

Higher chance to achieve optimal glycaemic control via a digital diabetes logbook: Subanalysis of the mySugr PRO randomised controlled trail

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Background & Aims

The digital logbook mySugr was evaluated in a randomized controlled trial (RCT) and demonstrated its efficacy regarding improved diabetes distress. In a subanalysis, the effect of the digital logbook on achieving optimal glycaemic control was tested.

Methods

The RCT was designed as a multi-center, open-label, parallel study with a 3-month follow-up in Germany. Participants were randomized to either using the mySugr app or to the treatment-as-usual control group in a 2:1 ratio.

People with type 1 diabetes, type 2 diabetes and gestational diabetes were included. Robust logistic regression analysis was used to assess whether the proportion of participants achieving an HbA1c ≤6.5% at 3-month follow-up differed between groups while controlling for baseline HbA1c (type 1 and type 2 diabetes only).

Results

- 424 participants were randomized: 282 to the intervention group and 142 to the control group (Table 1).

	Intervention group (n = 282)	Control group (n = 142)	P
Age (in years)	51.2 (14.6)	52.8 (16.3)	0.300
Gender			
Female	142 (50.4%)	71 (50.0%)	1.000
Male	140 (49.6%)	71 (50.0%)	
Body-mass index (kg/m ²)	33.0 (7.3)	31.5 (6.7)	0.037
Type of diabetes			
Type 1 diabetes	37 (13.1%)	16 (11.3%)	
Type 2 diabetes	188 (66.7%)	101 (71.1%)	0.179
Type 3 diabetes	0 (0%)	2 (1.4%)	
Gestational diabetes	57 (20.2%)	23 (16.2%)	
Diabetes duration (in years)	9.1 (10.1%)	10.5 (12.1%)	0.211
Diabetes therapy			
Lifestyle	120 (42.6%)	61 (43.0%)	1.000
OAD	147 (52.1%)	67 (47.2%)	0.355
Incretins	53 (18.8%)	33 (23.2%)	0.307
Insulin	174 (61.7%)	93 (65.5%)	0.458
Insulin pump	3 (1.1%)	2 (1.4%)	1.000
HbA1c (in %)	7.06 (1.50)	7.13 (1.49)	0.662

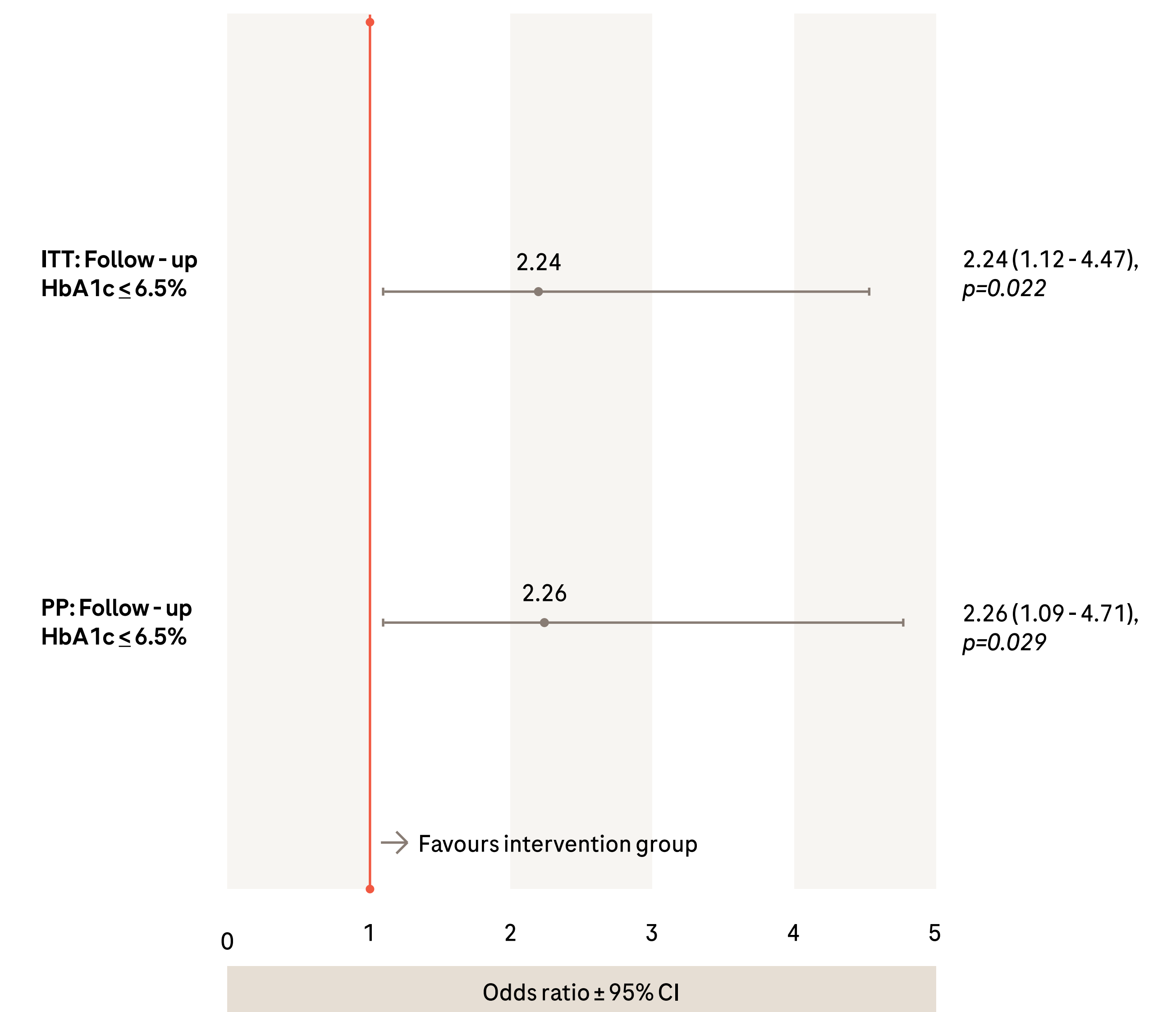
Data are M (SD) / n (%)

- In the total sample, 46.1% of the intervention group and 39.4% of the control group achieved an HbA1c ≤6.5% at follow-up (Table 2). When analyzing only people with type 1 and type 2 diabetes, 32.9% of the intervention group and 26.5% of the control group achieved an HbA1c ≤6.5% (Table 3).

Total Sample	Control Group	Intervention group	
Intention-to-treat			
Follow-up HbA1c > 6.5%	86 (60,6%)	152 (53,9%)	238
Follow-up HbA1c ≤ 6.5%	56 (39,4%)	130 (46,1%)	186
	142	282	
Per protocol			
Follow-up HbA1c > 6.5%	76 (62,8%)	124 (55,9%)	200
Follow-up HbA1c ≤ 6.5%	45 (37,2%)	98 (44,1%)	143
	121	222	

Total Sample	Control Group	Intervention group	
Intention-to-treat			
Follow-up HbA1c > 6.5%	86 (73,5%)	151 (67,1%)	237
Follow-up HbA1c ≤ 6.5%	31 (26,5%)	74 (32,9%)	105
	117	225	
Per protocol			
Follow-up HbA1c > 6.5%	76 (74,5%)	124 (67,8%)	200
Follow-up HbA1c ≤ 6.5%	26 (25,5%)	59 (32,2%)	143
	102	183	

- Figure 1 shows that the chance to achieve optimal glycaemic control was nearly doubled in the intervention group compared to the control group (OR=2.24; 95% CI 1.12-4.47; p=0.022).
- This was corroborated in the per-protocol population (OR=2.26; 95% CI 1.09-4.71; p=0.029).



ITT = intention-to-treat population, PP = per-protocol population

Figure 1: Odds ratio for achieving HbA1c ≤ 6.5%

Conclusion

After 3 months of using mySugr, more participants achieved optimal glycaemic control compared to the control group.

Besides improving diabetes distress, there is some indication that the mySugr digital logbook can also improve glycaemic control.