

# Parental anxiety about hypoglycemia of children and adolescents with type 1 diabetes mellitus (T1DM) and the associated factors

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## Introduction

The anxiety for hypoglycemia is a major stress factor for parents of children with T1DM and has been associated with poor diabetic control, reduced insulin doses and school-age children

## Purpose

To determine the frequency and severity of parental anxiety for hypoglycemia and the associated factors

## Patients and Methods

The study included parents [21 (23.9%) fathers and 67 (76.1%) mothers] of 88 T1DM patients, with a mean±SD age of 12.63±3.58 years and disease duration of 4.56±3.63 years. Questionnaires HFS-P Worry (anxiety scale) and HFS-P Behavior scale were used and analyzed by single-factor analysis

## Results

Among the parents of T1DM children, 21.6% frequently experienced and 26.1% almost always experienced anxiety for hypoglycemia. Parental anxiety for hypoglycemia showed a linear correlation with the presence of specific behaviors to avoid it ( $p=0.421$ ,  $p<0.001$ ) (Table 1). Anxiety for hypoglycemia mainly occurred in parents aged between 26-35 years ( $p<0.036$ ) (Table 2) and mothers with the lowest educational level ( $p<0.039$ ). The use of insulin pump ( $p<0.034$ ), younger patients' age ( $p<0.001$ ) and early diabetes diagnosis ( $p=0.007$ ) were associated with a higher rate of specific behaviors to treat hypoglycemia. Parental anxiety for hypoglycemia was marginally non-significantly associated with poor glycemic control ( $HbA_{1c}>8\%$ ) ( $p=0.074$ )

Table. 1: Descriptive features of HFS-P sub-scales

	M.T (T.A)	P
HFS-P Worry	43,65 (14,50)	<b>&lt;0,001</b>
HFS-P Behavior	34,45 (6,96)	

Table. 2: Comparisons between subgroups of HFS-P questionnaire and age

Variables	Age of parents				P
	26-35	36-45	46-55	56-65	
HFS-P Worry	M.T (T.A) 53,00 (15,76)	M.T (T.A) 44,98 (14,49)	M.T (T.A) 38,27 (12,92)	M.T (T.A) 40,40 (10,78)	<b>0,036</b>
HFS-P Behavior	M.T (T.A) 39,00 (6,75)	M.T (T.A) 34,89 (7,04)	M.T (T.A) 32,31 (6,04)	M.T (T.A) 32,40 (8,02)	<b>0,058</b>

## Conclusions

Parents of T1DM children have anxiety for hypoglycemia in a significant percentage (26.1%). Hypoglycemia anxiety is mainly associated with younger patients' age and age at diagnosis, low maternal education and the use of insulin pump and does not appear to significantly affect glycemic control

