

## Background and aims

The aim of this study was to assess the impact of meal size on glycemic control for T1D adolescent patients equipped with Diabeloop's Closed Loop, DBLG1 System<sup>[1]</sup>, based on data from the clinical trial **NCT04190277**.

## Method

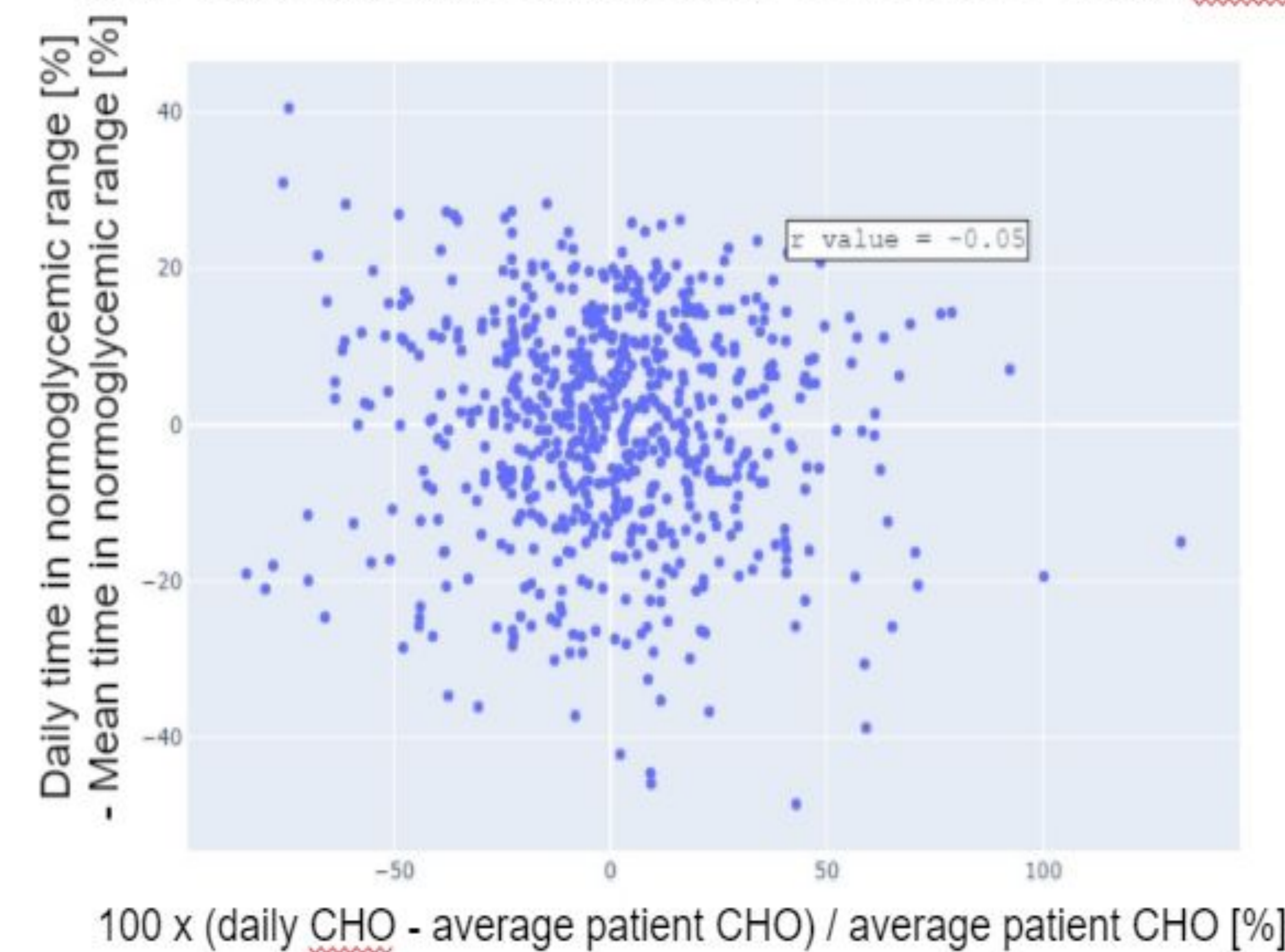
Among this dataset we isolated 37 adolescents. Only days with  $\geq 70\%$  available CGM data and  $>50\%$  of time in closed-loop were included in the analysis, resulting in an average duration of 18 days per patient for a total of 668 days of treatment.

To assess the impact of patient meal size (the daily sum of CarboHydrates (CHO) declared by each patient on his device) on glycemic control, we computed the difference in percentage point between patient daily value and patient daily mean value of both Time In Range (TIR, [70-180 mg/dL]) and Time In Hyperglycemia (TIHYPER,  $> 180$  mg/dL) and plotted it against each daily CHO as a percentage of the mean daily CHO for this patient.

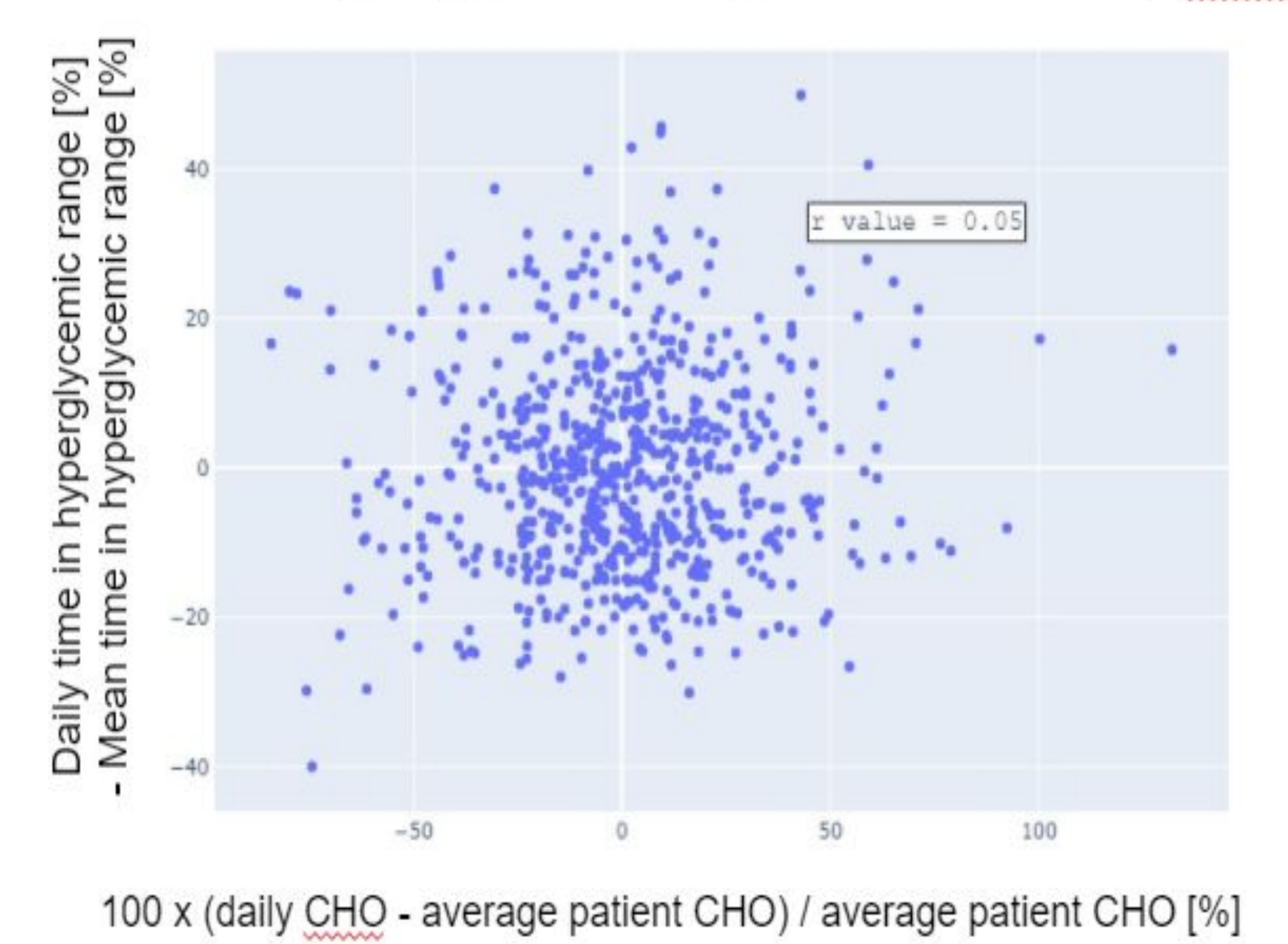
This way we could observe the effect of larger and smaller than average meals and determine if they tended to increase or decrease TIR and TIHYPER.

## Results

Time in normoglycemic range vs relative daily CHO



Time in hyperglycemic range vs relative daily CHO



We observed no correlation between the TIR and the daily amount of ingested CHO ( $r=-0.05$ ), nor between the TIHYPER and the daily amount of ingested CHO ( $r=0.05$ ).

## Conclusion

In conclusion, Diabeloop's DBLG1 System's performance was not altered by the variations in daily amount of carbohydrates ingested by T1D adolescent patients.

## References

[1] Benhamou, P.Y., et al. "Closed-loop insulin delivery in adults with type 1 diabetes in real-life conditions: a 12-week multicentre, open-label randomised controlled crossover trial." *The Lancet Digital Health* 1;1 (2019): e17-e25.

