

Impact of anxiety, depression and disease-related distress on long-term glycaemic variability among subjects with Type 1 diabetes mellitus

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Abstract

Aims: Anxiety, depression, and disease-related distress are linked to worse overall glycaemic control, in terms of HbA1c. This study was aimed to evaluate whether these emotional disorders are associated with long-term glycaemic variability in subjects with Type 1 diabetes. **Methods:** Longitudinal retrospective study. Six-year HbA1c data (2014-2019) from 411 subjects with Type 1 diabetes who had participated in a previous study to design a diabetes-specific quality of life questionnaire in the year 2014 were included. Scores for Spanish versions of the Hospital Anxiety and Depression Scale (HADS) and Problem Areas in Diabetes (PAID) scale were obtained at baseline, along with sociodemographic and clinical data. Long-term glycaemic variability was measured as the coefficient of variation of HbA1c (HbA1c-CV). The association between HADS and PAID scores and HbA1c-CV was analysed with Spearman correlations and multiple regression models, both linear and additive, including other covariates (age, sex, diabetes duration time, type of treatment, use of anxiolytic or antidepressant drugs, education level and employment status). **Results:** Scores of depression, anxiety and distress were positively and significantly correlated to HbA1c-CV in univariate analyses. Multiple regression study demonstrated an independent association only for diabetes distress and anxiety scores ($p = 0.010$ and $p = 0.015$, respectively). Age, diabetes duration time, education level and employment status were also significantly associated with HbA1c-CV. **Conclusion:** There is a relationship between psychological factors and long-term glycaemic variability in subjects with Type 1 diabetes.

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