

TitleRandomized Controlled Trial of the Cost Effectiveness
of Water-Based Therapy for Lower Limb OsteoarthritisAgencyNCCHTA, National Coordinating Centre for Health Technology Assessment
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Aim

- 1. To determine the efficacy of community water-based therapy in managing lower limb osteoarthritis in older patients (Does the treatment work if taken by the recipients?).
- 2. To assess the cost effectiveness of such an approach (Is the treatment effective, and is it cost-effective in practice?).
- 3. To establish the implications of delivering and sustaining a community-based water exercise program for older patients with lower limb osteoarthritis.

Conclusions and results

- Short-term efficacy of water exercise in managing lower limb osteoarthritis was confirmed, with effect sizes ranging from 0.44 on WOMAC pain to 0.76 on WOMAC physical function.
- Water exercise remained effective in the main study, but overall effect size was small, 0.25 on WOMAC pain at 1-year, a reduction ~10% in the group mean pain score. This had declined, and was nonsignificant, at 6 months postintervention.
- Mean cost difference estimates showed a saving in the water exercise group of £123 to £175/patient/annum and incremental cost effectiveness ratios ranged from £3838 to £5951, although it was not possible to determine a ceiling valuation (with 95% confidence) for comparison with competing approaches.
- Net reduction in pain (0.89 WOMAC units) was achieved at a net saving of £135 to £175/patient/ annum, even after allowing for marginal costs of providing the exercise program, and favorably low ceiling valuation of £580 to £740 per WOMAC unit of pain reduction.

Recommendations

Group-based exercise in water for more than 1 year can significantly reduce pain and improve physical function in older adults with lower limb osteoarthritis and may be a useful adjunct in the managing osteoarthritis of the hip and/or knee. Wide variation in both the individual costs and the utility measures, combined with small effect sizes, limited the power of the project to detect a difference between the groups on the QALY-based analyses.

Methods

See Executive Summary link above.

Further research/reviews required

- 1. Mechanisms should be put in place to encourage greater and more effective collaboration between different centers to facilitate progress in lifestyle intervention studies.
- 2. Better and more cost-effective mechanisms need to be developed to obtain representative samples for public health interventions.
- 3. Infrastructure and workforce capacities for physical activity delivery and the potential extent to which health care may be supported in this way need to be determined.
- 4. More detailed research is required on the response of synovial joint tissues to dynamic mechanical load at various stages of the disease process.
- 5. More research is needed on access and environmental issues for physical activity programs for older people, both from a provider and a participant perspective.
- 6. Longitudinal data on the societal costs for managing osteoarthritis and trends in outcome measures are needed.