Abstract

Microorganisms are responsible for many oral infections, *i.e.*, dental caries and periodontics infections. In dentistry, the major concern is contamination in DUWL because it can cause cross infection in patients and dental workers. Contaminated dental water may contain *Mycobacterium* and *Legionella* spp. Production of dental materials with antimicrobial properties can enhance the quality of dental treatment. Incorporating nanoparticles into biomaterials can improve their antimicrobial properties. Various agents such as silver (Ag), titanium dioxide (TiO2), copper oxide (CuO) and platinum nanoparticles (PtNPs) can be used in different fields of dentistry such as endodontic, prosthetic, periodontics, restorative and preventive, edentulism, or dental surgery. Silver nanoparticles (AgNPs) have been widely used in dentistry because of their superior antimicrobial properties. Silver based materials are commercially available for the decontamination of DUWL. Because of growing interest in AgNPs, the purpose of this chapter was to highlight their use in implant coatings, nanocomposites, pre-formulation with antimicrobial activity against periodontal biofilm, cancer causing, endodontic, bacterial and fungal pathogens. But toxicity of AgNPs always remain a debatable area for research regardless of their effectiveness in dentistry.

Keywords: dental unit water lines, silver nanoparticles, nanomaterials, periodontics, endodontics