Enhancing Diabetes Knowledge Assessment: Revision and Psychometric Evaluation of the DKQ for Type 2 Diabetes Patients

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DESCRIPTION

The revision and psychometric evaluation of the Diabetes Knowledge Questionnaire (DKQ) for people with Type 2 diabetes represent a critical step in enhancing our understanding of diabetes education and management. The DKQ is a tool designed to assess the knowledge levels of individuals with Type 2 diabetes regarding their condition, treatment, and self-care practices. This process involves refining the questionnaire to ensure its relevance, validity, and reliability in measuring diabetes knowledge among the target population. The revision of the DKQ typically begins with a comprehensive review of existing literature, guidelines, and expert opinions related to Type 2 diabetes knowledge domains. This step helps identify key areas of knowledge that are essential for effective diabetes self-management, such as understanding blood glucose monitoring, medication management, dietary guidelines, physical activity recommendations, and potential complications of diabetes. Once the knowledge domains are established, the DKQ is revised to include relevant and up-to-date questions that accurately reflect the current understanding of Type 2 diabetes management. This may involve modifying existing questions, adding new questions, or removing outdated or less relevant items. The revised DKQ is then subjected to pilot testing among a sample of individuals with Type 2 diabetes to assess its clarity, comprehensiveness, and appropriateness. Following the revision process, the psychometric evaluation of the DKQ is conducted to determine its validity and reliability as a measurement tool. Validity refers to the extent to which the DKQ measures what it intends to measure, i.e., diabetes knowledge, while reliability refers to the consistency and stability of the DKQ scores over time and across different populations. Several methods are used to assess the validity of the DKQ, including content validity, construct validity, and criterion-related validity. Content validity involves ensuring that the DKQ adequately covers the relevant knowledge domains of Type 2 diabetes and that the questions are clear and understandable to the target population. Construct validity examines whether the DKQ measures the theoretical constructs of diabetes knowledge as intended, using statistical analyses such as factor analysis to identify underlying dimensions of knowledge. Criterion-related validity assesses the correlation between DKQ scores and other established measures of diabetes knowledge or clinical outcomes, providing evidence of the DKQ's ability to predict relevant diabetes-related behaviors or outcomes. Reliability of the DKQ is evaluated through internal consistency and test-retest reliability. Internal consistency assesses the degree of correlation among items within the DKQ, with higher correlations indicating greater homogeneity of the questions in measuring diabetes knowledge. Test-retest reliability measures the stability of DKQ scores over time, typically assessed by administering the questionnaire to the same individuals on two separate occasions and comparing their scores for consistency. The psychometric evaluation also includes assessing the sensitivity of the DKQ to detect changes in diabetes knowledge over time or in response to educational interventions. This involves administering the DKQ before and after an educational program or intervention and examining whether DKQ scores demonstrate meaningful changes reflective of improved knowledge levels among participants. Overall, the revision and psychometric evaluation of the Diabetes Knowledge Questionnaire for people with Type 2 diabetes are essential processes in ensuring that the questionnaire is a valid, reliable, and sensitive tool for assessing diabetes knowledge among individuals with this condition.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.