



ELSEVIER

Contents lists available at ScienceDirect

The Journal of Arthroplasty

journal homepage: www.arthroplastyjournal.org

Review Article

No Difference in Outcomes 12 and 24 Months After Lower Extremity Total Joint Arthroplasty: A Systematic Review and Meta-Analysis

Prem N. Ramkumar, MD, MBA^{a,*}, Sergio M. Navarro, BS^b, Heather S. Haeberle, BS^b, Mitchell Ng, BS^a, Nicolas S. Piuizzi, MD^{a,c}, Kurt P. Spindler, MD^a^a Department of Orthopaedic Surgery, Cleveland Clinic, Cleveland, OH^b Department of Orthopaedic Surgery, Baylor College of Medicine, Houston, TX^c Instituto Universitario del Hospital Italiano, Buenos Aires, Argentina

ARTICLE INFO

Article history:

Received 14 December 2017

Received in revised form

12 February 2018

Accepted 12 February 2018

Available online xxx

Keywords:

PROM

total knee arthroplasty

total hip arthroplasty

outcomes

arthroplasty

ABSTRACT

Background: A better understanding of how patient-reported outcome measures (PROMs) change after total knee and hip arthroplasties (TKA and THA) is needed to support the minimum arbitrary follow-up of 24-months required by orthopedic journals. Therefore, our purpose was to perform a systematic review and meta-analysis of the THA and TKA literature to determine if equivalence exists between 12- and 24-month outcomes data.

Methods: A search was performed using the PubMed and EMBASE databases for primary and revision THA and TKA studies reporting PROMs data at both 12 and 24 months. Reports on PROMs for TKA and THAs were included for meta-analysis to detect statistical differences at 12 and 24 months.

Results: A total of 15 reports from 9 TKA (n = 1564) and 6 THA (n = 740) reports were analyzed. The mean change between 12 and 24 months for Knee Society Score was 0.15 absolute points (95% confidence interval [CI]: 0.97-1.06, P = .13) and for Western Ontario and McMaster Universities Osteoarthritis index was 0.50 absolute points (95% CI: 0.94-1.07, P = .49). The mean change between 12 and 24 months for Harris Hip Score was 2.01 absolute points (95% CI: 0.94-1.1, P = .22) and for short form was 0.02 absolute points (95% CI: 0.92-1.08, P = .94).

Conclusion: No different outcomes were found within THA and TKA for 4 PROMs at 12- and 24-month follow-up. Although the findings from this study do not alleviate the need for collecting data from longer follow-up periods, there may not be additional value in collecting short-term outcomes data in routine practice at both 1 and 2 years.

© 2018 Elsevier Inc. All rights reserved.

In today's patient-centered health care model, the value of lower extremity total joint arthroplasty is increasingly tied to the patient-reported outcome measure (PROM) [1]. From promoting safety and satisfaction to reimbursement distribution, the prospective collection of PROMs has never been more critical for the future of orthopedic surgery and its patients, surgeons, and involved stakeholders [2]. In a systematic review by Ramkumar et al [3], a single, validated, reliable, and responsive PROM remains elusive and a matter of debate. On the other hand, the Centers for Medicaid and

Medicare Services has implemented the patients satisfaction-related Press Ganey survey, now used in more than 50% of hospitals, that directly ties to provider and hospital reimbursement [4–7]. Although long-term outcome data are needed to evaluate surgical outcomes, the collection of data is costly and requires great effort, particularly among many centers and populations [8].

In terms of the short-term, however, a better understanding of how patients and their PROMs change is needed to facilitate meaningful collection as rapidly and efficiently as possible [8]. This issue is compounded by the mandatory minimum, albeit arbitrary, follow-up of 24 months before any report on total joint arthroplasty may be considered for publication in many orthopedic journals, even if the primary outcome describes only PROMs. In a recent cohort study of 23,952 patients undergoing anterior cruciate ligament reconstruction, equivalent results were found at 1- and 2-year follow-ups among Knee Injury and Osteoarthritis Outcome Scores (KOOS) [9].

No author associated with this paper has disclosed any potential or pertinent conflicts which may be perceived to have impending conflict with this work. For full disclosure statements refer to <https://doi.org/10.1016/j.arth.2018.02.056>.

* Reprint requests: Prem N. Ramkumar, MD, MBA, Department of Orthopaedic Surgery, Cleveland Clinic, 9500 Euclid Avenue, Cleveland, OH.

<https://doi.org/10.1016/j.arth.2018.02.056>

0883-5403/© 2018 Elsevier Inc. All rights reserved.

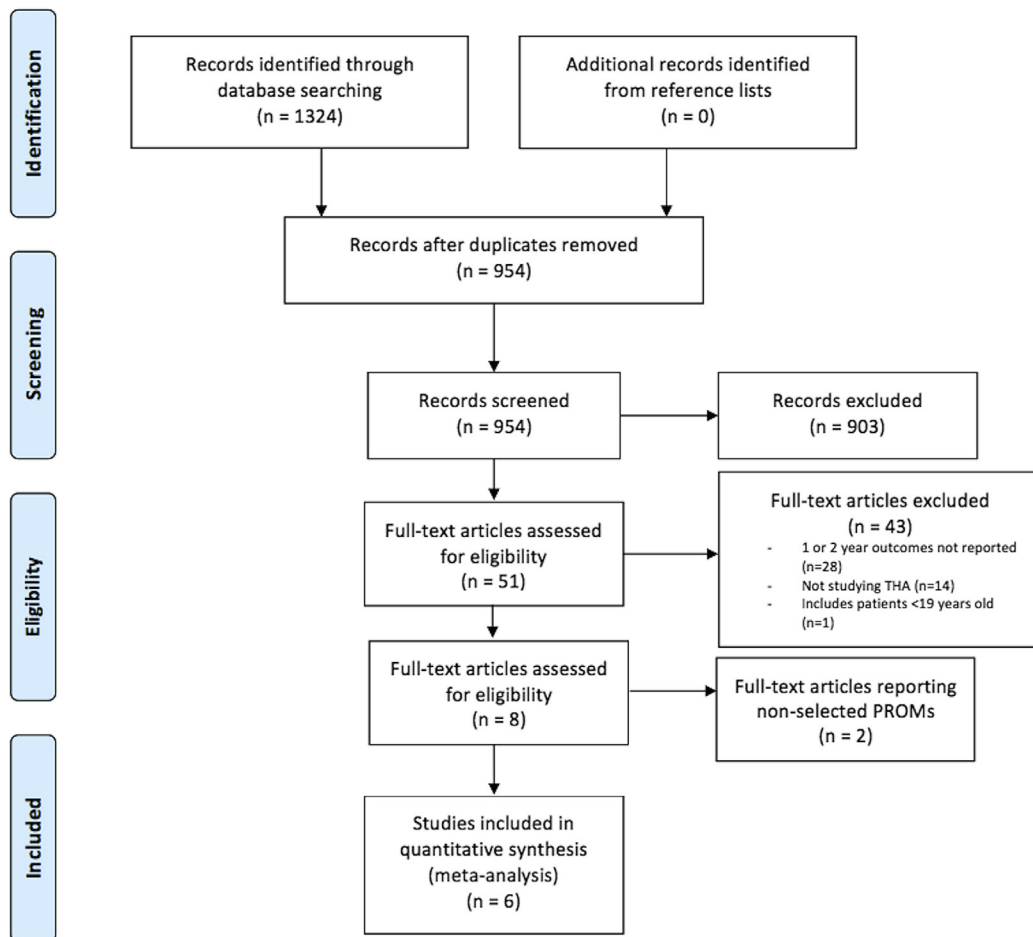


Fig. 1. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) selection for THA studies. PROM, patient-reported outcome measure; THA, total hip arthroplasty.

Prior work suggests that KOOS subscales and International Knee Documentation Committee subjective scores only improve within the first year after anterior cruciate ligament reconstruction. However, little is known if the same results also apply after primary or total hip and knee arthroplasties (THA and TKA).

Although equivalency at 12 and 24 months would not obviate the need for establishing registries with long-term follow-up data, it would suggest that the status of a patient 1 year after arthroplasty would be sufficient to define the patient's long-term trajectory and prioritize resource allocation. Thus, the purpose of this study was to perform a systematic review and meta-analysis of the primary and revision THA and TKA literature to determine if equivalence exists between 12- and 24-month PROMs data. We hypothesized that results would be similar to the existing literature in that results obtained at 24 months after primary hip or knee arthroplasty outcomes would be equivalent to those obtained at 12 months.

Materials and Methods

We performed a systematic review in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines and registered the study on the international PROSPERO (international prospective register of systematic reviews) database (CRD42017069831). Three reviewers (SMN, HSH, and MN) independently completed structured searches using the PubMed and EMBASE databases on June 20, 2017. All data extracted and

analyzed were cross-checked by each of the 3 investigators for 2 additional rounds to ensure fidelity and redundancy. Search terms for TKA were as follows: *(total hip replacement) OR (total hip arthroplasty) AND (outcomes) AND (one year follow up OR 1 year follow up OR two year follow up OR 2 year follow up)*. Similarly, search terms for THA were as follows: *(total knee replacement) OR (total knee arthroplasty) AND (outcomes) AND (one year follow up OR 1 year follow up OR two year follow up OR 2 year follow up)*.

Study eligibility was determined by using standardized inclusion and exclusion criteria described in the following 3 stages: title review, abstract review, and full-article review. The reviewers also cross-referenced the bibliography of included final articles to identify additional studies not studied in the keyword searches. Any discrepancies were resolved by author consensus. Inclusion criteria were as follows: (1) original studies that presented level I-IV evidence clinical outcome data; (2) published in English between January 1, 1997 and June 19, 2017; (3) involved patients aged 19 years or older; (4) studies providing extractable outcome data for primary THA or TKA from both 1 and 2 years. Reports were excluded from analysis if (1) clinical outcome data from surgeries other than TKA or THA were reported (unicompartmental knee arthroplasty, patellofemoral arthroplasty, resurfacing procedures, hemiarthroplasty, etc); (2) no original, extractable clinical data were presented (ie, review articles, letters to the editor, basic science articles); (3) articles that did not present extractable baseline data; and (4) articles that reported 1-year data, but not 2-year data

Download English Version:

<https://daneshyari.com/en/article/8799270>

Download Persian Version:

<https://daneshyari.com/article/8799270>

[Daneshyari.com](https://daneshyari.com)