



Are We Involving Patients in Shared Decision-Making in Young Adult Hip Surgery? A Systematic Review of Patient Engagement Initiatives in Hip Preservation

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Abstract

There are limited published studies on patient engagement, including shared decision-making, in adolescents and young adults with complex congenital or post-traumatic hip disorders. Despite the limited number of papers, we aim to clearly summarize what is currently available in the literature using a systematic review approach. We hope this serves as a call to action and catalyst for more work in this field. Future research must focus on awareness of what matters most to patients (values), and the development, implementation, and barriers to the use of decision aids and patient engagement optimization specific to hip disease in young adults.

Keywords

shared decision-making, patient engagement, decision aid, hip preservation

Introduction

There is a growing shift from a physician-centered model of medicine toward patient-centered care and understanding patients' preferences, needs, and values in making shared decisions (1). Shared decision-making (SDM) is a new paradigm that involves patients and providers working collaboratively to reach an informed treatment decision following expert communication of knowledge, risks, benefits, and alignment with the patient's values, goals, and preferences (2). Studies across multiple specialties, including orthopedic surgery, have shown that SDM may result in a number of benefits such as increased patient satisfaction, improved patient-centered health outcomes, and increased adherence to treatment regimens (3–5). Because of its many advantages, SDM is recommended by organizations such as Centers for Medicare and Medicaid Services.

Despite increasing evidence showing SDM to be beneficial to both patients and clinicians, there is limited evidence that it is routinely incorporated in orthopedic practice (6). Some surgeons may believe they already practice SDM, but studies show there is a mismatch. For example, a survey conducted by the American Academy of Orthopedic Surgeons reported that, while patients value listening as an important quality, only 13.3% thought their physician spent

the time to listen, while 71.3% of physicians thought they spent enough time listening (7). While younger patients in orthopedic surgery prefer a higher degree of SDM, there is limited knowledge of its utilization in hip preservation, as many prior applications of these models are primarily based on an elderly patient population with end-stage osteoarthritis (8–10).

The primary purpose of this review is to summarize what is currently available in the literature and act as a call to action for more work related to patient engagement and SDM tools in the management of young adult hip pathology.

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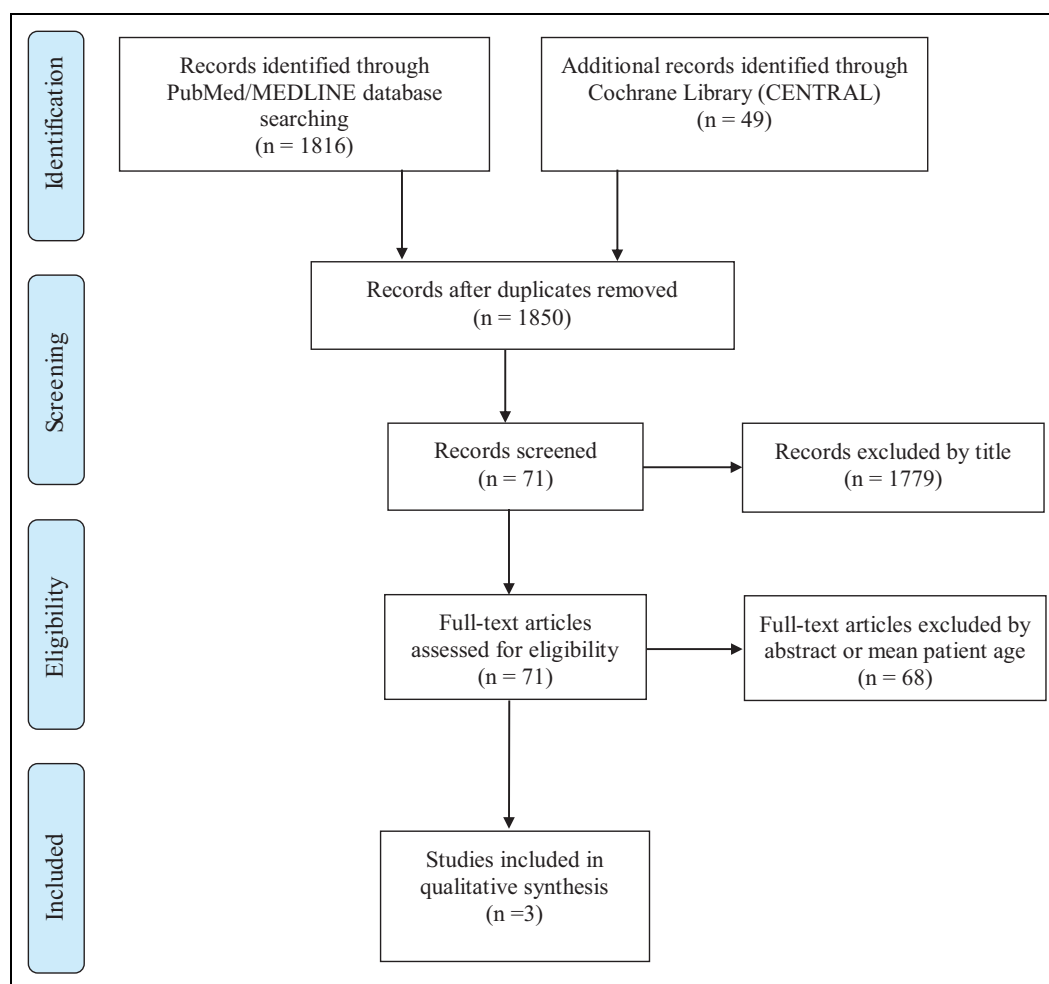


Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analysis Statement (PRISMA) diagram depicting the selection process for article inclusion.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analysis Statement guidelines were utilized throughout the search, analyses, and reporting processes. A comprehensive search was carried out using PubMed/MEDLINE, Embase, and the Cochrane Library databases using the MeSH terms “hip,” “surgery,” “arthroscopy,” “arthroplasty,” “osteotomy,” “patient involvement,” “decision making,” “adolescent,” and “young” in combination with the “AND” or “OR” Boolean operators. Additionally, reference lists of relevant studies were scrutinized. Data extraction included study date, number of patients, diagnosis, type of engagement, and outcomes.

Inclusion criteria were (1) studies published between 1990 and January 2020, (2) English language publications and complete articles from peer-reviewed journals, (3) orthopedic patients presenting with congenital or post-traumatic hip disorders, and (4) mean patient study population less than 50 years old. Exclusion criteria were (1) studies involved in solely the development of patient

engagement initiatives/tools, rather than their evaluation and (2) case studies.

The initial query yielded 1850 articles after duplicates were removed (Figure 1). Records were screened by title (1779 excluded), and 71 full-text articles were subsequently assessed for eligibility. Applying inclusion and exclusion criteria resulted in 3 manuscripts included for analysis. Review of each study’s reference lists was performed but did not result in any additional articles being considered for our investigation.

Results

The search identified 2 applications of patient engagement (1 preoperative and 1 perioperative) on an already prescribed treatment, and 1 study exploring factors influencing treatment decisions to enhance SDM (Table 1). We found no research applying SDM initiatives and patients’ preferences prior to making a treatment decision. Further, our search yielded no randomized trials of decision aids and their application in hip preservation.

Table 1. Overview of All Studies Included in Systematic Review.

Study	Number of patients	Mean patient age, years	Results
Bockhorn et al (11)	16	37	Patients “strongly agree” that the 3D visual models helped understand their pathology, and patients “agree or strongly agree” that the models made them more comfortable with surgery. Half of the patients were willing to pay for the model if necessary
Richard et al (12)	67	15.3	Perioperative patient engagement lead to statistically significant ($P < .05$) improved physical function, return to activity, psychological function, and resiliency
Stake et al (13)	71	^a	Pain, WOMAC score, and activity restrictions were statistically significant ($P < .05$) variables correlated with treatment decision-making

Abbreviations: 3D, 3-dimensional; WOMAC, Western Ontario and McMaster Universities Osteoarthritis Index.

^aMean patient age was not reported; age range was 26 to 50 years.

Bockhorn et al assessed the utility of a visual patient engagement tool on an already prescribed treatment. The authors used 3-dimensional (3D)-printed hip models in the evaluation and management of the hip. Inclusion criteria were young adults with hip pain undergoing hip preservation. Sixteen patients with hip pathology were selected. Of these 16 patients, 12 patients went on to get hip arthroscopy (11). Average age at the time of surgery was 37. Outcomes assessed were patient understanding of hip pathology, comfort with surgical procedure, and willingness to pay. The study found patients “strongly agree” that the 3D visual models helped understand their pathology, and patients “agree or strongly agree” that the models made them more comfortable with surgery. Half of the patients were willing to pay for the model, if necessary.

Richard et al evaluated outcomes after perioperative patient engagement through interdisciplinary education, counseling, and psychological intervention in 67 adolescents treated with hip preservation surgery (12). Average age at the time of hip preservation surgery was 15.3. Orthopedic diagnoses included femoroacetabular impingement (FAI, 20), acetabular dysplasia (23), Legg-Calve-Perthes disease (13), slipped capital femoral epiphysis (8), and other hip conditions (3). Patients completed patient-reported measures preoperatively and approximately 12 months postoperatively. Compared to baseline scores, perioperative patient engagement lead to statistically significant ($P < .05$) improved physical function, return to activity, psychological function, and resiliency.

Stake et al examined factors influencing treatment decisions to enhance SDM for 71 young adult patients considering hip arthroplasty. Inclusion criteria was patients younger than 50 years with symptomatic osteoarthritis considering hip arthroplasty (13). Patients with traumatic injuries or those were not able to read because of language or cognition were excluded from the study. Enrollment occurred at both an academic medical center and private clinic. Average age was not reported, but age range was 26 to 50 years. Pain, Western Ontario and McMaster Universities Osteoarthritis Index score, and activity restrictions were statistically

significant ($P < .05$) variables correlated with treatment decision-making.

Discussion

Treatment of hip preservation among young adults can be preference sensitive, where both operative and nonoperative strategies are reasonable options depending on the clinical scenario (ie, potential for clinical equipoise). A shared-decision approach respects patient autonomy, incorporates them as an integral part of the care team, and increases knowledge of the treatment options. This allows the patient and physician to collaboratively reach a decision that is aligned with patient’s preferences and goals (eg, impact on employment, pain relief, quality of life restoration, minimizing surgical risk). While there are a number of ways surgeons can communicate information, engage patients, and facilitate SDM (ie, decision aids, visual tools, and verbal techniques such as goal elicitation), we found minimal research in the medical literature in the setting of hip preservation.

Orthopedic surgery, like other fields in medicine, is undergoing a transformation from volume of care (fee-for-service) to value-based models. Applying surgery to an appropriate clinical setting remains important. For example, prior study has found total knee arthroplasty surgeries that were deemed inappropriate (14). This may lead to increased health care costs, and patient dissatisfaction may occur when expectations are not met or aligned. Appropriate transfer of information is critical in the management of young hip disease, such as choosing between a periacetabular osteotomy and a total joint replacement in the prearthritic hip of a 30-year-old patient. This discussion engages patients to think about their health and decide the value they place on different attributes of care such as pain relief, increased function, impact on employment, native joint preservation, and risk of subsequent revisions if early arthroplasty is performed. Patients who take an interest in managing their health are more capable of contending with their risk factors and experience better patient-reported outcomes (15). Shared-decision tools do not diminish the enthusiasm for surgery, but may more appropriately guide care delivery teams by

shifting appropriate surgical candidates to surgery, and candidates who will not gain meaningful improvement to non-operative management; this would clearly benefit all significant stakeholders.

Limitations

Our study was not without limitations. We are limited to the commonly used MeSH search terms. Heterogeneity of the outcome measures, and limited number of published studies on this topic, made it difficult to evaluate and compare papers. Although we found no research applying SDM initiatives in hip preservation decisions, papers examining hip pathologies in an elderly patient population were present. Future studies may explore how those prior tools translate to a younger hip preservation cohort. Despite these limitations, this review is the first to explore patient engagement and SDM initiatives in hip preservation.

Conclusions

Despite a growing understanding of the importance of SDM—where patients are at the center of the health care team—and increase in research on the topic, our review found little evidence that patient preferences and engagement were incorporated in studies involving treatment decisions in hip preservation. While there are a limited number of published studies, we hope this article helps to clearly summarize what is currently available in the literature and acts as a call to action and catalyst for more work in this field. In a patient-centered model, a patient's preferences, long-term goals, and ability to cope should drive treatment decisions. Future research must focus on awareness of what matters most to patients (ie, their values). Further, it is crucial that research guides the development and implementation of decision aids and patient engagement tools specific to young hip disease. The influence of other factors, such as underlying pathology (eg, dysplasia vs FAI), age, and specific surgical interventions, should be incorporated into any prospective study of SDM.

Authors' Note

This study was performed at the Cleveland Clinic Foundation, Cleveland, OH, USA. Institutional Review Board approval was not required. Informed consent was not obtained as no individual participants were included in the study. All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008 (5).

Declaration of Conflicting Interests



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