

Introduction

- The medical communications (MedComms*) space has evolved rapidly in India over Systematic review's (SR), meta-analyses (MA) and network meta-analyses (NMA) of randomized controlled trials (RCTs) and evidence-based practice guidelines are considered to be the strongest level of evidence, which provide useful information for clinical decision-making.¹
- However, despite advances, the quality of the conduct and reporting of such studies remains well short of ideal, leading to diminishing value to clinicians, researchers and policy makers.²

Objectives

- To evaluate the characteristics, trends, and quality of SR/NMA and MA across all pharmacotherapies.

Methodology

- Between January 2017 to December 2021, we performed a PubMed search to identify SLR/NMA/MA publications.
- We extracted information on journal name, impact factor, therapeutic area, country, authors, registration of study design and fulfilment of reporting guidelines.

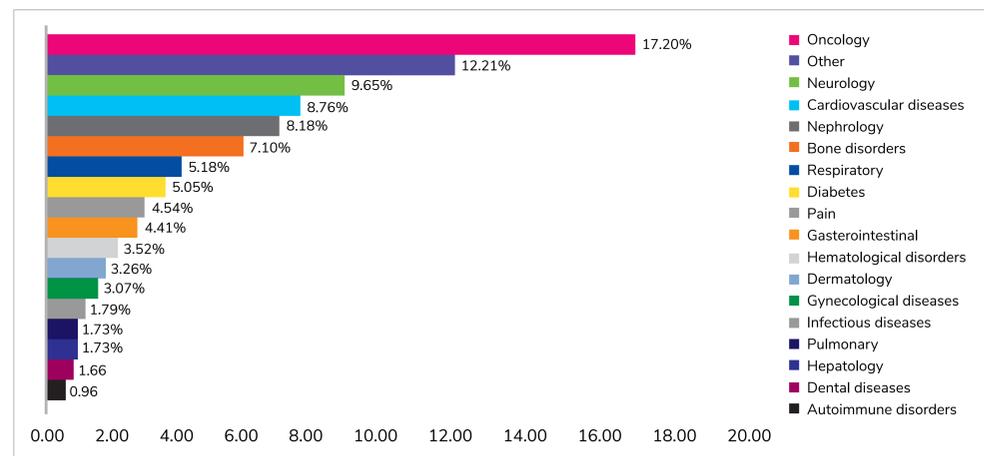
Results

- Our search yielded 1564 relevant articles; 85.3% of which included MA and NMA, published nearly 5 times more than SRs.

Most researched therapy areas

- The most commonly researched therapy area was oncology (17.20%), followed by neurology (9.65%), cardiovascular diseases (8.76%) and nephrology (8.18%).
- The other health diseases (12.21%) included diseases of different systems (skin, eye, endocrine, renal diseases etc.) (Figure 1).

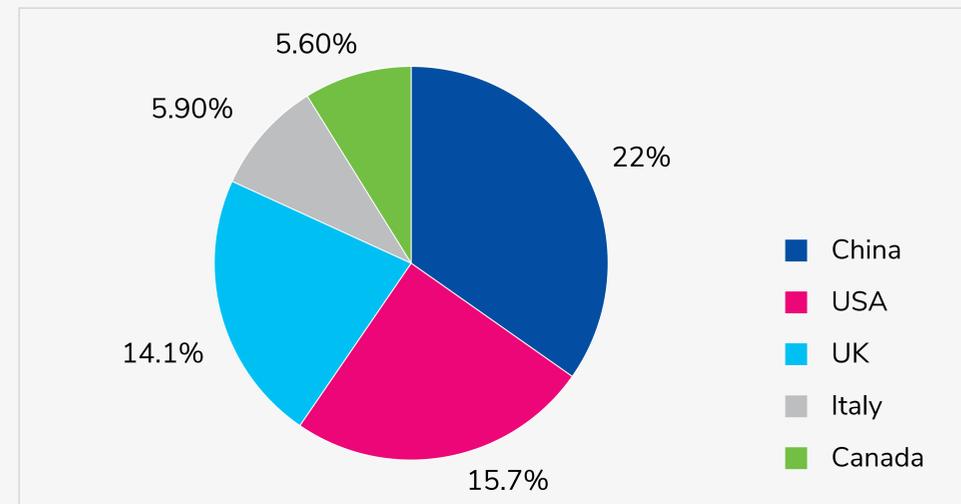
Figure 1. Most researched therapy areas for SLR/NMA/MA



Countries that contributed to maximum SLR/NMA/MA publications

- China (22%) published more SLR/NMA/MA followed by USA (15.7%), UK (14.1%), Italy (5.9%) and Canada (5.6%) respectively (Figure 2).

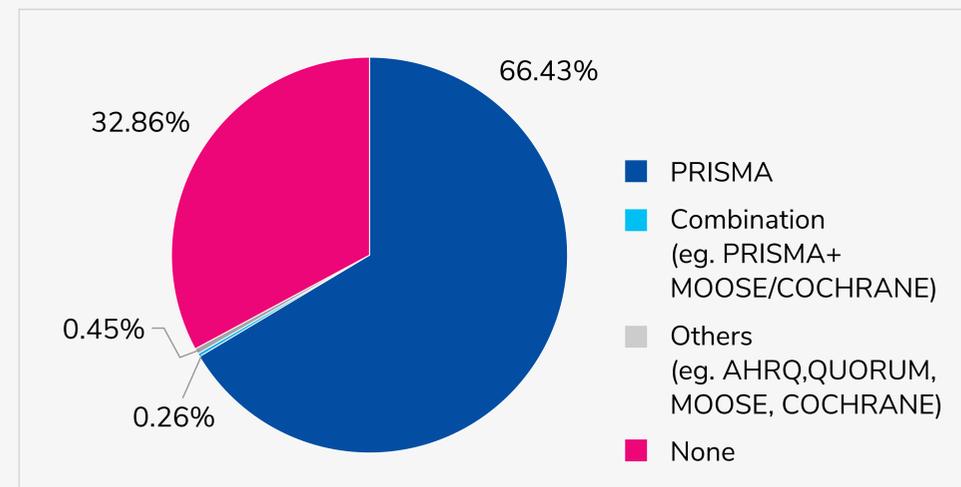
Figure 2. Top 5 countries that published SLR/NMA/MA



Use of Reporting of guidelines

- The authors mostly followed PRISMA guidelines (66.43%), while a few authors preferred combination of PRISMA with COCHRANE/MOOSE guidelines for reporting their studies.
- About 83.57% authors provided a rationale for conducting the review, and about 33% provided complete protocol information (Figure 3).

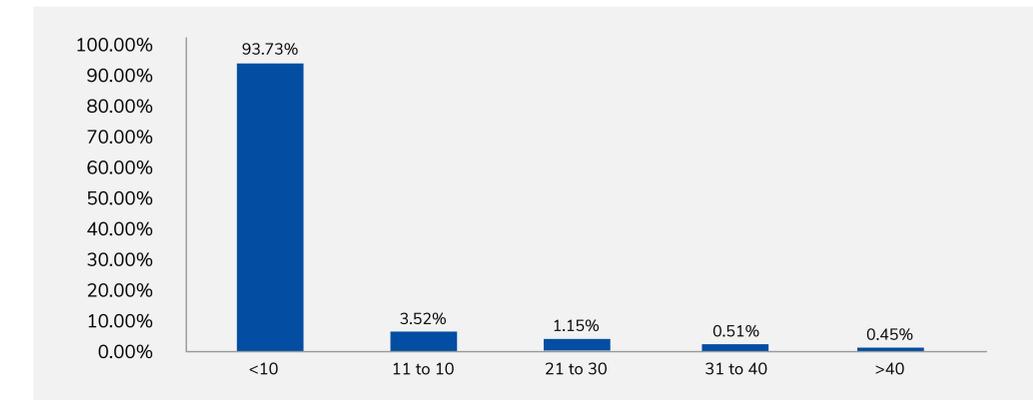
Figure 3. Use of reporting guidelines



Impact factors of journals for publications

- Most of the articles were published in low impact factors journals (<10) indicating the need to elucidate the reason behind such publication. The reason can be speculated to poor adherence to reporting guidelines, improper selection of journals, poor quality assessment of included studies etc. (Figure 4).

Figure 4. Impact factors of journals



Conclusion and Recommendations by Indegene

- In summary, SR/MA and NMA's are promising to inform comparative effectiveness research in the presence of multiple treatments, however, clinical question should be developed with input from a clinical expert with expertise in therapeutic area, statistician and relevant contributors.
- Prospective registration of such studies helps to enhance transparency, reduces potential outcome reporting bias and helps to avoid duplication of reviews. This in turn helps to fulfill the underlying aim of ensuring that social-health care decisions are informed by good-quality evidence, in the public interest.
- A high-quality SR/MA or NMA should include a study protocol written in advance and include all details that are transparent, reproducible, adhering to PRISMA reporting guidelines and intended research plan to help avoid bias.
- Lastly, as such studies are generally very time-consuming and costly to carry out, the editors and peer-reviewers of the registry should provide quick feedback to avoid duplicate or similar reviews' undertaken and any reporting biases.

Disclosure

Indegene is a technology-led healthcare solutions provider and all the authors have no COI.

References

- Rouse B, et al. Intern Emerg Med. 2017;12(1):103-111.
- S. Gopalakrishnan and P. Ganeshkumar; J Family Med Prim Care. 2013 Jan-Mar; 2(1): 9-14.