ORIGINAL ARTICLE

# TRANSLATION AND CULTURAL ADAPTATION OF THE DEPRESSION AND SUBSTANCE USE MODULE FOR PATIENTS WITH SUBSTANCE USE DISORDERS AND DEPRESSION IN PAKISTAN

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**Background:** Depression and substance use disorders (SUDs) frequently co-occur in Pakistan, with co-morbidity rates reported between 30–60% among treatment-seeking patients. The study aimed to translate and culturally adapt the DSU-M into Urdu for use in local clinical and research settings. **Methods:** A cross-sectional methodological design was conducted in Pakistan following Breslin's back-to-back translation model and expert committee validation. Two bilingual mental-health professionals performed independent forward translations, which were reconciled into a single version. Two independent translators, blinded to the original, conducted back translation. An expert committee comprising of two clinical psychologists, one psychiatrist, and one linguist reviewed both versions to ensure semantic, conceptual, and cultural equivalence. Content-validity indices were computed (CVI= 0.91), indicating excellent agreement among experts. **Results:** The Urdu DSU-M showed a high level of linguistic congruence with the original version. Only minor cultural adaptations were required, such as replacing idiomatic expressions ('feeling low') with culturally meaningful alternatives (دل بُجھ جانا۔ مایوسی محسوس کرنا). Expert committee validation confirmed semantic accuracy, cultural relevance, and clinical applicability of the final Urdu version. **Conclusion:** The Urdu DSU-M is a linguistically accurate and culturally appropriate adaptation of the original English module. It holds potential to enhance diagnostic precision, patient engagement, and clinical management of co-morbid depression and SUDs in Pakistan. Future research should include psychometric testing and field validation to establish reliability and clinical utility.

**Keywords:** Cultural Adaptation, Depression, Pakistan, Substance Use Disorders, Translation, Urdu
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## INTRODUCTION

Depression and substance use disorders (SUDs) are among leading causes of disability worldwide, often occurring together as co-morbid conditions. It is estimated that nearly one-third of individuals with SUDs globally also experience clinically significant depressive symptoms that cause psychosocial impairment and poorer treatment outcomes than patients with a single disorder.[1] The co-occurrence of depression and SUD is associated with increased risk of relapse, suicide attempts, and chronic medical illnesses, creating a major public-health burden in high- and low-income settings.[2]

In South Asia, dual burden of depression and SUD is of particular concern due to limited mental health resources and pervasive social stigma. Pakistan, with an estimated 6.45 million people using illicit substances, faces rising rates of psychiatric comorbidities.[3,4] Recent hospital-based studies from Pakistan report that 30–60% of treatment-seeking patients with SUDs also meet criteria for depression, emphasizing urgent need for integrated interventions.[5]

Despite the magnitude of this issue, culturally adapted diagnostic and therapeutic tools remain insufficient in Pakistan. Most interventions are borrowed from Western contexts and are often not fully applicable due to differences in language, cultural perceptions of mental illness, and health-seeking behaviours.[6,7] Consequently, many patients face diagnostic delays, low adherence, and diminished treatment efficacy.

The DSU-M is an evidence-based module providing structured guidance for clinicians addressing overlapping symptoms of depression and SUD. High-income countries and neighbouring regions show improved patient engagement, reduced depressive symptoms, and better substance-use outcomes.[8,9] However, its potential remains untapped in Pakistan because no validated Urdu version exists.

Although several screening and therapeutic modules exist internationally, few have been culturally adapted for Pakistan. The concept of *cultural adaptation* in this study refers to 'the systematic modification of content, idioms, and expressions of a psychological intervention so that it becomes semantically, conceptually, and contextually equivalent to the target culture'. The present study aimed to translate and culturally adapt the DSU-M into Urdu through a structured methodological design ensuring conceptual integrity and clinical relevance for Pakistani patients with dual diagnoses.

## METHODOLOGY

This cross-sectional methodological design was used to translate and culturally adapt the Depression and Substance Use Module (DSU-M) into Urdu. The study was carried out in Pakistan in clinical settings where mental-health professionals provide services for patients with depression and substance-use disorders. The translation process was conducted in multiple phases following Brislin's back-to-back translation model[10] and incorporated expert-committee validation to ensure conceptual and cultural equivalence. (Figure-1).

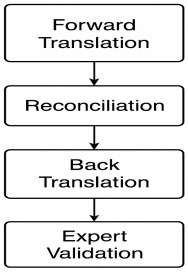



**Figure-1: Brislin's back-to-back translation model[10]**

The translation process commenced with forward translation, in which two bilingual mental health professionals independently translated the original English version of the Depression and Substance Use Module (DSU-M) into Urdu. Both translators were proficient in English and Urdu and possessed clinical experience in psychology, ensuring that technical and psychological terminology was accurately conveyed. Their familiarity with clinical practice was instrumental in maintaining the precision of psychological concepts while simultaneously rendering the text accessible to Urdu-speaking patients and practitioners. Independent translations also reduces individual bias and provided a broader linguistic basis for reconciliation.[11] Forward translation was performed by two bilingual mental-health professionals with ≥5 years of clinical experience. Their independent Urdu drafts were reconciled into one version.

This procedure is considered a gold standard in cross-cultural adaptation studies. It allows for the identification of semantic inconsistencies, conceptual ambiguities, and unintentional distortions introduced during the initial translation phase.[12] Back translation was then conducted by two independent translators, blinded to the original text, to identify any semantic or conceptual inconsistencies. By comparing the back-translated text with the original module, the research team was able to assess the fidelity of meaning and ensure consistency across versions.

The expert-validation committee comprised two clinical psychologists, one psychiatrist, and one linguist, each with at least 10 years of professional experience. The panel compared the back-translated version with the original DSU-M to determine semantic and conceptual equivalence. Discrepancies were discussed until full consensus was achieved. Each item was rated for relevance and clarity on a 4-point scale, and a Content Validity Index (CVI) of 0.91 was obtained, demonstrating excellent expert agreement.

In a brief pilot assessment, mental-health practitioners confirmed clarity and comprehension of adapted Urdu terms. The committee systematically compared the back-translated version with the original DSU-M to determine semantic equivalence, conceptual accuracy, and overall content validity. Discrepancies were discussed in detail, and revisions were made through consensus, thereby enhancing the reliability of the final Urdu version. The committee incorporated cultural and contextual adjustments to ensure that the translated module was not only linguistically accurate but also relevant and comprehensible within the Pakistani sociocultural context. Expressions and idiomatic phrases that might otherwise impede patient understanding were replaced with culturally appropriate alternatives, while preserving the clinical intent of the original text. Through this rigorous translation and validation process, the Urdu version of the DSU-M was produced as a linguistically precise, culturally sensitive, and clinically relevant tool, intended to support the assessment and treatment of patients with co-morbid depression and substance use disorders in Pakistan. No further linguistic modifications were required.

The study was approved by the Institutional Review Board (IRB) of the Islamic International University Islamabad (IIUI/PSY-2025-07). All procedures complied with the Declaration of Helsinki revision.

## RESULTS

The translation and validation process was completed in sequential phases; forward translation, back translation, expert review, and quantitative validation. Each stage was systematically assessed to ensure linguistic accuracy, semantic equivalence, and cultural relevance**.** The findings are presented under 3 domains: linguistic equivalence, cultural adaptation, and expert validation.

High congruence was observed between the forward- and back-translated versions. Minor phrase variations did not change meaning. Inter-rater agreement among translators was 0.89 (Cohen's κ). The expert committee confirmed that the core concepts and clinical terminologies were preserved, ensuring semantic accuracy across versions. No major discrepancies were identified that could compromise the validity of the Urdu translation.

During the expert review, certain linguistic and cultural adaptations were required to enhance clarity and

acceptability for the Pakistani population. For example, idiomatic expressions in English were revised into culturally understandable Urdu equivalents that better conveyed the intended meaning to patients. These adjustments ensured that the language remained clinically precise yet sensitive to local cultural interpretations of emotional states.

The expert committee confirmed the Urdu DSU-M was semantically accurate and culturally suitable with mean item-rating 3.72±0.21 out of 4. Experts agreed the adaptation would improve clinician-patient communication and patient engagement in psychiatric settings. The final Urdu version was therefore validated for future clinical and research use in Pakistan.

**Table-1: Examples of cultural and linguistic adaptations in Urdu translation of DSU-M**

| Original English Term/Phrase | Initial literal Urdu translation | Final adapted Urdu equivalent | Rationale for adaptation |
|---|---|---|---|
| Feeling Low | نیچے محسوس کرنا | دل بُجھ جانا۔ مایوسی محسوس کرنا | Improved cultural resonance |
| Loss of interest | دلچسپی کا کھو جانا | دلچسپی ختم ہونا | Simpler daily language |
| Craving | خواہش | شدید طلب | More precise clinical term |
| Hopelessness | نا اُمیدی | اُمید کھو دینا | Culturally stronger expression |
| Guilt feeling | قصور کا احساس | ذمہ داری یا شرمندگی کا احساس | Reflects socially nuanced concept |
| Anxious thoughts | بے چین خیالات | فکر، یا گھبراہٹ کے خیالات | Idiomatic localization |

## DISCUSSION

The present study achieved the successful translation and cultural adaptation of the Depression and Substance Use Module (DSU-M) into Urdu, establishing its semantic and conceptual equivalence with the original English version. The process ensured that the Urdu DSU-M retained clinical accuracy while incorporating culturally appropriate terminology and idioms that are more easily understood by Pakistani patients. These findings indicate that the adapted DSU-M module is both linguistically reliable and contextually relevant for use in clinical and research settings across Pakistan. The findings of the current study are consistent with prior cross-cultural adaptation studies conducted in South Asia and the Middle East, which demonstrated that translation of psychological modules significantly improves accessibility and patient engagement. For example, Kudla[13] validated the validation of the Hindi version of the schedule for meaning in life evaluation, reporting enhanced clinical applicability. Similarly, Azar *et al*[14] highlighted the benefits of culturally adapted treatment modules in Iran, while Turkish scholars Akbaba, Özyürek, and Dinç have emphasized that translation increases acceptability without compromising psychometric validity.[15–17] Overall, these studies highlight the importance of contextual adaptation in improving diagnostic accuracy and treatment outcomes, supporting the relevance of the Urdu DSM.

From Berry's acculturation theory and linguistic relativity perspective, cultural adaptation influences how emotional states are expressed and interpreted. Therefore, modifying idioms such as 'feeling low' to 'دل بُجھ جانا' not only improves semantic fit but may also enhance therapeutic resonance and patient empathy. A significant strength of this study lies in its rigorous methodology. According to Kowal[18], the Brislin back-to-back translation model provided a structured framework to ensure linguistic fidelity, while the inclusion of expert committee (psychologists) enhanced the validity of the adapted version. The systematic approach of Brislin[10], minimized semantic drift and allowed cultural nuances to be addressed effectively. Although patient pilot testing was not conducted in the present study, expert-led validation provides a strong foundation for future clinical implementation and empirical evaluation. The current study has certain limitations, this study's main limitation is absence of large-scale patient validation, which precludes psychometric generalization. Potential translation bias may have occurred where culturally stigmatized idioms required paraphrasing. Limiting adaptation to Urdu excludes Pakistan's regional languages.

Despite these limitations, the current study has important implications. The availability of an Urdu version of the DSU-M has the potential to improve the quality of mental healthcare by enhancing communication between clinicians and patients, reducing diagnostic barriers, and promoting culturally sensitive treatment approaches. The translated module provides researchers in Pakistan with a standardized tool to stud y the complex relationship between depression and substance use, thereby contributing to global evidence on dual diagnoses. Future studies should focus on validating the Urdu DSU-M through psychometric testing and assessing its clinical effectiveness in diverse patient populations. Future validation should employ confirmatory factor analysis and reliability testing (Cronbach $\alpha \geq 0.80$ target) with diverse patient samples to ensure psychometric robustness.

## CONCLUSION

The Urdu DSU-M was translated and culturally adapted using a rigorous, multi-stage methodological process. The final version demonstrated linguistic accuracy, conceptual fidelity, and cultural relevance. Its validation indices indicate strong expert consensus. The module provides clinicians and researchers with a standardized tool to enhance diagnostic precision, patient engagement, and culturally responsive care for co-morbid depression and SUD patients in Pakistan. Large-scale clinical validation is strongly recommended for nationwide implementation.

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Authors approved the draft and are accountable in ensuring that questions related to accuracy or integrity of the work are duly investigated and resolved.
**SS:** Study design, Data collection, analysis and interpretation, Manuscript write-up. **NI:** Revision, Final proofreading

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