Frequency of Citation Errors Among Male Sexual Medicine Publications in High-impact Urology Journals

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Introduction

• Citations are an essential characteristic of scientific literature
  • Give credit to prior work
  • Supports statements
  • Basis of recommendations / guidelines
  • Key measure of a journal’s quality / impact factor

• Inappropriate use of citations
  • Misleading – intentional or not
  • Inaccurate – propagate further errors
Introduction

• Citation error rates in other disciplines 19-41%\textsuperscript{1-7}

• Error Categorization:
  • Bibliographic (62-92% of errors)
    • Typographical
    • Increase difficulty in linking true citation
  • Quotational (8-38% of errors)
    • Inconsistencies between statements and intent / content of reference
    • Weaken credibility and primary argument
    • Greater impact on relevant findings / statements

• Error rates are independent of impact factor

Objectives

1. To review the number and types of citation errors occurring in sexual medicine articles

2. Evaluate for differences based on:
   - Journal type
   - Study type (meta-analysis vs original research)
   - Journal section
Methods

• Two sexual medicine articles each selected from:
  • European Urology
  • Journal of Urology
  • British Journal of Urology International
  • Journal of Sexual Medicine

• Selected from same month, where possible
• Random number generator if multiple available
• Original research or meta-analytic studies
• Reviewed for accuracy, relevance and congruence to the referent statement, and appropriateness of reference
• Did not review for typographical errors
Methods

Errors of Interpretation
- Discrepant Conclusions
- Discrepant Data
- Overstatement

Suboptimal References
- Inappropriate Reference
- Review Article Findings, Statement, and Summary
- Website Errors

Incorrect Reference
- Duplicate
- Unrelated Reference
- Unverifiable Statement
- Wrong Reference
Methods

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- Manuscript suggests that smoking is a risk factor.
- Cited study states that findings demonstrated that smoking was NOT a risk factor.
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- Article quotes an incidence of 0.8-1.5/100,000.
- Actual number from original manuscript is 0.34-0.52.
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- Article states that “only a few” patients will experience improvements in sexual / urinary functional status after 12 months.

- Cited article states that 41% will continue to recover continence beyond 12 months.
Methods

- Article states that patients were stratified by D’Amico classification.
- Citation is for an article which also uses D’Amico classification, but not the original D’Amico paper itself.

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- Article states that 18-24 months are recommended for penile rehabilitation and cites a review article.
- The review article cites the correct reference; would have been preferable to directly cite the article in question.
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- The link to the website is not accurate, active, or links to the wrong page.
Methods

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Reference #8 is cited in the text, #42 is not in text. In the bibliography, both are present and are the same reference.
Methods

- Article states that quality of life measures become increasingly important to cancer survivors.
- Cited reference reviews rates of incontinence between various prostate cancer therapies. No mention of quality of life aspects, importance to patients, or anything else to support the statement.

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- References an abstract from a meeting
- Manuscript is a meta-analysis, and several of the abstracts cited were not subsequently published. Meta-analytic findings were based on data from those abstracts.
Methods

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- Manuscript discusses systematic review for incontinence.
- Citation is for the same author, same year, but the wrong systematic review.
Results

Total Citations 468
Errors 145 (31)

Errors of Interpretation 27 (6)
Discrepant Conclusions 7 (2)
Overstatement 3 (0.6)

Suboptimal References 64 (14)
Discrepant Data 17 (4)

Incorrect Reference 54 (12)
Inappropriate Reference 2 (0.4)
Review Article 57 (12)

Duplicate Reference 2 (0.4)
Unrelated Reference 22 (5)
Unverifiable Statement 18 (4)
Website Errors 5 (1)

Wrong Reference 12 (3)
Overstatement 3 (0.6)
Results

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Results – Errors by Journal (%)

- BJU I: 32%
- Eur Urol: 24%
- JSM: 38%
- J Urol: 35%

P = 0.16
Results – Errors by Type of Article (%)

Original Articles (n=6) 33%
Meta-analyses (n=2) 27%
P = 0.25
Conclusions

1. Citation errors are common among high impact-factor urology journals.

2. Although suboptimal and incorrect references are most common, errors of misinterpretation / misrepresentation are potentially most problematic.

3. Error rates are not significantly different among journal evaluated.
Thank You