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Relationship Between Coping Strategies and Quality of Life with Mediating Role of Depression and Stigmatization among Patients with Opioid Use Disorder (OUD) With Relapse Condition

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ABSTRACT

The current study aims to investigate the relationship between coping strategies and quality of life (QOL) with the mediating role of depression and stigma among patients with opioid use disorder (OUD). In this correlational study, a total sample of 357 participants was taken from different hospitals and rehabilitation centers. The patients (20 to 65 years) who have a history of relapse at least once a time were included. with relapse condition. Demographic form, Patient Health Questionnaire-9 (PHQ-9), Brief Coping Inventory (BCI), WHO-Quality of Life Scale (WHO-QLS), and Perceived Stigma Scale were used. All the data were scrutinized, and the final data was assessed using SPSS version-26. The findings showed that the direct effect of coping strategies was a significant negative predictor of depression and stigma among patients with opioid use disorder-relapse conditions. Depression and stigma were found to be significant negative predictors of quality of life. Furthermore, the findings reveal that depression and stigma play significant mediating between coping and quality of life among patients with opioid use disorder-relapse condition. It is concluded that coping is a significant predictor of QOL and depression and stigma play significant mediating roles in the increase and decrease of the QOL among patients with OUD.

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1. Introduction

Relapse is one of the formidable challenges in the treatment of substance use disorders (SUDs) especially opioid use disorder (OUD) (Hayes et al., 2011) because of its complex, dynamic, and unpredictable characteristics (Reig et al., 2016). OUD is a prevalent mental health condition connected with mortality and morbidity (Morin et al., 2020). Opioid use disorder is described by the DSM 5-TR as "a pattern of opioid use that causes at least two or more of eleven difficulties during one year" (American Psychiatric Association, 2022). OUD is a condition that brings dysfunction and impairment among individuals. OUD has primary and secondary symptoms (Kosten & George, 2002) and these symptoms can be highly uncomfortable and can serve as a powerful motivator for relapse of opioid use. The secondary symptom of OUD is depression. Mental health problems frequently co-occur in persons with OUD (Jones & McCance-Katz, 2019). OUD is a very disabling psychiatric condition that is linked with functional impairment and an increased risk of mental health problems (McHugh et al., 2017). Comorbid psychiatric diseases enhance the likelihood of OUD (Rosic et al., 2017). Similarly, OUDs have a greater lifetime prevalence of mental disorders, including other substance use disorders (SUDs) (Santo et al., 2022). Comorbidity is associated with an elevated risk for OUD (Bogdanowicz et al., 2015).

Studies showed a correlation between depression diagnosis and later substance use outcomes was identified (Majeed et al., 2019). A co-occurring psychiatric disorder is related to

an increased likelihood of relapse, according to the current study. OUD is frequently accompanied by several other SUDs that result in psychiatric illnesses (depression and stigma) (Kember et al., 2023). Stigma against patients with SUDs and, by implication, OUD, is greater than stigma against other mental health issues (Barry et al., 2014). Due to stigma, patients with OUD become socially isolated and it also affects an individual's ability to secure employment, housing, and social support. Hence, they also face difficulties in seeking healthcare treatment or support to give up OUD which are risk factors for relapse (Taylor & Samet, 2022). Except for studies on opioid misuse, research on OUD and stigma and the influence of familiarity (with opioid use or the legal system) is minimal. (Kennedy-Hendricks et al., 2017). Findings indicate that patients with OUD hold a stigma which enhances the risk of relapse (Katz et al., 2013). For instance, a thorough analysis revealed a connection between patients' substance use and the severity of their psychiatric symptoms (Dargan & Wood, 2012and more recently, it was discovered that stigma and pre-treatment depressed symptoms were risk factors for OUD relapse and decreased quality of life (Shahzadi & Mahmood, 2023).

The term QOL refers to one's sense of happiness and well-being in all areas of their life. It includes a variety of elements that affect a person's well-being, happiness, and general contentment (Theofilou, 2013). The domain of social relationships, which evaluates a person's contentment with interpersonal connections and social support and emphasizes the social element of the OUDs, was affected in terms of *QOL* (Singh et al., 2018). Hence, some individuals have poor QOL as a result of weak coping strategies (Agnew, 2013). Coping strategies such as positive and negative coping techniques, are aimed to regulate the internal or external stressors, respectively(Corallo et al., 2018). Such as asking for assistance and solving problems are examples of positive coping, whereas negative coping involves using avoidance tactics and abusing substances to deal with the issue (Melodia et al., 2022). According to earlier studies, unhealthy coping mechanisms are linked to greater levels of addiction severity (Liu et al., 2020). People with OUD use avoidance-based coping styles because the reward system, emotional response system, physical response system, and decision-making system of the brain are compromised by excessive opioid use (Koob, 2015). Positive coping strategies are essential tools that individuals can develop and utilize to manage stress, navigate difficulties, and maintain well-being (Umucu et al., 2021). The adoption of these positive coping strategies, individuals can handle life's complexity with greater confidence and a heightened sense of empowerment, and lower the intensity of their addiction (Choi, 2017). The hypothesis of the study is "There would be a significant relationship between coping strategies and quality of life with mediating role of depression and stigmatization among patients with opioid use disorder (OUD) with relapse condition".

2. Methods

2.1. Research design

In this current study, a correlational research design was used to find out the relationship between coping strategies and quality of life with the mediating role of depression and stigmatization among patients with OUD with relapse conditions.

2.2. Participant

Initially, 400 participants were recruited for eligibility assessment using ASSIST. 357(89.25%) Patients met the study criteria, and 43(10.75%) participants were excluded because of multiple reasons. Participants who have a history of drug addiction with a relapse condition and currently they are currently under treatment were investigated from the different hospitals, rehabilitation centers, and primary care clinics of Faisalabad and Lahore in 06 months through a purposive sampling technique. Participants were recruited from the different hospitals, and rehabilitation centers of district Faisalabad and Lahore. The patient's age range was between 20 to 65 years. Patients were taken from any marital status and socioeconomic status.

2.3. Inclusion and Exclusion Criteria

The patient's age range was between 20 to 65 years. Patients were taken from any marital status and socioeconomic status. Participants would be diagnosed according to the DSM-V-TR. Participants with more than 4-time history of relapse and more than 5 years of history of illness were omitted. Respondents who had comorbid psychiatric and medical conditions were excluded.

2.4 Measures

2.4.1. Demographic Form (DF)

A detailed DF was used to gather patients' data i.e., patient age, education, family system, socioeconomic status, marital status, total number of family members, employment status, etc.

2.4.2. The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST)

It's a quick quiz to see if someone has ever experimented with or used psychoactive drugs. The ASSIST collects data on a user's lifetime substance use, recent substance use (within the past three months), substance-related difficulties, risk of harm (both immediate and long-term), dependency, and injectable drug usage. It consists of 8 items. Item 1 is further with 10 items which are based on the answers of yes or no. The construct validity of this scale is (r = 0.76).

2.4.3. Patient Health Questionnaire-9 (PHQ-9)

This tool is used to assess depression. The PHQ-9 asks participants to rate how frequently they have "been impacted by any of the following difficulties in the past two weeks," including the two fundamental symptoms of depression: anhedonia and depressed mood. The scoring showed four categories of depression, such as None, mild, moderate, severe, and extreme (20–27) depression are indicated by the scores. The PHQ-9 had a Cronbach's alpha of 0.91.

2.4.4. Perceived Stigma of Addiction Scale (PSAS)

The PSAS is formulated to evaluate stigma related to addiction (Luoma et al., 2010); Shahzad et al., 2021): Six of the eight PSAS items (1, 2, 3, 4, 6, 8) were reverse-scored. A score between 8 and 32 was calculated by adding the item scores; in which the high scores indicate a high level of perceived stigma. The scale has internal consistency, and good convergent and discriminant validity (D = 0.73).

2.4.5. Brief Cope Inventory (BCI)

The BCI investigates the coping mechanisms (Carver, 1997; Shahzad et al., 2020). The Coping Orientation to Problems Experienced (COPE) Inventory, intended to assess effective and poor coping strategies, is shortened into the Brief-COPE. This scale is divided the scale into three factors; 1. Problem-focused coping, 2. Emotion-focused coping, and 3. Avoidant coping.

2.4.6. World Health Organization Quality-of-Life Scale (WHO-QOL)

Patients with SUDs have verified its efficacy. The WHOQOL-BREF is a self-reported scale with a total of 26 items. Items 3 through 26 cover the 4 domains: physical, mental, social, and environmental. These are graded on a Likert scale from 1 (completely unsatisfied) to 5 (completely satisfied), with item 3 being backward coded. All areas of the instrument showed a reliability between.67 and.86.

2.5. Procedure

The procedure of the study was approved by the Ethical Research Committee (ERC) of Government College University, Faisalabad (GCUF). The following phase involved reaching out to patients and briefly outlining the goals and methods of the study. The patients were also informed that the information they got would be kept private and that their identity would never be revealed. The participants were then given the consent form by the researcher, who requested that they read it and sign it if they were willing to take part in the study. After completion of the assessment data was scrutinized and processed for further analysis and interpretations.

2.6. Statistical Analysis

All the computations were made using SPSS. Version 26. At the first stage data coding, missing data, and data analysis were made. Correlation statistics were used to assess the association among the variables. In addition, simple linear regression analysis was calculated to fulfill the assumption of mediation analysis. Mediation analysis was calculated through PROCESS and AMOS 26.

3. Results

The direct effect result revealed that coping mechanisms (BCI) were a significant adverse predictor of depression and stigma. It was discovered that stigma considerably negatively

predicted quality of life. Additionally, it was discovered that depression was a highly significant positive predictor of QOL.

Table 1: Mediation Analysis between BCI and QOL through PHQ and PSS in Patients with Substance Use Disorders (N=357)

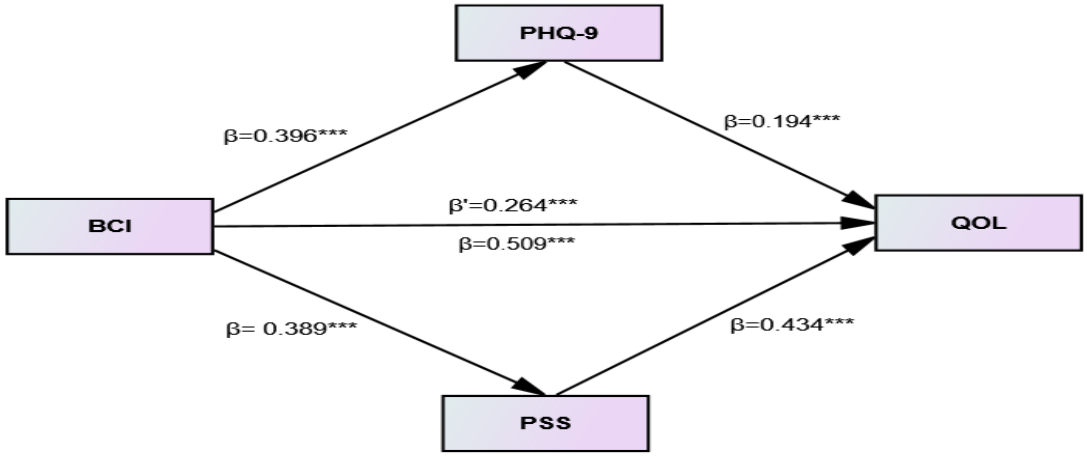
Predictors	PHQ			PSS			QOL		
	Coeff.	SE	P	Coeff.	SE	P	Coeff.	SE	P
Constant	23.69	1.16	.001	26.23	0.98	.001	27.28	4.29	.001
BCI	-.40	.03	.001	-.38	0.02	.001	.51	0.06	.001
PHQ							-.20	0.14	.001
PSS							-.44	0.22	.001
	R^2	0.156		R^2	0.152		R^2	0.532	
	$F(3, 341)$	63.59		$F(3, 341)$	61.11		$F(3, 341)$	128.84	
	$p < .001$			$p < .001$			$p < .001$		

Table 2: Indirect Effects of PHQ and PSS *between BCI* and QOL in Patients with Substance Use Disorder (N=357)

Mediator	Effect	Boots	95% Boot Confidence Interval	
			Boot Lower Limit	Boot Upper Limit
PHQ	.08	0.03	.18	.32
PSS	.17	0.03	.12	.23

The findings of indirect effect presented that depression and stigma were significant mediators between coping and quality of life. Additionally, an increase in coping strategies tends to decrease depression and stigma, on the other hand, an increase in depression and stigma, in turn, decreases quality of life. However, an increase in coping tends to decrease depression and increase the quality of life. The indirect effect's findings indicated that depression and stigma were important intermediaries between coping and quality of life. Furthermore, it shows that an increase in coping mechanisms tends to reduce depression and stigma, but an increase in these factors lowers quality of life. While an improvement in coping skills tends to reduce depression, depression itself improves quality of life. The evidence of mediation analysis showed that it was a full mediation, as shown in Figure 1.

Figure 1: The Statistical Model of Mediation Analysis



4. Discussion

The *hypothesis* of the study was formulated "There would be a significant relationship between coping strategies and quality of life with mediating role of depression and stigmatization among patients with OUD with relapse condition". The findings reported that BCI is a significant positive predictor of QOL, whereas PHQ and PSS are significant mediators between BCI and QOL. This reflects that the QOL of patients with OUD with relapse condition depends on the level of BCI as well as the degree of PHQ and PSS. These findings are consistent with previous findings explored by Akdağ et al. (2018), who emphasized the strong connections between these BCI and QOL among patients with OUD. Sullivan et al. (2018) stated that patients with OUD perceived a high degree of stigma and depression which predicts lower QOL (Manos et al., 2009).

Another, study's findings supported that stigma and depression play a mediating role between BCI and QOL among patients with OUD with relapse condition (Sibitz et al., 2011). Stigma plays a mediator (Leonard et al., 2009), and a result of another study showed that stigma results in decreased psychological health and is associated with various negative outcomes in individuals with OUD, such as poor physical and mental health, delayed treatment-seeking, and poor quality of life (Lysaker et al., 2007). Similarly, depression is linked to unhelpful coping mechanisms such as avoidance and self-medication. These maladaptive coping mechanisms can help keep addictions alive and make them more severe (Malow et al., 2013). Coping strategies that a person uses to deal with life issues explain how people with OUD control their addiction. Engaging in constructive recreational activities and seeking out social support are effective adaptive coping methods that help speed up recovery (Kumar & Kelly, 2017).

Our research outcomes are similar to the findings of another study that says by focusing on the significant role coping mechanisms play in the lives of people living with OUD. Adaptive coping strategies are provided by coping mechanisms, which help people traverse the turbulent waters of recovery and meet the enormous obstacles offered by OUD and relapse. Another research by Lai et al., (2015) concluded that relapse has negative effects on people's well-being. Coping strategies exert an important influence on the development of addiction severity by mediating the role of depression and stigma (Adan et al., 2017). When patients with OUD experience relapses and encounter stigma and stigmatization especially in a country like Pakistan where people do not know about mental health or substance use/abuse, nor do they have any idea about the importance of taking treatment for this issue. People mistrust addicts, are very judgmental about them, and make a link of every negative thing in their life to addiction. So, this stigmatization hinders them from going for treatment. By avoiding stigmatization, we can make it easy for them to come back to life (Earnshaw et al., 2013). Bearing in mind all the findings highlighted above we can conclude that depression and stigma play a mediation role in the interaction between coping mechanisms, and quality of life in patients with OUD with relapse condition. Hence, the findings of this hypothesis have deepened our understanding of the multifaceted challenges faced by this vulnerable population, providing essential insights for tailoring interventions and support systems to meet their specific needs. By establishing associations between coping mechanisms, stigma, depression, and quality of life in patients with OUD with relapse conditions, our study contributes to a more comprehensive understanding of their circumstances.

5. Conclusion

The primary objective of the present study is to examine the correlation between coping mechanisms and quality of life (QOL) in individuals diagnosed with opioid use disorder (OUD). Additionally, this study aims to explore the potential mediating effects of depression and stigma on this relationship. This correlational study used a sample of 357 people who were selected from various hospitals and rehabilitation centers. The study recruited individuals between the ages of 20 and 65 who had experienced at least one episode of relapse in their medical history. The study employed many assessment tools, including a demographic form, the Patient Health Questionnaire-9 (PHQ-9), the Brief Coping Inventory (BCI), the WHO-Quality of Life Scale (WHO-QLS), and the Perceived Stigma Scale. The entirety of the data was thoroughly examined, and the ultimate data was evaluated utilizing the statistical software SPSS version-26. The results of the study indicated that coping methods had a substantial detrimental impact on depression and stigma in patients with opioid use disorder-relapse conditions. The study revealed that both depression and stigma were identified as substantial adverse determinants of quality of life. Additionally, the study's results indicate that there is a notable mediating effect of sadness and stigma on the relationship between coping mechanisms and the quality of life experienced by individuals with opioid use disorder who have relapsed. The findings of this study suggest that coping strategies have a substantial impact on the quality of life (QOL) and levels of depression among individuals with opioid use disorder (OUD). Additionally, the results indicate that stigma has a key role in mediating the relationship between coping and QOL, influencing both positive and negative changes in QOL for these patients.

The study has certain limitations like this study was conducted with only patients with OUD and with those patients with multiple drugs during illness. Therefore, this study does not explain the other drugs (i.e. cannabis, alcohol, ice, etc.). Secondly, this study data was taken from only the patients with a history of relapse. This study recommends further study on the

target sample, exploring various hidden aspects like personality traits, cultural impact on the treatment, and treatment operating conditions.

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