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The digital profile of cardiac patients anno 2021

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Background: The usage of technology and digital applications for the prevention of cardiovascular diseases is increasing rapidly. When designing health applications, it is important to take into account the digital literacy and profile of the target users. However, few studies assess cardiac patients' digital profile and willingness to use health applications, though often concerns are raised regarding usability in this target population.

Purpose: We investigated the digital profile of cardiac patients, including their technology usage and interest in using health applications.

Methods: In the context of a European project, we launched a call in the local media (radio and newspaper) to recruit participants for a usability study for applications supporting secondary prevention of cardiovascular diseases. As part of the formative usability study, all patients filled in a custom-made background questionnaire that assessed their socio-demographical information and technology usage.

Results: Of all respondents to the call in the local media, 56 cardiac patients (47 male, 9 female) participated in the usability study in the local rehabilitation centre. The age distribution was quite diverse, ranging from people below 30 years until people older than 70 years, with 75% of the participants being 60 years or older. Most participants liked (53,57%) or strongly liked (28,57%) to use technology and applications. 58,93% of the participants had already prior experience with health applications and none of them disliked using health applications. The most frequently used device was a smartphone (Figure 1), being used by almost all participants (96,43%) on a daily basis, followed by a computer or laptop (80,36%). When looking at the newest technology, such as smartwatches and activity trackers, half of the participants use a smartwatch or activity tracker. In general, most technology usage was for personal purposes. The participants used technology for varying purposes, predominantly communication and information seeking, but also for games, music, social networking sites, and videos and pictures (as depicted in Figure 2).

Conclusion: The technology usage of cardiac patients and their familiarity with health applications is increasing rapidly, indicated by high possession of different types of technology and using these devices for varying purposes. This provides opportunities for telehealth applications supporting cardiovascular disease prevention. As a minor limitation, we should note that there is a possibility for bias in favour of the participants being tech-savvy, due to the way in which we recruited our participants. Nevertheless, a substantial number of participants still had no prior experience with health applications.
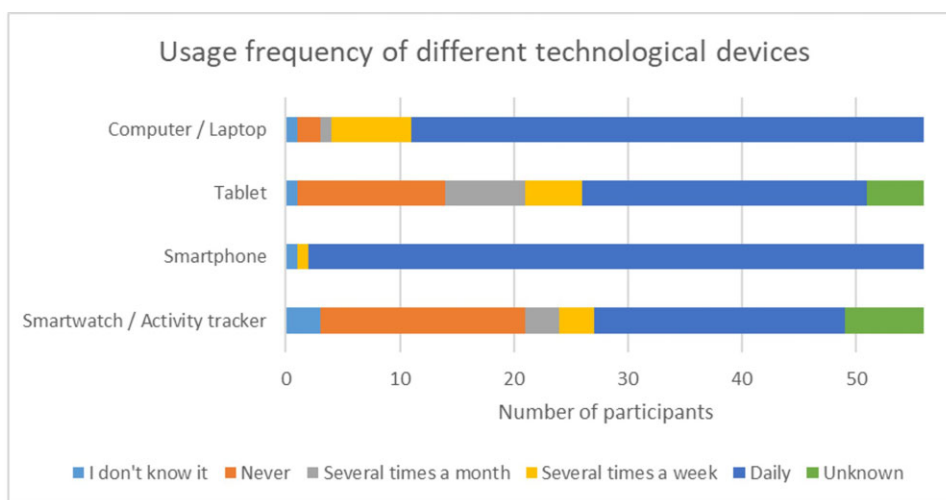
Figure 1: Usage frequency of different technological devices. Participants were asked to indicate for each type of device how frequently they use it.
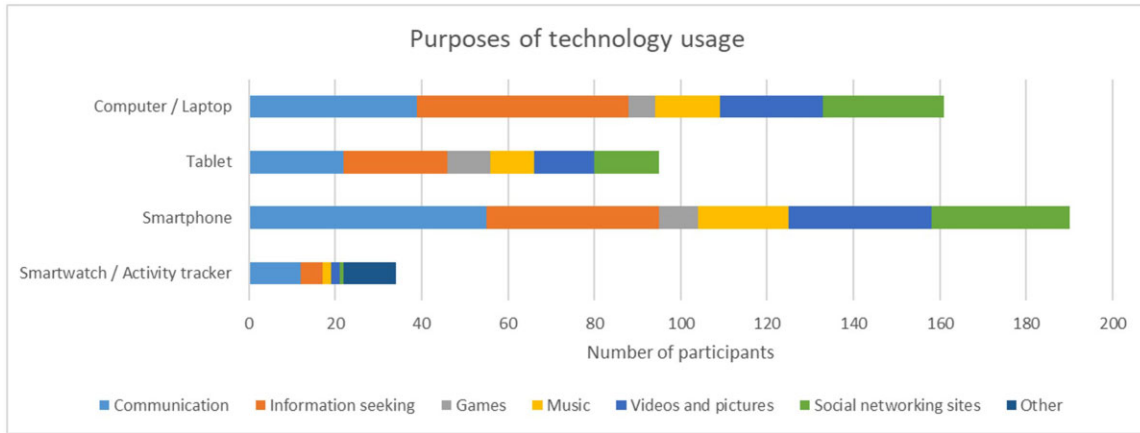
Usage frequency of different devices

Figure 2: Purposes of technology usage. Participants were asked to indicate for what purposes they use varying devices. They were allowed to indicate multiple purposes for a single device and vice versa.

Purposes of technology usage