

Tests in Tight Range in Gestational Diabetes Mellitus: How can an mHealth app help?

Michael Steinhauser-Mitter¹, Johanna Kober¹, Ezgi Cinar¹, Josip Zivkovic¹, Stephan Silbermann²

1.mySugr GmbH, Trattnerhof 1/5OG Vienna, 2.Roche Diabetes Care GmbH, Sandhofer Straße 116, D-68305 Mannheim

Background

- Gestational diabetes mellitus (GDM) is a common complication of pregnancy, characterized by glucose intolerance.
- Achieving tight glycemic control is crucial to avoid adverse maternal and fetal events.
- Managing GDM can be burdensome, requiring meticulous blood glucose monitoring.
- mHealth apps such as mySugr[®] can simplify self-management by easing data logging and monitoring.



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Study aim and method

Aim

Assess the impact of the mySugr mHealth app on glycemic control in GDM patients.

Inclusion criteria

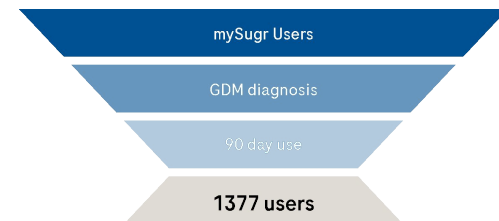
- mySugr users indicating GDM during app onboarding
- At least 90 days of app usage
- Use of a Bluetooth-connected blood glucose meter
- Minimum glucose measurements in the 30 days before and during the app usage period.

Metrics analyzed

- Percentage of tests in tight range
- Percentage of tests above tight range

Statistical analysis

- Bootstrapping for confidence intervals
- Two-sided, one-sample t-test for statistical significance



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Results and conclusions

Baseline control

- eHbA1c: $5.49\% \pm 0.02\%$
- Tests in tight range: $>85\%$
- Tests above tight range: $10.25\% \pm 0.04\%$

Changes over 3 months

- eHbA1c reduced by 0.09 ± 0.01 percentage points
- Increase in tests in tight range by 1.33 ± 0.24 percentage points
- Decrease in tests above tight range by 1.59 ± 0.24 percentage points
- p-value for all metrics: <0.001

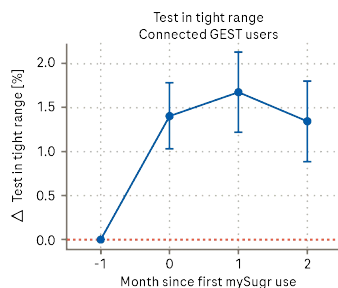


Fig.1: Change in tests in tight range per month over 90 days of mySugr use in percentage points.

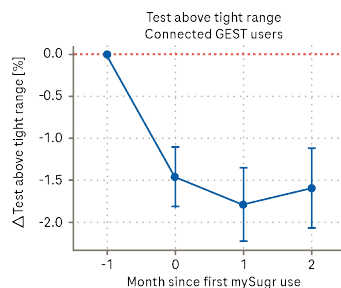


Fig.2: Change in tests above tight range per month over 90 days of mySugr use in percentage points.

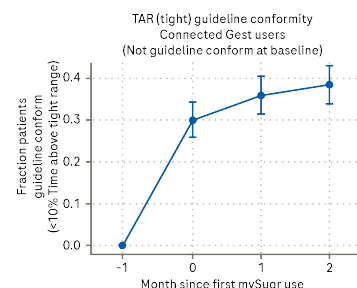


Fig.3: Fraction of patients that achieve the tests above tight range target that didn't achieve it at the baseline period.

Conclusions

- mHealth app usage correlates with improved glycemic control in GDM.
- Encouraging evidence suggests potential for enhanced pregnancy outcomes.
- Further randomized control trials are warranted for more conclusive evidence.