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# Formulation and *in vitro* evaluation of benzocaine bucoadhesive film

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**Background and Aims:** Bucoadhesive dosage forms have a wide scope of application for both systemic and local effects of drugs. The mucosa is relatively permeable, well supplied with both vascular and lymphatic drainage. The oral transmucosal drug delivery bypasses liver and avoids presystemic elimination in the gastro intestinal tract and liver. The present investigation highlights the formulation and *in vitro* evaluation of benzocaine bucoadhesive film.
**Methods:** The bucoadhesive films of benzocaine(each contain 3.2mg benzocaine) were prepared by solvent casting technique using various amount of hydroxy propyl methyl cellulose and poly vinyl pyrrolidone as the film forming polymers and propylene glycol plasticizer. The formulated films were evaluated for their physiochemical parameters including thickness, diameter, weight of the films, mucoadhesive strength, folding endurance, extend of swelling, drug content and *in vitro* release studies in pH 6.8 phosphate buffer solution
**Results:** Results obtained showed that by increasing the amount of HPMC the mucoadhesive strength and folding endurance were increased however the amount of drug release was slow down. overall the formulation containing 2% HPMC and 1% PVP managed to adhere to the mucosal surface strongly and release 85% of drug content within 12h. It also complied well with all the physicochemical tests conducted, furthermore this formulation followed the zero order kinetic of drug release.
**Conclusions:** The above formulation could be found suitable as a template for bucoadhesive delivery of benzocaine.

**Keywords:** Benzocaine; Buccal films; Solvent casting technique; *In vitro* release studies