# A systematic review in health care: Need and significance

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Ayurveda has the privilege of having a vast array of drugs for each disease condition, and thus, this bioscience can be considered a prevailing repository for many of the current health-related issues. However, this gigantic wealth of knowledge is scattered and a little unorganized, which makes practitioners of this science confused about the hierarchy of drugs in a particular disease condition. Considering the need of society, Ayurveda too needs a clearing house, through which a sorted, summarized, digested, clarified, and compared solution to a particular health problem permeates.

The current practices of Ayurveda are largely experience-based, eminence-based, or habit-based practices, and the same is being used to develop policies. Every year, a zillion of research proposals are made throughout the country for clinical trials without fixing its need. Nevertheless, a mandatory research gap is also highlighted in every proposal but that gap is solely generated according to the interest of the researchers. Currently, there are no policies available to enforce the new researchers about standard research gaps. This eventually costs the unfruitful resource and time usage. The growth of any science is largely defined based on the fact of its transparency. Here, the term "transparent" means there should be an attitude to acknowledge the historical edifice, based on the sum total of a massive accumulation of earlier-acquired data, interpretation, and assumptions. This should also inherit a habit of graceful acceptance of its lacunae in terms of qualitative or quantitative pieces of evidence. Once the practitioners of any science work with a prior lesson learned and current aids of resources available, then only the science will keep its relevance and utility.

It is impossible to make a policy decision based on a single study or multiple studies conducted separately to deduce the concrete shreds of evidence or to rank those pieces of evidence. To address such problems, a systematic review emerged during World War II to provide a solution for the cost and benefit of different outcomes. James Lind (1753) gets the credit to conduct the first systematic review to provide a concise summary of evidence on scurvy.[1] Later in 1972, Archie Cochrane through the book "Effectiveness and Efficiency: Random Reflections on Health Service" emphasizes the need to improve the research synthesis.[2]

A systematic review is a better evidence base than a narrative review as it critically appraises and collates all the relevant evidence to provide a comprehensive interpretation of research results. This endorses wide, objective, and reproducible search strategies incorporating all the appropriate materials of the research topic. It helps in identifying the research gaps in the current understanding and highlights the methodological concerns in the currently available literature that need to be mended for the furtherance of impending research work in that particular area or inversely the research area that might be unnecessary or unethical. The quality analysis of studies is to be done by different risk-of-bias tools pertaining to the study types.[3,4] By doing so, uniform and unprejudiced judgment of the quality could be maintained as these tools consist of a framework of signaling questions, and the final decision is being made based on the algorithm. A prospective registration in the International Prospective Register of Systematic Reviews (PROSPERO) registry further ensures the quality of the review.[5] For the dissemination of the results, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and PRISMA extension guidelines should be strictly followed.[6]

For quantitative analysis of the evidence, if the data permit, meta-analysis of the data is performed. Meta-analysis is a statistical synthesis of the data pooled from separate but comparable studies to provide more precise estimates than individual studies. Different software such as RevMan, Stata, and R packages are used for this purpose. This provides more reliable findings than individual studies. However, this analysis has a limitation as it can only give an idea about the direct evidence. To address this problem, network meta-analysis is used to establish the indirect relations as well as the ranking of the intervention. These research designs occupy the highest position in the hierarchy of evidence owing to their ability to provide the most robust conclusion on any given research problem. This conclusion may be critical in decision-making on different levels from individual patient care to the policymakers.

If there is a practice to carry out such analysis before the start of new clinical studies, a systematic review may help optimize the allocation of limited research resources.

The significance of evidence-based medicine (EBM) is something that is being preached and glorified through every scientific platform. This paradigm is considered more pragmatic as this asks questions about health care in an answerable format and considers the best evidence available from the clinical research. The reason behind this is its efficacy in providing facts that inform critical decisions during policy development. To organize the massive data that are being generated unceasingly, systematic review (SR) has become the focal and crucial tool of EBM.

Therefore, it is advisable to conduct a systemic review before any clinical trial, and based on the recommendation of the review, the plan of the study should be proposed. This will provide a rational roadmap to the policymakers and an explicit understanding to the physicians regarding the grading of interventions in a particular disease condition.

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## References

1. Bartholomew M. James Lind's treatise of the scurvy (1753). Postgrad Med J 2002;78:695-6.
2. Greenhalgh T. Effectiveness and efficiency: Random reflections on health services. BMJ 2004;328:529.
3. Sterne JA, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I, *et al.* RoB 2: A revised tool for assessing risk of bias in randomised trials. BMJ 2019;366:l4898.
4. Sterne JA, Hernán MA, Reeves BC, Savović J, Berkman ND, Viswanathan M, *et al.* ROBINS-I: A tool for assessing risk of bias in non-randomised studies of interventions. BMJ 2016;355:i4919.
5. PROSPERO. International Prospective Register of Systematic Reviews. Available from: https://www.crd.york.ac.uk/prospero/. [Last accessed on 2023 May 20].
6. Hutton B, Salanti G, Caldwell DM, Chaimani A, Schmid CH, Cameron C, *et al.* The PRISMA extension statement for reporting of systematic reviews incorporating network meta-analyses of health care interventions: Checklist and explanations. Ann Intern Med 2015;162:777-84.

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