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In-home telerehabilitation compared to home visits after a total knee arthroplasty: A randomised trial

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We compared the effectiveness of in-home telerehabilitation (TELE) with home visits (CONTROL) following knee replacement surgery (total knee arthroplasty [TKA]). Two hundred and five patients who received TKA were recruited prior to discharge from hospital and were randomly assigned to TELE or CONTROL intervention group. Both groups received the same rehabilitation intervention consisting of16 supervised exercise sessions, twice a week, over the 2 first months after hospital discharge. Function (6 minutes Walk Test) and disability (extension/flexion range of motion [ROM]) were measured using standardized outcome measures in face-to-face evaluations by a blind evaluator. The 4 evaluations took place: 1)before TKA (E1), 2) at discharge (E2), 3) at the end of the intervention - 2 months post discharge (E3), and 4) at 4 months post-discharge(E4). An intend-to-treat analysis was performed to test the main research hypothesis: mean improvement in the 6 minutes' Walk Testscore and extension/flexion ROM at E4 in comparison to baseline (E1) will not be inferior in the TELE group compared to the CONTROL group. Difference between E4 and E1 adjusted for preoperative measures (n=198 patients) was the same between TELE and CONTROL group for all outcome measures: 6 minutes Walk Test score (-7.35 m, 95%CI [-27.79, 13.10]), extension ROM (0.010, 95%CI [-1.01, 1.04]), and flexion ROM (1.080, 95%CI [-2.12, 4.28]).Our results confirm the non-inferiority of the in-home telerehabilitation as compared to home visits. An economic analysis will complete the analysis of this innovative intervention.

Biography

Michel Tousignant has a Bachelor's Degree in Physiotherapy (1979; Université Laval), a Master's Degree in University Pedagogy for Medical Sciences (1987; Université Laval), a Ph.D. Degree in Public Health (2000; Université de Montréal) and a fellowship in economic evaluation (2003; Université de Sherbrooke). He is currently the Director of the Research Centre on Aging, as well as a full Professor and Program Director of the School of Rehabilitation at the Université de Sherbrooke. He received several research grants as principal researcher or co-researcher. He published approximately 50 articles and presented close to 90 local, national and international communications.

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