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Psychometric Evaluation of the Urdu Version of the Vision-Related Quality of Life Questionnaire in a Low-Vision Population

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CONFLICT OF INTEREST
None declared.

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None declared.

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ABSTRACT

Background: Vision-related quality of life (VRQoL) is an essential outcome measure for individuals with low vision, reflecting the functional, emotional, and social consequences of visual impairment. Despite the availability of several VRQoL instruments in English, validated tools in the Urdu language remain limited.

Objective: To translate, culturally adapt, and evaluate the psychometric properties of an Urdu version of a vision-related quality of life questionnaire among individuals with low vision in Pakistan.

Methods: A cross-sectional validation study was conducted at Al Ehsan Welfare Eye Hospital, Lahore. The questionnaire was translated into Urdu using standardized forward–backward translation procedures. Seventy-one participants with diagnosed low vision completed the Urdu questionnaire, and a subset of participants completed it again after one week to assess test–retest reliability. Internal consistency, reliability, construct validity, known-group validity, and factor structure were evaluated using standard psychometric analyses.

Results: The Urdu version demonstrated strong internal consistency, with Cronbach's alpha values exceeding acceptable thresholds across subscales. Test–retest reliability showed good stability over time. Construct validity analysis revealed significant associations between reduced visual acuity and lower VRQoL scores. The questionnaire successfully discriminated between participants with and without visual impairment. Exploratory factor analysis supported a multidimensional structure consistent with the original instrument.

Conclusion: The Urdu version of the vision-related quality of life questionnaire is a reliable, valid, and culturally appropriate tool for assessing VRQoL among Urdu-speaking individuals with low vision. Its use is recommended for both clinical practice and research settings in Pakistan.

KEYWORDS Vision-related quality of life, low vision, questionnaire, reliability, validity, Urdu

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INTRODUCTION

Low vision is a major public health concern worldwide, affecting millions of individuals and significantly compromising their ability to perform daily activities, maintain independence, and participate in social life. It is defined as a visual impairment that cannot be fully corrected by conventional glasses, contact lenses, or medical treatment. As populations age and chronic eye diseases become more prevalent, the burden of low vision is expected to increase.

Beyond clinical measurements such as visual acuity, understanding how visual impairment affects an individual's daily functioning and well-being is critical. Vision-related quality of life (VRQoL) instruments have therefore become indispensable tools in ophthalmic research and clinical practice. Since the 1980s, numerous patient-reported outcome measures have been developed; however, most have originated in English-speaking contexts, limiting their applicability in non-English-speaking populations.

In Pakistan, Urdu is the national language and the primary means of communication for a large proportion of the population. Despite this, there is a notable lack of validated Urdu-language instruments for assessing VRQoL, particularly among individuals with low vision. The present study addresses this gap by translating and validating an Urdu version of a vision-related quality of life questionnaire for use in the local population.

LITERATURE REVIEW

Several studies have emphasized the importance of measuring quality of life in individuals with visual impairment. Wolffsohn et al. (1999) developed the Low Vision Quality of Life (LVQOL) questionnaire and demonstrated its reliability and validity in assessing functional and social limitations associated with low vision. This work highlighted that clinical indicators alone are insufficient to capture the real-world impact of visual impairment.

A systematic review by De Boer et al. (2014) identified multiple VRQoL instruments but noted significant limitations in many, including inadequate responsiveness and limited validation across diverse cultural contexts. These findings underscore the need for culturally adapted tools.

Lamoureux et al. (2007) and Orr et al. (2016) reported that low vision significantly reduces mobility, independence, and social participation, often leading to emotional distress and social isolation. These studies emphasized the importance of addressing psychosocial dimensions when managing low vision.

Cochrane et al. (2011) developed a vision-related quality of life questionnaire with strong psychometric properties, reinforcing the value of structured patient-reported outcome measures. Similarly, Gothwal et al. (2015) demonstrated that low vision rehabilitation services significantly improve VRQoL, supporting the use of such tools to evaluate intervention outcomes.

More recently, Chiang et al. (2017) and Wang et al. (2020) highlighted the positive effects of assistive technology and rehabilitation on quality of life and reaffirmed that low vision has a pervasive negative impact across physical, emotional, and social domains. Collectively, these studies justify the need for reliable, valid, and culturally appropriate VRQoL instruments.

METHODOLOGY

Study Design and Setting

A cross-sectional translation and validation study was conducted at Al Ehsan Welfare Eye Hospital, Lahore.

Participants and Sampling

Purposive sampling was used to recruit 71 adults aged 18–80 years with diagnosed low vision. Inclusion criteria included fluency in Urdu and willingness to provide informed consent. Individuals with cognitive impairments, acute eye conditions, or communication barriers were excluded.

Translation and Cultural Adaptation

The translation process followed international guidelines. Two independent forward translations were performed, followed by expert panel review and synthesis. A backward translation was conducted to ensure conceptual equivalence. Cognitive debriefing with members of the target population ensured clarity and cultural relevance.

Data Collection

Participants completed the Urdu questionnaire through structured face-to-face interviews. Demographic and clinical data were collected separately. A subset of participants completed the questionnaire again after one week for test–retest analysis.

Psychometric Evaluation

Internal consistency was assessed using Cronbach's alpha. Test–retest reliability was evaluated using intraclass correlation coefficients. Construct and known-group validity were assessed through correlation and group comparison analyses. Exploratory factor analysis with Varimax rotation was conducted to examine dimensionality.

Ethical Considerations

Ethical approval was obtained from an institutional review board. Written informed consent was obtained from all participants, and confidentiality was maintained throughout the study.

RESULTS

The Urdu version of the questionnaire demonstrated strong internal consistency, with Cronbach's alpha values exceeding 0.70 across subscales and total scores. Test–retest reliability showed good temporal stability.

Construct validity analysis revealed that poorer self-reported visual acuity was significantly associated with lower VRQoL scores. Known-group validity testing showed that participants with visual impairment reported significantly poorer quality of life compared to those without impairment.

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Exploratory factor analysis identified a multidimensional structure consistent with functional, emotional, and social domains of vision-related quality of life.

DISCUSSION

The findings indicate that the Urdu version of the vision-related quality of life questionnaire is psychometrically sound and culturally appropriate for use in Pakistan. The results align with previous studies demonstrating the reliability and validity of VRQoL instruments in diverse populations. The ability of the questionnaire to discriminate between different visual health statuses supports its clinical utility.

The study also reinforces existing evidence that low vision profoundly affects multiple aspects of daily life, highlighting the importance of comprehensive assessment and rehabilitation services.

CONCLUSION

The Urdu version of the vision-related quality of life questionnaire is a reliable and valid instrument for assessing VRQoL among Urdu-speaking individuals with low vision. Its use can enhance clinical assessment, guide rehabilitation strategies, and support research aimed at improving the quality of life of visually impaired populations in Pakistan.

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