

Critical Appraisal: A Learning Tool in Undergraduate Education

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Critical appraisal is the process of systematically examining research to judge its trustworthiness, value, and relevance in a particular context.¹ It can be described as “dissecting the literature” and allows focusing on information/data relevant to the research topic.² Though the contents of the research paper are reliable, it may be difficult to find specific information and to accurately interpret the same with relevance to the research question. Critical appraisal is an integral part of evidence-based learning and helps in the significant improvement of knowledge among students.³ Critical Appraisal helps in identifying the most relevant literature, eliminates weaker and irrelevant studies, assesses the usefulness, applicability, and validity of the study, and in assessing the quality/Bias of the study.⁴

Critical appraisal involves four phases: rapid critical appraisal, evaluation, synthesis, and recommendation. The first phase of critical appraisal is rapid critical appraisal which is accomplished with design-specific checklists with key markers of good research. These checklists help in determining the body of evidence and the quality of the study. General appraisal overview begins with the objective of the study, the PICOT question, the type of study design employed, the research hypothesis, the sample size, the description of samples, selection criteria, the methodology employed, and statistical analysis. This exercise of general appraisal overview helps in identifying gaps in knowledge of certain elements of the research study.^{5–8} The second phase is the evaluation of the study by identifying patterns of information, assessment of results, interpretation of statistical analysis, and whether the findings of the study could fulfill the objective and if the findings are relevant to clinical practice. The external validity of the results involves consideration of the feasibility of conducting the research in other populations. The third phase is a synthesis which includes collecting all the key information of the article. The last phase is recommendations which are definitive statements based on what is known.^{5–8}

Critical appraisal is a fundamental skill for assessing the value of clinical research. It results in significant improvement of confidence levels and clinical skills and skills-set developed throughout a professional career facilitate learning and permit the practice of evidence-based dentistry through integration with clinical experience and patient preference.⁹ Incorporation of such multiple critical training exercises can increase the competency of the practitioner. Critical appraisal tools help a clinician navigate and use the research available to render quality treatment to their patients.¹⁰ Incorporation of such multiple critical training exercises can increase the competency of the practitioner.

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AUTHOR'S CONTRIBUTION

The author Aruna Sharma conceived the idea, wrote and revised the manuscript.

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