Compliance of Systematic Reviews in Plastic Surgery with the PRISMA Statement: A Systematic Review

Seon-Young Lee, Southampton Medical School
Harkiran Sagoo, Guy's Kings and St Thomas' School of Medical Education
Katharine Whitehurst, University College of London
Alex Fowler, Bart’s and the Royal London Medical School
Riaz Agha, Specialty Registrar, Mid Yorkshire Hospitals NHS Trust
Professor Dennis Orgill, Brigham and Women’s Hospital and Harvard Medical School

Evidence Live 2016 – Oxford, 22nd June

Academic Surgical Collaborative
www.surgicalcollaborative.com
No conflict of interest to declare

No funding was received
Systematic Review

• An attempt to answer a clearly formulated research question by assessing and synthesizing the relevant and available research evidence.

• Examine broader populations using explicit methods, limit bias.

• Popular way of summarizing research evidence, used by many health-care professionals to keep them up to date.

• Readers need clear & transparent information to accurately apprise a study.
PRISMA:
the Preferred Reporting Items for Systematic Reviews and Meta-Analyses

• Published in 2007 – to improve the reporting quality of systematic reviews & meta-analyses.

• 27-item checklist & 4-phse flow diagram

• Development of QUOROM (QUality Of Reporting Of Meta-analyses) statement.
Aim of the Study

• Assessing the reporting quality of Systematic Reviews & Meta-analyses in plastic surgery.
• Assessing the compliance of Systematic Reviews & Meta-analyses with the PRISMA statement.
Inclusion Criteria

Published in 2013 & 2014

Five major plastic surgery journals according to Thomson Reuter Impact factor 2013:
• Plastic and Reconstructive Surgery (PRS)
• Aesthetic Surgery Journal (ASJ)
• Archives of Facial Plastic Surgery (AFPS)
• Journal of Plastic Reconstrucitve and Aesthetic Surgery (JPRAS)
• Annals of Plastic Surgery (APS)

Study Types:
• Systematic Reviews or Meta-analyses of any type of studies

Search Engine used: MEDLINE & EMBASE
PRISMA flow diagram, illustrating how articles were selected (adapted from Moher et al.)
Scoring

- Articles scored independently against the 27 items by two researchers (HS & KW/GW - workload divided between KW and GW)
- Disagreement forwarded to another member of the team (SL) for final decision
- The resulting score out of 27 was termed the ‘PRISMA Score’
Results

• The median PRISMA score: 16/27 items (59%)
• The Cohen’s Kappa statistic: 0.60 (substantial inter-rater agreement)
• No article met all required criteria
• No item in the checklist achieved compliance of 100%
Compliance of individual items:
## Most Poorly Adhered PRISMA Items

<table>
<thead>
<tr>
<th>Section</th>
<th>PRISMA Item</th>
<th>Abbreviated Description</th>
<th>Adherence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods</td>
<td>5</td>
<td>Indication of review protocol and registration information</td>
<td>5</td>
</tr>
<tr>
<td>Results</td>
<td>19</td>
<td>Present data on risk of bias of each study</td>
<td>18</td>
</tr>
<tr>
<td>Results</td>
<td>22</td>
<td>Present results of any assessment of risk of bias across studies</td>
<td>24</td>
</tr>
<tr>
<td>Methods</td>
<td>15</td>
<td>Specify any assessment of risk of bias that may affect the cumulative evidence</td>
<td>25</td>
</tr>
<tr>
<td>Methods</td>
<td>16</td>
<td>Scribe methods of additional analyses</td>
<td>25</td>
</tr>
</tbody>
</table>
Discussion

- Failure of reporting of basic aspects of reporting, especially bias-related issues, were noticed.
- Readers need complete, clear and transparent information.†
- Suggest use of PRISMA checklist as guideline
- Low recognition in registration of systematic reviews
- Suggest use of web database registration e.g. PROSPERO, Research Registry

Conclusion

• The reporting quality of Systematic Reviews and Meta-analyses needs improvement.
• Enforcement of compliance
• The better education of plastic surgeons at all levels. §
• Raise awareness among plastic surgeons §