
CONFERENCE ABSTRACT

A self-management system for complex chronic patients

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Current healthcare systems, designed to cope with acute disease, did not change when chronic disease became the major issue. Facilitating new forms of active participation by patients and consumers in the collection of personal health data will improve the quality of care delivered to patients through better diagnoses and targeted therapies. Thus, self-management plays an important role, especially when patients are elderly, widowed, and with economical-social restrictions.

Following a co-design approach, requirements for a self-management system have been defined. As a result, the following functionalities have been identified as the most relevant. Physical activity monitoring by relying on off-the-shelf activity trackers (Fitbit and Nokia devices are supported). The following parameters have to be monitored: steps, distance, and minutes of activity by intensity. Filling questionnaires to: follow-up anxiety and depression (HAD); evaluate the condition of patients with osteoarthritis of the knee and hip (WOMAC); assess quality of life (SF-12 and EQ5D); measure the perceived pain (S-LANSS); evaluate self-care (Barthel index); and self-report in case of mental disorder (TiC-P). Health-status monitoring of several vital signs depending on the disease and the associated co-morbidities: temperature; blood pressure; heart rate; weight; blood oxygen saturation; blood glucose level; and ECG. Medical devices from Nokia are integrated. Apart from rehabilitation in hospitals and specialized centers, clinicians agree that daily life activities performed at home radically improve patients' recovery. With this aim, clinicians want to prescribe simple tasks to be performed during the day (e.g., straightening the knee while lying on the back). Drug prescription and follow-up selecting drugs from a given granted list. Official lists from Spain, Israel, and The Netherlands pharmaceuticals have been integrated. Education is a really important issue to be provided to improve follow-up of a therapy and to empower the patient. Thus, the professional can select advices and training material in form of text, images, or videos and the patient is asked to see it. Several studies show the role of professionals and carers in supporting patients, especially when remote solutions have been adopted. Thus, virtual visits have been considered as a basic functionality to be provided.

The corresponding self-management system is an app currently available on the markets (both Android and iOS). It is currently adopted in implementation studies started on June 2018 in Lleida, Israel, and Groningen. At writing moment, about 30 patients are using the self-management system and are monitored by the corresponding clinicians. The current version of the app implements the first 4 monitoring functionalities listed above: physical activity, questionnaires, health status, and simple tasks. Moreover, it implements a chat that allows the patient to communicate with the professionals in charge of the case, giving also the possibility to share photos and videos.

Approaches to increase patient empowerment vary from patient self-management programs, to promoting patient involvement in treatment shared decision-making, to facilitating the physician-patient cooperation. Under the umbrella of CONNECARE, we defined and implemented a self-management system. Currently running in 3 sites, it will be evaluated in terms of patient's satisfaction by using the User Experience Questionnaire.

Keywords: self-management; chronic complex patients; patient's empowerment
