

# Diabetes distress reduces over time among adults with T2D receiving care in an ambulatory diabetes clinic setting.



## The Impact of Remote Patient Monitoring on Diabetes-related Emotional Distress: A Randomized Controlled Trial

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### PARTICIPANTS:

- Adults with T2DM with baseline 7.5-12.5% HbA1c
- ≥ 18 and ≤ 75 years of age
- Receiving care in ambulatory diabetes clinic setting
- Baseline outcomes presented in **Table 1**

Table 1	Total	Glooko	Control
Age, yrs (sd)	58.87 (10.39)	58.40 (9.64)	59.65 (10.68)
Women, %	47.69%	47.95%	47.72%
Caucasian, %	77.04%	74.49%	79.60%
Hispanic, %	9.3%	13.3%	5.3%
T2 Duration, yrs	15.26 (9.37)	14.86 (8.96)	16.18 (9.17)
HbA1c, %	8.73 (1.32)	8.74 (1.17)	8.65 (1.07)
Hypertension, %	66.84%	64.39%	69.39%
Dyslipidemia, %	66.33%	63.27%	69.39%
Weight, lbs	223.02 (53.82)	222.21 (55.72)	228.72 (50.34)
BMI, kg/m <sup>2</sup>	34.79 (7.38)	34.51 (7.72)	35.69 (6.94)

### INTERVENTIONS

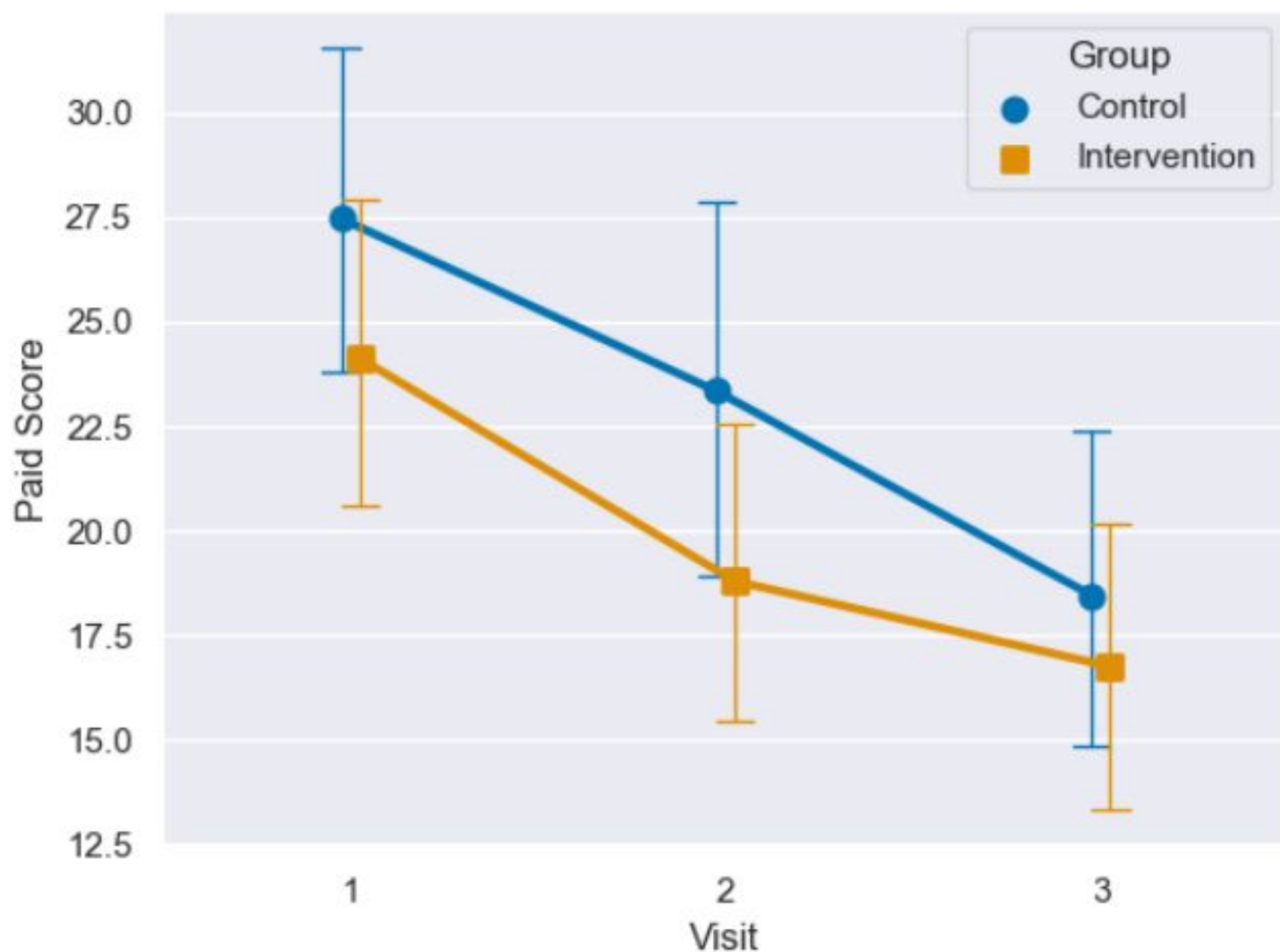
- **Glooko RPM + app (n=98)**
  - Self-management as instructed
  - Weekly monitoring of SMBG and glycemic indicators
  - Telephonic coaching on diet, exercise, medication (as needed)
  - Complementary patient digital therapeutic app
- **Control Group (n=98)**
  - Self-management as instructed without RPM or coaching

### RANDOMIZED CONTROLLED TRIAL

- 196 adults recruited from three clinics
- Baseline, 12 week, 24 week assessments
- Ancillary study main outcome: Problem Areas in Diabetes scale (PAID)

### RESULTS

Table 2. PAID Outcome Scores	Baseline		12-week interim		24-week Post-test	
	Glooko (n=95)	Control (n=91)	Glooko (n=81)	Control (n=81)	Glooko (n=72)	Control (n=73)
PAID Total	24.13 (17.64)	27.47 (19.16)	18.80 (16.02)	23.35 (20.09)	16.75 (15.08)	18.46 (16.07)
	Glooko (n=55)	Control (n=59)	Glooko (n=45)	Control (n=50)	Glooko (n=40)	Control (n=45)
PAID Score ≥17	35.82 (13.96)	37.94 (15.34)	26.83 (16.57)	30.90 (17.89)	23.69 (15.61)	23.64 (13.24)
	Glooko (n=20)	Control (n=25)	Glooko (n=18)	Control (n=22)	Glooko (n=16)	Control (n=18)
PAID Score ≥ 40	51.38 (7.64)	52.35 (12.3)	37.08 (17.67)	40.11 (16.28)	29.22 (17.69)	28.54 (12.56)



- ANOVAs revealed no intervention or interaction effects.
- ANOVAs revealed significant time effects with scores significantly improving at each study visit regardless of diabetes distress severity (all *ps* < .05).

### STUDY PURPOSE

Using secondary analyses, to examine whether a comprehensive RPM diabetes management program (Glooko RPM) improved diabetes-related distress compared to usual care in a sample of adults with T2D. (Clinical Trials: NCT02974816)

### BACKGROUND

- Type 2 diabetes (T2D) affects over 32 million Americans.
- T2D is recognized as an important cause of premature death and disability.
- Adults with T2D can experience **diabetes-related emotional distress** which is linked with poorer glycemic control and self-management.
- Digital health solutions such as connected diabetes devices and mobile-enabled **remote patient monitoring (RPM)** have shown benefit to glycemic control and in easing diabetes management burden.

### KEY FINDINGS

- These preliminary analyses suggest significant improvement in distress levels among both groups after treatment.
- Mobile-enabled RPM is not associated with an increase in distress, or is non-inferior to standard care with regards to distress.
- Additional future analyses will assess the impact of glycemic control, comorbid conditions, and weight on diabetes-related emotional distress.



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