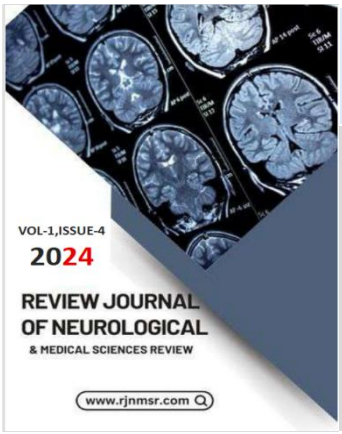

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Psychological Risk Factors Associated with Opioid Dependence in Peshawar, Pakistan

Dr. Kashif Ahmad[1]

Post Graduate Resident at Khyber Teaching Hospital, Peshawar-at ahmadkashif195@gmail.com

Dr. Shah Fahad[2]

Post Graduate Resident at Khyber Teaching Hospital, Peshawar-shahfahad5500@gmail.com

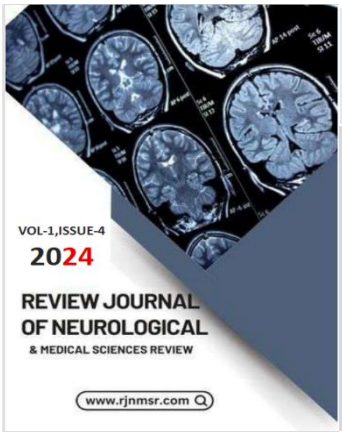
Dr. Sajid Usman Shah

Post Graduate Resident at Khyber Teaching Hospital-Sajidusman252@gmail.com

Abstract

Opioid dependence has become an issue for healthcare professionals. The issue is also found in Peshawar due its proximity to drug trafficking routes and sociopolitical instability. Aim of this research was check the association of psychological factors like trauma, anxiety, depression and stress with opioid dependence among individuals in rehabilitation centers in Peshawar city. It was cross-sectional research comprised of 200 participants selected through purposive sampling. PTSD Checklist for DSM-5 and the DASS-21, were administered to assess participants' psychological profiles. Opioid dependence and the psychological risk factors were also confirmed through face-to-face interview. Data analysis was performed through SPSS version 24. Trauma was the most significant psychological factor associated with opioid dependence. Individuals with traumatic history were found highly opioid dependent while there was moderate association among anxiety, stress and opioid dependence. Weak association reported between depression and opioid dependence. The findings highlight the need for targeted mental health interventions in addiction treatment, focusing on trauma-informed care to mitigate opioid misuse. This study contributes to the limited research on psychological risk factors for opioid dependence in Pakistan. in future the researchers are required explore other psychological risk such as suicidal ideation, antisocial behavior, and coping strategies.

Key Words: Trauma, Depression, Anxiety, Stress, Opioid dependence



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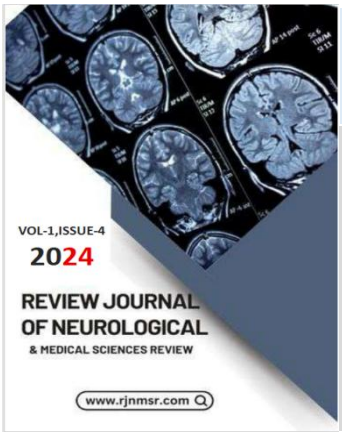
INTRODUCTION

Opioid is a group or class of drugs used to reduce pain from moderate to severe level. They are either natural, semi-synthetic, or synthetic chemicals. These chemicals interact with opioid receptors in the body and brain to reduce perception of pain. It is made in a laboratory or derived from natural opium poppy plant (Shipton, Shipton & Shipton, 2018). Mechanism of action of this class of drug is to block pain signals by binding to opioid receptors. Bonding with these receptors is taking place on nerve cells in the brain, spinal cord, gastrointestinal tract, and other organs in the body (Inturrisi, 2002). Drugs from this class reduces pain perception and also causing drowsiness, loss of attention, confusion, nausea, euphoria and constipation while, in-case of high doses they can slow down breathing which can lead to death. Opioid use disorder is similar to other substance use disorders in many respects like signs, symptoms and withdrawal (Strang et al, 2020; Zaman et al, 2024). Opioid dependence has become a significant public health concern in Pakistan, especially in areas like Peshawar near to drug trafficking routes and the region's sociopolitical instability (Hassan et al, 2021).

Diversification in research the researchers are trying to discover and expose more and more factors leading to opioid dependence (Evans & Cahill, 2016). However, one of the important areas is psychological risk factors, which can contribute to the aforementioned issue still need to be explored. Some cultural and geographic context are also contributing to opioid addiction and dependence (Keyes et al, 2014; Thomas, Van de Ven & Mulrooney, 2020). Psychological risk factors like anxiety, trauma, depression, stress and coping strategies can play significant role in the initiation, maintenance, and exacerbation of opioid dependence (Kiani, Ahsan & Khattak, 2024; Manchikanti et al, 2007).

Pain has multiple factors including both physiological and psychological. This phenomenon is known as biopsychosocial dimensionality of chronic pain. It is like a combination of physiological sensation and psychological state (Nummenmaa & Tuominen, 2018). Chronic pain comprised of physical as well as behavioral, cognitive and emotional features. Abundant of researchers reported the association of chronic pain with psychological correlates (Vadivelu et al, 2017; Burri et al, 2015; Reis et al, 2019). Major depression was found more prevalent as compare to anxiety and somatoform disorders among those suffering from chronic pain or taking opioids from long time (Feingold et al, 2017; Van Rijswijk et al, 2019; Katz, Rosenbloom & Fashler, et al, 2015). The problem is due to persistent use of



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opioid medications for chromic and intolerable pain. Researchers reported that use and misuse of opioid medication is influenced by multiple risk factors. The factors include both individual and the environment (Kinnaird et al, 2019; Carpenter, Acuff & Meshesha, 2023).

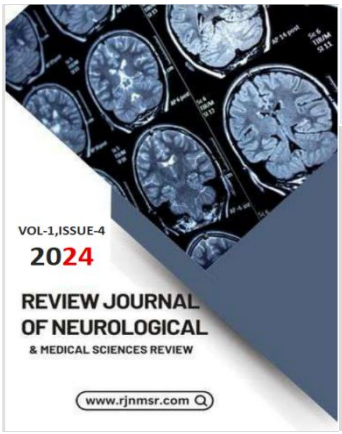
One of the research studies indicated that opioid addicts with in the United States manifest suggestively higher levels or proportion of psychopathological issues than addicts from other ethnic groups. some researchers tied opioid dependence with criminal behavior and suicidality (Santoro & Santoro, 2018; Norco et al, 1997; Wu et al, 2010). Some individuals with some specific health or physical conditions are found more sensitive and exposed opioid dependence like old age, COPD, asthma, sleep apnea etc. On the other hand, some individuals some special health or physical conditions are found at high risk of opioid misuse (Nurco et al, 1997; Manchikanti et al, 2007). These conditions include younger adults, psychological issues like depression, PTSD, anxiety, stress, use or misuse of psychoactive substances etc. Drugs from the opioid group are found with highly-addictive properties, they pose a substantial risk of addiction and overuse (Webster, 2017). Numerous psychological risk factors can be studied with opioid use disorders including suicidal thought, criminal behavior, antisocial behavior, coping strategies, violent behavior, aggressive behavior and uncertainty in life (Hassan et al, 2021).

The current research study aims to examine and assess some psychological risk factors like trauma, depression, anxiety and stress and their association with opioids dependance in Peshawar region. This research will identify the association between the mentioned psychological factors and the severity of opioid dependence. The research will also paved way to future researchers to contribute in this area while exploring some more variables like suicidal thought, criminal behavior, antisocial behavior, coping strategies, violent behavior, aggressive behavior and uncertainty in life.

METHODOLOGY

Participants

Sample for the current study was selected from private rehabilitation and addiction treatment centers located in Peshawar. 200 participants were taken by using purposive sampling through specified inclusion and exclusion criteria. Age ranges from 18 and above and were divided into two categories (from 18-40, 40 and above). Socioeconomic status and education level of the participants were different. Participants were from different areas of the



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Khyber Pakhtunkhwa, however they were here living or admitted to different rehab settings in Peshawar city.

Research Design

The current research study was completed by utilizing cross-sectional research design to assess different psychological factors among those dependent on opioids from Peshawar city.

INSTRUMENTS

Demographic Data Sheet

Demographic data sheet was used to gather demographic information of the research participants including age, gender, education, socioeconomic status and family history etc. The information was utilized while devising inclusion and exclusion criteria for this study.

The PTSD Checklist for DSM-5 (PCL-5)

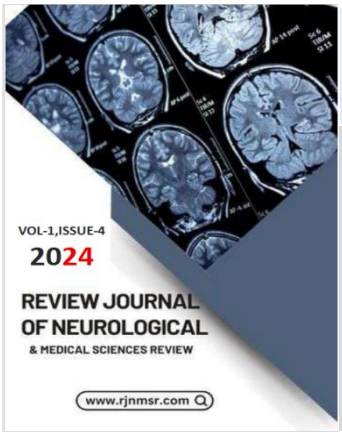
The scale contains 20-items. It is a self-report measure that is used to assesses the 20 *DSM-5* symptoms of PTSD and need 5-10 minutes to complete. The scale may be utilized to monitor symptoms and changes during and after treatment, 2nd the scale is also used for screening and diagnosis individuals for PTSD. Responses are recorded on four-point Likert Scale ranges from 0 (not at all) to 4 (extremely) and the overall score ranges from 0-80. It indicates the level or degree to which they are experiencing the symptoms over the past week (if using the PCL-5 weekly) or over the past month. The scale has (α = .94 to .96) internal consistency (Blevins et al., 2015; Bovin et al., 2016).

Depression, anxiety and Stress Scale (DASS-21)

DASS-21 is a self-report questionnaire containing 21 items and it is used to assess the severity level of symptoms found in depression, anxiety and stress. The presence of symptoms in individual is checked over the previous week. Responses on each item is scored from 0-3. 0 indicates Did not apply to me at all – NEVER and 3 indicates Applied to me very much, or most of the time - ALMOST ALWAYS. Each domain of the scale is composed of 7 items. The test needs 5-10 minutes to complete. Overall, the scale has good-to-excellent internal consistency (Cronbach's alpha for each subscale ranges from 0.96,0.89,0.93 (Osman et al, 2012; Gloster et al, 2008).

Data Collection, Analysis and Results

Data was collected through standardized questionnaires and confirmed through history taking by trained professionals. 40-45 minutes were taken by



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each participant to complete questionnaires and interview. The gathered data was entered into SPSS data sheet. Data analysis was performed through SPSS Version 24. Descriptive and inferential statistics was used for the summarization of the data including demographics and other variables according to the required format.

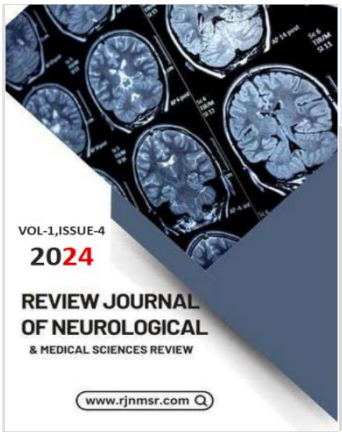
Table 1. Demographics

Factors	Categories	N	Responses & Percentage % (Opioid Dependence)			
			Yes	%	No	%
Age	Below 45 years	61	29	47.54	32	52.46
	Above 45 years	139	71	51.08	68	48.92
Gender	Male	62	23	37.09	39	63.91
	Female	138	60	43.47	78	56.53
Education	Educated	79	21	26.58	58	73.42
	Illiterate	121	47	38.84	74	61.16
History of Major Operations (Post-operative)	Yes	117	49	41.88	68	58.12
	No	83	19	22.89	64	77.11

Table 1 reports the opioid dependence related to different demographic and clinical variables. It is reported that individual with higher age group (51.08%) were found opioid dependent while individuals below 45 were (47.54%) found opioid dependent. On the variable gender differences females (43.47%) were found opioid dependent as compared to males (37.09%). Educated individuals (26.58%) were found less opioid dependent as compare to illiterate (38.84%). History of major operations was found highly associated with opioid dependence (41.88%) as compared to those without operative history (22.89%).

Table 2. Psychological Risk factors and opioid dependence

Factors	Categories	N	%	Responses & Percentage % (Opioid Dependence)			
				Yes	%	No	%
Trauma	Yes	33	16.5	23	69.69	10	30.31
	No	167	83.5	28	17.39	133	82.60
Depression	Yes	20	10	05	50	05	50
	NO	180	90	21	11.66	159	88.34
Anxiety	Yes	23	11.5	12	52.17	11	47.83



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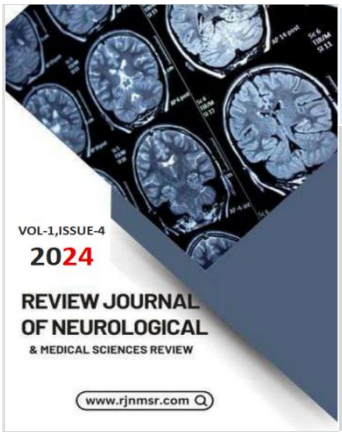
	No	177	88.5	23	12.99	154	87.01
Stress	Yes	17	8.5	09	52.94	08	47.06
	No	183	91.5	23	12.56	160	87.43

Table 2 presented data associated with all variables including trauma, depression, anxiety, stress and opioid dependence reported among the participants. 16.5% of the whole sample was found with trauma history, among those with trauma history 69.69% were found using opioids from long time, while 30.31% were found free from opioid use disorder. On the other hand, participants without trauma history only 17.39% were found opioid dependent. 10% of the whole sample was diagnosed with depression among them 50% were also opioid dependent, 90% of the whole population were not found with depression history but having some other disorders. Among these respondents without depression 11.66% reported with opioid use disorder. The table also denotes that 11.5% of the whole sample were diagnosed for anxiety among these 52.17% had opioid dependence, compared to 47.83% without dependence. Among anxiety free participant 12.99% were diagnosed for opioid dependents. 8.5% of the whole sample having history of stress among those 52.94% diagnosed for opioid use disorder, while in respondents having no stress history 12.56% reported opioid dependence.

Discussion

The study was expected to assess the association among psychological correlates like trauma, depression, anxiety, stress and opioid dependence in Peshawar, Pakistan. Trauma was found the most important psychological risk factors and high prevalence and association with opioid dependence. Results of this current research reveal that childhood trauma is a significant facto contributing to opioid dependence. The results are found associated with the results of the Australian survey conducted by Lawson and colleagues in 2013. 80.5% of the respondents who were seeking treatment as opioid dependent were found with a history of childhood sexual abuse, physical or emotional abuse, violent trauma and physical neglect (Koenen et al, 2005). On the other hand, vulnerability to traumatic issues was found common among those diagnosed with opioid use disorders. An Australian national survey reported very high rates of traumatic issues (87,8%) an individual's suffering from opioid use disorders (Sansone, Whitecar & Wiederman, 2009). Another research study reported high rate of adult smoking among those with a history of childhood trauma (Spratt et al, 2009).



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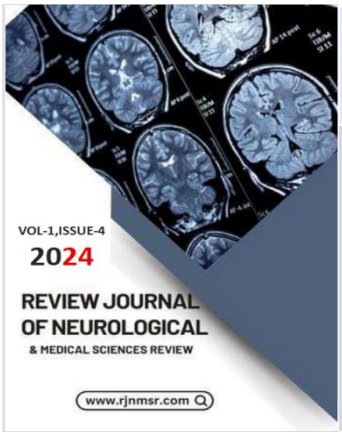
Results of the current study reported an association between depression and opioid dependence. Researchers with the same variables have reported variable association. Like severity of depression increases the likelihood of involving in opioid misuse. In some cases, this misuse is found like a non-pain symptom. Another research study reported that one third of patients using opioids from long term (opioids dependence) have co-occurring depression (Tumenta et al, 2021). Depression comorbidity is found almost in half of the individuals having opioid use disorder or opioid dependency (Rosoff, Smith & Lohoff, 2021; Semenkovich et al, 2014). Researchers reported high rates of anxiety among those diagnosed with opioid use disorder (opioid dependence). 60% of those Individuals diagnosed with opioid use disorders were also having signs and symptoms of lifetime anxiety-related disorder (Bouvier et al, 2018). The condition has become worse when these individuals shifted from opioid prescription to opioid use disorder (Conway et al, 2006; Karsinti et al, 2016). Opioid has many side effects including emotional, physical and mental symptoms. Prolong and consistent use opioid use can cause anxiety, but in some cases the people may experience anxiety as withdrawal symptom of opioid medication. Inappropriate use of opioid medication leads to opioid addiction (Lejuez et al, 2008; Karsinti et al, 2016).

Another research reported high rate of anxiety, depression and stress like symptoms among those dependent or using opioids from long term. People who take these drugs long term to treat chronic pain may have an increased risk of developing anxiety and stress. Concomitantly people develop dependence and they are feeling difficulty to stop opioids, when they are using from long term (MacLean, Armstrong & Sofuoglu, 2019). On the basis of current study results and other research studies we can say that stress can play a significant role in opioid dependence but some studies suggest that not all stress responses lead to increased drug-seeking behavior. However, the exact path of the association is unknown. Human epidemiological data suggest that exposure to stress is one of many risk factors for opioid misuse (kamens et al, 2023). Another study reported that stress significantly effects opioid dependence. This dependence is through the activation of endogenous opioid systems. This system activation leads to behaviors associated with addiction (Cataldo, Simone & Bodnar, 2024).

Conclusion of the Study

Trauma was found to have high association with opioid dependence while anxiety and stress have moderate effect on opioid use disorder. Depression was found with a weak association with opioid dependence in the mentioned sample.



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Implications of the Study

This research study provided important insights to guide health policy makers and healthcare professionals especially mental health professional to check comorbid condition while working with the patients of psychological issues or opioid use disorders. They are also required to device some important interventions and protocols to handle the comorbid conditions facing during their stay in the hospitals or rehab settings.

Ethical Considerations

Ethical approval was obtained from the research ethics board Dept. of Medicine Khyber Medical University before conducting this research. Informed consent was taken from all participants. Confidentiality of the information related to the participants was assured.

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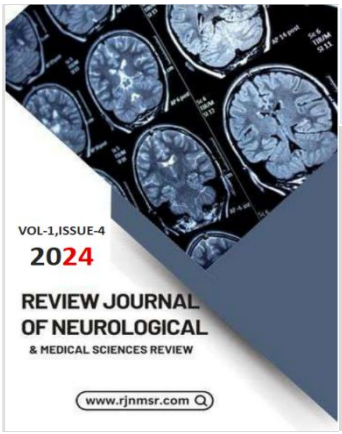

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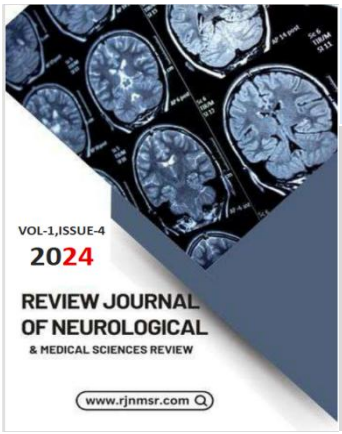

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