Concealment of Type 1 Diabetes in Adolescence Affects Adherence to Treatment, Metabolic Control, and Quality of Life

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Introduction

- Management of T1D is affected by physiological and behavioral factors.
- Some patients and their parents conceal the disease from peers and other family members.
- Non-disclosure of chronic diseases for fear of stigmatization can adversely affect clinical outcomes, social support and well-being of patients.
- T1D concealment from colleagues at work, or family members in adulthood is associated with less social support and poorer clinical outcomes.
- Evidence on the effects of non-disclosure of T1D in adolescence is limited.

Aim

To evaluate the association between concealment of Type 1 Diabetes (T1D) in adolescence and social support, quality of life, adherence to treatment, and metabolic control.

Method and Subjects

- Cross-sectional data: 69 adolescents w/ T1DM.
- Degree of concealment, demographics, diabetes management, and psychosocial issues were assessed via questionnaires, and clinical parameters derived from medical records
- Associations between disease concealment, and clinical and psychosocial study variables were assessed by Pearson correlation and stepwise linear regression models.

Results

- 53 participants (77%) reported some extent of concealment.
- Strong associations between concealment and negative clinical outcomes, including diminished adherence to treatment and elevated HbA1C.
- Strong association between disclosure status and psychosocial parameters including self-image, diabetes-related worries, and peer support.

Table 1: Selected patient characteristics according to degree of concealment

Characteristic	Concealment degree		
	Full disclosure	Concealment	p value
n	16	53	
Sex, male, n (%)	8 (50)	29 (55)	ns*
Age, years (mean ± SD)	15.6 ± 1.9	15.3 ± 1.8	ns*
Insulin pump treatment, n (%)	8 (50)	32 (60.4)	ns*
Duration of T1DM, yrs. (mean ± SD)	5.8 ± 3.6	5.7 ± 3.7	ns*
Religion, secular, n (%)	16 (100%)	47 (88.9%)	ns*
Paternal education, yrs. (mean ± SD)	14.9 ±2.7	13.6 ± 2.4	ns*
Maternal education, yrs. (mean ± SD)	14.6 ± 2.6	13.2 ± 2.3	ns*

*non-significant

Table 2: Correlations between concealment degree and study variables

Study Variables	Concealment degree	
Psychosocial variables	R	p-value
Acceptance of disease	-0.136	0.264
Friend support	-0.312	0.009**
QOL- impact	-0.183	0.132
QOL- worries	0.241	0.046*
Self- image	-0.253	0.036*
Stigma associated with T1D	-0.147	0.229
Clinical Outcomes	R	p-value
Adherence to blood glucose testing	-0.055	0.654
Adherence to diet restrictions	-0.114	0.350
Adherence to insulin injections	-0.290	0.016*
Adherence to pump use – including meal and correction boluses	-0.276	0.022*
Adherence to physical activity	-0.214	0.078
HbA1C ≥7.5%	0.240	0.047*

QOL – quality of life; **$p<0.01$, *$p<0.05$

Conclusions

- Concealment of T1DM in adolescents is common & associated with poor clinical outcome
- Concealment may have a significant role, more than previously appreciated, affecting both glycemic control & quality of life.
- Addressing disease concealment by caregivers may aid in achieving improved quality of life and metabolic control in adolescents with T1D