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Mental practice to increase functional recovery after knee replacement: a systematic review

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Abstract

Total Knee Arthroplasty (TKA) is considered the gold standard for the treatment of end-stage knee OA (1). Rehabilitation after TKA is essential to allow patients to return to work and leisure activities but several disabilities remain after the conventional rehabilitation program in a large number of patients. Complementary therapeutic strategies to improve functional outcome are needed. Preliminary studies (2,3) suggested that mental practice training could increase recovery. For this reason, we aim to conduct a systematic review to compare the effect of mental practice relative to standard physiotherapy on knee motor function.

Guidelines

Inclusion Criteria

Inclusion criteria were defined using the PICO framework. We consider only Randomized Control Trial that combine mental stimulation strategies and conventional physiotherapy compared to conventional physiotherapy alone in the post-surgical management of knee replacement. We will assess efficacy on knee motor function.

Information sources and search strategy

We will search MEDLINE (PubMed), the Cochrane Central Register of Controlled Trials (CENTRAL) and Web of Science.

Study records management, selection and data collection

We will use Zotero software (5) to manage citations retrieved through the electronic searches. Two independent reviewers will determine studies eligible for the inclusion; any discrepancies will be resolved by discussion or with the consultation of a third reviewer. The same two reviewers will extract general characteristics (publication date, study design, description of the intervention and comparator, sample size) and specific information (training characteristics, outcome measures and study results) of included studies on a standardized extraction form.

Risk of bias assessment

Two reviewers will independently assess the risk of bias of included studies using the version two of the Cochrane Collaboration's tool for assessing risk of bias (RoB-2) (6). Discrepancies will be resolved by discussion or with the consultation of a third reviewer.

Data synthesis

We plan to combine data in meta-analyses. We will express the overall estimation of mental practice training effect as mean difference (MD) with 95% confidence interval (CI) when studies use similar scale or as standardized mean difference (SMD) with 95% confidence interval (CI) if studies will use different scales/instruments to assess the same outcome. We will use RevMan 5.4 software.

METHODS

- 1 Systematic review. Reporting will follow the Preferred Reporting Item of Systematic reviews and Meta-analysis (4).

Inclusion Criteria

- 2 Inclusion criteria were defined using the PICO framework. We consider only Randomized Control Trial that combine mental stimulation strategies and conventional physiotherapy compared to conventional physiotherapy alone in the post-surgical management of knee replacement. We will assess efficacy on knee pain and motor function.

Information sources and search strategy

- 3 We will search MEDLINE (PubMed), the Cochrane Central Register of Controlled Trials (CENTRAL) and Web of Science.

Study records management, selection and data collection

- 4 We will use Zotero software (5) to manage citations retrieved through the electronic searches. Two independent reviewers will determine studies eligible for the inclusion; any discrepancies will be resolved by discussion or with the consultation of a third reviewer. The same two reviewers will extract general characteristics (publication date, study design, description of the intervention and comparator, sample size) and specific information (training characteristics, outcome measures and study results) of included studies on a standardized extraction form.

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