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Development of composition, technology and research dental paste with propolis

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Introduction. The experience of the wide use of beekeeping products by people for health purposes refers modern apitherapy to the category of effective traditional medicine. Among the important areas of apitherapy, dentistry should be noted as a promising area of medical care.

Aim. There are still not many studies in the direction of the use of apipreparations as therapeutic agents, but a rather large group of preventive agents in the form of toothpastes, rinses, and balms is known. It is known from scientific sources that flavonoids and hydroxyl cinnamic acid in the composition of bee propolis provide pronounced antimicrobial properties. The use of propolis as a dental preparation of natural origin is found today not only in publications devoted to prevention, but also in clinical cases in various dental areas, in particular, oral hygiene in a state of remission, as well as problems of periodontology and pathologies of the mucous membrane of the oral cavity, oral surgery, orthodontics; endodontics and orthopedic dentistry.

Materials and methods. Systematization of data from scientific and popular literary sources, analysis of the results of clinical studies allow to emphasize the effectiveness of the use of propolis in dentistry, pediatrics and general therapy. Thus, the development of new promising formulations of toothpastes and rinses using beekeeping products to ensure oral hygiene and prevention of common diseases is relevant.

Results. Thanks to its unique composition, propolis exhibits a number of medicinal properties, among which are clinically proven: antibacterial, wound-healing, anti-inflammatory, antimicrobial, antioxidant, disinfectant, anti-toxic. The biologically active complex of propolis accelerates the regeneration processes of damaged mechanical, parenchymal and epithelial tissues of various etiologies, increases local tissue immunity, promotes the recovery of the body after difficult operations and infectious diseases, stimulates metabolism and promotes the rejuvenation of the body. In medical practice, propolis is used in the form of ointments, tinctures, rinses, aerosols, preparations for injections, rectal and vaginal suppositories, honey mixtures and other forms. The list of diseases in which propolis preparations can be effectively used consists of hundreds of names. Among the advantages of propolis as a biopreparation are analgesic, antibacterial, antiviral, anti-inflammatory, anti-edematous, vasodilating, capillary-stimulating, antioxidant and reparative effects. Having considered the useful properties and various ways of using propolis, we worked out the composition of the hygienic toothpaste with propolis. Because, in today's dental practice, toothpaste is considered not only an effective prophylactic agent, but is also very often used for therapeutic purposes as part of therapeutic schemes - for example, during periods of remission. The following criteria for compliance with quality characteristics were determined for the paste produced in pharmacy conditions. Organoleptic: the consistency of the paste is homogeneous, in the form of a jelly-like mass. It has a pleasant taste, smell and color., as well as physico-chemical: determination of rheological properties, determination of the hydrogen pH indicator, as well as the degree of grinding of the abrasive powdery mass in the gel composition. The degree of microbiological purity and antimicrobial activity was also determined for the finished paste.

Conclusions. Oral hygiene is an important component of overall health. The use of toothpaste, which includes the natural component propolis, for hygiene purposes is an effective direction not only in terms of prevention, but also for the treatment of dental diseases.