The role of the trainer in adapted physical activity for osteoporosis to improve quality of life

Sofia Marini

S Marini[1], A Masini[2], P Maietta Latessa[1], T Sanna[3], A Raggi[3], A Buffa[3], N Malavolta[3], G Barone[1], E Leoni[2], L Dallolio[2]
[1]Department of Life Quality Studies, University of Bologna, Rimini, Italy
[2]Department of Biomedical and Neuromotor Sciences, University of Bologna, Bologna, Italy
[3]Sant' Orsola Malpighi Hospital, University of Bologna, Bologna, Italy
Contact: sofia.marini1606@gmail.com

Background:
Osteoporosis is a major health burden worldwide and require a multi-modal approach including exercise. Fractures have a substantial impact on quality of life (QoL) so exercise programs may to be conducted by trainers able to deal with this condition, because exercise alone, even if in the right dosage, seems to be not enough to improve QoL. A quasi-experimental pilot study performed to determine the feasibility and safety of an Adapted Physical Activity (APA) protocol specifically designed for osteoporotic women with vertebral fractures and its effect on QoL, with a specific focus on trainer's role.
Methods:
The Experimental Group (EG) performed APA protocol 1hour twice a week for 6 months, while the Control Group (CG) received standard care. QoL was assessed at baseline and follow-up with ECOS-16 questionnaire and semi structured interviews to understand women perceptions regarding trainer's role. Using mixed-methods quantitative and qualitative data were analyzed using SPSS 5 and NVivo 12, respectively.
Results:
40 post-menopausal women (mean age: 67.6±4.6) divided in 2 groups EG = 22 and CG = 18, completed the study. At follow-up, EG improved significantly QoL (EG: -0.5±0.5 vs CG: 0.0±0.3 $p = 0.02$). The APA intervention had a significant effect on all the components of QoL, as measured by the disease-specific ECOS-16 questionnaire: Physical Component Summary (PCS) (EG: -0.4±0.5 vs CG: 0.0±0.4 $p = 0.06$) and Mental Component Summary (MCS) (EG: -0.5±0.6 vs CG: 0.1±0.5 $p = 0.02$). The interviews confirmed this result, emphasizing the key role of the trainer in improving their QoL. The adherence calculated as number of sessions performed compared to the sessions proposed was 75.8%. No injuries were observed.
Conclusions:
The feasibility, the safety, and the positive effect of the proposed exercise protocol on QoL confirmed also by the interviews, show that principles of exercise education applied by trainers should be extended also to patients with other chronic condition.
Key messages:
- Trainers specifically educated, could be a means of achieving the goal improving people's QoL, as they occupy the role of exercise experts and also an educational, relational and support role.
- The management of osteoporosis is multi-modal and includes exercise, often recommended as a beneficial non-pharmacological treatment to slow the rate of bone loss and improve quality of life.