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Cultural Adaptation of a Depression and Substance use Intervention Module for Integrated Mental Health Care in Pakistan

Somia Shabbir¹, Nazia Iqbal², Tania Qamar³,¹ Ph.D Candidate, Department of Psychology, International Islamic University Islamabad (IIUI), PakistanEmail: somia_sardar@yahoo.com / skhan198749@gmail.com² Assistant Professor, Department of Psychology, International Islamic University Islamabad (IIUI), PakistanEmail: nazia.iqbal@iiu.edu.pk³ Lecturer, Faculty of Social Sciences & Liberal Arts (FOSSLA), UCSI University, Kuala Lumpur, MalaysiaEmail: Qamar.Tania@ucsiuniversity.edu.my

ARTICLE INFO	ABSTRACT
Submission: May 13, 2026 Revised: May 28, 2026 Accepted: June 11, 2026 Available Online: June 25, 2026 Keywords: <i>Cultural Adaptation, Depression, Psychosocial Intervention, Pakistan, Substance Use Disorders.</i> Corresponding author: Tania Qamar Email: Qamar.Tania@ucsiuniversity.edu.my	Background: Depression and Substance Use Disorders (SUDs) are highly prevalent and frequently comorbid worldwide, contributing to significant morbidity and treatment challenges. In Pakistan, the dual burden is further worsened by stigma, limited access to care, and lack of culturally tailored psychosocial interventions. The Depression and Substance Use Module (D-SUM) is an evidence-based program, yet requires contextual adaptation to address linguistic, cultural, and health system realities in Pakistan. Objective: Therefore, the aim of this study is to adapt the depression and substance use intervention module for integrated mental health care in Pakistan. Methods: Qualitative, framework-guided adaptation method was used in the current study. This study used the ADAPT-ITT model and Bernal's Ecological Validity Model (EVM) to systematically adapt the D-SUM for patients with comorbid depression and SUDs in Pakistan. Four clinical psychologists with expertise in dual-diagnosis treatment were engaged to review the adapted content. Feedback was analysed thematically, focusing on cultural relevance, clinical fidelity, feasibility, and recommendations for refinement. Results: Experts unanimously validated the cultural appropriateness of the adapted D-SUM module, highlighting the inclusion of Urdu translation, local idioms of distress, and integration of Islamic metaphors. Therapeutic fidelity, including core cognitive-behavioural and motivational interviewing principles, was reported as preserved. Family involvement was emphasized as a culturally congruent addition, while simplification of materials for patients with low literacy was recommended. Overall, expert feedback supported the module's cultural validity and feasibility, with minor refinements required for broader implementation. Conclusion: The culturally adapted D-SUM showed strong acceptability among local experts, balancing cultural sensitivity with clinical integrity. The intervention holds promise for addressing the treatment gap in Pakistan by providing an evidence-based, contextually grounded psychosocial intervention for comorbid depression and SUDs. Future research should focus on pilot testing with patients and evaluating clinical outcomes prior to integration into routine services.

Introduction

Depression and Substance Use Disorders (SUDs) are leading contributors to the global burden of disease, with strong evidence highlighting their frequent comorbidity (Carvalho et al., 2020). Worldwide, nearly one-third of individuals with SUDs experience depressive disorders during their lifetime, which significantly worsens treatment outcomes, relapse rates, and suicidality (Lai et al., 2019; Sun et al., 2026). The South Asian region, including Pakistan, reflects this global trend, but local data remain limited. Recent hospital-based studies in Pakistan have reported high rates of depressive symptoms among patients seeking treatment for substance abuse, emphasizing the urgent need for integrated interventions (Khalid et al., 2025). Such comorbidity not only complicates diagnosis and management but also preserves cycles of disability, poverty, and social exclusion.

Despite the high prevalence of mental health problems, Pakistan faces a severe treatment gap, with less than 1 psychiatrist available per 100,000 people (Javaid et al., 2022; Lateef et al., 2026). Access to services is further constrained by limited infrastructure, urban-rural disparities, and lack of specialized training in dual-diagnosis management. Patients with comorbid depression and SUDs experience compounded stigma, as SUDs are often perceived as moral failings, while depression is minimized as personal weakness or attributed to supernatural causes (Kohrt et al., 2022). This dual stigma reduces treatment-seeking behaviours and discourages family involvement, which is otherwise a critical source of support in collectivist cultures such as Pakistan (Qamar, 2025; Shahid et al., 2025). Stigma at the community and health system level perpetuates the invisibility of comorbid conditions, leaving patients undertreated or misdiagnosed.

While pharmacological treatments remain common in psychiatric care, evidence increasingly supports the integration of psychosocial interventions to address complex comorbidities (Liu et al., 2022). In low- and middle-income countries (LMICs), culturally adapted interventions have showed significant benefits, including improved patient engagement, higher retention, and better clinical outcomes (Nadkarni et al., 2021; Zainab et al., 2026). In Pakistan, community-based interventions adapted for cultural norms, such as *Thinking Healthy Programme* for maternal depression, have shown effectiveness in reducing symptoms and improving functioning (Qamar & Ibrahim, 2024; Rahman et al., 2016). These findings highlight the importance of adapting interventions not only linguistically but also in terms of cultural metaphors, idioms of distress, and therapeutic methods that resonate with local populations (Baker et al., 2010; Qamar & Ibrahim, 2024).

The Depression and Substance Use Module (D-SUM) is an evidence-based psychosocial program originally developed to target the dual challenges of SUDs and depression. DSUM incorporates principles of cognitive behavioural therapy and motivational interviewing, aiming to improve mood, enhance coping, and reduce substance dependence (Watkins et al., 2019). Evidence from high-income countries demonstrates its effectiveness in reducing depressive symptoms and improving abstinence rates (Wingood & DiClemente, 2008). However, the direct application of DSUM in low-resource contexts such as Pakistan is limited by differences in language, literacy, health-seeking behaviours, and cultural concepts of mental illness. Without adaptation, evidence-based interventions risk being poorly implemented or culturally rejected, thereby reducing their effectiveness (Qamar & Ibrahim, 2024).

To ensure contextual relevance, this study used two complementary frameworks: the ADAPT-ITT model and Bernal's Ecological Validity Model (EVM). The ADAPT-ITT framework provides a structured, iterative process for adapting interventions, emphasizing stakeholder input, topical expert review, and pilot testing (Bernal et al., 2009). Meanwhile, Bernal's EVM provides a culturally grounded approach by systematically mapping adaptations across eight domains; language, persons, metaphors, content, concepts, goals, methods, and context (Rattner et al., 2025). Together, these frameworks balance scientific rigor with cultural sensitivity, allowing for the development of a DSUM version that is both evidence-based and aligned with the sociocultural and religious context of Pakistan. This dual framework was therefore selected to guide the current adaptation study.

Method

Research Design

The qualitative, framework-guided adaptation approach was used in the current study. This adaptation study was carried out at the Department of Psychology of Islamic International University Islamabad (IIUI), Pakistan. The aim was to culturally adapt the Depression and Substance Use Module (D-SUM) for patients with comorbid depression and Substance Use Disorders (SUDs). The adaptation process was guided by the ADAPT-ITT framework (Wingood & DiClemente, 2008) and Bernal's Ecological Validity Model (EVM) (Bernal et al., 2009). Ethical approval was obtained from the Institutional Review Board of IIUI, and written informed consent was taken from all participants.

Sample and Sample Size

The adaptation process engaged four clinical psychologists and addiction counsellors (aged 30-50 years). Clinical Psychologists were approached from the rehabilitation units of the government hospitals. Inclusion criteria were (i) five years of clinical practice experience, (ii) holding a PhD degree in clinical psychology, and (iii) willingness to provide informed consent. Four experts were purposively selected to evaluate the adapted D-SUM module because methodological guidelines recommend that content validity can be established using a panel of three to ten subject-matter experts, provided they possess appropriate expertise in the relevant field. The selected experts were experienced clinical psychologists with expertise in cognitive behavioural therapy, substance use disorders, and culturally adapted psychological interventions. A panel of four experts was considered sufficient to assess the module's cultural relevance, therapeutic integrity, clarity, and clinical applicability while ensuring in-depth qualitative feedback (Lynn, 1986; Polit et al., 2007; Yusoff, 2019).

Adaptation Procedure

The eight sequential steps of the ADAPT-ITT model were followed. During the *Assessment* phase, focus group discussions and semi-structured interviews were conducted with four clinical psychologists to identify barriers to care and cultural perceptions of mental illness. In the *Decision* phase, the D-SUM was selected as the most suitable evidence-based intervention. During *Adaptation and Production*, the module was translated into Urdu and modified according to cultural norms and local idioms of distress. The *Topical Expert Review* phase involved feedback from a panel of four clinical psychologists which informed further modifications. Integration consisted of synthesizing expert recommendations into a revised D-SUM module. In the *Training* phase, two therapists were trained to deliver the adapted D-SUM, with emphasis on culturally sensitive delivery strategies.

Cultural Grounding

The adaptation process was systematically mapped using Bernal's Ecological Validity Model. This framework guided modifications across eight domains: language, persons, metaphors, content, concepts, goals, methods, and context. Examples included translation into Urdu with simplified vocabulary, incorporation of culturally relevant idioms such as *tension* and *boojh* (burden), inclusion of family involvement in therapy, use of Islamic metaphors of resilience, and restructuring of sessions to suit outpatient rehabilitation settings.

Data Analysis

Thematic analysis was used to analyse the qualitative data such as expert panel feedback was reviewed to assess fidelity to therapeutic principles.

Results

Participant Characteristics

Four clinical psychologists reviewed the adapted D-SUM to evaluate its cultural appropriateness, therapeutic integrity, and feasibility of implementation.

Expert Feedback

The expert's review strongly validated the adapted module. All experts agreed that the cultural modifications, including Urdu translation, idiomatic expressions, and integration of Islamic metaphors, significantly improved relevance for Pakistani patients. Similarly, all experts confirmed that the adaptation preserved the core therapeutic principles of cognitive-behavioural therapy and motivational interviewing. Three experts (75%) emphasized the importance of family involvement as a culturally congruent and clinically beneficial component. One expert (50%) highlighted the need for further simplification of materials to ensure accessibility for patients with low literacy levels (Figure 1).

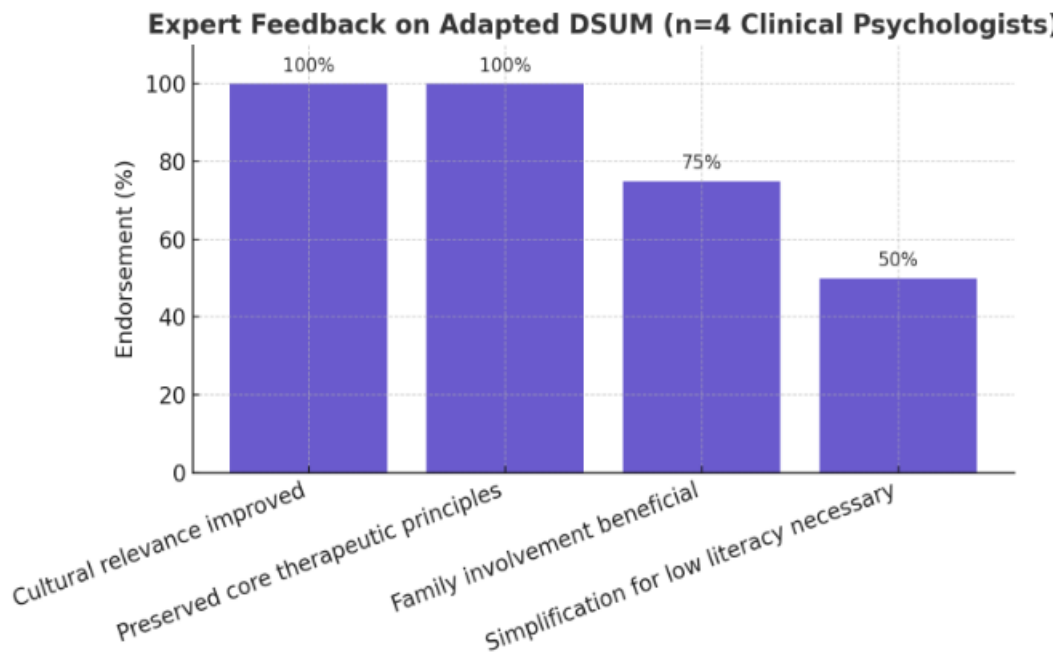


Figure 1. Expert feedback on the adapted Depression and Substance Use Module (D-SUM)

Figure 1 presents the expert feedback on the adapted D-SUM intervention obtained from four clinical psychologists. All experts agreed that the cultural adaptations improved the intervention's relevance while preserving its core therapeutic principles. Three experts (75%) endorsed the inclusion of family involvement as beneficial, whereas two experts (50%) recommended further simplification of the intervention materials to enhance accessibility for individuals with low literacy. Overall, the findings indicate strong expert support for the cultural adaptation of the D-SUM while identifying opportunities for improving its usability.

In addition to quantitative ratings, qualitative insights provided further depth to the evaluation. Experts highlighted how the inclusion of culturally familiar idioms and religious concepts enhanced patient acceptability, while affirming that therapeutic fidelity was maintained. Table 1 summarizes key feedback themes and illustrative comments from experts.

Table 1. Expert Feedback Themes on Adapted DSU-M (n=4)

Theme	Expert Feedback Summary	Illustrative Comment
Cultural Relevance	Urdu translation, local idioms, and Islamic metaphors enhanced the intervention's acceptability.	"Patients will relate better to terms like <i>tension</i> and religious framing of hope."
Therapeutic Integrity	Core cognitive behavioural therapy (CBT) and motivational interviewing principles were preserved throughout the adaptation.	"The adaptation has maintained therapeutic fidelity while making it locally appropriate."
Family Involvement	Family engagement was considered essential for supporting recovery.	"In our culture, family support is essential for recovery from both depression and substance use."
Simplification Needs	Experts recommended simplifying exercises and incorporating visual materials for individuals with low literacy.	"Visual tools and shorter exercises may help those struggling with reading or concentration."

The qualitative analysis of expert feedback in table 1 shows that the adapted D-SUM was perceived as both culturally resonant and clinically strong. Experts unanimously validated the integration of Urdu translation, idiomatic expressions, and Islamic metaphors, noting these features enhanced patient relatability without compromising therapeutic principles. The preservation of cognitive-behavioural and motivational interviewing elements was particularly emphasized as a strength, ensuring fidelity to evidence-based practice. The inclusion of family involvement was recognized as a culturally congruent modification that could enhance patient engagement and treatment adherence in the Pakistani context. However, the need for further simplification of materials for low-literacy patients was identified, emphasizing the importance of developing visual tools and shorter exercises to enhance accessibility. Collectively, these insights suggest that the adapted D-SUM balances cultural acceptability with clinical integrity, while pointing to practical refinements necessary for broader implementation.

Discussion

The present study aimed to culturally adapt the Depression and Substance Use Module (D-SUM) for individuals with comorbid depression and Substance Use Disorders (SUDs) in Pakistan using the ADAPT-ITT model and Bernal's Ecological Validity Model. Feedback from local clinical psychologists emphasized the relevance, clarity, and cultural resonance of the adapted module, particularly regarding the use of contextually appropriate language, integration of local idioms of distress, and inclusion of family-centered approaches. These findings align with global evidence that culturally adapted psychosocial interventions enhance acceptability, therapeutic alliance, and clinical outcomes in diverse populations (Rattner et al., 2025; Karaliūnienė et al., 2025). Internationally, culturally grounded interventions for depression and SUDs have demonstrated higher engagement and treatment retention compared to non-adapted protocols (Suarez et al., 2025; Erickson et al., 2025). For instance, studies from Latin America and South Asia have shown that adapting interventions to incorporate cultural values such as collectivism, spirituality, and stigma sensitivity improves both patient adherence and recovery trajectories (Law, 2025). The feedback provided by Pakistani experts in the current study supports this trend, highlighting the need of contextualizing therapeutic content to local socio-cultural realities.

In Pakistan, the treatment gap for mental health disorders remains significant, with estimates suggesting that over 90% of individuals with psychiatric conditions do not receive evidence-based care (Khalily et al., 2021; Qamar, 2025). Structural barriers such as limited trained professionals, coupled with stigma surrounding both depression and substance use, further intensify this gap (Naeem et al., 2022). By incorporating cultural and linguistic adaptations, the D-SUM bridges the gap between evidence-based psychological interventions and the local sociocultural context, thereby enhancing intervention acceptability and reducing stigma-related barriers to treatment. Furthermore, its emphasis on family engagement aligns with Pakistani cultural norms, where family plays a central role in both the development and resolution of psychological distress. The use of a systematic adaptation framework, such as ADAPT-ITT, alongside Bernal's EVM, provided a rigorous structure for ensuring both fidelity and cultural sensitivity. This dual approach is consistent with recent calls in the literature for balancing evidence-based principles with cultural grounding in order to maximize intervention effectiveness in low- and middle-income countries (Bowman et al., 2025; Galeazzi et al., 2024; Qamar & Ibrahim, 2024). The favourable expert feedback received in this study indicates that the adapted D-SUM has strong potential for feasibility testing in clinical and community settings in Pakistan.

However, the present study is not without limitations. Feedback was obtained from a small sample of clinical psychologists, and further validation with patients and other stakeholders is necessary to ensure broad applicability. Additionally, while expert review provides valuable insights into clinical and cultural appropriateness, empirical testing of effectiveness and scalability is needed before integration into routine mental health services. Future research should therefore focus on pilot testing the adapted module in clinical populations, assessing patient outcomes, and exploring implementation pathways within Pakistan's limited but expanding mental health infrastructure. Overall, the adaptation of D-SUM represents a significant step toward addressing the dual burden of depression and SUDs in Pakistan. Consistent with global evidence, culturally sensitive modifications could enhance the acceptability and effectiveness of psychosocial interventions, making them more responsive to the needs of underserved populations. By embedding global best practices within local cultural frameworks, the adapted D-SUM holds promise as a scalable intervention to reduce the treatment gap and improve outcomes for individuals with comorbid depression and substance use in Pakistan.

Conclusion

The present study revealed that the Depression and Substance Use Module (D-SUM) can be culturally adapted for patients with comorbid depression and substance use disorders in Pakistan by using systematic frameworks such as ADAPT-ITT and Bernal's Ecological Validity Model. Expert review confirmed that the adapted D-SUM module preserved therapeutic fidelity while improving cultural relevance through language, idioms, family involvement, and integration of spiritual values. These adaptations have the potential to increase acceptability and feasibility of psychosocial care in low-resource and stigma-laden

contexts. Further pilot testing and effectiveness trials are required to establish clinical outcomes and guide integration of the adapted D-SUM into routine mental health and rehabilitation services in Pakistan.

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