

Stratified care is feasible in patients with knee osteoarthritis treated by physical therapists in primary care

Jesper Knoop¹ PhD PT, Marike van der Leeden^{1,2} PhD PT, Martin van der Esch¹ PhD PT, Willem F Lems^{2,3} PhD MD, Leo D Roorda¹ PhD MD PT, Wilfred Peter¹ PhD PT, Mariëtte de Rooij¹ PT, Kim L Bennell⁴ PhD PT, Martijn PM Steultjens⁵ PhD, Arja Hakkinen⁶ PhD PT, Joost Dekker² PhD.

¹ Amsterdam Rehabilitation Research Center | Reade, Amsterdam, the Netherlands; ² VU University Medical Center, Amsterdam, the Netherlands; ³ Jan van Breemen Research Institute | Reade, Amsterdam, the Netherlands; ⁴ University of Melbourne, Australia; ⁵ Glasgow Caledonian University, UK; ⁶ University of Jyväskylä, Finland.

Correspondence: j.knoop@reade.nl



BACKGROUND

There is strong evidence that exercise therapy by physical therapists (PTs) is effective in reducing pain and activity limitations in knee osteoarthritis (OA). However, effect sizes are moderate, which is mainly attributed to the ‘one-size-fits-all’ approach. Stratified exercise therapy tailored to clinically relevant subgroups is likely to optimize treatment effects in a cost-effective manner. Recently, we were the first to identify clinically relevant subgroups of knee OA patients (1) and replicated this finding in a second cohort (2). We hypothesize that stratified care, in which exercise therapy is specifically tailored to each of these subgroups, will be feasible (tested in the current pilot-study) and (cost-)effective on physical functioning and knee pain (planned to be tested in subsequent RCT) in primary care.

OBJECTIVES

This study aimed to explore feasibility and outcome of our model of stratified exercise therapy, consisting of a standardized stratification model (Figure 1) and subgroup-specific, protocolized, 4-month exercise therapy (Figure 2), in patients with knee OA treated by PTs in primary care.

METHODS

- Eligible patients visiting a participating PT because of knee complaints were included, allocated into a subgroup and provided subgroup-specific exercise therapy.
- Feasibility was explored by a process evaluation: process documentation, semi-structured post-treatment interviews with patients and PTs and focus group meeting with PTs.
- Outcome was explored by KOOS subscale function in daily life (ADL) and NRS knee pain during walking, assessed at baseline and post-treatment (4-months follow-up).

RESULTS

- Fifty patients were included and allocated as follows: 23 patients (46%) to ‘low muscle strength subgroup’, 17 patients (34%) to ‘high muscle strength subgroup’, 6 patients (12%) to ‘obesity subgroup’ and 4 patients (8%) to ‘depression subgroup’. Three patients dropped out.
- The stratified care model was found to be feasible from both patient’s and PT’s perspective and seems to be effective, as KOOS ADL improved from 61% to 73% ($p < 0.001$; within-group effect size: 0.7) and NRS pain reduced from 5.7 to 3.6 ($p < 0.001$; within-group effect size: 1.2).
- Average number of sessions was 10, varying from on average 6 for the ‘high muscle strength subgroup’, 12 for the ‘low muscle strength subgroup’, 13 for the ‘obesity subgroup’ and 16 for the ‘depression subgroup’. This is lower compared to the nationwide average of 17 sessions in OA (3).
- We further optimized our stratification model, based on input from patients and PTs.

CONCLUSIONS

- **Our stratified care model for PTs, which is the first one in knee OA, is highly promising.**
- **Future research should determine the (cost-)effectiveness compared to usual ‘non-stratified’) exercise therapy.**

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FIGURE 1. Stratification model

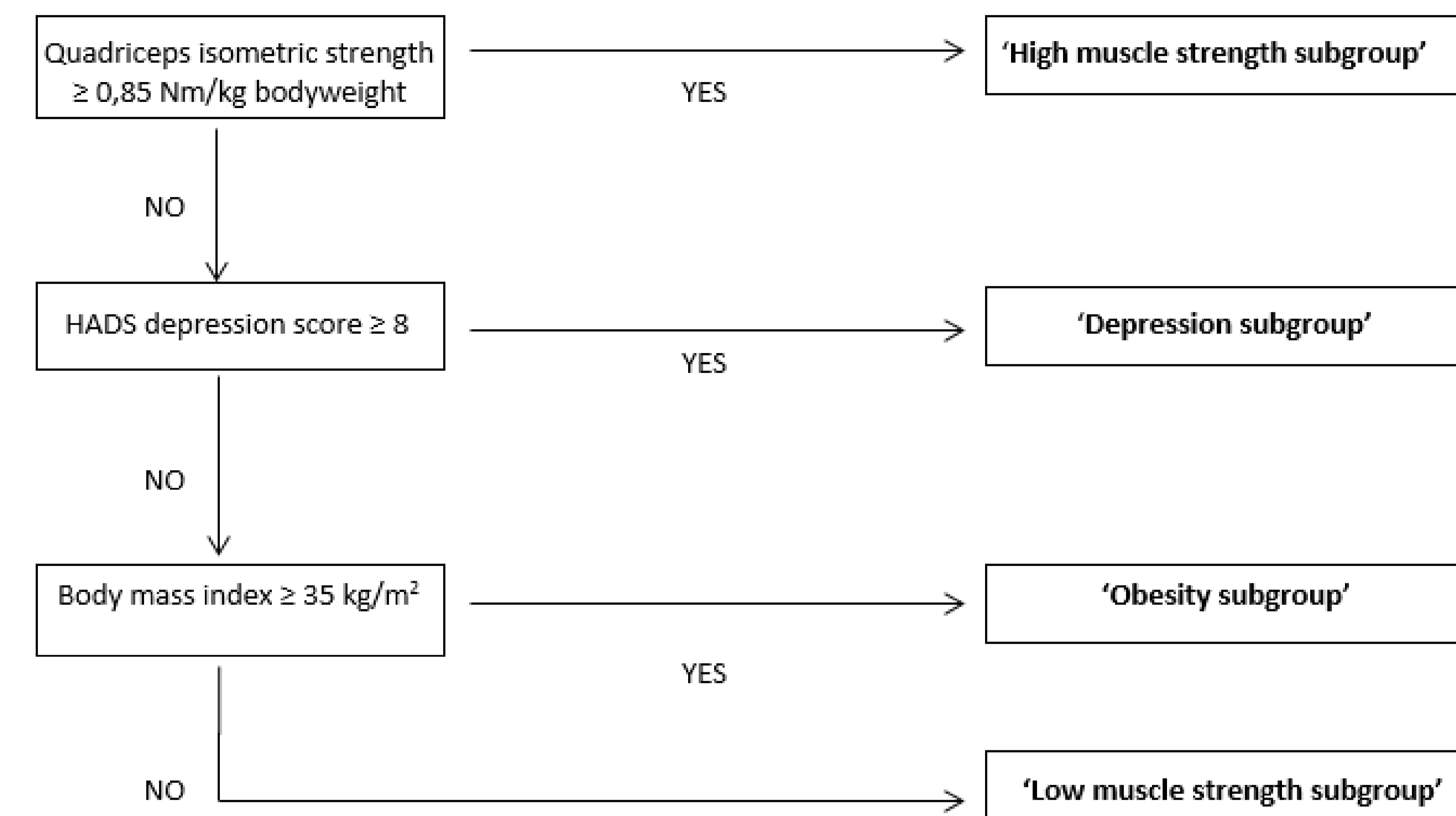


FIGURE 2. Subgroup-specific, protocolized exercise therapy

Subgroups	Content	Number of sessions
High muscle strength	- Subgroup-specific patient education - Home exercises	3-4 sessions (incl. intake)
Low muscle strength	- Subgroup-specific patient education - Home exercises - Supervised exercise therapy based on STABILO-protocol (4)	8-12 sessions (incl. intake)
Obesity	- Subgroup-specific patient education - Home exercises - Supervised, obesity-adapted exercise therapy based on COOA/obesity-protocol (5) - Advice to visit dietician for weight loss intervention	12-18 sessions (incl. intake)
Depression	- Subgroup-specific patient education - Home exercises - Supervised, ‘graded activity’ exercise therapy, based on COOA/depression-protocol (6) - Advice to visit GP to consider depression care	12-18 sessions (incl. intake)

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