

The determinants of using Digital Health Solutions for people living with type 1 and type 2 diabetes in France

P. Cerletti¹, J. Laurent², N. Hermanns³;

¹Roche Diagnostics, Basel, Switzerland, ²Carenity, Paris, France, ³Forschungsinstitut der Diabetes Academy Mergentheim (FIDAM), Bad Mergentheim, Germany.

Background and aims: Digital Health Solutions (DHS) bear great potential to support people with diabetes (PwD) in their daily diabetes management aiming to lower their diabetes distress and increase quality of life. However, there is still lacking evidence around the determinants of using DHS, specifically involving the direct perspective of PwD. Patient-centricity has gained vast importance due to the misalignment on what patients deem important for their disease management and the data collected and reported. In this study, we integrated the perspective of PwD in assessing the use of DHS and potential determinants in a French cohort using a patient-centered cross-sectional survey.

Materials and methods: We conducted the survey from April to July 2022 including 301 PwD (T1D n=149; T2D n=152) living in France. A three-step process was applied to develop the survey. After an initial literature review, we engaged PwD and diabetes advocacy organizations to jointly draft the survey. It was finalized after a cognitive debriefing with a separate group of PwD to test for coherence and acceptability. We created three categories of DHS, aiming to cover most existing solutions in the market, as following: (1) DHS to access general information, education, and support related to your health and diabetes; (2) DHS to collect and use your own health data to help with daily self-management; (3) DHS to obtain remote care and share information between you and your health care professionals. Selected potential determinants for using DHS were age, sex, diabetes type and duration, health status, use of glucose monitoring systems, treatment and comorbidities. The sample was weighted according to the age distribution of the French population (INSEE Report 2021) to increase representativeness. Multiple logistic regression models were performed to test the association of the potential determinant variables and the usage of DHS.

Results: Information solutions were most commonly used (53%), compared to self-management (46%) or remote care solutions (35%). The usage of information solutions (1) was significantly associated with health status displaying an odds ratio of 0.76 (95%CI: 0.58; 0.98, p=0.040) for subjects with worse health status. Using self-management solutions (2) was significantly associated with intensified treatment and comorbidities with odds ratios of 1.29 (95%CI: 1.10; 1.51, p=0.002) for intensified treatment and 0.70 (95%CI: 0.49; 1.00, p=0.002) for increased number of comorbidities, respectively. The use of remote care solutions (3) was significantly associated with intensified treatment and duration of diabetes with odds ratios of 1.27 (95%CI: 1.08; 1.51, p=0.005) for intensified treatment and 1.09 (95%CI: 0.49; 1.17, p=0.012) for increased duration of diabetes, respectively. Age, sex, diabetes type and using glucose monitoring systems showed no significant difference in the usage of DHS.

Conclusion: Intensified diabetes treatment, increased diabetes duration and comorbidities seem to be relevant predictors for using DHS. Participating PwD with comorbidities were less likely to use DHS, although they may benefit from using DHS. In this multivariate analysis, younger age and type 1 diabetes were not significant predictors of DHS use when controlling for confounding variables. More research is required to identify why PwD with potentially greater benefits may use DHS to a lesser extent.

Disclosure: P. Cerletti: Employment/Consultancy; This study was funded by Roche Diagnostics International AG. Cerletti P. is an employee at Roche Diagnostics International Ag – Basel Branch Diabetes Care.