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Effectiveness of a multidisciplinary intervention to improve frailty parameters in the community-dwelling frail older people

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Background & Aim: Health, social and economic impacts of disability are increasing due to population ageing. Identifying frail population to perform effective preventive interventions that can reduce or delay the loss of autonomy constitutes a public health priority.

Aim: to evaluate the effectiveness of a multifactorial and multidisciplinary intervention to modify physical and cognitive status in frail people ≥ 65 years old.

Method: A randomized clinical trial with intervention group (IG) and control group (CG), conducted in eight Primary Care Centers in Barcelona, with 352 patients recruited, 176 in each group, measurements assessed by blind evaluators at baseline, 3-months after intervention and 18-months follow-up on-going. Inclusion criteria: ≥ 65 years old, Barber test ≥ 1 , Timed Get Up and Go Test (TGUGT) 10 to 30 seconds, no severe cognitive impairment.

Intervention: physical therapy, hyperproteic shakes, memory workshop, medication review, during 12 weeks.

Measurements: Short Physical Performance Battery (SPPB, range 0-12), Hand Grip Strength (HGS), Limbs Power by Lineal Encoder (LE), neuropsychological evaluation and number of prescriptions in both groups.

Results: 75.3% women, mean age 77.3 (DE:7.2). Mean number prescriptions 7.2, mean TGUGT 14.8 seconds, mean SPPB 7.2, mean HGS 16.5 kg, mean LE 129.3 W. No differences between groups at baseline. After intervention, in IG prescriptions decreased (7.7 to 6.9) and SPPB, HGS and LE improved (7.1 to 8.1, 16.5 to 18.7 129.3 to 160.6), $p < 0.001$, the opposite observed in CG. Cognitive performance (Verbal Memory and Abstraction, Animal Naming Test, Evocation of Words) also improved in IG, and compared to CG ($p < 0.001$), effect sizes > 0.9 for all comparisons.

Conclusions: Multifactorial intervention on frail subjects had showed to be effective in strength and cognitive performance at short-term. Long-term benefits and adverse outcomes (falls, disability, hospitalization, institutionalization, death) are being analyzed: preliminary results encourage such interventions for scalability and collaboration with community organizations in elder-friendly cities.