COST-EFFECTIVENESS OF A BLENDED PHYSIOTHERAPY INTERVENTION IN PATIENTS WITH HIP AND/OR KNEE OSTEOARTHRITIS: A CLUSTER RANDOMISED CONTROLLED TRIAL

C. Kloek1,2,3, J. M. van Dongen4, D. Bossen5,6, J. Dekker3, M. Veenhof7,8
1TRANFO, Tilburg University, Tilburg, 2Netherlands Institute for Health Services Research (Nivel), 3Research Group Innovation of Mobility Care, HU University of Applied Sciences, Utrecht, 4Department of Health Sciences and EMGO+ Institute for Health and Care Research, VU University Medical Center Amsterdam, 5ACHIEVE Centre of Expertise, Amsterdam University of Applied Sciences, 6Coronel Institute of Occupational Health, Academic Medical Center, University of Amsterdam, 7Department of Rehabilitation Medicine and Department of Psychiatry, VU University Medical Center Amsterdam, 8Department of Rehabilitation, Physiotherapy Sciences and Sports, Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht, Netherlands

Background: Physiotherapy, consisting of education, graded activity and exercises, is effective in improving levels of physical functioning and pain in patients with osteoarthritis (OA) of hip and/or knee. Blended physiotherapy, in which physiotherapy sessions and an online application are integrated, might support patients in taking an active role in the management of their condition and may reduce disease related costs. Recently, the blended physiotherapy intervention e-Exercise was developed. Bossen 2016

Objectives: To determine subgroups of patients with homogenous patterns of complaints in primary care.

Methods: Data from the CHECK cohort (Cohort Hip and Cohort Knee) were used. For this cohort, 1002 patients between 45 and 65 years of age or within 6 months from their first consultation at a general practitioner for symptoms of their hips and/or knees, were included and followed for 10 years. A numeric rating scale (NRS) for perceived pain was obtained at baseline and after 2, 5, 8 and 10 years, or until total joint replacement. Using these longitudinal data, subgroups of patients with comparable trajectories over time were identified using Latent Class Growth Analysis (LCGA). Models with 3 to 6 classes when using linear, cubic and quadratic trajectories were evaluated using Mplus software.

Results: At baseline, the 986 subjects (79% women) with >2 NRS data points available had a mean age of 55±9.5 years and a mean BMI of 26±2.4 kg/m². In total, 410 patients reported knee pain only (41%), 173 hip pain only (17%), and 415 reported both knee and hip pain (42%) at baseline. On a joint level, 156 knees and 160 hips had KL-grade >2 at baseline.

The by LCGA derived models of 3 groups with a linear trajectory and of 6 groups with a cubic trajectory resulted in comparable goodness of fit indicators (Bayesian Information Criterion 17 991 vs. 17927, Akaike Information Criterion 17 927 vs. 17761, and entropy 0.694 vs. 0.683 for the 3 and 6 group models, respectively).

Both models and the corresponding trajectories are presented in the figure 1. In the 3 group model, the ‘high pain trajectory’ (group 2, blue line, n=206) contained most patients with knee and hip complaints (53%), females (84%), BMI (21%), and the highest mean BMI (27.6±4.6). The ‘low pain trajectory’ (group 3, green line, n=441) contained most patients with only hip (19%) and only knee (48%) complaints, and the lowest mean BMI (25.3±3.6).

In the 6 group model, the ‘always high pain trajectory’ (group 1, red line, n=176) contained most females (86%) and TJR (24%), and the highest mean BMI (27.7 ±4.7). The ‘always low pain trajectory’ (group 5, brown line, n=289) contained most patients with only knee complaints (51%) and the lowest mean BMI (26.0 ±3.4). The ‘decreasing pain trajectory’ (group 2, blue line, n=57) contained most patients with only hip complaints (22%). The ‘fluctuating high pain trajectories’ (groups 3 (n=88) and 4 (n=142), green and pink lines) contained most females (38.3% and 48.6%), and patients with knee and hip complaints (36.1% and 4.4%).

Conclusions: The 6 group model identified more extreme groups with lower minimal and higher maximal prevalence of the presented clinical characteristics. In the end, the conclusion drawn from the two models appear similar: Patients presenting with both knee and hip complaints had less favourable pain trajectories over the following 10 years and the number of total joint replacements was the highest in the groups always reporting high pain scores.

Disclosure of Interest: None declared