hassan R, Y Ali A. Socio-demographic characteristics and types of illicit drugs used in sudan, a hayat rehabilitation center experience. *Int J Emerg Ment Health Human Resilience*. 2016;18(3).
5. Kinyanjui DWC, Atwoli L. Substance use among inmates at the Eldoret prison in Western Kenya. *BMC Psychiatry*. 2013;13(53).
6. Mokuolu OS. The role of alcohol in homicide: a 3 year review. *Inj Prev*. 2010;16(Suppl 1):A2.
7. Sommers AB, Sommers I. Methamphetamine use and violence among young adults. *J Criminal Justice*. 2006;34:661-74.
8. Crossing the bridge: an evaluation of the drug treatment-to-prison (DTAP) program. National center on addiction and substance abuse. New York. 2003.

9. Ashira L, Lozowski B, Powell H, Sivillo M, Traeger K. Issues in maryland sentencing - the impact of alternative sanctions on prison populations. *Issues Maryland Sentencing*. 2001.
10. Ogunde MO, Leak DP: Prevalence of substance use among students in a kenyan university: a preliminary report. *East Afr Med J*. 1999;76(6):301-6.
11. Uganda Prisons Service: A rapid situation assessment of hiv/sti/tb and drug abuse among prisoners in uganda. Uganda Prisons Service and United Nations Office on Drugs and Crime. 2009.
12. Pulay AJ, Dawson DA, Hasin DS, Goldstein RB, Ruan WJ, Pickering RP, et al. Violent behavior and DSM-IV psychiatric disorders: results from the national epidemiologic survey on alcohol and related conditions. *J Clin Psychiatry*. 2008;69(1):12-22.
13. Lundholm L, Haggård U, Möller J, Hallqvist J, Thiblin I. The triggering effect of alcohol and illicit drugs on violent crime in a remand prison population: a case crossover study. *Drug Alcohol Depend*. 2013;129(1-2):110-5.
14. McKeganey N, Connelly C, Knepl J, Norrie J, Reid L. Interviewing and drug testing of arrestees in scotland: a pilot of the arrestee drug abuse monitoring methodology (ADAM) - research findings. Scottish Government Pub. 2000.