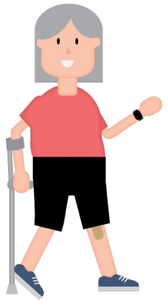
PREDICTORS OF ADHERENCE TO A STEP COUNT INTERVENTION FOLLOWING TOTAL KNEE REPLACEMENT

Vicky Duong[1], Simone Dennis[1], Manuela L Ferreira[1,4], Gillian Heller[3], Philippa JA Nicolson[1,2], Sarah R Robbins[1], Xia Wang[1], David J Hunter[1]

[1]Sydney Musculoskeletal Health, Kolling Institute, University of Sydney, Australia. [2]Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, United Kingdom. [3]NHMRC Clinical Trials Centre, University of Sydney, Australia. [4]School of Health Sciences, Faculty of Medicine and Health, University of Sydney, Australia.

INTRODUCTION



Factors influencing adherence to exercise and physical activity are complex and can range from person-level factors (individual attributes, personal experiences) to external factors (social and physical environment).

Patients who have recently undergone total knee replacement (TKR) may represent a specific subset of people with osteoarthritis.

AIM

To identify person-level predictors of adherence to a prescribed step count intervention following TKR.

METHODS

Participants who had recently undergone TKR were recruited from Mt Wilga, Lawrence Hargrave and Hunters Hill rehabilitation hospitals in Sydney, Australia for the main trial (PATHway, ACTRN12618001448235). This study is a sub-study of PATHway. Only data from the TKR intervention group was used for this study.

Participants (n=51) received a wearable tracker to monitor their step count. Step count adherence was measured at three months as the 14-day average steps completed, divided by the number prescribed (7500 steps) and multiplied by 100% to express adherence as a percentage. Participants were categorised into four groups: low adherence (0-79%), adherent (80-100%), >100% adherent and withdrawals. Ordinal logistic regression was used to identify predictors of step count adherence.

RESULTS

A total of 51 participants were enrolled into the intervention arm of the trial, of whom 42 (82.4%) had 14-day step count data at three months.

Two-thirds of the sample was female (n=34, 66.7%), with a mean (SD) age of 69.1 (8.0) and body mass index of 30.1 kg-m^2 (8.0)

The number of participants categorised into each group at three months:

- Low adherence (completed 0 to 79% of step goal) n = 10, 19.6%
- Adherent (completed 80 to 100% of step goal) n = 8, 15.7%
- > 100% adherent n = 24, 47.1%
- Withdrawal n = 9, 17.6%

The three predictors which were significantly associated with step count adherence in the univariate ordinal regression were:

P=0.004 OR 0.90 95% CI 0.83 to 0.97

P=0.03 OR 1.03 95% CI 1.00 to 1.06

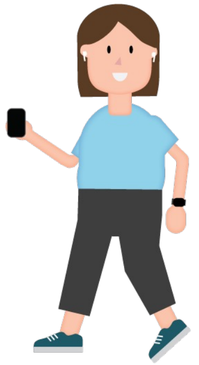
P=0.012 OR 1.03 95% CI 1.00 to 1.06

Neither patient activation or technology self-efficacy scores remained statistically significant following adjustment for age in the multivariate model.

CONCLUSION

Lower age, higher patient activation and higher technology self-efficacy were associated with greater adherence to a step count intervention following TKR.

Additional support may be required for older participants or those with lower patient activation and technology skills when implementing an intervention with a digital component.



We would like to acknowledge the site staff at Mt Wilga, Lawrence Hargrave and Hunters Hill Hospitals for their assistance with participant recruitment. This study was supported by an Australian Physiotherapy Association seeding grant, the main trial was sponsored by the Ramsay Health Foundation.
The full paper can be read at: https://www.jospt.org/doi/10.2519/jospt.2022.11133
Contact: vicky.duong@sydney.edu.au