

# The Sugarsquare study: a multicenter randomized controlled trial concerning a web-based patient portal for parents of a child with type 1 diabetes

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## Introduction

### What do we know?

1. Parenting a child with type 1 diabetes (T1D) can be stressful
2. Parents indicated the need for tailored care, up-to-date disease information, local peer support and accessibility of the team
3. The Internet is expected to be a potential mode for delivery of these aspects, as an add-on to usual care

### What do we lack?

knowledge on feasibility and effects of an Internet intervention for parents of a child with T1D

### What do we aim for?

To assess the efficacy and feasibility of a web-based patient portal, Sugarsquare:

- Online parent-professional communication,
- Online peer support
- Onlinedisease information.

## Methods

### Design

A multicenter randomized controlled trial

- T0 = enrollment intervention exp group
- T1 = 6 months later
- FU = 12 months later

### Participants

- 189 parents of a child with T1D
- In 7 hospitals in the Netherlands

### Measures

#### Efficacy

- Parenting stress: PSI-SF
- HbA1c

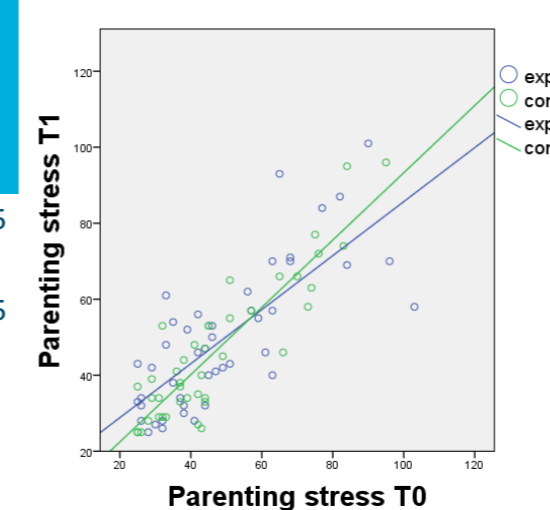
#### Feasibility

- Practicability (can they use it?)
- Acceptability (do they use it?)
- Demand (do they continue to use it?)
- Integration (does it fit with treatment)

## Results

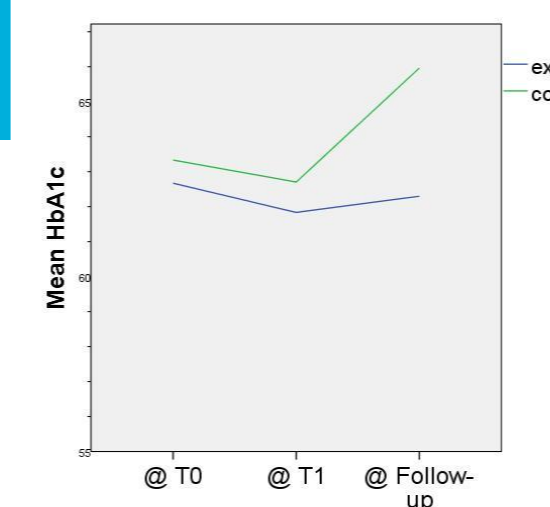
### Parenting Stress

	T0	T1	t
	M (SD)	M (SD)	
Exp	48.28 (20.40)	49.67 (18.79)	.18 p>.05
Contr	46.02 (17.83)	45.44 (18.77)	.49 p>.05
time*	T0-T1	F = .428, p = .515	
groups			



### HbA1c

	T0	T1	FU
	M (SD)	M (SD)	M (SD)
Exp	62.97 (12.20)	62.28 (9.60)	62.65 (9.35)
Contr	62.79 (9.37)	62.67 (8.85)	65.73 (10.60)
time*	T0-T1	F = 0.01, p = .927	
groups	T0-FU	F = 5.03, p = .027	
	T0-T2-FU	F = 2.69, p = .072	



### Feasibility

Practicability	90 % logged in at least once
Acceptability	100 % applications used
Demand	75 % logged in repeatedly
Integration	Fits with ISPAD guidelines? Yes, it does

## Discussion

Sugarsquare was found to be feasible.

Sugarsquare was also found to protect against increase in HbA1c at follow-up:

- Takes time to implement intervention

Sugarsquare was not found to improve parenting stress:

- Very low baseline levels
- Parents with high baseline levels might benefit

A web-based patient portal is a useful supplement to diabetes care.

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