



Feasibility, Acceptability, and Preliminary Biopsychosocial Effects of a Co-Designed Physical Activity Programme for Nursing Home Residents: The Join4Joy Pilot Study

Erika Karkauskienė¹ , Laura Coll-Planas² , Andrea Fuente-Vidal² , Damaso Sanchez³, Nadine Barth³, Dhayana Dallmeier^{3,4} , José Luis Socorro-Cumplido⁵ , Maria Giné-Garriga⁵ , Paolo Caserotti⁶ , Guillaume Lefebvre⁷ , Javier Jerez-Roig^{1,2}

¹ Lithuanian Sports University, Kaunas, Lithuania; ² University of Vic – Central University of Catalonia (UVic-UCC), Vic, Spain;

³ Geriatric Center Ulm, Ulm, Germany; ⁴ Boston University School of Public Health, Boston, United States; ⁵ Blanquerna, Ramon Llull University, Barcelona, Spain; ⁶ University of Southern Denmark, Odense, Denmark; ⁷ Sport Initiative Et Loisir Bleu (SIEL BLEU), Strasbourg, France

Background and Aim. Nursing home (NH) residents frequently experience advanced frailty, multimorbidity, and functional decline, while conventional exercise programmes often show low uptake and sustainability. Join4Joy is a co-designed, enjoyable, and adaptable physical activity (PA) approach integrating physical, social, and psychological dimensions of health. This study aimed to evaluate the feasibility, acceptability, and preliminary biopsychosocial effects of the Join4Joy interventions in NH settings across three European sites.

Methods. A multicentre mixed-methods feasibility pilot study (ClinicalTrials.gov: NCT06100835) was conducted in NHs in Spain, France, and Germany. Residents aged ≥ 65 years participated in weekly 60-minute co-created PA sessions over 12 weeks. Feasibility outcomes included attendance, retention, satisfaction, and safety. Pre-post assessments examined physical function (SPPB), daily functioning (modified Barthel Index), quality of life (EQ-5D-5L), PA and sedentary behaviour (IPAQ-SF, SBQ, accelerometry). Enjoyment (PACES-SF) and perceived improvement (PGI-I) were assessed post-intervention. Interviews and focus groups qualitatively explored participant experience.

Results. Out of eighty-one enrolled residents, seventy-five completed the programme (retention = 92.6%; mean age 84.9 years; 76.0% women). Attendance was high across sites (73.8–95.0%), with no intervention-related adverse events. Satisfaction and enjoyment were consistently high. Quantitative outcomes showed maintenance or small favourable changes in physical function, daily functioning, PA, sedentary behaviour, and quality of life, without statistically significant pre-post differences. Qualitative findings indicated that enjoyment, social connection, and adaptability were highly valued by participants, and were associated with perceived functional and emotional benefits.

Conclusions. Join4Joy was feasible, safe, and well accepted in NH settings. In a population typically characterised by rapid functional decline, the observed maintenance of physical and psychosocial function suggests meaningful potential for health promotion. Join4Joy represents a promising person-centred and enjoyment-based PA approach for long-term care institutions.

Keywords: Nursing home; physical activity; frailty; co-creation; feasibility study

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Informed Consent Statement: Informed consent was obtained from all participants involved in the study.

Clinical Trial Registration: This study was registered at ClinicalTrials.gov (Identifier: NCT06100835). The study was conducted in accordance with the Declaration of Helsinki.



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