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Validation of Diabetes Medication adherence scale in the Lebanese population

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Introduction: Diabetes mellitus is a major global public health problem and lack of adherence to medication causes suboptimal glycemic control increasing complication rates, costs and mortality.   e objective of this study was to validate the Diabetes Medication Adherence Scale (DMAS-7) developed to evaluate the adherence to oral anti-diabetics in Lebanon, determine its' concordance with another validated scales and to assess adherence rates and factors.

Methods: A descriptive cross-sectional study was conducted on a sample of Lebanese diabetic patients selected from private and hospital clinics located mainly in Beirut, Lebanon. Data was collected from adults aged above 18 years, diagnosed by type 2 diabetes and taking an oral anti- diabetic for at least 6 months using a questionnaire.   e level of adherence was measured using the DMAS-7 and the Lebanese Medication Adherence Scale (LMAS-14). Bivariate and multivariate analyses were conducted, and the scale was validated in terms of reliability, predictive ability, and construct validity using SPSS version 19.

Results: Out of 300 eligible patients, the rate of adherence was only 33.7% using DMAS-7.   is suboptimal adherence level was signi cantly associated to many factors including monthly medication cost, diet follow-up, HbA1c, postponing doctors' visits, feeling of treatment burden and ine cacy, number of medications per day, etc. Other measures of validity showed good reliability shown by Cronbach alpha= 0.627, good predictive value measured by the area under the ROC curve= 0.675 (p-value <0.001), good construct validity with LMAS-14 scale (Spearman's rho = 0.846; Cohen's kappa = 0.711). DMAS-7 and LMAS-14 were correlated (ICC average measure = 0.675; p-value <0.001) which shows a good concordance and increases the validity of the DMAS-7. Logistic regression revealed that having an optimal glycated hemoglobin Hb1Ac percentage (OR= 0.779; 95% CI= 0.671-0.903; p=0.001), performing regular physical activity (OR 2.328; 95% CI= 1.347- 4.02; p= 0.002) and following diet program (OR 3.294; 95% CI 1.483- 7.319; p= 0.003) signi cantly increased medication adherence. However, postponing doctors' visit (OR 0.453; 95% CI 0.209-0.985) was signi cantly associated with poor adherence.   e DMAS score was found to be a signi cant predictor of HbA1c control (p-value< 0.05) where an increase of patients' adherence to his oral anti-diabetics calculated by DMAS results in a 2 fold higher probability that the HbA1c becomes controlled (OR= 2.006).

Conclusion: e DMAS-7 is a reliable and valid instrument for assessing adherence to medications that can be used in order to assess adherence and help achieve better glycemic outcomes..

Biography

Amal Al-Hajje has her expertise in research and teaching in Lebanese University since 2005. She has many publications after years of experience in clinical pharmacy and therapeutics, pharmaco-epidemiology, and hospital pharmacy. She is a member of the Pharmacy Lebanese Colloquium Comity since 2006 , a member of the Lebanese Order of Pharmacists since 1999, a member of the Clinical Pharmacy department team- Lebanese University since 2006, and a member of Clinical Research and Pharmaco-epidemiology team- Lebanese University – Faculty of pharmacy.

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