



The Effects of Aquatic Therapy on Patients who have Undergone Total Hip or Knee Arthroplasty:

A Systematic Review

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Introduction

Aquatic physical therapy may offer an effective intervention for patients who have undergone total hip or knee arthroplasty. The purpose of this systematic review is to evaluate the efficacy of aquatic therapy as an intervention for patients who have undergone total hip or knee arthroplasty.

Methods

Inclusion criteria included randomized control trials and patients who underwent a total hip or knee arthroplasty and subsequently received aquatic therapy. Exclusion criteria included patients with hemiarthroplasty or partial arthroplasty of the hip or knee, patients with neurological conditions/impairments, and patients with contraindications for aquatic physical therapy. Four online databases (ProQuest, CINAHL, PubMed, and Google Scholar) were comprehensively searched from January 2000 to April 2014. The primary search terms included “aquatic therapy,” OR “hydrotherapy,” AND “total joint arthroplasty” OR “total joint replacement.”

Results

The total number of participants included in the reviewed studies was 523 (TKA= 337 and THA=235).

When comparing land based therapy to aquatic therapy there was greater improvement in stair climbing power, WOMAC function score, edema and knee flexion range of motion in patients who received aquatic therapy.

Following TKA, patients receiving early aquatic therapy showed significant improvements in overall function compared to those who started late aquatic therapy, whereas no differences were found in patients who underwent THA.

Aquatic therapy programs have also been shown to increase hip abductor strength, quadriceps strength, knee flexion power, knee flexion range of motion, increased habitual walking speed, decreased stair ascending time and thigh muscle cross sectional area.

At 12-month follow-up, a 32% effect in knee extensor power and 50% effect in knee flexor power of the operated knee remained in the aquatic therapy group. However, the training effects in mobility and muscle CSA had disappeared.

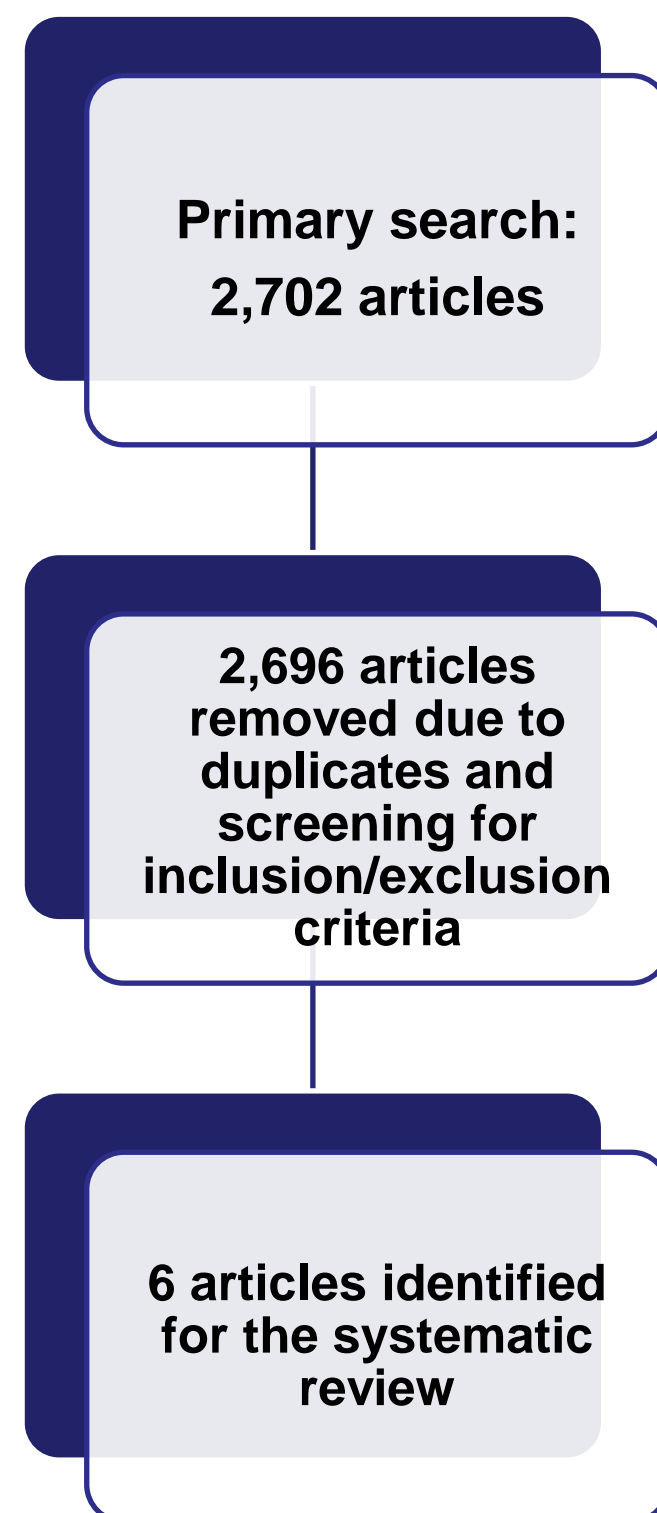
Conclusions

Randomized controlled trials have shown that aquatic physical therapy can be an effective treatment following TKA or THA. Further research should include more robust randomized controlled trials with increased sample, comparing aquatic therapy to other forms of treatments, monitoring a home exercise program and examining patients who have undergone joint revisions or bilateral joint arthroplasty

References

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PRISMA



Article	Pedro Score	Sackett Level
Harmer et al. (2009)	8	1b
Liebs et al. (2012)	7	1b
Rahmann et al. (2009)	7	1b
Valtonen et al. (2010)	7	1b
Valtonen et al. (2011)	7	1b
McAvoy et al. (2009)	5	1b
Average Pedro score= 6.8		Average Sackett Level= 1b