

technological platform, users were: stimulated to perform indoor physical activity protocol (exergame on tablet); monitored by DOREMI bracelet (heart rate monitoring); invited to fill diet e-diary, receiving nutritional advice provided by the expert through the same application; tested for balance by item-10 BERG test (DOREMI balance board). At the end of trial, users underwent the same test battery of baseline.

Results: In DOREMI population an overall increase in physical activity was observed, with a significant improvement in hemodynamic (decrease in blood pressure and HR at 6MWT) and biochemical parameters (decrease in LDL, triglycerides, total cholesterol). The overall effect of dietary advice and physical activity protocol on subject's balance is under investigation.

Key conclusions: An integrated approach of physical activity and diet, supported by DOREMI technological platform, represents an innovative approach to stimulate healthy and active ageing of population, with a potential cost-reduction for European health care systems in middle-long period.

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ICT solution for balance assessment in elderly: the DOREMI system validation and applicability

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Introduction: Aging process is characterized by decline of body functions: one of the major risks is represented by falls. Several screening tools/tests have been used to assess stability. We describe the integration between single-item Berg scale, Wii Balance Board and neural networks to create a new platform for balance assessment.

Methods: Two cohorts of older people (age 65–80) were enrolled for DOREMI balance assessment. The BERG balance score and anthropometric parameters (weight, height, BMI) were assessed for each subject. Group 1 (25 participants) showed a BERG score between 41 and 56; Group 2 (50 participants), enrolled in collaboration with PERSSILAA project, had a wider score (20–56) allowing to test accuracy of DOREMI tool in people having severe instability. Item-10 of BERG scale has been performed on the Wii balance board, inviting participant to turn the head to look behind over toward the right shoulder and then over the left. Data signals have been collected by custom developed software and analysed by neural network system for human activity recognition.

Results: In Group 1, total BERG score estimated using item-10 data presented a strong correlation with individual total BERG score test; in Group 2 data analysis is under investigation.

Key conclusions: DOREMI balance assessment is simple, automated, cost-effective and time-saving ICT solution for prevention of frailty. Once validated in a broad range of BERG scale, this system could objectively predict subjects at higher risks of falls, as well as improvement in stability and/or positive evolution in physical health status after specific treatments.

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Robot in the care for the elderly persons

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Rapid development of new technologies in recent time spawned interest in their use in care for the elderly. The study was performed

within the project ENRICHME (Horizon 2020) to answer the question how older people themselves see the possibility of implementing a robot in their environment. The project's main task is to test the support of the robot for patients with Mild Cognitive Impairment in community. For this purpose, the own Users Needs, Requirements and Abilities Questionnaire (UNRAQ) was used, prepared based on available literature data and project experts' opinions. It was used to collect opinions on the robot from 327 respondents (including 114 elderly people aged 65+ years) in France, Greece, Italy, Poland and UK. According to the participants, the elderly are not prepared for dealing with a robot (only 24.5% held positive opinions regarding whether the elderly are prepared to interact with a robot and only 26.3% – regarding the statement that the elderly are able to manage with the robot). However, 52.0% of participants thought that the elderly want to increase their knowledge about robots to be able to operate them. Older persons showed a more positive attitude compared to the younger ($p < 0.01$). Interestingly, 87.5% of the participants thought that the robot should instruct the elderly person what to do in case of a problem with its operation. Our results show that the elderly realistically evaluated their present abilities to operate the robot, and express willingness to increase their knowledge using the instructions provided by the robot.

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Development of a transfer document for the community pharmacist at hospital discharge

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Introduction: In 2013, only 54.6% of Belgian elderly patients had contact with their general practitioner (GP) in the first week after hospital discharge [1]. Therefore, the community pharmacist (CP) can play an important role in continuity of medication management. As there is currently no structured communication to CPs at hospital discharge, this research investigated which information CPs would like to receive to perform adequate medication reconciliation and patient counseling.

Methods: First, initiatives for information transfer to the CP were identified by an international and grey literature review. Next, a discharge document was developed and presented to 18 healthcare professionals (9CPs and 9GPs) during semi-structured interviews, and further optimized.

Results: Belgian community pharmacists would like to receive a full medication list containing drug indications, medication registered at hospital admission and reasons for drug adjustments. GPs acknowledged the benefit of sharing this information with pharmacists. In contrast to international initiatives, Belgian healthcare professionals were hesitant to include data on renal function and other lab values in the transfer document. The final transfer document contains the following elements: patient characteristics, clinical data (e.g. reason for hospitalization, comorbidities and allergies) and two comprehensive medication lists, one with drugs at admission and with drugs at hospital discharge.

Key conclusions: Consensus was reached on the content of a transfer document for the CP at hospital discharge. A proof of concept study will be conducted to investigate the impact of this transfer document on patient-related outcome measures. Automatic software generation of this discharge document and electronic transfer will be crucial elements for success.

Reference

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