

Manual Therapy Research Review



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Welcome

Welcome to the 12th edition of Research Review. Great to catch up with everyone in Glasgow and what a fantastic conference!! Whilst my time on the IFOMPT Executive has now finished, the incoming Executive have agreed to allow me to keep presenting the Research Review. I have also encouraged Dr Jan Pool (Netherlands) and Dr Helen French (Ireland) to become regular reviewers. (Remember we are happy to have others so don't be shy!). So, in this issue we have one review from Jan, one for Helen and two from me. Enjoy!



Duncan

Paper One

Gross AR, Paquin JP, Dupont G, Blanchette S, Lalonde P, Cristie T, Graham N, Kay TM, Burnie SJ, Gelley G, Goldsmith CH, Forget M, Santaguida PL, Yee AJ, Radisic GG, Hoving JL, Bronfort G; Cervical Overview Group. Exercises for mechanical neck disorders: A Cochrane review update. Man Ther. 2016 Aug;24:25-45. doi: 10.1016/j.math.2016.04.005. Epub 2016 Apr 20 doi: 10.2522/ptj.20150240. Epub 2015 Oct 1

Background

Neck pain is disabling and costly. Exercises could be beneficial through numerous systems like musculoskeletal, neurologic etc. In a number of earlier published reviews including the latest Cochrane review, there was no clear categorization of exercise regimes. Therefore there is no clear insight in which exercise or exercise regime is beneficial or not.

Objectives

To assess the effectiveness of exercise on pain, disability, function, patient satisfaction, quality of life (QoL) and global perceived effect (GPE) in adults with neck pain, using a therapeutic exercise intervention model as a method for categorisation.

Methods

This article is an abbreviated co-publication of a Cochrane systematic review update (Kay et al 2015). This review investigated patients with neck pain with or without cervicogenic headache or radiculopathy. A meta-analysis was performed to establish pooled standardised mean differences or Risk ratios. The Grade of Recommendation, Assessment, Development and Evaluation (GRADE) was used to summarise the body of evidence.

Results

5658 records were identified of which 27 trials met the inclusion criteria. Moderate evidence was found in chronic neck pain for; cervico-scapulothoracic and upper extremity strengthening with the outcome moderate to large pain reduction immediately post treatment and at short-term. Moderate evidence was also found for scapulothoracic and upper extremity endurance training for a small pain reduction, also moderate evidence in the long-term for cervical, shoulder and scapulothoracic strengthening and stretching exercise for a small to large pain reduction and function improvement. Furthermore moderate evidence for cervico-scapulothoracic strengthening/stabilisation exercises for pain and function at intermediate-term. Furthermore moderate evidence for mindfulness exercises (Qigong) for minor improved function but not Global Perceived Effect. For chronic cervicogenic headache, cervico-scapulothoracic strengthening and endurance exercises including pressure biofeedback for small/moderate showed small to moderate improvement of pain, function and GPE.



Conclusion

Specific strengthening exercises of the neck, scapulothoracic and shoulder for chronic neck pain and chronic cervicogenic headache are beneficial. Future research should explore optimal dosage.

Commentary

This review is a typical Cochrane review which is very thorough with an extensive description of the exercises used in the included articles. Still it is hard to show hard quality evidence for any exercise regime, and that is not new. The clinical implication of this review is somewhat confusing. The moderate effect in pain reduction of a lot of exercise regimes does not guide me in daily practice. The question remains in my opinion why should we do exercises for pain reduction? If we use strengthening exercises I would expect an increase in strength as a first outcome. I miss the construct behind the choice of intervention and maybe that is not the aim of this review but for a clinician it is an important question. I do like the use of a classification model; it helps to understand the variation in exercise regimes. But the question remains can we reproduce the interventions described in the Appendix 1. For that reason it is worthwhile to score the intervention with for example the TiDieR list for example in the future (Yamato et al 2016)

Dr Jan Pool

Reference:

How completely are physiotherapy interventions described in reports of randomised trials? _TP. Yamato T, Maher C, Saragiotto B, Hoffmann T, Moseley.A. *Physiotherapy* 102 (2016) 121–126

Paper Two

Dickers MF, Westerman MJ, Rubinstein SM, van Tulder MW, Anema JR. Why Neck Pain Patients Are Not Referred to Manual Therapy: A Qualitative Study among Dutch Primary Care Stakeholders. *PLoS One*. 2016 Jun 16;11(6):e0157465. doi: 10.1371/journal.pone.0157465. eCollection 2016.

Background

Treatment of neck pain with manual therapy demonstrated to be more effective and cost-effective than general practitioner (GP) care or physiotherapy in a high quality RCT in the Netherlands in 2002. However, referral to manual therapy for neck pain is still relatively low. This study aims to explore the barriers and facilitators affecting the implementation of manual therapy in neck pain management in primary care.

Methods

An explorative study was conducted comprising semi-structured interviews with GPs (n = 13), physiotherapists (n = 10), manual therapists (n = 7) and their patients with neck pain (n = 27), and three focus groups with additional stakeholders (n = 10-12 per group). A thematic analysis approach was used.

Results

Different barriers and facilitators for referral were found for patients, GPs and physiotherapists on the individual level, but also in the interaction between stakeholders and their context. Individual perceptions such as knowledge and beliefs about manual therapy for neck pain either impeded or facilitated referral. Fear for complications associated with cervical manipulation was an important barrier for patients as well as GPs. For GPs and physiotherapists it was important whether they perceived it was part of their professional role to refer for manual therapy. Existing relations formed referral behaviour, and the trust in a particular practitioner was a recurrent theme among GPs and physiotherapist as well as patients. The contextual factor availability of manual therapy played a role for all stakeholders.

Conclusion

Barriers and facilitators were found especially in individual perceptions on manual therapy for neck pain (e.g. knowledge and beliefs), the interaction between stakeholders (e.g. collaboration and trust) and the organizational context. Implementation strategies that focus on these different aspects seem to be likely to optimize referral rates and the use of manual therapy in primary care management of neck pain.

Commentary

This is an interesting paper as I feel it highlights a common problem in clinical practice, the mismatch between the evidence and the reality. As stated in this paper there is good evidence that manual therapy is clinically effective in the management of neck pain yet there are barriers from referrers about sending patients for the best evidence based care. The challenges I feel for the therapists is to try and provide the referrers with good information about what we do. In terms of the GP's this may be in the form of newsletters from your clinic with brief catchy sounds bites of information, information evenings or perhaps even getting to more of the GP conferences to influence change. For the patient, clearly when they are with you there is a great opportunity to educate and change beliefs but perhaps free public information evenings are also helpful. We have done this in NZ partnering with the Arthritis Foundation to increase public awareness of the management of OA and other arthritic conditions. The public is hungry for useful knowledge. To me this paper demonstrates that better public relations for physiotherapy are needed!

Dr Duncan Reid

Paper Three

Hahne AJ, Ford JJ, Surkitt LD, Richards MC, Chan AY, Slater SL, Taylor NF. Individualised Physical Therapy is Cost Effective Compared to Guideline-Based Advice for People with Low Back Disorder. Spine 2016 Jun 14. [Epub ahead of print]

Study Design

A cost-utility analysis within a randomised controlled trial was conducted from the healthcare perspective.

Objective

To determine whether individualised physical therapy incorporating advice is cost-effective relative to guideline-based advice alone for people with low back pain and/or referred leg pain (≥ 6 weeks, ≤ 6 months duration of symptoms).

Summary of Background data

Low back disorders are a burdensome and costly condition across the world. Cost-effective treatments are needed to address the global burden attributable to this condition.

Methods

Three hundred participants were randomly allocated to receive either 2 sessions of guideline-based advice alone ($n=144$), or 10 sessions of individualised physical therapy targeting patho-anatomical, psychosocial and neurophysiological factors and incorporating advice ($n=156$). Data relating to healthcare costs, health benefits (EuroQol-5D) and work absence were obtained from participants via questionnaires at 5, 10, 26 and 52-week follow-ups.

Results

Total healthcare costs were similar for both groups: mean difference \$27.03 (95% CI: -200.29 to 254.35). Health benefits across the 12-month follow-up were significantly greater with individualized physical therapy: incremental quality adjusted life years=0.06 (95% CI: 0.02 to 0.10). The incremental cost-effectiveness ratio was \$422 per quality adjusted life year gained. The probability that individualised physical therapy was cost-effective reached 90% at a willingness to pay threshold of \$36,000. A saving of \$1995.51 (95% CI: 143.98 to 3847.03) per worker in income was realised in the individualized physical therapy group relative to the advice group. Sensitivity and subgroup analyses all revealed a dominant position for individualised physical therapy, hence the base case analysis was the most conservative.

Conclusion

Ten sessions of individualised physical therapy incorporating advice is cost-effective compared to two sessions of guideline-based advice alone for people with low back disorders.

Commentary

Given that Low Back Pain (LBP) is the number one condition in the world in years lost to disability (YLD), there will be increasing pressure on health funders provide clinically and cost effective treatments in their ability to contain the burden of LBP. This study indicates that individualised physical therapy care is more cost effective than just providing a guideline of advice. This is positive news and one might suggest even surprising given the differences in the dose of the intervention (2 sessions vs 10 sessions). However, can any country afford the individualised approach? As we know prevention is better than cure but it seems the challenge of reducing the amount of LBP is an extreme challenge. Nonetheless it should not be shied away from. There has been significant improvements in other areas concerning health across many parts of the world; reducing smoking is an example. New Zealand has a goal of being smoke free by 2020! Perhaps there are lessons to be learned from other groups as to how to reduce the burden of these non-communicable diseases.

Dr Duncan Reid

Paper Four

Harris-Hayes M, Czuppon S, van Dillen LR, Steger-May K, Sahrman S, Schootman M, Salsich GB, Clohisy JC, Mueller MJ. Movement-pattern training to improve function in people with chronic hip joint pain: a feasibility randomized clinical trial. The Journal of Orthopaedic and Sports Physical Therapy 2016 Jun;46(6):452-461

Abstract

Study Design

Feasibility randomised clinical trial.

Background

Rehabilitation may be an appropriate treatment strategy for patients with chronic hip joint pain; however, the evidence related to the effectiveness of rehabilitation is limited.

Objectives

To assess feasibility of performing a randomized clinical trial to investigate the effectiveness of movement-pattern training (MPT) to improve function in people with chronic hip joint pain.

Methods

Thirty-five patients with chronic hip joint pain were randomised into a treatment (MPT) group or a control (wait-list) group. The MPT program included 6 one-hour supervised sessions and incorporated (1) task-specific training for basic functional tasks and symptom-provoking tasks, and (2) strengthening of hip musculature. The wait-list group received no treatment. Primary outcomes for feasibility were patient retention and adherence. Secondary outcomes to assess treatment effects were patient-reported function (Hip disability and Osteoarthritis Outcome Score), lower extremity kinematics, and hip muscle strength.

Results

Retention rates did not differ between the MPT (89%) and wait-list groups (94%, $p = 1.0$). Sixteen of the 18 patients (89%) in the MPT group attended at least 80% of the treatment sessions. For the home exercise program, 89% of patients reported performing their home program at least once per day. Secondary outcomes support the rationale for conduct of a superiority randomised clinical trial.

Conclusion

Based on retention and adherence rates, a larger randomised clinical trial appears feasible and warranted to assess treatment effects more precisely. Data from this feasibility study will inform our future clinical trial. Level of Evidence Therapy, level 2b

Commentary

This feasibility RCT, whilst it is not powered to truly determine the effectiveness of movement-pattern retraining, allowed the authors to determine if progression to a full RCT would be feasible. CONSORT guidelines were used for reporting of this study. The age profile of the participants was age 18-40 so those with degenerative changes would not be included. Inclusion criteria were anterior joint pain or deep hip pain >3 months and positive Flexion/Add/IR (FADDIR test). This is a topical area of research with joint-related hip pain commonly occurring in younger, athletic populations. The intervention was delivered 6 times (1 hour weekly over 6 weeks). A longer treatment duration is planned for the main RCT. This paper provides very good detail of the exercises and movement-pattern retraining used in the study, including photographs, which could certainly be of clinical value to readers. Patient-specific tasks which were used for movement-pattern training were identified by patients based on symptom provocation at baseline assessment and these were used in the treatment programme. A range of self-report and quantitative measures of movement control and strength were used which adds weight to the study. Results showed improvements in self-reported pain and disability, as well as decreased hip adduction during a single leg squat measured by 3D motion analysis, although there was no improvement in hip strength. These results may indicate that movement control improvements may not be as a result of strength improvements but this would require further validation. However, these improvements were not statistically significant which is to be expected as this trial was not powered to detect significant between-group differences. Using the data from this feasibility study, the authors have determined that 52 participants per group will be required for a full RCT. It is important that feasibility trials are undertaken and published prior to full RCTs and I look forward to the publication of the full trial.

Dr Helen French

Finally, congratulations to the incoming IFOMPT Executive Committee and a big thank you to Annalie Basson, Duncan Reid and Erik Thoomes who have stepped down.

