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POLYMERIC FILMS CONTAINING PROPOLIS: PREPARATION AND CHARACTERISATION

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Propolis is a resinous substance collected from various plant sources by honeybees, which use it in the construction and maintenance of their hives. It is a complex mixture of chemical constituents, whose composition depends on the constituents of the plant material and the time of collection. Propolis has been used since ancient times due to its biological properties, especially antioxidant, antiinflammatory and antimicrobial activities, which have been ascribed to its flavonoid content and have suggested the possible use of propolis in the local treatment of inflammatory and infectious conditions, especially of the oral cavity. However, the topical oral application of propolis-based conventional formulations, such as mouthwashes or gels, have the disadvantage of a rapid decrease in active principles concentration, due essentially to the constant flow of saliva. Therefore, the objective of our study was to prepare and characterise mucoadhesive polymeric films containing propolis. First of all, a commercial propolis fluid extract and three extracts obtained from raw propolis were characterised by HPLC and spectrophotometric analyses and for their antimicrobial properties; secondly, three different buccal films formulations were prepared by using a casting-solvent evaporation technique; finally, films were characterised for their polyphenol content, for their swelling properties and for their *in vitro* drug release behaviour. Our preliminary results show that polymeric films can represent a valid vehicle for the prolonged delivery of propolis polyphenols in the oral cavity.