Effectiveness and cost-effectiveness of a group-based physiotherapy intervention following knee replacement for osteoarthritis: feasibility study for a randomised controlled trial

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**Introduction**

- Total knee replacement (TKR) is a common operation for management of osteoarthritis.
- Inpatient physiotherapy is routinely provided after TKR to enhance recovery prior to discharge.
- There is variation in the provision of outpatient physiotherapy across the UK¹.
- Research suggests that outpatient physiotherapy provides short-term benefit up to 3 months post-operative², however the longer-term benefits are uncertain.
- We aimed to evaluate the feasibility of a randomised controlled trial (RCT) to assess long-term effectiveness and cost-effectiveness of group-based outpatient physiotherapy after TKR.

**Methods**

- Patients listed for TKR recruited from pre-operative assessment clinic
- Pre-operative questionnaire
- Randomised using computer system (Minim)
- Intervention group (n=23) vs Standard care group (n=23)
- Post-operative questionnaires at 2 weeks, 3 months and 6 months after surgery

**Results**

- Recruitment of participants
  - 46/124 eligible patients were recruited (37%).
  - Reasons for non-participation included travelling distance, transportation and time commitments.
- Retention of participants
  - Retention of participants was high, with 42/46 patients completing follow-up.

**Intervention acceptability: Patients**

- Course satisfaction ratings were high: 9.6/10 for task-orientated exercises and 9.5/10 for individual exercises.

**Intervention acceptability: Staff**

- A rolling system of classes allowed the physiotherapists to provide individualised advice to new patients while monitoring the progress of patients further on through the course of 6 classes.

- **Intervention acceptability: Patients**
  - 6 x weekly one-hour physiotherapy class starting at 6 weeks after surgery
  - Run by two physiotherapists in an outpatient gymnasium
  - Held at a fixed time each week on a rolling system, allowing new patients to join each week
  - Involved task-orientated and individualised exercises

- **Uptake of intervention**
  - Attendance at the classes was good: 17/23 patients attended 5 or 6 classes.

- **Data collection methods**
  - Questionnaire return rates were high in the intervention group (91% at 6 months) but lower in the standard care group (65% at 6 months), highlighting the need for additional strategies to improve data collection.

**Conclusions**

- Undertaking feasibility work for a RCT is labour-intensive. However, this study highlights the importance of such work.
- Findings from this study will inform the design of the definitive (fully powered) RCT to evaluate the effectiveness and cost-effectiveness of a group-based outpatient physiotherapy intervention following TKR for osteoarthritis.