Systematic Review and Meta-analysis in Prosthodontic Research

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Suitable for	**New Learners & Intermediate learners**

- **Learning objective:**Prosthodontic research is an evolving field that includes new materials/instrument/equipment, new concepts, and new techniques. It has been observed that several studies have ample of prognostic factors but they often lack evidence and involve many inconsistent variables. Hence, to develop strong evidence in research there is a much higher need for systematic review and meta-analysis. Systematic review combines the data from individual studies and uses this pooled data to form new conclusions. However, Meta-analysis is a specialized statistical technique that uses various ratios (odds or risk ratio) to increases the strength of evidence generated by systematic review. therefore, all systematic reviews should be supported with meta-analysis for generating graded evidence.
- **Background information:** In the "Evidence pyramid" systematic review and meta-analysis occupy the apex of the pyramid. However, to understand and develop the systematic review and meta-analysis for new and intermediate learners of prosthodontic field is a difficult task because several terminologies are related to the field of statistics. Similarly, search strategy, Prisma guidelines, risk of bias, publication bias, outcome variables, forest and funnel plot are quite confusing for young researchers. Hence, our approach is to develop a practical, clear and simplified version of systematic review and meta-analysis for new and intermediate learners.
- **Important topics/concepts to be covered:**
  1) How to develop research question for systematic review and meta-analysis?
  2) What is search strategy and search criteria; electronic search of articles?
  3) Picos and Prisma guidelines.
  4) Risk of bias and publication bias for individual studies and across the studies.
  5) Meta-analysis including outcome variables, forest plot, and funnel plot.
  6) Framing of the graphs and tables and deriving conclusions.
- **Whether only lecture or includes any video demonstration: lecturer and video demonstration**

	Any instructions for the participants	**Read briefly about systematic review and meta-analysis**