TRAJECTORIES OF ADHERENCE TO HOME-BASED EXERCISE PROGRAMS AMONG PEOPLE WITH KNEE OSTEOARTHRITIS.

Purpose

Exercise is the cornerstone of optimal non-surgical management of knee osteoarthritis (OA). However, for exercise interventions to be successful adherence is crucial. Given that adherence to exercise among people with knee OA is influenced by a vast array of factors, it is unsurprising that exercise adherence varies across individuals. Identifying distinct exercise adherence trajectories among people with knee OA allows a better understanding of how adherence to exercise typically changes over time, and may facilitate identification of individuals most at risk of poor or declining exercise adherence, who may benefit from interventions specifically designed to boost exercise adherence at particular time points.

The aim of this study was to investigate the presence of groups showing different trajectories of self-reported adherence to home exercise programs among people with knee OA, and to compare baseline characteristics across identified groups.

Methods

We performed a pooled analysis of data from three randomised controlled trials involving exercise interventions for people aged ≥50 years with clinical knee OA (n=331) in Australia. Exercise adherence was self-reported on an 11-point numerical rating scale (NRS, 0=not at all, 10=completely as instructed) reflecting on the previous 12 week period from 12 weeks up to 78 weeks from baseline. Latent class growth analysis was used to identify groups of participants with distinct trajectories of adherence. The optimal model was identified by initially fitting a single-group model, then successively increasing the number of groups until

model estimation failed. The model with the lowest Bayesian information criterion (BIC) was selected as the optimal model. Baseline characteristics of these groups were compared using chi-squared tests, one-way ANOVA and Kruskal Wallis tests where appropriate.

Results

The optimal model identified three groups of participants with distinct trajectories of home exercise adherence over time: one whose adherence rapidly declined and then remained poor (Group 1 termed "Rapidly declining adherence", n=157, 47.4% of the cohort), a second group whose adherence started high and declined gradually over time (Group 2 termed "Gradually declining adherence", n=153, 45.1% of the cohort), and a small third group whose adherence was poor throughout (Group 3 termed "Low adherence", n=21, 6.3% of the cohort). Mean adherence was higher in the "Gradually declining adherence" group compared to the "Rapidly declining adherence" and "Low adherence" groups at all time points. At baseline the "Rapidly declining adherence" group reported significantly lower WOMAC pain (mean difference (95%CI) -0.8 (-1.4, -0.2)) and better WOMAC function (-3.1 (-5.2, -1.1) compared to the "Gradually declining adherence" group. In addition the "Low adherence" group reported borderline significantly poorer self-efficacy in managing their OA symptoms compared to the "Rapidly declining adherence" group (mean difference (95%CI) 1.9 (0.0, 3.8)).

Conclusion

Three distinct trajectories of self-reported adherence to prescribed home exercise among people with knee OA were found. Few baseline characteristics differed between these groups, and in this cohort these differences between groups were small. Our results highlight the need for close monitoring of adherence from initiation of a home exercise program in order to

identify and intervene with participants following a low or rapidly declining adherence trajectory.

OA: Clinical Aspects & Outcomes

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