

**FULL PAPER**

# The frequency and characteristics of comorbidity symptoms of PTSD in patients with substance use disorder in Ibn-Rushud hospital in Baghdad/Iraq

Jasim Al-Musawya<sup>a</sup> | Emad Abdulrazaq Abdulghani<sup>b</sup> | Hala Raad Mahmood<sup>c</sup> | Osamah Abbas Jabir<sup>c</sup> | Abdul Amir H. Kadhum<sup>d,\*</sup>

<sup>a</sup>Consultant Psychiatrist, College of Medicine, University of Warith Al-Anbiyaa, Karbala, Iraq

<sup>b</sup>National Adviser for Mental Health, Consultant Psychiatrist, Ministry of Health, Baghdad, Iraq

<sup>c</sup>Specialist Psychiatrist, Ibn Rushud Training Hospital, Baghdad, Iraq

<sup>d</sup>College of Medicine, University of Al-Ameed, Karbala, Baghdad, Iraq

In humans, post-traumatic stress disorder (PTSD) and substance use disorder (SUD) are very closely related, both are chronic and relapsing disorders and share some comparable symptoms, such as anxiety, insomnia, hyperarousal, social isolation, and emotional numbing, this leads to more treatment sessions, poorer treatment outcomes, longer duration of substance use, and more relapsing episodes. The aim of this study is to determine the frequency of concurrent PTSD in patients complaining from SUD, and to identify the characteristics and severity of trauma experienced. A cross-sectional study examines the frequency of co-occurring PTSD symptoms for 50 patients admitted to the Ibn-Rushud Psychiatric Training Hospital in Baghdad from January to April 2022. Patients with SUD had been diagnosed by psychiatrists according to (ICD 10) criteria, and were interviewed about traumatic experiences using the CAPS (Clinician-Administered PTSD Scale), which is reliable and used by most of the psychiatrists globally. 22% of patients with SUD have very high and high PTSD symptoms, especially the arousal, reactivity, and avoidance symptoms which are more prevalent in tramadol abusers and proportional to the long duration of abuse. There is a high rate of comorbidity between the occurrence of PTSD and SUD. Symptoms that cause excessive alertness and response that include, being susceptible to shock, experiencing difficulty sleeping, feeling tense or irritable, and struggling with concentration are the commonest symptoms, which result in poorer treatment outcomes, longer duration of substance use, and more treatment episodes.

**\*Corresponding Author:**

Abdul Amir H. Kadhum

Email: [amir1719@gmail.com](mailto:amir1719@gmail.com)

Tel.: + 9647717173582

**KEYWORDS**

Addiction; post-traumatic stress disorder; substance use disorder; comorbidity symptoms.

**Introduction**

There is a high rate of comorbidity clearly exists between the diagnoses of post-traumatic stress disorder (PTSD) and substance use disorders (SUDs). The research studying PTSD and SUD in Iraq is missing. When compared to either disorder alone, (SUDs) and (PTSD) usually co-occur as comorbid conditions, and

are linked to a more complicated and expensive clinical course, including worse treatment adherence, increased chronic physical health problems, less social interaction, increased suicide attempt rates, more potential for violence, greater legal problems and lessening of progress with therapy [1].

Both illnesses are recurring and chronic, and both have extremely well-known causative elements. Exposure to unique, opposite-extreme circumstances can be classified as either extremely unpleasant (trauma) or highly encouraging (happiness) (which is the effect of abusing drugs), both these situations could cause both disorders [2]. There are high rates of substance use disorders among veterans with mental illness. The highest rates of comorbidity occur among those with bipolar disorder and schizophrenia, and in post-VET veterans [3]. According to NCS data, the prevalence of PTSD throughout a lifetime was 7.8% while the overall SUD prevalence was 26.6%. Individuals with PTSD were 2 to 4 times were found to meet the diagnosis of SUD than those who do not have PTSD [4].

In addition, patients with PTSD were up to 14 times more likely to suffer SUDs than those who do not have PTSD [5,6]. The high-risk hypothesis indicates that the lifestyle of a substance abuser, which usually includes spending a lot of time in risky situations or taking part in risky activities related to getting or using drugs or alcohol may make it more likely for someone to go through a traumatic experience and go on to acquire PTSD [7].

The theory of susceptibility suggests that poor coping mechanisms and the increased alertness and anxiety that typically follow prolonged substance use may increase physiological sensitivity to PTSD development after exposure to trauma [8]. There is some evidence that other shared elements could result in the concomitant development of PTSD and SUD, even if this is not the dominant theoretical viewpoint. Genetics and environmental variables are some of the plausible causes that have been examined [9,10]. Both disorders have certain symptoms in common, such as emotional numbing, anxiety, sleep issues, hyper-alertness, and social isolation. Furthermore, they have a similar genetic vulnerability to the D2 receptor and share risk variables such as difficult life experiences, negative impact, and having

previously experienced another psychological disorder [11].

The individuals who suffer from both SUD and PTSD more frequently exhibit the risk of various mental disorders (like anxiety and depression), societal dysfunction, unemployment, cognitive impairment, elevated mortality and morbidity, and social impairment [12-14]. The healthcare system is also severely financially burdened by this complicated comorbidity since it leads to worsened treatment results, extended periods of drug consumption, and additional episodes of treatment [15,16]. The brain's reward pathway deregulation occurs in PTSD and SUD [17].

It is also crucial to remember that these two diseases are sensitive to cues related to the trauma or chemical that caused the pathology. Patients tend to avoid these cues in both scenarios, because, in those with PTSD and SUD, they are known to bring on intrusive flashbacks of trauma. These cues (as well as typical physiological dysfunctions) can lead to the related disease relapsing even after remission or prolonged abstinence. We propose that these two illnesses are brought on by over-sensitivity to reminders, and memory reactivation [18], studies demonstrated the necessity and possible advantages of treating PTSD and SUD together [6,19].

## Aims

This study aims to determine the frequency of concurrent PTSD in patients complaining from SUD and to identify the characteristics, and severity of trauma experienced.

## Method

Cross-sectional research involving 50 patients with substance use disorders, all abstinent from the substance and in a detoxification state, and were interviewed about traumatic experiences using the CAPS (Clinician-Administered PTSD Scale), which was

translated to (Arabic) and was reliable, valid, and brief standard instrument for assessing post-traumatic stress disorder [20]. All the patients admitted to the substance abuse sector in Ibn-Rushud Psychiatric Training Hospital in Baghdad from January to April 2022 are selected for the study. Patients with substance use disorder had been diagnosed by psychiatrists according to (ICD 10) criteria. Before the interview, the consent and the approval from all of the patients which wanted to participate in the study had been completed including confidentiality and privacy for all the information and data which will be used in this study.

#### *Inclusion criteria*

1. All the patients admitted to the substance abuse sector in Ibn-Rushud Psychiatric Training Hospital in Baghdad from the 1<sup>st</sup> of

January to the 30<sup>th</sup> of April 2022 are selected for the study.

2. Patients with SUD who had been diagnosed by psychiatrists according to (ICD 10) criteria, who gave the consent and wanted to participate in the study.

#### *Exclusions criteria*

1. The patients who refused to participate in the study and
2. The hostile and uncooperative patient

#### **Results**

The results presented in this work which was conducted in Ibn-Rushud Psychiatric Training Hospital in Baghdad revealed an interesting parameter of PTSD and substance use disorders co-occurring as listed in Tables 1, 2 and 3.

**TABLE 1** The social demographic state of patients with SUD

<b>Social Demographic state</b>			
Marital status	Married	30	60%
	Single	19	38%
	Divorced	1	2%
	Widowed	0	0%
Educational level:	Illiteracy	1	2%
	Reading and writing	3	6%
	Primary	34	68%
	Intermediate	9	18%
	Secondary	3	6%
Economic state	College	0	0%
	Poor	3	6%
	Middle	46	92%
Period of addiction	Good	1	2%
	Less than 1 year	7	14%
	(1-3) years	13	26%
	(3-5) years	12	24%
Type of substance	Over 5 years	18	36%
	Methamphetamine (crystal)	35	70%
	Alcohol	11	22%
	Psychotropic	2	4%
Causes of addiction	Tramadol	2	4%
	Psychological	15	30%
	Social	20	40%
	Economic	3	6%
Age (year)	Cultural	12	24%
	(15-25)	21	42%
	(26-35)	20	40%

	(36-45)	6	12%
	Over 45	3	6%
Treated before from psychological disorder	NO	47	94%
	Yes	3	6%
The number of attempts to stop	No	49	98%
using and treatment	Twice	3	6%
Can you stop using drugs and psychotropic substances	Three times	1	2%
	Yes	50	100%
	No	0	0%

**TABLE 2** High and very high impact in relation to the social demographic state of patients with SUD

Age	15-25=4	36%	19%
	26-35=5	45.5%	25%
	36-45=1	9%	16%
	More than 45=1	9%	16%
Educational level	Illiteracy=0		
	Reading and writing=3	27.3%	100%
	Primary=5	45.4%	68%
	Intermediate=3	27.3%	33%
	Secondary=0		
Economic status	Poor=2	18.2%	66.7%
	Middle=9	81.8%	19.5%
	Good=0		
Period of addiction	Less than 1 year=0		
	(1-3) year=2	18.2%	15.4%
	(3-5) year=2	18.2%	16.6%
	More than 5 year=7	63.6%	38.8%
	(Crystal)= 6	54.5%	17.1%
	Alcohol=3	27.3%	27.2%
Type of substance	Tramadol=2	18.2%	100%
Causes of addiction	Psychological=3	27.3%	20%
	Social=3	27.3%	15%
	Economic=1	9%	33.3%
	Cultural=4	36.4%	33.3%
Very high and high impact	Avoidance	Always and usually = 82%	
	Emotions intrusion	Very High and High= 55%	
	Hyper arousal	High =82%	
Usual impact	Avoidance	Always and usually= 39.5%	
	Emotions intrusion	Very High and High= 3%	
	Hyper arousal	High = 6%	
Has no impact	Avoidance	Always and usually = 16.7%	
	Emotions intrusion	Very High and High= 0%	
	Hyper arousal	High= 0%	

## Discussion

The results of this study revealed that about 70% of the patients diagnosed as SUD were amphetamine abusers compared to a previous Iraqi study which was 48% [21]. The prevalence of very high and high impact of PTSD symptoms among the sample was 22%,

in comparing with study among patients seeking treatment for SUDs which approximately 36% to 50% meet criteria for lifetime PTSD [22]. In another study, patients receiving residential treatment for substance use disorders who investigated regarding substance use and trauma, the PTSD prevalence, as measured with the CAPS, was

25.4% current and 46.2% lifetime in Dutch [23]. A clinical patient population with substance use disorder (SUD) in the UK showed a high prevalence of co-morbid PTSD, ninety-four per cent of participants said they met one or more of PTSD criterion A for traumatic experiences, 38.5% met the criteria for current PTSD, 51.9% satisfied the criteria for lifelong PTSD. Significant differences between the PTSD and non-PTSD groups were found (Martina Reynolds 1) [24].

High impact group in our study which is consistent with McCauley, had PTSD symptoms that cause excessive alertness and response, being susceptible to shock, experiencing difficulty sleeping, feeling tense or irritable, and struggling with concentration are the commonest symptoms (82%). According to a study, some of the withdrawal symptoms from drugs may be similar to those of post-traumatic stress disorder, such as sleeping issues, having trouble focusing, sensations of disassociation, and agitation, as a result, the individual may utilize once more to remedy the symptoms, beginning reinforcing cycle that can lead to addiction [25]. Symptoms of avoidance like keeping outside of anything it brings to remember the painful event, feeling of emotional numbness, guilty, down, or anxious, and losing the interest in past hobbies is the second most frequent high-impact PTSD sign 82%. Findings in other studies indicate that veterans seeking residential substance misuse treatment frequently experience increased physiological sensitivity, emotional avoidance, and a sense of uncontrollability [26]. Intrusion memory which includes flashbacks, which frequently cause sweating, a racing pulse, and terrifying nightmares is composed of 55% of the high-impact PTSD symptoms. Drug use was more strongly associated with re-experiencing as well as avoiding or numbing components of PTSD, in contrast to (McFall) study [27].

Given its distinctive mechanism of action and capacity to serve as an analgesic for mild to moderate pain, tramadol treatment for combat-related symptoms goes against our

study's finding that it has relatively low abuse potential, which also included 18% of the patient sample suffering from high impact PTSD symptoms [28]. Likewise, another finding of a high correlation between the very high and high impact of PTSD symptoms with the increased duration period of addiction of more than 5 years shows 63.3% of the victims with high impact and composed 38.8% from the whole sample.

## Conclusion

There is a high rate of comorbidity between the occurrence of the diagnosis of PTSD and substance use disorders, this may need for forthcoming research. Symptoms that cause excessive alertness and response (hyper arousal) include, being susceptible to shock, experiencing difficulty sleeping, having fits or outbursts of wrath, feeling tense or irritable, and struggling with concentration are the commonest symptoms (82% in the high impact group) which result in poorer treatment outcomes, longer duration of substance use, and more relapsing episodes.

## Acknowledgements

All authors acknowledge the support of the Ibn-Rushud Hospital authority as well as the University of Warith Al-Anbiyaa and the University of Al-Ameed for the support

## Recommendation

All patients with SUD should undergo thorough screening for trauma and PTSD; and referrals should be made for concurrent SUD-PTSD therapy, if available, or for psychological counseling with the recommendation that PTSD be addressed.

## Funding

This work is not funded by any institution.



## Authors' Contributions

All authors equally contributed

## Conflict of Interest

The authors declared that there is no conflict of interest in this article.

## Consent for publication

The authors consent to the publication of the article.

## Data availability

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

## List of abbreviations

PTSD: Post-traumatic stress disorder

SUD: Substance use disorder

NCS data: National comorbidity survey

D2 receptor: Dopamine 2 receptor

ICD 10: International Classification of Diseases, Tenth Revision

CAPS: Clinician-Administered PTSD Scale

## Orcid:

Jasim Al-Musawy:

<https://orcid.org/0000-0003-1229-5486>

Emad Abdulrazaq Abdulghani:

<https://orcid.org/0009-0009-0452-995X>

Hala Raad Mahmood:

<https://orcid.org/0009-0004-3955-0410>

Osamah Abbas Jabir:

<https://orcid.org/0009-0001-2348-2909>

Abdul Amir H. Kadhum\*:

<https://orcid.org/0000-0003-4074-9123>

## References

[1] J.L. McCauley, T. Killeen, D.F. Gros, K.T. Brady, S.E. Back, Posttraumatic stress disorder and co-occurring substance use disorders: Advances in assessment and treatment, *Clinical*

*Psychology: Science and Practice*, **2012**, *19*, 283. [Crossref], [Google Scholar], [Publisher]

[2] R.C. Kessler, A. Sonnega, E. Bromet, M. Hughes, C.B. Nelson, Posttraumatic stress disorder in the National Comorbidity Survey. In *Fear and Anxiety* Routledge, **2013**, 22-34. [Google Scholar], [Publisher]

[3] I.L. Petrakis, R. Rosenheck, R. Desai, Substance use comorbidity among veterans with posttraumatic stress disorder and other psychiatric illness, *The American Journal on Addictions*, **2011**, *20*, 185-189. [Crossref], [Google Scholar], [Publisher]

[4] K.T. Brady, S.E. Back, S.F. Coffey, Substance abuse and posttraumatic stress disorder, *Current Directions in Psychological Science*, **2004**, *13*, 206-209. [Crossref], [Google Scholar], [Publisher]

[5] J.L. McCauley, T. Killeen, D.F. Gros, K.T. Brady, S.E. Back, Posttraumatic stress disorder and co-occurring substance use disorders: Advances in assessment and treatment, *Clinical Psychology: Science and Practice*, **2012**, *19*, 10. [Crossref], [Google Scholar], [Publisher]

[6] J.D. Ford, E.M. Russo, S.D. Mallon, Integrating treatment of posttraumatic stress disorder and substance use disorder, *Journal of Counseling & Development*, **2007**, *85*, 475-490. [Crossref], [Google Scholar], [Publisher]

[7] H.D. Chilcoat, N. Breslau, Investigations of causal pathways between PTSD and drug use disorders, *Addictive Behaviors*, **1998**, *23*, 827-840. [Crossref], [Google Scholar], [Publisher]

[8] L.K. Jacobsen, S.M. Southwick, T.R. Kosten, Substance use disorders in patients with posttraumatic stress disorder: a review of the literature, *American Journal of Psychiatry*, **2001**, *158*, 1184-1190. [Crossref], [Google Scholar], [Publisher]

[9] K.T. Brady, S.E. Back, S.F. Coffey, Substance abuse and posttraumatic stress disorder, *Current Directions in Psychological Science*, **2004**, *13*, 206-209. [Crossref], [Google Scholar], [Publisher]

[10] L. Khoury, Y.L. Tang, B. Bradley, J.F. Cubells, K.J. Ressler, Substance use, childhood

- traumatic experience, and posttraumatic stress disorder in an urban civilian population, *Depression and Anxiety*, **2010**, *27*, 1077-1086. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [11] N.M. Enman, K. Arthur, S.J. Ward, S.A. Perrine, E.M. Unterwald, Anhedonia, reduced cocaine reward, and dopamine dysfunction in a rat model of posttraumatic stress disorder, *Biological Psychiatry*, **2015**, *78*, 871-879. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [12] C. Blanco, Y. Xu, K. Brady, G. Pérez-Fuentes, M. Okuda, S. Wang, Comorbidity of posttraumatic stress disorder with alcohol dependence among US adults: Results from National Epidemiological Survey on Alcohol and Related Conditions, *Drug and Alcohol Dependence*, **2013**, *132*, 630-638. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [13] B.P. Marx, K. Brailey, S.P. Proctor, H.Z. MacDonald, A.C. Graefe, P. Amoroso, T. Heeren, J.J. Vasterling, Association of time since deployment, combat intensity, and posttraumatic stress symptoms with neuropsychological outcomes following Iraq war deployment, *Archives of General Psychiatry*, **2009**, *66*, 996-1004. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [14] R.H. Pietrzak, R.B. Goldstein, S.M. Southwick, B.F. Grant, Prevalence and Axis I comorbidity of full and partial posttraumatic stress disorder in the United States: Results from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions, *Journal of Anxiety Disorders*, **2011**, *25*, 456-465. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [15] A. Bowe, R. Rosenheck, PTSD and substance use disorder among veterans: Characteristics, service utilization and pharmacotherapy, *Journal of Dual Diagnosis*, **2015**, *11*, 22-32. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [16] P.C. Ouimette, P.J. Brown, L.M. Najavits, Course and treatment of patients with both substance use and posttraumatic stress disorders, *Addictive Behaviors*, **1998**, *23*, 785-795. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [17] W. Schultz, Book review: Reward signaling by dopamine neurons, *The Neuroscientist*, **2001**, *7*, 293-302. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [18] P. Gisquet-Verrier, C. Le Dorze, Post traumatic stress disorder and substance use disorder as two pathologies affecting memory reactivation: implications for new therapeutic approaches, *Frontiers in Behavioral Neuroscience*, **2019**, *13*, 26. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [19] S.H. Stewart, R.O. Pihl, P.J. Conrod, M. Dongier, Functional associations among trauma, PTSD, and substance-related disorders, *Addictive Behaviors*, **1998**, *23*, 797-812. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [20] E.B. Foa, D.S. Riggs, C.V. Dancu, B.O. Rothbaum, Reliability and validity of a brief instrument for assessing post-traumatic stress disorder, *Journal of Traumatic Stress*, **1993**, *6*, 459-473. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [21] E.A. Abdulghani, J. Al-Musawy, O.A. Jabir, Scenario of narcotic types and addiction in Iraq, *European Journal of Molecular & Clinical Medicine (EJMCM)*, **2020**, *7*, 5111-5124. [[Google Scholar](#)], [[Publisher](#)]
- [22] K.T. Brady, S.E. Back, S.F. Coffey, Substance abuse and posttraumatic stress disorder, *Current Directions in Psychological Science*, **2004**, *13*, 206-209. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [23] T. Kok, H.A. de Haan, H.J. van der Velden, M. van der Meer, L.M. Najavits, C.A. de Jong, Validation of two screening instruments for PTSD in Dutch substance use disorder inpatients, *Addictive Behaviors*, **2013**, *38*, 1726-1731. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [24] M. Reynolds, G. Mezey, M. Chapman, M. Wheeler, C. Drummond, A. Baldacchino, Comorbid post-traumatic stress disorder in a substance misusing clinical population, *Drug and Alcohol Dependence*, **2005**, *77*, 251-258. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]
- [25] J.L. McCauley, T. Killeen, D.F. Gros, K.T. Brady, S.E. Back, Posttraumatic stress

disorder and co-occurring substance use disorders: Advances in assessment and treatment, *Clinical Psychology: Science and Practice*, **2012**, 19, 283. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]

[26] J.P. Forsyth, J.D. Parker, C.G. Finlay, Anxiety sensitivity, controllability, and experiential avoidance and their relation to drug of choice and addiction severity in a residential sample of substance-abusing veterans, *Addictive Behaviors*, **2003**, 28, 851-870. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]

[27] M.E. McFall, P.W. Mackay, D.M. Donovan, Combat-related posttraumatic stress disorder and severity of substance abuse in Vietnam veterans, *Journal of Studies on Alcohol*, **1992**, 53, 357-363. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]

[28] Thomas D Geraciotti. Tramadol treatment of combat-related posttraumatic stress disorder, *Annals of Clinical Psychiatry*, **2014**, 26, 217-221. [[Crossref](#)], [[Google Scholar](#)], [[Publisher](#)]

**How to cite this article:** Jasim Al-Musawy, Emad Abdulrazaq Abdulghani, Hala Raad Mahmood, Osamah Abbas Jabir, Abdul Amir H. Kadhum, The frequency and characteristics of comorbidity symptoms of ptsd in patients with substance use disorder in Ibn-Rushud hospital in Baghdad/Iraq. *Journal of Medicinal and Pharmaceutical Chemistry Research*, 2024, 6(8), 1079-1086. **Link:** [https://jmpcr.samipubco.com/article\\_192265.html](https://jmpcr.samipubco.com/article_192265.html)