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The efficacy of bio-aerosol reducing procedures used in dentistry: a systematic review

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Abstract

Because of the operating instrumentation in an oral environment soaked in salivary organisms, bio-aerosols are commonly created and airborne in clinical dentistry. SARSCoV-2 transmission, which is responsible for the present epidemic, occurs via airborne aerosols and droplets; hence, there has been a strong emphasis on such aerosol-generating techniques and their elimination. As a result, the goal of this systematic review was to assess existing evidence on three primary methods targeted at minimizing bio-aerosols: rubber dam application, pre-procedural oral rinse, and high-volume evacuators (HVE). A total of 156 records were found in the English literature, and 17 clinical trials involving 724 patients were included in the final analysis. The insufficiency of three primary procedures employed in modern dentistry practice to decrease such bio-aerosols, namely rubber dam application, pre-procedural oral rinses, and HVE, was highlighted by eligible papers. Although no one strategy can give blanket coverage, the latter is a very successful method for reducing bioaerosols in dentistry. According to the current comprehensive evaluation, using a rubber dam in conjunction with a pre-procedural antimicrobial oral rinse and HVE may contain bio-aerosols during operational operations.