

Hydrotherapy

Evidence Update

May 2018

(Quarterly)



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All sessions are one hour

May (13.00-14.00)

22nd (Tue) **Critical Appraisal**

30th (Wed) **Statistics**

June (12.00-13.00)

7th (Thu) **Literature Searching**

11th (Mon) **Critical Appraisal**

20th (Wed) **Statistics**

28th (Thu) **Literature Searching**

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Resource searched but nothing relevant to add



1. Exercise interventions and patient beliefs for people with hip, knee or hip and knee osteoarthritis: A mixed methods review

Author(s): Hurley M.; Dickson K.; Hallett R.; Grant R.; Hauari H.; Oliver S.; Walsh N.; Stansfield C.

Source: Cochrane Database of Systematic Reviews; Apr 2018; vol. 2018 (no. 4)

Publication Date: Apr 2018

Publication Type(s): Review

Available at [The Cochrane database of systematic reviews](#) - from Cochrane Collaboration (Wiley)

Abstract:Background: Chronic peripheral joint pain due to osteoarthritis (OA) is extremely prevalent and a major cause of physical dysfunction and psychosocial distress. Exercise is recommended to reduce joint pain and improve physical function, but the effect of exercise on psychosocial function (health beliefs, depression, anxiety and quality of life) in this population is unknown. Objectives: To improve our understanding of the complex inter-relationship between pain, psychosocial effects, physical function and exercise. Search methods: Review authors searched 23 clinical, public health, psychology and social care databases and 25 other relevant resources including trials registers up to March 2016. We checked reference lists of included studies for relevant studies. We contacted key experts about unpublished studies. Selection criteria: To be included in the quantitative synthesis, studies had to be randomised controlled trials of land- or water-based exercise programmes compared with a control group consisting of no treatment or non-exercise intervention (such as medication, patient education) that measured either pain or function and at least one psychosocial outcome (self-efficacy, depression, anxiety, quality of life). Participants had to be aged 45 years or older, with a clinical diagnosis of OA (as defined by the study) or self-reported chronic hip or knee (or both) pain (defined as more than six months' duration). To be included in the qualitative synthesis, studies had to have reported people's opinions and experiences of exercise-based programmes (e.g. their views, understanding, experiences and beliefs about the utility of exercise in the management of chronic pain/OA). Data collection and analysis: We used standard methodology recommended by Cochrane for the quantitative analysis. For the qualitative analysis, we extracted verbatim quotes from study participants and synthesised studies of patients' views using framework synthesis. We then conducted an integrative review, synthesising the quantitative and qualitative data together. Main results: Twenty-one trials (2372 participants) met the inclusion criteria for quantitative synthesis. There were large variations in the exercise programme's content, mode of delivery, frequency and duration, participant's symptoms, duration of symptoms, outcomes measured, methodological quality and reporting. Comparator groups were varied and included normal care; education; and attention controls such as home visits, sham gel and wait list controls. Risk of bias was high in one and unclear risk in five studies regarding the randomisation process, high for 11

studies regarding allocation concealment, high for all 21 studies regarding blinding, and high for three studies and unclear for five studies regarding attrition. Studies did not provide information on adverse effects. There was moderate quality evidence that exercise reduced pain by an absolute percent reduction of 6% (95% confidence interval (CI) -9% to -4%, (9 studies, 1058 participants), equivalent to reducing (improving) pain by 1.25 points from 6.5 to 5.3 on a 0 to 20 scale and moderate quality evidence that exercise improved physical function by an absolute percent of 5.6% (95% CI -7.6% to 2.0%; standardised mean difference (SMD) -0.27, 95% CI -0.37 to -0.17, equivalent to reducing (improving) WOMAC (Western Ontario and McMaster Universities Osteoarthritis Index) function on a 0 to 100 scale from 49.9 to 44.3) (13 studies, 1599 participants)). Self-efficacy was increased by an absolute percent of 1.66% (95% CI 1.08% to 2.20%), although evidence was low quality (SMD 0.46, 95% CI 0.34 to 0.58, equivalent to improving the ExBeliefs score on a 17 to 85 scale from 64.3 to 65.4), with small benefits for depression from moderate quality evidence indicating an absolute percent reduction of 2.4% (95% CI -0.47% to 0.5%) (SMD -0.16, 95% CI -0.29 to -0.02, equivalent to improving depression measured using HADS (Hospital Anxiety and Depression Scale) on a 0 to 21 scale from 3.5 to 3.0) but no clinically or statistically significant effect on anxiety (SMD -0.11, 95% CI -0.26 to 0.05, 2% absolute improvement, 95% CI -5% to 1% equivalent to improving HADS anxiety on a 0 to 21 scale from 5.8 to 5.4; moderate quality evidence). Five studies measured the effect of exercise on health-related quality of life using the 36-item Short Form (SF-36) with statistically significant benefits for social function, increasing it by an absolute percent of 7.9% (95% CI 4.1% to 11.6%), equivalent to increasing SF-36 social function on a 0 to 100 scale from 73.6 to 81.5, although the evidence was low quality. Evidence was downgraded due to heterogeneity of measures, limitations with blinding and lack of detail regarding interventions. For 20/21 studies, there was a high risk of bias with blinding as participants self-reported and were not blinded to their participation in an exercise intervention. Twelve studies (with 6 to 29 participants) met inclusion criteria for qualitative synthesis. Their methodological rigour and quality was generally good. From the patients' perspectives, ways to improve the delivery of exercise interventions included: provide better information and advice about the safety and value of exercise; provide exercise tailored to individual's preferences, abilities and needs; challenge inappropriate health beliefs and provide better support. An integrative review, which compared the findings from quantitative trials with low risk of bias and the implications derived from the high-quality studies in the qualitative synthesis, confirmed the importance of these implications. Authors' conclusions: Chronic hip and knee pain affects all domains of people's lives. People's beliefs about chronic pain shape their attitudes and behaviours about how to manage their pain. People are confused about the cause of their pain, and bewildered by its variability and randomness. Without adequate information and advice from healthcare professionals, people do not know what they should and should not do, and, as a consequence, avoid activity for fear of causing harm. Participation in exercise programmes may slightly improve physical function, depression and pain. It may slightly improve self-efficacy and social function, although there is probably little or no difference in anxiety. Providing reassurance and clear advice about the value of exercise in controlling symptoms, and opportunities to participate in exercise programmes that people regard as enjoyable and relevant, may encourage greater exercise participation, which brings a range of health benefits to a large population of people. Copyright © 2018 The Cochrane Collaboration.

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Anational survey of NHS hydrotherapy provision for the management of axial spondyloarthritis: the physiotherapist and patient perspective

[Melanie J Martin](#) [Claire Jeffries](#) [Annie K Gilbert](#)

Rheumatology, Volume 57, Issue suppl_3, 1 April 2018,
key075.495, <https://doi.org/10.1093/rheumatology/key075.495>

Background: Hydrotherapy is recommended by the National Institute for Health and Care Excellence (NICE) as an adjunctive therapy in the management of axial spondyloarthritis (AS). Access and provision of NHS hydrotherapy services are variable with pool closures nationwide. The impact on service delivery is poorly understood. The aims of this survey are to map the current provision of NHS hydrotherapy services for AS across the United Kingdom and to capture the patients' experience of hydrotherapy.

Methods: Two online surveys were distributed in September 2017 via email, with social media updates, to the physiotherapy membership of AStretch, the British Society for Spondyloarthritis (BritSpA) and the Aquatic Therapy Association of Chartered Physiotherapists (ATACP). A patient survey was distributed to the membership of the National Ankylosing Spondylitis Society (NASS) (closing date 31 October 2017).

Results: Physiotherapist survey: To date 144 physiotherapists have responded with 123 (85%) reporting referral access to an NHS hydrotherapy service. The most frequent AS hydrotherapy service model was six weekly sessions with 45% offering AS group hydrotherapy. 31 (32%) reported a fast-access referral pathway for those in flare, 26% offering this access via self-referral and 25% via a telephone helpline. 38% of physiotherapists reported barriers to provision. High demand, lack of capacity due to staffing and use of pools by non-NHS groups, impacted on waiting times. One in five hydrotherapy services reported a current threat of closure. Patient survey: To date 256 patients have responded (41% male; average age and disease duration 49 years and 12 years respectively). 166 (70%) have accessed NHS hydrotherapy with reported benefits including pain relief, improvement in mood and quality of life, stiffness and flare management. Access is largely initiated by rheumatology team referral (65%), with an additional 26 (17%) patients self-referring. 29% stated they could access hydrotherapy when in a flare. Barriers to NHS hydrotherapy included long waiting times and a restriction on the number of sessions offered. 26 (13%) have used a pay as you go hydrotherapy service in an NHS facility. Of the respondents who attend a NASS self-help group, 84% have access to hydrotherapy through the group, 71% being provided in a NHS facility.

Conclusion: Patients reported similar benefits of hydrotherapy to those stated in the NICE guidance (NG65, 2017), further supporting the best practice recommendations. The survey suggests hydrotherapy services need to continue to be deliverable within the financial restraints of the NHS. However, variability in provision and a 'post-code' impact on access to NHS hydrotherapy exists for AS patients due to pool closures. Hydrotherapy service design to increase pool utilization such as fast-access pathways for flare management, group exercise, and promotion of self-management and pay-as-you-go services may go some way to meet demand and broaden participation whilst ensuring sustainability of services.

Cost-effectiveness of hydrotherapy versus land-based therapy in patients with musculoskeletal disorders in Singapore

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Journal of Public Health, <https://doi.org/10.1093/pubmed/fdy044>

Background

The study evaluated the cost-effectiveness of hydrotherapy versus land-based therapy in patients with musculoskeletal disorders (MSDs) in Singapore.

Methods

A decision-analytic model was constructed to compare the cost-effectiveness of hydrotherapy to land-based therapy over 3 months from societal perspective. Target population comprised patients with low back pain (LBP), osteoarthritis (OA), rheumatoid arthritis (RA), total hip replacement (THR) and total knee replacement (TKR). Subgroup analyses were carried out to determine the cost-effectiveness of hydrotherapy in individual MSDs. Relative treatment effects were obtained through a systematic review of published data.

Results

Compared to land-based therapy, hydrotherapy was associated with an incremental cost-effectiveness ratio (ICER) of SGD 27 471 per quality-adjusted life-year (QALY) gained, which was below the willingness-to-pay threshold of SGD 70 000 per QALY (one gross domestic product per capita in Singapore in 2015). For the respective MSDs, hydrotherapy were dominant (more effective and less costly) in THR and TKR, cost-effective for LBP and RA, and not cost-effective for OA. Treatment adherence and cost of hydrotherapy were key drivers to the ICER values.

Conclusions

Hydrotherapy was a cost-effective rehabilitation compared to land-based therapy for a population with MSDs in Singapore. However, the benefit of hydrotherapy was not observed in patients with OA.

2. Predictors of engagement in recommended self-management behaviors for osteoarthritis pain

Author(s): Booker S.

Source: Journal of Pain; Mar 2018; vol. 19 (no. 3)

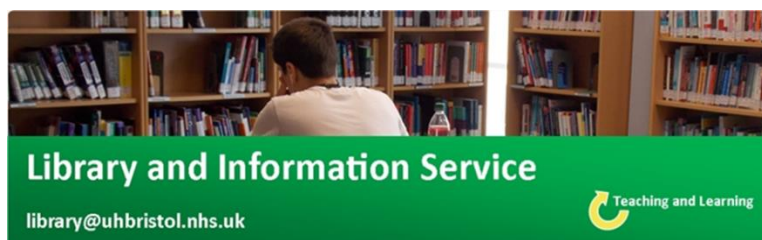
Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Joint pain from osteoarthritis (OA) significantly affects older African Americans' (AAs) functional ability. Continuous engagement in land-based exercise, water-based exercise, strength (muscle and endurance) training/ stretching, and a self-management education program may reduce the development of high-impact chronic pain. However, limited research suggests these core self-management behaviors are underutilized in older AAs. Given this, the investigation sought to identify (1) stage of engagement and (2) demographic, contextual, and cognitive factors that predict engagement in these four behaviors. A cross-sectional survey design, 110 AAs averaging 68.44 years of age completed the Pain Self-Management Engagement Questionnaire to determine stage of engagement (a derivation of the stages of change); that is, pre-contemplation, preparation, and action stages. Spearman rank correlations identified factors associated with each OA behavior.

Factors significantly correlated were entered into multinomial logistic regressions to examine predictors of stage of engagement in each behavior. Most individuals were in the action stage for land-based exercise (55%) and strength training (70.9%), but the overwhelming majority were in the pre-contemplation or preparation stage for water-based exercise (91.8%) and self-management education (88.2%). No factors were significantly associated with engagement in waterbased exercise; therefore, only three regression models were generated. Pain interference ($P = .008$) predicted being in pre-contemplation vs. action stage but not preparation stage for land-based exercise. For strength training, awareness that the behavior was recommended ($P = .048$) predicted the pre-contemplation stage, and awareness ($P = .034$) and symptom self-efficacy ($P = .042$) for the preparation stage. Lastly, awareness of behavior's recommendation predicted those in the pre-contemplation and preparation stages ($P = .010$; $P = .012$ respectively) versus action stage for selfmanagement education. These findings reveal that engagement in selfmanagement behaviors is contextual and situational being highly influenced by pain interference, self-efficacy, and recommendation awareness. Providers and program facilitators should consider the saliency of these factors for self-management and health promotion.

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