# ABSTRACT

Photodynamic therapy (PDT) is gaining the attention of researchers for its numerous promising features for the treatment of microbial infections. Recently, several studies confirmed the significant output of PDT treatment in endodontic diseases. However, there is no agreement on a standalone procedure regarding the selection of photosensitizer, light source, irradiation time, and other parameters for its extended use in the treatment of common endodontic diseases. The objective of this comprehensive study was to review and analyze the results of recent advances in the research of photodynamic therapy in endodontics, focusing on the elimination of viable microorganisms, selection of appropriate photosensitizer, irradiation time, and demonstrating efficacy of PDT. A detailed review of relevant literature was performed using reputed research journals, and data attained were presented under related topics. The antimicrobial potential of PDT in endodontics was the main emphasis of many studies however, the majority of the research trials could not establish a significant development in RCS disinfection concerning its efficacy in comparison to traditional disinfection techniques for the root canal system. The reviewed data suggest formulating and standardized enhanced protocols based on more research studies to optimize the efficacy of PDT to prove it as a safe substitute to traditional disinfection methods.