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## Oral health with nonthermal plasma

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**Aim:** The main aim of this study was new technologies provide new methods to motivate patients in oral health. This review aims to demonstrate a kind of plasma called nonthermal plasma (NTP) and its applications in dentistry.

**Materials & Methods:** We used Google scholar and PubMed to search across the web between the years 2015 and 2018. Plasma was identified as a fourth state of matter by Sir Crooke in 1879. Physical plasma is defined as a gas in which part of the particles are present in ionized form. In the basis of relative temperatures of the ions, neutrals, and electrons, plasmas are categorized as “Thermal” or “Non-thermal”. Non-thermal plasma (NTP) is also known as cold atmospheric plasma (CAP). A relatively new area is the use of these plasmas in dental applications. Since NTP does not lead to increase in temperature at the point of application, it does not cause any thermal damage and pain in patient, so can be an alternative to conventional methods which have numerous drawbacks. CAP has many applications in dentistry such as disinfection of root canal, sterilization of dental instruments and equipment; tooth whitening (bleaching), increasing bond strength at the interface of dentin and composite and decontamination of bacteria in dental biofilms. The biggest advantage associated with the use of NTP is that it removes only pathogenic bacteria present in dental plaque without affecting the surrounding healthy tissues.

**Conclusions:** Due to the impact of NTP over oral biofilms, we can use this technology in design of tooth brushes including methods having effectiveness, feasibility and attraction for the patients that increases their motivation in oral health.

## Notes: