KEÇECİ AD. Herbal Alternatives to Synthetic Root Canal Disinfection in Human Teeth. Aim of the study: An infected root canal system is a unique niche for the selective species of microorganisms. One of the major objectives of a root canal treatment is to disinfect the root canal system. Irrigation is carried out to reduce the number of bacteria in the root canals. A wide variety of synthetic antimicrobial agents have been used over the years as endodontic irrigants. The ideal root canal irrigant should (i) have a broad antimicrobial spectrum and high efficacy against anaerobic and facultative microorganisms in biofilms, (ii) dissolve necrotic pulp tissue remnants, (iii) inactivate endotoxin, (iv) prevent the formation of a smear layer and dissolve it, (v) be biocompatible and systemically nontoxic.