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HOW FEAR OF HYPOGLYCEMIA INFLUENCES HEALTH-RELATED QUALITY OF LIFE IN TYPE 2 DIABETES MELLITUS PATIENTS IN SPAIN? **HIPOQOL-II STUDY**

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BACKGROUND

- Hypoglycemia is the most frequent complication in diabetic patients¹.
- Hypoglycemia and the fear of suffering it in diabetic patients can limit the effectiveness of current treatments to reach and maintain an optimal glycemic control ².
- Hypoglycaemia is an important factor in the glycemic control in terms of adherence and satisfaction with treatments³.
- The Health-Related Quality of Life (HRQoL) of patients with hypoglycemia can be diminished by the fear it produces, reducing productivity and increasing healthcare costs⁴.

1. Mayo Clin Proc 2010; 85:27-35
2. Diabet Med 2008;25:245-254
3. Diabetes Spectrum. 2002;15:20-27
4. J Med Econ 2011;14:646-55.

OBJECTIVES

Primary objective

- To explore the impact of fear of hypoglycemia in HRQoL in type 2 diabetes mellitus patients in Spain.

Secondary objectives

- To evaluate HRQoL in T2DM patients using the disease specific questionnaire ADDQOL.
- To evaluate the fear of hypoglycemia in T2DM patients using the HFS-II worry subscale.
- To describe the impact of hypoglycemia on HRQoL of T2DM patients.

MATERIALS AND METHODS

Study design:

- Observational, cross-sectional, multicentre design.

Sample selection:

- T2DM patients diagnosed at least 1 year before inclusion in the study, 18 years of age or older, attended in public healthcare centres in Spain, were consecutively recruited.

Research tools:

- Audit of Diabetes-Dependent Quality of Life (ADDQoL)¹.
- Worry Subscale of the Hypoglycaemic Fear Survey-II (HFS-II)².
- Visual Analogue Scales (VAS).

1. Qual life res 1999; 8:79-91.

2. Diabetes Care 1987;10:617-621

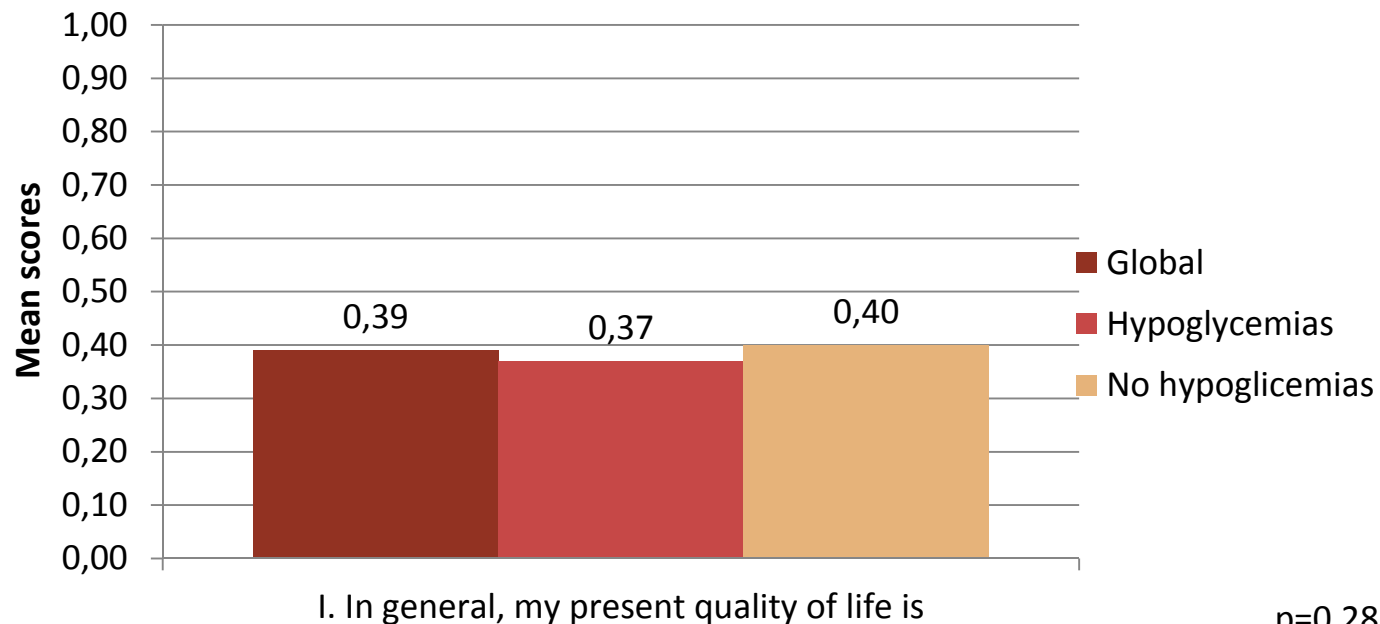
RESULTS: population

- **3,812 patients** participated in the study (661 health care centres: 77,77% primary care centres; 17 Spanish regions):
- 53.57 % were man, mean age (SD) was 63.70 (11.37) years, mean (SD) time from T2DM diagnosis was 9.67 (6.91) years.
- **44.88% referred at least one episode of hypoglycemia in the previous 6 months** that were more frequent (40.50%) and severe (43.37%) in the morning.
- **Mean time from T2DM diagnosis** ($p < 0.0001$), **frequency of microvascular** ($p < 0.0001$) and **macrovascular complications** ($p = 0.0002$) and **family history of T2DM** (< 0.0001) were significantly higher in patients with hypoglycemia compared to those without episodes.

RESULTS: ADDQoL scores

- The mean score of **present QoL** of patients (ADDQoL overview item-I) falls between “neither good nor bad” and “good”:

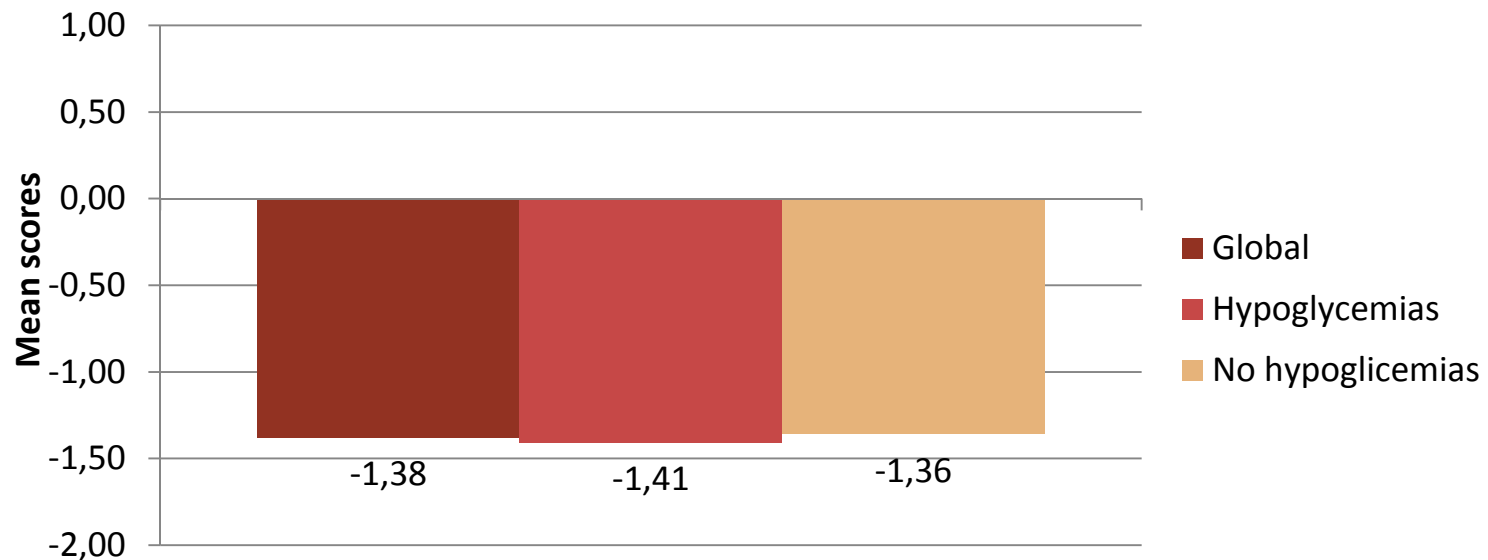
I. In general, my present quality of life is:						
excellent	very good	good	neither good nor bad	bad	very bad	extremely bad
3	2	1	0	-1	-2	-3



RESULTS: ADDQoL scores

- The mean score of QoL of patients “if they did not have diabetes” (ADDQoL overview item-II) falls between “a little better” and “much better”:

II. If I did not have diabetes, my quality of life would be:						
very much better	much better	a little better	the same	worse	very much better	much better
-3	-2	-1	0	1	-3	-2

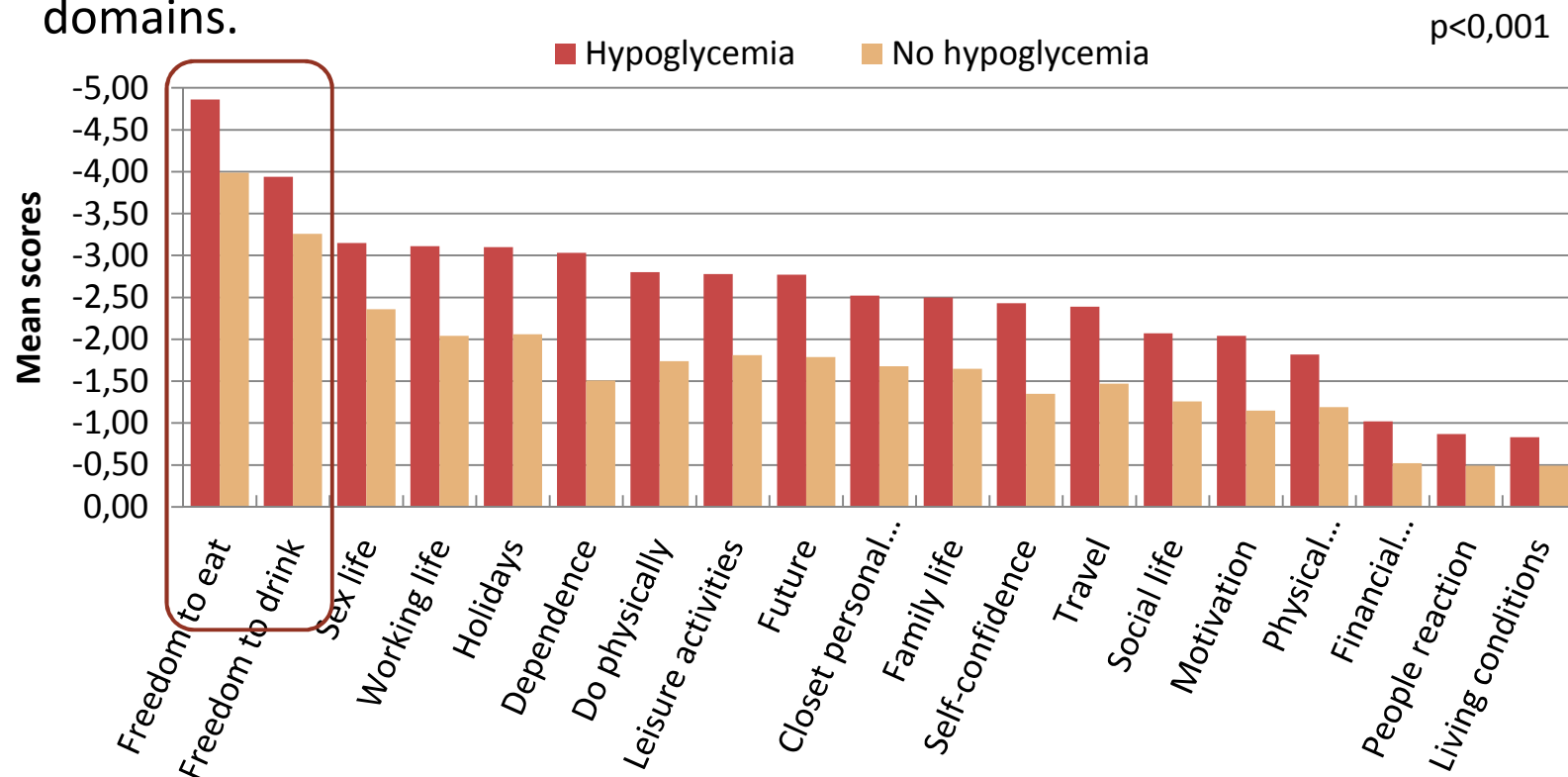


II. If I did not have diabetes, my quality of life would be

p=0.11

RESULTS: ADDQoL scores

- The mean score of each individual **ADDQoL domain** was significantly more negative in T2DM patients with hypoglycemia than in those without previous episodes.
- “**freedom to eat**” and “**freedom to drink**” were the most affected domains.



RESULTS: ADDQoL scores

- **Average Weighted Impact Score** (mean of scores for all domains) showed that T2DM had a greater significant negative impact on QoL in patients with hypoglycemia than in those without previous episodes:

Population	Average Weighted Impact Score, mean (SD)	p-value
Global	-2.01 (1.54)	-
Hypoglycemia	-2.48 (1.61)	p<0.0001
No hypoglycemia	-1.64 (1.36)	

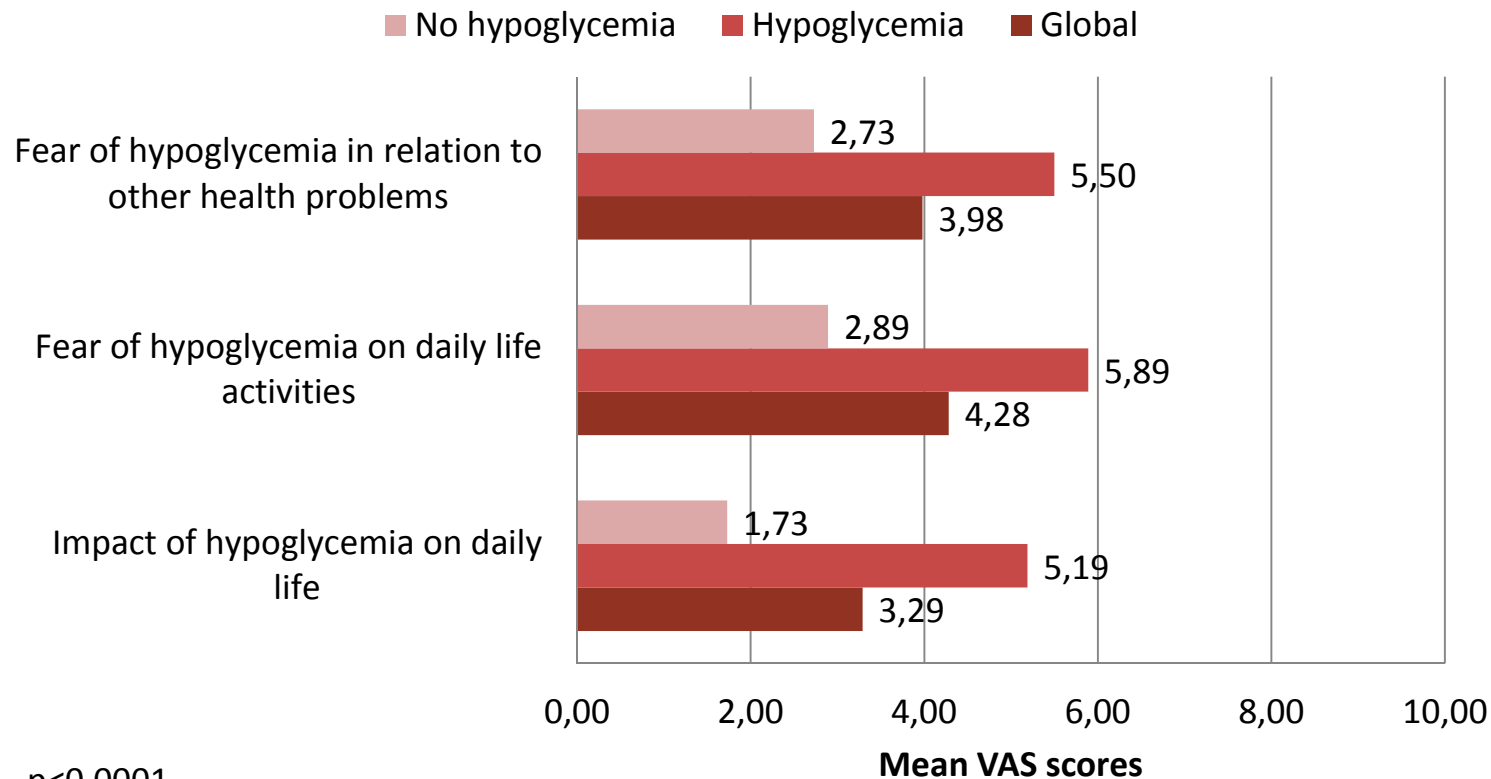
RESULTS: HFS-II worry subscale scores

- Mean (SD) **HFS-II worry subscale score** was higher in patients who reported hypoglycaemic episodes during the previous 6 months compared to those who did not.

Population	HFS-II worry subscale score, mean (SD)	p-value
Global	24.41 (17.05)	-
Hypoglycemia	31.32 (15.71)	p<0.0001
No hypoglycemia	18.85 (16.03)	

RESULTS: VAS scores

- Patients with hypoglycemias scored significantly higher the **impact and fear of hypoglycemia** on daily life, on daily activities and in relation to other health problems, compared to patients without previous hypoglycemia episodes.



RESULTS

- **Average Weighted Impact Score** (mean of ADDQoL scores of individual domains) negatively **correlated with HFS-II worry subscale scores**.

Correlation coefficient	Independence test
-0,441	p<0,0001

CONCLUSIONS

- T2DM negatively influences patients' HRQoL, especially when they suffered hypoglycemia.
- The fear of hypoglycemia affects HRQoL and daily-life activities of patients with T2DM.
- These results illustrate the impact of fear of hypoglycaemia in T2DM patients' HRQoL.
- Results of this nature should aid therapeutic decision making.

THANK YOU