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Smart medication organizer – one way to promote self-management and safety in drug administration in elderly people

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Background

Medication management among older persons is complex related to a combination between frailty, comorbidity and polypharmacology. In Sweden, it is found that 10 percent of persons older than 75 years have ten or more different medications per day [1] and 30% of hospital admissions are drug related [2]. The most common medication errors are associated to the complexity of the administration process, communication and safety culture [3]. It is also known that safety and adherence to medication increase in conjunction with self-management [4,] and good relation with care professionals [5]. Methods used to increase medication self-management and safety in home care includes different forms of drug dispensers. However, studies shows that some of these devices are not suitable for older persons with recurrent medication adjustments or poor memory as they are inflexible and entail a lower degree of self- management [6, 7]. Another aspect is that care professionals cannot provide adequate information thus they might not have the overall picture of the medication list and only receives information from a snapshot of the day [7]. Thus, this project focuses on older persons' everyday living and on the understanding of their unique living circumstances with respect to information and communication with care professionals in order to increase medication self-management and safety. The aim with the project is to develop and evaluate a smart medication organizer which promotes older persons medication self- management, safety, information, and communication with care professionals.

Methods

The project is transdisciplinary, thus combining technology, nursing, marketing and equity perspective. We are going to use a participatory design and in the implementation phase an experimental design. Using both quantitative and qualitative approaches allows to get, increased generalized knowledge and deeper understanding of how support for medication self-management, safety and information can be developed and implemented. The project comprises three phases; I) development of methods and tools for: a smart medication organizer, a digital binder for communication, and in-door activity monitoring for information; II) pilot the implementation with 5 older adults; and III) intervention and evaluation of the integrated system.

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