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Evaluation of medication adherence among Lebanese diabetic patients

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Introduction: Diabetes type II (DTII) is one of the major public health concerns. Despite the progress made in the treatment of DTII over the years, lack of adherence to diabetic treatment is associated with sub-optimal treatment efficacy and poor glycemic control. The main objective of this study is to evaluate the adherence of DTII Lebanese patients to non-insulin antidiabetic treatment. The secondary objective was to determine the factors influencing this adherence.

Methods: A cross-sectional study was conducted on a sample of Lebanese diabetic patients selected from private clinics and clinics located in several hospitals in Beirut, Lebanon. Data was collected using a questionnaire filled by trained interviewers, and the level of adherence was measured using the scale of Morisky (8-item Morisky Medication Adherence Scale: 8-MMAS). Bivariate and multivariate analyses were conducted using SPSS version 20.

Results: The majority of the population were women (54.3%) and obese (47.8%). Only 20.4% followed a diet recommended by the physician and 29% attained the glycemic control target of HbA1C less than 7%. Among the 245 patients who were included, 31.8% had high adherence, 31.1% had medium adherence, and 37.1% had low adherence. Mean 8-MMAS score was 5.81 ± 2.27 . According to the bivariate analysis, following physical activity ($p=0.001$), diet recommended by physician ($p<0.001$), glycemic control ($p=0.031$), and visits to the endocrinologist ($p<0.001$) were positively associated with medication adherence; while taking sulfonylureas ($p=0.026$), presence of chronic obstructive pulmonary disease/asthma ($p=0.037$), occurrence of adverse events ($p=0.024$), presence of complications ($p=0.004$), and polymedication ($p=0.016$) are the most important factors associated negatively with the drug adherence. The fact that the treatment showed a heavy burden ($p<0.001$), drug discontinuation according to the state of health ($p<0.001$), traveling ($p<0.001$), glycemic disorder ($p=0.009$), forgetfulness ($p<0.001$), high cost of drugs ($p=0.007$), complexity of treatment ($p=0.001$), and its ineffectiveness ($p=0.003$) were predictors of poor adherence in a multiple linear regression. Logistic regression showed that the increase of working hours ($p=0.01$), following the advice given by the relatives not by physician ($p=0.048$), and skipping or doubling the dose ($p=0.001$) were associated with a decrease in the level of adherence. Furthermore, females ($p=0.037$), and elderly ($p=0.015$) were more likely to have low medication adherence, while following of diet ($p=0.012$), and instructions ($p<0.001$) recommended by physician contributed to medication adherence as a protective factor.

Conclusion: Medication adherence is sub-optimal in Lebanon and the glycemic control remains difficult to establish. The development of intervention programs and education strategies are needed to solve these identified factors. A more intensive communication between patients and health professionals is an essential step in improving medication adherence in order to prevent the complications and reduce death rate.

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