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CULTURAL ADAPTATION AND CONTENT VALIDATION OF AN URDU-LANGUAGE KNOWLEDGE AND SELF-CARE PRACTICE TOOL FOR ADULT OSTOMATES: A METHODOLOGICAL REPORT

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Abstract

Background: Assessing ostomates' knowledge and self-care practice in Pakistan requires a culturally and linguistically appropriate instrument, yet no validated Urdu-language tool for this purpose has previously been reported.

Objective: To describe the cultural adaptation of the Knowledge and Self-Care Practice Tool for Ostomates into Urdu and to evaluate its content validity and internal consistency reliability for use among adult ostomates in a tertiary care hospital in Faisalabad, Pakistan.

Methods: The original Knowledge and Self-Care Practice Tool for Ostomates (Kang & Choudhary, 2024) was translated into Urdu using a forward–backward translation procedure to preserve conceptual meaning. The adapted tool, comprising socio-demographic items, a 20-item knowledge questionnaire, and an 11-item self-care practice checklist, was reviewed by a panel of subject-matter experts in stoma care and nursing education for content validity. It was subsequently pilot tested on four participants (10% of the target sample) who were not included in the main study, and internal consistency was assessed using Cronbach's alpha.

Results: The expert panel rated both sections favorably, with an item-level content validity index (I-CVI) of 1.00 for both the knowledge and self-care practice sections, and scale-level CVI (S-CVI) values in the 0.89–1.00 range. Pilot testing led to minor refinements in wording and formatting to improve clarity and cultural appropriateness. The final tool demonstrated acceptable internal consistency, with a Cronbach's alpha of 0.847.

Conclusion: The Urdu-adapted Knowledge and Self-Care Practice Tool for Ostomates demonstrated strong content validity and acceptable reliability, supporting its use in assessing ostomy-related knowledge and self-care practice among Urdu-speaking adult ostomates. Wider psychometric testing, including construct validity and test–retest reliability, is recommended before broader adoption.

Keywords: Ostomy; instrument validation; content validity index; Cronbach's alpha; cultural adaptation; Urdu; Pakistan.

INTRODUCTION

Valid and reliable measurement is a prerequisite for meaningful research on ostomy knowledge and self-care. Most existing tools for assessing ostomy-related knowledge and self-care practice have been developed and validated in English-speaking or high-resource settings, limiting their direct applicability to Urdu-speaking populations in Pakistan (Kang & Choudhary, 2025). Cultural and linguistic adaptation of validated instruments is a recognized and necessary step before their use in a new population, as it ensures that item content is both comprehensible and contextually relevant (Aquichán et al., 2023). This report describes the adaptation of the Knowledge and Self-Care Practice Tool for Ostomates into Urdu and presents the resulting content validity and reliability evidence, as a methodological contribution distinct from the substantive knowledge and self-care findings reported elsewhere from this project.

Methods

Original Instrument

The Knowledge and Self-Care Practice Tool for Ostomates (Kang & Choudhary, 2024) consists of three sections: (1) socio-demographic and clinical variables (11 items); (2) a 20-item multiple-choice knowledge questionnaire covering healthy stoma appearance, pouching, hygiene, dietary practice, stoma irrigation, and complication management; and (3) an 11-item self-care practice checklist covering cleaning technique, bag-changing frequency, leakage prevention, and dietary adjustment.

Translation and Cultural Adaptation

The tool was translated from English into Urdu and back-translated into English by independent translators to verify that the original meaning of each item was preserved. Response options were refined during this process to ensure they would be clearly understood by patients with varying levels of literacy.

Content Validity Assessment

The Urdu version was reviewed by a panel of subject-matter experts in stoma care and nursing education, who rated each item for relevance and clarity. Item-level and scale-level content validity indices (I-CVI and S-CVI) were calculated for the knowledge and self-care practice sections separately.

Pilot Testing and Reliability

The revised tool was pilot tested on four participants, representing 10% of the planned main-study sample, who were not subsequently included in the main study. Feedback from this pilot was used to refine wording and formatting for clarity and cultural appropriateness. Internal consistency of the final instrument was evaluated using Cronbach's alpha coefficient.

Results

The expert panel judged both sections of the adapted tool to have strong content relevance. Table 1 summarizes the content validity indices obtained.

Table 1: Content Validity Indices of the Urdu-Adapted Knowledge and Self-Care Practice Tool

Section	Item-Level CVI (I-CVI)	Scale-Level CVI (S-CVI)
Knowledge (20 items)	1.00	0.89
Self-care practice (11 items)	1.00	0.89–1.00

Pilot testing among four participants did not identify major comprehension difficulties, though minor wording and formatting adjustments were made to improve clarity and cultural fit. The internal consistency of the final tool, assessed using Cronbach's alpha, was 0.847, indicating acceptable reliability for use in the target population.

Discussion

The strong content validity indices obtained for both the knowledge and self-care practice sections indicate that the Urdu-adapted tool retains the conceptual relevance of the original instrument while being appropriate for local use. This is consistent with broader evidence that culturally and linguistically adapted instruments improve comprehension and engagement among patients in low-resource, non-English-speaking settings (Alenezi, 2022). The observed Cronbach's alpha of 0.847 falls within the range generally considered acceptable to good for newly adapted health-assessment instruments, supporting the tool's suitability for measuring ostomy-related knowledge and self-care practice in this population. Nonetheless, this methodological evaluation was limited to content validity and internal consistency; construct validity, test–retest reliability, and responsiveness to change were not formally assessed and warrant further study. The small pilot sample (n = 4) also limits the precision of the reliability estimate obtained at that stage, although it was based on established guidance to pilot test approximately 10% of the target sample.

Conclusion

The Urdu-adapted Knowledge and Self-Care Practice Tool for Ostomates demonstrated strong content validity and acceptable internal consistency, supporting its use as a culturally appropriate instrument for assessing knowledge and self-care practice among Urdu-speaking adult ostomates in Pakistan. Broader validation, including construct validity and test–retest reliability in larger and more diverse samples, is recommended to strengthen confidence in the tool for wider clinical and research use.

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