

Prevalence of Symptoms of PTSD among Inpatients with Substance Use Disorders in Drug Rehabilitation Centres in Nairobi, Kenya

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Abstract

Post-Traumatic Stress Disorder (PTSD) and Substance Use Disorder (SUD) are two mental conditions that often coexist and can exacerbate each other's effects. The study aimed to establish the prevalence of symptoms of PTSD in a sample of 178 individuals undergoing substance use rehabilitation in Nairobi, Kenya. This study employed a quantitative, correlational approach. Data was collected using a customized socio-demographic questionnaire and the Post-Traumatic Stress Disorder (PTSD) Checklist (PCL 5). Analysis used the Statistical Package for Social Scientists Version 28 (SPSS v. 28). The results indicated that 42.7% of participants exhibited symptoms of PTSD. Regarding socio-demographic characteristics, the prevalence of PTSD was higher in females (50.0%) in those aged between 18 -27 years (50.0%) in the widowed (50.0%), those who had completed college (50.0%) and the unemployed (48.3%). A further analysis to determine whether the prevalence is associated with various socio-demographic characteristics; gender, age, marital status, level of education, and employment status showed no statistically significant association. Consequently, the study recommends ongoing PTSD screenings for individuals in inpatient treatment centres to enhance the likelihood of successful treatment outcomes.

Keywords: Post Traumatic Stress Disorder, Substance Use Disorder, Prevalence, Inpatient Drug Rehabilitation.

Introduction

Yadollahi et al. (2019) report that PTSD is the fourth most common cause of death worldwide, affecting individuals of all age groups. Diverging from other psychological disorders rooted in predisposition, PTSD is a fundamental psychiatric condition that occurs after exposure to stressors and trauma (APA, 2013). An illustrative instance is chronic fear (Koenen, 2017). The DSM-5 categorizes PTSD symptoms into five clusters. The primary criterion for PTSD development necessitates exposure to a traumatic event or stressor. Subsequently, an individual might display amplified indications of avoidance, emotional numbing, hyperarousal, and re-experiencing (APA, 2013). Notably, only a mere ten percent of those exposed to traumatic events progress to develop PTSD (María-Ríos & Morrow, 2020).

In 2015, nearly 5 billion adults existed worldwide, of which one million resided in areas that had experienced war between 1989 and 2015, as indicated in the study. The study used data from the Uppsala Conflict Data Program (UCDP), sourced from Sweden's Uppsala

University Department of Peace and Conflict Research, to estimate the incidence of PTSD among adult survivors of war (Hoppen & Morina, 2019). The study encompassed 14,718 participants from 14 different countries or regions, including Sudan, Sierra Leone, Palestine, Algeria, Kosovo, Rwanda, Liberia, Uganda, Croatia, Serbia, Bosnia and Herzegovina, Sri Lanka, the Democratic Republic of the Congo, and Turkey. A total of twenty-four surveys were employed to assess the prevalence of PTSD. The findings indicated a rate of 24.2% within this particular sample. However, these figures might not accurately represent the global status of PTSD due to certain limitations. A subsequent study conducted a year later by Hoppen and Morina (2019) observed that 552 participants who had previously met the criteria for PTSD no longer did so.

Based on a World Mental Health (WMH) survey by the World Health Organization, which involved 68,894 individuals across 24 nations on six continents, 70.4% had experienced one traumatic event in their lifetime. The highest incidence was found in Ukraine (84.6%), while Bulgaria reported the lowest at 28.6% (Benjet et al., 2016). A year after the initial study, the WMH Survey collected data from 71,083 people across 26 countries. The results showed that 3.9% of all respondents had experienced PTSD at some point, while the rate rose to 5.6% among those exposed to trauma. According to the survey, low to low-middle-income countries had a lifetime PTSD prevalence of 3.0%, upper-middle-income countries had a rate of 3.9%, and high-income countries had a significantly higher rate of 6.9%. These trends were in the 12-month and 30-day prevalence rates for trauma exposure across these countries. In a geographical breakdown, the Western Pacific region had notably higher prevalence rates than Africa. Specifically, the 12-month rates were four times higher (4.3% vs. 1.0%), and the 30-day rates were 12 times higher (2.4% vs. 0.2%) (Koenen et al., 2017).

According to the National Institute on Drug Abuse (NIDA, 2018), Substance Use Disorders (SUDs) are a form of mental illness that is genetically passed down or influenced by environmental factors. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) outlines eleven criteria for diagnosing SUDs, including risky use, relationship issues, cravings, abandoning other activities in favor of substance use, using substances for extended periods and in larger quantities, developing a tolerance, and experiencing withdrawal symptoms, among others. The DSM 5 notes that the number of symptoms exhibited correlates with the disorders' severity (APA, 2013). The United Nations Office on Drugs and Crime (UNODC, 2021) states that in 2017, approximately 269 million people worldwide used at least one type of substance.

As per the findings of Lopez-Quintero et al. (2011), individuals diagnosed with PTSD face a substantial likelihood of progressing from casual alcohol and substance use to Substance Use Disorder (SUD). For healthcare practitioners, the concurrent presence of PTSD and SUD poses clinical challenges. A study by Blakey et al. (2021) and Roberts et al. (2020) indicates that individuals with this dual diagnosis present a more severe clinical picture. They often necessitate comprehensive case management, are more likely to have endured childhood trauma, exhibit poorer overall functioning and well-being, and tend to have less promising treatment outcomes and prognoses.

The relationship between the severity of PTSD symptoms at a given moment and subsequent substance use is not explained. The self-medication theory proposes that individuals may turn to drugs or alcohol to manage the distress caused by PTSD and other persistent stressors. This idea helps to explain the frequent co-occurrence of PTSD and Substance Use Disorders (SUDs) (Khantzian, 1977). For instance, using substances could help alleviate emotional pain, facilitate sleep, or assist individuals in navigating stressful situations. According to this theory, effectively treating PTSD might reduce the reliance on substances for symptom relief.

Research has indicated that a reduction in PTSD symptoms could be linked to diminished cravings in individuals with coexisting PTSD and SUDs (Somohano et al., 2019). This could be another mechanism by which addressing PTSD can lead to reduced substance use. Additionally, improvement in PTSD symptoms could make patients less avoidant, thereby making it easier for them to participate in SUD treatment programs, ultimately helping them decrease substance use (Salas et al., 2021).

Several studies have documented the prevalence of PTSD among individuals with SUDs. A study in Minnesota, United States, utilized the Primary Care PTSD Screen for PTSD (PC-PTSD-5) to evaluate trauma symptoms among 100 patients undergoing medication treatment for Opioid Use Disorder. The study took place from June 2018 to August 2019. The PC-PTSD-5 consists of five questions that gauge trauma experiences within the last month. Patients can answer each question with either a 'yes' or 'no'. A cumulative score of 3 or higher warrants additional assessment for PTSD. In this particular sample, the rate of PTSD prevalence was 52% (Hooker et al., 2020).

Methodology

The study was conducted across 11 drug rehabilitation facilities located in Nairobi, Kenya, and employed a correlational framework using a quantitative methodology. The lead of the study conducted a census, employing a non-random sampling technique to contact all registered rehabilitation centers. The choice of Nairobi County as the study location was influenced by the current national landscape, where individuals with co-occurring Substance Use Disorders (SUDs) and Post-Traumatic Stress Disorder (PTSD) seek residential care. This backdrop justified a comprehensive inquiry into the subject. The study included 178 individuals who had been receiving inpatient treatment for SUDs for no more than 90 days.

Participants were also eligible for inclusion provided they were at least 18 years old, did not have a disorder that would prevent them from participating, and were willing to give consent. The authors created a socio-demographic questionnaire to collect information about the individuals. The socio-demographic questionnaire and PCL 5 were administered to every participant who satisfied the study's inclusion criteria and consented to participate. The PCL 5, a standardized instrument with high psychometric qualities, was used to diagnose PTSD symptoms. It has excellent reliability (Cronbach's alpha higher than 0.79) and validity (Ashbaugh et al., 2016). It is a self-report with 20 items. Respondents rate their symptoms on a 5-point Likert scale of 0 – 4. The total score is 80. For this study, a cutoff point of 33 and above indicated the presence of PTSD (Blevins et al., 2015).

To analyze the data, IBM Statistical Package for Social Sciences (SPSS) version 28 was used. Before conducting the study, the authors gained ethical approval from the Internal Review Board (IRB) of the United States International University- Africa, the National Commission for Science and Technology (NACOSTI), the Ministry of Health (MOH), and the Ministry of Education (MOE) in Nairobi County. Permission was also obtained from the participating rehabilitation institutions and consent from the participants. Participants were not required to disclose any information that may identify them to remain anonymous.

Results

Participants completed the tool based on their symptoms in the month preceding the assessment. According to the data, 57.3% of people in rehabilitation for SUDs had no or minimal PTSD symptoms, whereas 42.7% had comorbid PTSD symptoms.

Table 1 shows the results obtained by using Chi-square to examine the relationship between symptoms of PTSD and the demographic characteristics of the participants.

Table 1. PTSD and associated socio-demographic characteristics

Covariate	Prevalence of PTSD		X ² Statistic	p-value
	Absent (57.3%) Frequency (%)	Present (42.7%) Frequency (%)		
Gender				
Male	94 (58.0%)	68 (42.0%)	.383	.536
Female	08 (50.0%)	08 (50.0%)		
Age				
18-27yrs	21 (50.0%)	21 (50.0%)	1.672	.643
28-37yrs	41 (57.0%)	31(43.0%)		
38-47yrs	29 (61.7%)	18 (38.3%)		
47<	11 (64.7%)	06 (32.3%)		
Marital status				
Single	52 (59.1%)	36 (40.9%)	.688	.876
Widowed	02 (50.0%)	02 (50.0%)		
Married/ cohabiting	31 (53.4%)	27 (46.6%)		
Separated/ divorced	17 (60.7%)	11 (39.3%)		
Highest level of education				
Less than high school	07 (58.3%)	05 (41.7%)	5.351	.148
High school graduate	27 (73.0%)	10 (27.0%)		
Completed college	37 (50.0%)	37 (50.0%)		
University degree	31 (56.4%)	24 (43.6%)		
Employment status				
Unemployed	31 (51.7%)	29 (48.3%)	5.197	.268
Student	10 (62.5%)	06 (37.5%)		
Self-employed	05 (100.0%)	00 (00.0%)		
Employed full-time	53(57.0%)	40(43.0%)		
Retired	03 (75.0%)	01 (25.0%)		

Results in Table 1 show that there is a higher prevalence of PTSD in males (58.0 %) than in females (50.0%). The Chi-square analysis conducted to determine the association between gender and symptoms of PTSD indicates that there is no significant relationship between the two variables.

According to Table 1, the study found that among different age groups, the prevalence of PTSD symptoms reduced with age. It was highest in those aged between 18-27 years at 50.0%. On the other hand, individuals aged 47 and above had the lowest occurrence, at 32.3%. However, statistical analysis via a chi-square test showed that there was no statistically meaningful relationship between age and the occurrence of PTSD symptoms, as indicated by a non-significant p-value of 0.643 at a 0.05 level of significance.

The data in Table 1 reveals that widowed individuals have the highest rate of depressive symptoms, at 50.0%. Meanwhile, the prevalence of such symptoms in the single and separated or divorced doesn't vary considerably, ranging from 39.3% in the separated or divorced group to 40.9% in the single group. A Chi-square test was performed to investigate the relationship between marital status and the occurrence of PTSD symptoms. The analysis found no statistically significant relationship, as supported by the high p-value (.876) obtained at a 0.05 significance level.

The study reveals that college graduates experienced the highest rate of PTSD symptoms at 50.0% as shown in Table 1. They were followed by those holding a university degree at 43.6%, and those who had not completed high school at 41.7%. However, a Chi-square analysis showed that these differences were not statistically significant, as the p-value (0.148) exceeded 0.05. Therefore, the data does not provide evidence to suggest a significant relationship between the highest level of education attained and the prevalence of PTSD.

Table 1 shows that self-employed individuals showed a complete absence of PTSD symptoms (0.0%). The group with the highest prevalence of PTSD symptoms was those who are unemployed at 48.3%, followed by those in full-time employment at 43.0%, and students at 37.5%. Chi-square test results indicate that there's no statistically significant relationship between employment status and the presence of PTSD symptoms in the data set. The p-value obtained was 0.268 at 0.05 level of significance.

Discussions of Findings

In this study, the observed rate of PTSD was 42.7% which is marginally less than the 52.0% reported by a study by Hooker et al. (2020) in Minnesota, USA. The Primary Care PTSD Screen was used as the diagnostic tool used for the study. The latter study evaluated a sample of 100 patients on medication for opioid use disorder.

In contrast to this study, a study conducted in Nepal, and Asia found that among 187 individuals receiving treatment for Alcohol Use Disorder (AUD), 17% had comorbid PTSD (Neupane et al., 2017). The study utilized the Composite International Diagnostic Interview (CIDI) version 2.1 to evaluate symptoms. It concluded that the severity of PTSD was correlated to the severity of AUD. However, as observed in this study, in which the p-values of the Chi-square did not find any significant relationships between the demographic variables and PTSD, there was no significant relationship between the co-occurrence of PTSD and variables such as age, gender, or socio-economic status in the Nepalese study.

A study conducted in a hospital in Northern India, which had 300 patients, reported a prevalence rate of 11.5% for PTSD (Gania et al., 2017). This is notably lower than the 42.7% in this study. Furthermore, the most commonly abused substance in the Indian study was cannabis in contrast to alcohol in this study. This could have contributed to the differences in Prevalence rates. Additionally, the results emphasize the importance of considering socio-cultural contexts while carrying out such a study. The differences could be attributed to the clinical settings. In a hospital setting PTSD is more likely to be diagnosed compared to a SUD rehabilitation setting.

In other regions globally, reports indicate lower prevalence rates of PTSD. For example, a study conducted in Vom, Nigeria in West Africa found a 21% prevalence rate of undiagnosed PTSD among patients with SUDs. This is notably lower than the 42.7% rate found in our study. In the Nigerian study's 38-person sample, the prevalence rate of PTSD in females was higher at 33.3% than in males at 20%. The PTSD Civilian Checklist (PCL-C) was used for assessment. The higher rates of PTSD in females than males are also documented in this study and are often attributed to the types of traumas that the genders experience.

Different studies in Africa also reported a lower prevalence of PTSD compared to the findings of this study. Conducted in Uganda, East Africa from 2018 to 2020, the study employed the Primary Care PTSD Screening for DSM 5 (P C – PTSD 5) as a screening tool. In that study, the prevalence rate of PTSD was reported as 20.7% (Kekibiina et al., 2021).

The findings of this study closely align with a study carried out by Jaguga et al. (2022) at the Moi Teaching and Referral Hospital Rehabilitation Centre in Eldoret, Kenya. In that study, the prevalence of 41.5% was reported for PTSD and determined using the MINI questionnaire across a sample of 50 patients.

The study records a high prevalence of Comorbid PTSD in SUD patients. It recommends that treatment guidelines for the treatment of co-occurring PTSD and SUD be improved and individualized to improve treatment outcomes. Further, ensuring an integrated approach to care, in which healthcare providers, social services, and community organizations, work together is vital.

Conclusions

For individuals with comorbid PTSD and SUD, it is crucial to employ a dual-diagnosis treatment strategy. Treatment is created expressly to address both problems jointly instead of addressing each disorder individually. Patients, who receive therapy in a sequential manner, where SUDs are addressed before PTSD, run the risk of relapsing or quitting because they are unable to manage the symptoms of PTSD. Results from clinical trials indicate that addressing PTSD symptoms can lead to a reduction in SUDs simultaneously. Moreover, what appears to be crucial is the utilization of SUD treatment, rather than the quantity of utilization. It is suggested that improvements in PTSD symptoms, regardless of the specific treatment approach could potentially encourage individuals to seek treatment for their SUD alongside PTSD.

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