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Validity and reliability of a self-report measure of diet in patients with type 2 diabetes

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Purpose: Patients with diabetes and low literacy and numeracy skills have difficulty adhering to dietary recommendations. Practical and effective tools assessing self-management behaviors are needed to help evaluate interventions tailored to the needs of individual patients or population groups. This study examined the psychometric properties of a short 11-item version of the Personal Diabetes Questionnaire scale (PDQ-11) among patients with Type 2 diabetes.

Design Methods: Participants (n=411) completed the PDQ-11 (English or Spanish version), the Summary of Diabetes Self-Care Activities (SDSCA), the Perceived Diabetes Self-Management Scale (PDSMS), and the Adherence to Refills and Medications Scale (ARMS). Statistical analyses were conducted to explore the structure of the PDQ-11, and its internal reliability and validity.

Results: Participants were 64% non-Hispanic whites; 18% non-Hispanic blacks; 24% Hispanics; with mean age, 49.3±9.4 years; mean education of 11.2±3.3 years; mean BMI, 35.8±8.9 kg/m²; and A1C, 9.6%±2.1. Factor analysis of the PDQ-11 revealed four components (items loading >0.40;

cronbach's $\alpha=0.50 - 0.81$): eating behavior problems; use of information for dietary decision making; calorie restriction; and activity and exercise. eating behavior problems and use of information for dietary decision making had the strongest associations with the diet subscales of the SDSCA; general diet ($r_s=-0.29$ and 0.31 , respectively); specific diet ($r_s=-0.20$ and 0.19 , respectively) and were also correlated with the PDSMS and ARMS scores (all $p_s<0.001$). Different PDQ-11 subscales predicted BMI (Calorie Restriction, $\beta = 0.17$, $p<0.01$; and activity and exercise, $\beta=-0.17$, $p<0.01$); diastolic blood pressure (eating behavior problems, $\beta =-0.14$, $p<0.01$) and systolic blood pressure (Eating Behavior Problems, $\beta =-0.17$, $p<0.01$).

Conclusion: The PDQ-11 is a valid measure of dietary behaviors in patients with type 2 diabetes; its use may help to tailor individual nutrition intervention strategies

Biography

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