

Examining the Effects of Third-Party Lifestyle App Usage Among People with Diabetes

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BACKGROUND AND AIMS

Lifestyle changes can be crucial for effective diabetes management, and understanding the influence of meal and activity-tracking apps on key clinical outcomes can help patients quantify and implement these changes. Such mobile apps can provide real-time tracking, personalized recommendations, and data visualization, and potentially facilitate better adherence to dietary guidelines and exercise routines. This study assessed the impact of third-party digital health apps—that is, those not tied to specific diabetes devices—on glycemic control, mental well-being, and BMI.

METHODS

From October to November 2023, 3,532 people with diabetes (PWD) in France, Germany, Italy, the Netherlands, Spain, Sweden, and the United Kingdom completed an online survey in which they reported their most recent HbA1c, estimated time-in-range (TIR), height, and weight. Additionally, mental well-being was assessed using the World Health Organization’s well-being index (WHO-5). Respondents were also asked to report which third-party smartphone apps they used for their diabetes management, if any, and were classified as either activity-trackers, diet-trackers, or lifestyle app non-users.

FIGURE 1: Third-party app usage by diabetes type

(% responding 'Yes' to usage of diet or exercise tracking apps)

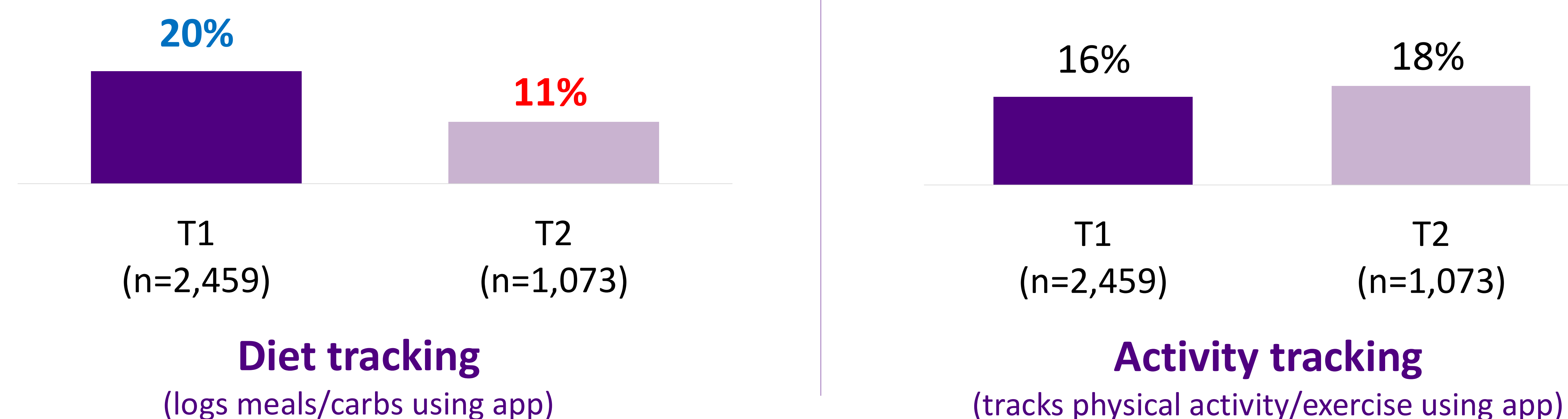


FIGURE 2: Impact of App Use on Average Time-in-Range

Type 1 Diabetes

Type 2 Diabetes

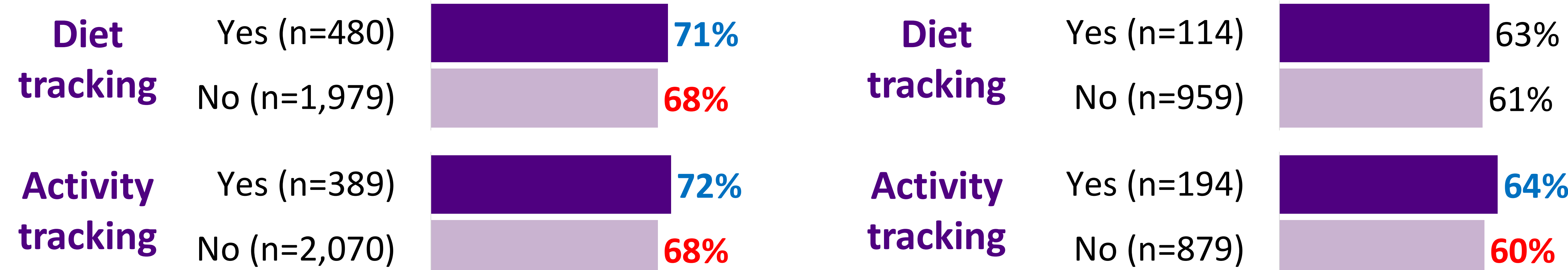
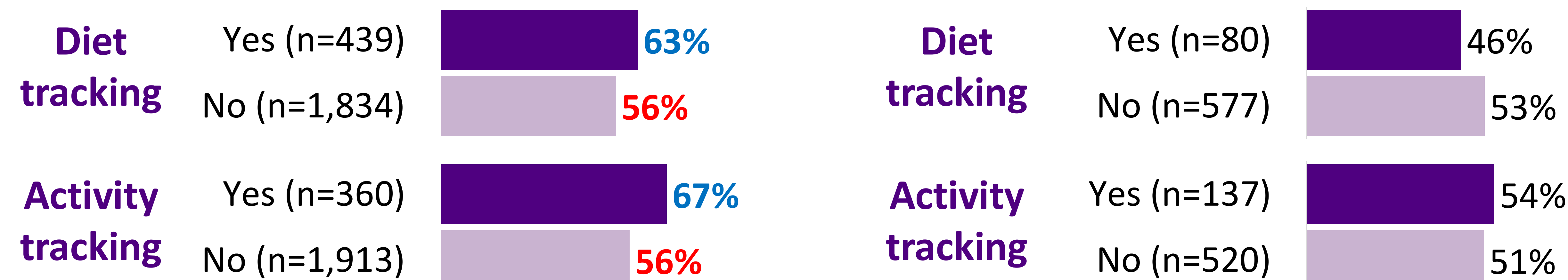


FIGURE 3: Impact of App Use on Recent HbA1c (% ≤7)

Type 1 Diabetes

Type 2 Diabetes



Values in blue are significantly greater than values in red. Statistical significance tested at the 95% confidence level. No significant differences found with respect to BMI ≥30 or mental well-being measured by the WHO-5 scale.

RESULTS

A significantly higher percentage of individuals with Type 1 diabetes (T1D) reported using a diet tracking app than those with Type 2 diabetes (T2D) ($p < 0.001$). Among T1Ds, those using meal tracking apps spent significantly more TIR ($p < 0.001$) and a significantly higher proportion had an HbA1c $\leq 7\%$ ($p < 0.05$). Similarly, T1Ds using activity tracking apps spent significantly more TIR ($p < 0.001$) and a significantly higher proportion had an HbA1c $\leq 7\%$ ($p < 0.001$). For T2Ds, those using exercise tracking apps had a higher average TIR ($p < 0.05$). No significant differences in BMI (75% had BMI ≥ 30 irrespective of diabetes type or diet and activity tracking, $p > 0.1$) or well-being (average WHO-5 score of 13 irrespective of diabetes type or diet and activity tracking, $p > 0.1$) were observed by app use within diabetes types.

CONCLUSIONS

Despite being used by only a fifth of PWDs—with even lower adoption among those with T2D—third-party lifestyle apps for meal and activity tracking have shown potential benefits, as users report improvements in glycemic control. Enhancing these apps with personalized nutrition or exercise recommendations and resources to foster community support may improve their effectiveness in relieving the burden of diabetes management.