Oklahoma State University Center for Health Sciences / Office of Medical Student Research

Reporting of Harms in Systematic Reviews Focused on Reverse Shoulder Arthroplasty: A Cross Sectional Study

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INTRODUCTION

Reverse shoulder arthroplasty (RSA) is projected to increase in frequency by over 300% in the next decade due to the recent expansion of indications for this procedure. Therefore, a more thorough understanding of efficacy and harms is relevant for clinicians and patients to make unbiased evaluations of the intervention. Systematic reviews (SRs) are commonly used to guide clinical decision-making in orthopaedics, but they are known to weigh efficacy more heavily than harms in their reporting. Therefore, the objective of this cross-sectional analysis was to investigate completeness of harms reporting in SRs relating to reverse shoulder arthroplasty (RSA).

METHODS

- A comprehensive search using EMBASE, MEDLINE (Pubmed and Ovid), Epistemonikos, and the Cochrane database for Systematic Reviews was performed for relevant literature
- Search returns were screened for inclusion and extracted data using a masked, duplicate method.
- General study characteristics, harms items, and overall methodological quality for each SR were extracted. Corrected covered area (CCA) was quantified for SR pairs. AMSTAR-2 was used as a quality appraisal tool for each SR.
- Stata 16.1 was used to conduct a bivariate analysis between variables.

RESULTS

- After screening and full-text review, our sample consisted of 89 SRs. Of the included SR's :
- 26 (26/89, 29.2%) reported ≤ 50% of harms items
- 15 (15/89, 16.9%) included a pre-specified protocol that addressed harms
- 38 (38/89, 42.7%) listed and separately defined harms in the methods section
- 84 (84/89, 94.4%) SRs were graded as 'critically low' quality by AMSTAR-2

Figure 1: Flow Diagram of Study Selection

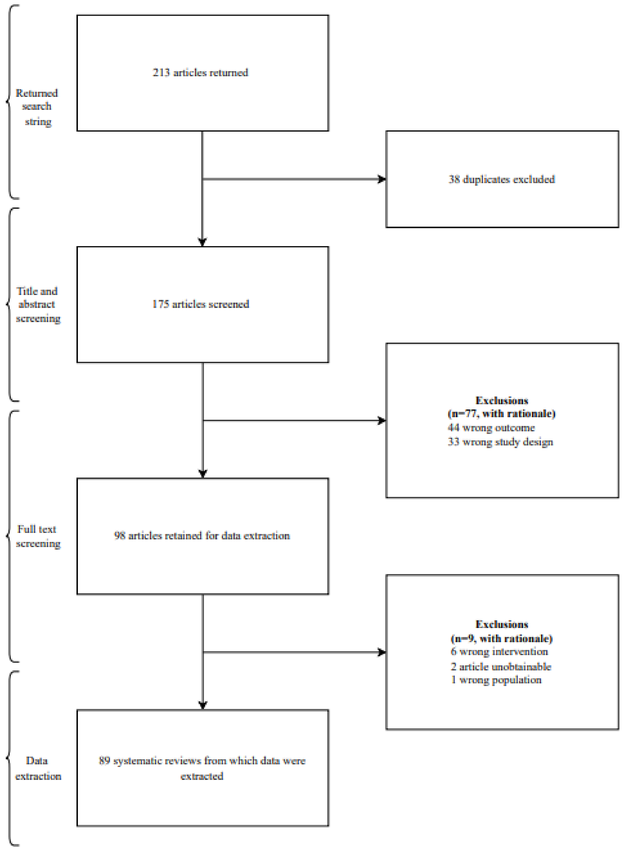

Figure 2: Harms Scale for Included Studies

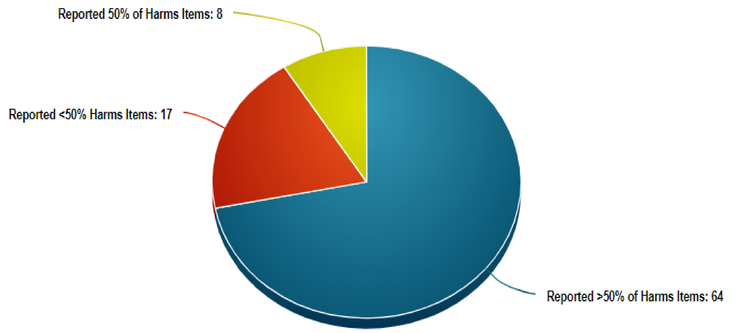

Table 1: Summary of Characteristics of Included Studies

Table 1. Summary of characteristics of included studies (*n=89*)

Review Characteristics	No. (%)
Indications	
Arthritis	35 (39.3)
Acute fracture	28 (31.5)
Rotator cuff tear	19 (21.3)
Failed anatomic or hemiarthroplasty	4 (4.5)
Tumor	1 (1.1)
Proximal humerus nonunion or malunion	1 (1.1)
Glenohumeral dislocation	1 (1.1)
Study mentions adherence to PRISMA[a]	
Yes	74 (83.1)
No	15 (16.9)
Intervention Favorable	
Yes	79 (88.8)
No	10 (11.2)
Was harms a primary or secondary outcome, or neither?	
Primary outcome	62 (69.7)
Secondary outcome	14 (15.7)
Neither	13 (14.6)
Conflicts of Interest	
Yes	13 (14.6)
No	57 (64.0)
Not stated	19 (21.3)
Funding Source	
Not funded	55 (61.8)
Not mentioned	21 (23.6)
Private	1 (1.1)
Public	4 (4.5)
AMSTAR-2 Rating[b]	
High	0 (0.0)
Moderate	0 (0.0)
Low	5 (5.6)
Critically low	84 (94.4)

[a]Preferred Reporting Items for Systematic Reviews and Meta-Analyses
[b]A MeaSurement Tool to Assess systematic Reviews

CONCLUSION

Our findings suggest inadequate harms reporting pertaining to RSA in SRs. To illustrate this, nearly 30% of SRs related to RSA in our sample failed to report at least 50% of harms items. We recommend improvement to reporting guidelines regarding harms reporting and that these improved guidelines be used by future studies. Complete harms reporting may facilitate better patient outcomes and allow for more thorough risk-benefit assessments.

REFERENCES

SCAN ME

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