

Patient-reported outcome measures and willingness for surgery among participants of a digital self-management program for knee or hip osteoarthritis

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Objective: To investigate associations between changes in patient-reported outcome measures (PROMs) and willingness for surgery (WFS) following participation in a digital self-management program for osteoarthritis (OA) in Sweden.

Methods: Joint Academy® (JA) is a digital platform for OA self-management. We obtained data on WFS and PROMs from baseline, 3, 6, 9, and 12 months follow-ups for people enrolled in JA between June 2018 and September 2021. Conditional fixed effect logistic regression was used for data analysis. We used group-based trajectory modelling (GBTM) to investigate longitudinal patterns of pain among those switching from willing at baseline to not-willing at last response (YES_NO) and from not willing to willing (NO_YES).

Results: A total of 2103 participants with mean age 64 years (71% women) who at least switched their WFS once were included. Results showed that improvements in PROMs were associated with decreased probability of WFS. One-unit decline in pain and activity impairment (both on a 0-10 scale) was associated with 11.4% (95% CI 8.1, 14.6) and 7.0% (3.9, 10.0) decrease in probability of willingness for surgery, respectively. Moreover, walking difficulties were associated with increased probability of WFS. GBTM identified four pain trajectory subgroups in YES_NO group (Figure 1) and three in NO_YES group (Figure 2).

Conclusion: Changes in PROMs following treatment can meaningfully influence WFS among participants of a digital treatment for OA. In particular, those with little improvement or worsened PROMs are more likely to be willing to undergo surgery and hence might need modifications in their digital treatment.