



## A qualitative study of users' experiences after 3 months: the first Rwandan diabetes self-management Smartphone application "Kir'App"

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### ABSTRACT

**Background:** Owing to the increasing popularity of smartphones in Rwanda, almost 75% of the entire population currently has access to the internet. Although it has been shown that smartphone applications can support diabetes self-management, there was no diabetes self-management application available in Rwanda until April 2019. Based on the findings of a prior study assessing the needs and expectations of potential users, 'Kir'App' was developed to fill that void. The aim of this study was to evaluate users' experiences after 3 months of use of the first Kir'App prototype.

**Methods:** The participants of the previous study were recruited to take part in the current study. Semi-structured, in-depth, face-to-face interviews were conducted. Findings were analysed thematically using Mayring's method of qualitative content analysis. Both deductive and inductive approaches were used to analyse transcripts according to the original categories and subcategories of the previous study.

**Results:** A total of 14 people with either type 1 or type 2 diabetes participated in the study. Age of participants ranged from 19 to 70 years, with a mean age of 34.4 years. Seven of the eight original themes and one additional theme were subjoined: diabetes education and desired information provision; increased diabetes knowledge and awareness; monitoring and reminder functions; nutrition; physical activity; coping with burden of disease; app features;

use behaviour and usability. Overall, participants stated that the app increased their diabetes knowledge and assisted them with their diabetes self-management.

**Conclusion:** We found that the first prototype of Kir'App meets the overall needs and expectations of participating Rwandan diabetics. Having followed a strict user-centred design process, their qualitative insights will help to further improve the app.

### BIOGRAPHY

Claudine B. Kabeza has completed her PhD from Germany in 2021. Her thesis consisted in the development of the first diabetes self-management smartphone application (Kir'App) for Rwandan diabetics.

She is currently working with the Rwanda Diabetes Association and the Rwanda Biomedical Center to upgrade the Rwandan national diabetes education system through e-health technology.

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