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POSTER ABSTRACT

Implementation of blood pressure and blood glucose telemonitoring in the elderly population in primary care practices: a right step towards integrated care?

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Background: Arterial hypertension (AH) and type 2 diabetes (T2D) represent a significant burden on the public health system, with an exceptionally high prevalence in patients aged ≥65 years. One of the possible solutions to improve disease outcomes, promote integrated care with high patient engagement and support self-management in patients with AH and T2D at the primary care level is blood pressure and blood glucose telemonitoring.

Target Population: Patients aged ≥65 years with AH and T2D

Stakeholders Engagement: In designing the intervention, we involved stakeholders at the micro-level (patients, health professionals), meso-level (managers of the included community health centres, representatives of the national association of general practitioners and associations of patients with chronic diseases) and macro-level (representatives of the Medical Faculty and Ministry of Health).

Description Of Intervention: We conducted a multicentre, prospective, randomised, controlled pilot study. Patients aged ≥ 65 years with AH and T2D were randomised 1:1 to an mHealth intervention or standard care group. Patients in the intervention group measured their blood pressure twice weekly and their blood glucose once monthly. The readings were synchronously transmitted via a mobile application to the telemonitoring platform, where they were reviewed by a general practitioner who indicated changes in the measurement scheme or performed a teleconsultation. Patients in the control group received standard care. The intervention lasted 12 months.

Results Of Intervention: We enrolled 63 patients with a mean age of 71.9 ± 5.0 years, of whom 36 (57.1%) were men. The mean duration of AH was 15.1 ± 11.2 years and that of T2D was 9.1 ± 8.1 years. Mean systolic blood pressure at baseline was 141.2 ± 13.9 mmHg, diastolic blood pressure was 77.8 ± 9.0 mmHg and HbA1c was 7.2 ± 1.2%. At baseline, we found no significant differences between groups in sociodemographic and clinical variables. Compared with standard care, we observed an additional reduction in systolic blood pressure of -9.1 mmHg (95% CI -16.5 to -1.7, p=0.018), diastolic blood pressure of -2.3 mmHg (95% CI -6.1 to 1.4, p=0.215) and HbA1c

of -0.7% (95% CI -1.2 to -0.1, p=0.022) in the telemonitoring group after 12 months. The intervention proved feasible and acceptable among included health professionals and patients (qualitative methods).

Take-Home Message: Telemonitoring of blood pressure and blood glucose is a feasible, acceptable and clinically effective method of remote care for elderly patients, particularly with regard to systolic blood pressure and blood glucose control in the first 12 months. The major limitation of remote care in elderly remains the lack of skills in using modern technology. To maximise clinical and cost-effective impact, careful patient selection is required (i.e., patients with newly diagnosed disease, poor adherence, poor disease control).

Next Steps: For further scale-up and implementation, further research is needed to assess the long-term impact of telemonitoring. Due to the high implementation costs, other applications of telemonitoring could be tested, with telemonitoring serving only as a short-term educational tool in the hands of registered nurses and primary care physicians during more complex health education interventions.