



USER PROFILE, STRIP USE HABITS, AND BENEFITS OF THE FREESTYLE LIBRE SYSTEM: A REPEATED CROSS-SECTIONAL SURVEY OF COMMUNITY PHARMACIES IN PORTUGAL

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PURPOSE

- Monitoring of blood glucose is key for safe and effective diabetes management. Traditionally, blood glucose monitoring has been performed using self-monitoring (SMBG) methods based on painful and inconvenient measures of capillary glucose levels. In contrast, continuous glucose monitoring (CGM) methods based on interstitial fluid levels, offers a much more efficient and comfortable solution¹.
- The flash glucose monitoring system FreeStyle Libre (FSL) was the first CGM reimbursed in the Portuguese market, in 2018, and represented a paradigm shift in the lives of people with diabetes.
- A yearly nationwide survey in community pharmacies was set up to characterize FSL pattern of use and its impact on the lives of the users including blood glucose strip consumption.

METHODS

- In 2022, a random sample from 1500 pharmacies affiliated with the Portuguese National Association of Pharmacies was invited to participate in this cross-sectional study that captured self-reported data from privately- or publicly-insured patients at the time of FSL sensor purchase.
- For participating pharmacies, and whenever FreeStyle Libre was dispensed, a survey screen was automatically activated for completion in the computer system of the pharmacy or, if not possible, a form was sent to fill out via browser.
- Study was powered to estimate national proportions with maximum absolute error 3.0% and 95% confidence level.

RESULTS

- 194 pharmacies participated, providing a total of **1073 completed surveys**. All regions of Portugal were represented; average regional coverage rate was 6.6%.
- Almost 90% of the patients were Type1 or Type 2 MDI (Multiple Daily Injection)** and the majority (71%) indicated using the sensor for more than one year (table 1).

Table 1. User Profile

User profile	
Age classes, years	% (n=1073)
< 12	5.5
13-17	3.4
18-64	61.2
>65	29.9
Diabetes Type	
Type 1	54.9
Type 2 MDI	33.2
Type 2 non-MDI	9.2
Gestational	0
Unknown	2.7
Sensor usage period, months	
< 2	5.8
2-6	8.9
7-12	14.1
13-24	23.7
>24	47.6

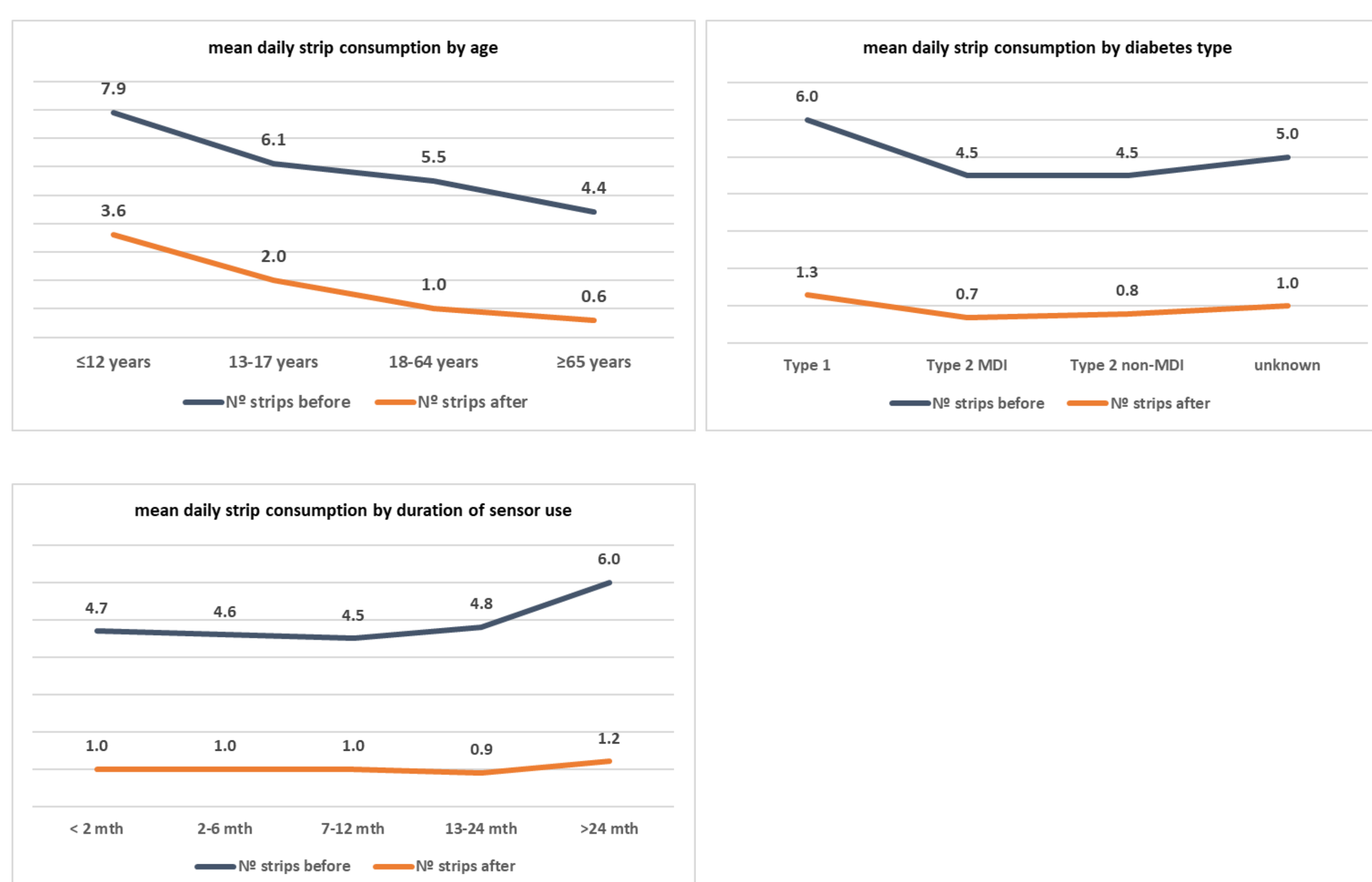
MDI - Multiple Daily Injection

- When asked about the perception of their diabetes control while using FreeStyle Libre, the vast majority (89%) considered that **diabetes management “improved” or “improved a lot” with the use of FSL.**

STRIP CONSUMPTION

- Overall, FSL users indicated utilizing a mean of 5.3 strips/day prior to adoption of FSL, decreasing to 1.1 strips/day (p<0.001) post-adoption (a 79% reduction).**
- 76% of FSL users indicated not using strips or using them only sporadically.**
- Strip use pre-FSL was greater for younger users (7.9 and 6.1 strips/day for users ≤12 and 13-to-17 years of age, respectively), while more moderate among older users (5.5 and 4.4 strips/day for users 18-to-64 and adults 65+, respectively).
- T1DM users reported an important reduction in strip use (a 78% reduction) from 6.0 to 1.3 strips/day. T2DM MDI and non-MDI users had a similar strip reduction (84% and 82%) from 4.5 strips/day to 0.7 and 0.8 strips/day, respectively.

Fig 1. Mean daily strip consumption before and after start using the sensor, by age, diabetes type and duration of sensor use.



SUMMARY – CONCLUSIONS

- In Portugal, the majority of FSL users are MDI patients and FSL is perceived to improve diabetes control, in line with clinical evidence.
- FSL users reported a reduction in strip use, irrespective of age, diabetes type, or duration of sensor use. These findings suggest a favorable contribution for the cost-effectiveness profile of FreeStyle Libre and the quality of life of the users.

DECLARATION OF INTEREST

- Abbott provided funding for this study.
- Fleur Levrat-Guillen is an Abbott employee and stockholder.
- J Coaquira Castro is a former Abbott employee.

REFERENCES

- Sara Charleer et. al; Quality of Life and Glucose Control After 1 Year of Nationwide Reimbursement of Intermittently Scanned Continuous Glucose Monitoring in Adults Living With Type 1 Diabetes (FUTURE): A Prospective Observational Real-World Cohort Study. Diabetes Care 1 February 2020; 43 (2): 389–397.