

Potential of digital tools to assist medication management in mental health: a review of e-tools used in dementia

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Background There are many technological solutions available today, but information on their feasibility from the user's perspective is often missing. Digital tools, like mobile health (mHealth), may play a key role in facilitating medication management in dementia, where the users are frequently caregivers.

Purpose To identify mHealth solutions available for caregivers and people with dementia and their availability in the app stores; To assess the potential of mHealth to assist in medication management in two domains: 1) improving effectiveness and safety of medications used in these patients; 2) access of caregivers to healthcare professionals via the app.

Method A systematic overview of the literature (complemented with a search in app stores) was undertaken, where research papers describing the development of mHealth and/or interventions carried out using these tools for caregivers or patients were included (between January and November of 2020). We followed the PRISMA guidelines. The assessment of the potential of these tools to assist in medication management was evaluated initially by dividing mHealth solutions into two groups according to their objective (research purposes or practice implementation), availability in daily life (through app stores), and target population (caregiver and/or person with dementia).

Findings A total of 65 digital tools were included. Half of the tools (n=32; 49.2%) described in those studies were designed for research purposes only, and the other half (n=33; 50.8%) were implemented and available in the daily practice. None of the research-centred tools was available in app stores. The most prevailing target were those addressing both caregivers and elderly with dementia (14/32; 43.8%). Tools helping medication management or communication with healthcare professionals (13/32; 40.6%) were found in half of the papers included in this first group. Most of the tools available in the app stores addressed the caregiver (14/33; 42.4%), by including information from recent literature to teach and assist them in dealing with daily situations, e.g. symptom guide. Few tools accessible in stores incorporate a resource to manage medication or had the option to communicate with healthcare professionals (6/33; 18.2%). Apps specifically designed for patients usually contain cognitive training including memory exercises and brain games.

Conclusion Almost half of the apps identified in this review showed some functions for medication management and the possibility to communicate with healthcare professionals. Future work will explore carers' and healthcare professionals' views on core domains to be included in a digital tool that could be adapted to the Portuguese context.