OBJECTIVE:

Oral administrations of dosage forms are limited to some extent because of gastrointestinal (GI) transit. The duration of most oral sustained release products is approximately 8-12 hours due to the relatively short GI transit time, and the possibilities to localize drug delivery system in selected regions of the gastrointestinal tract (GIT) for the purpose of localized drug delivery are need to be investigated. Thus, controlled gastric retention of solid dosage forms may be achieved by the mechanisms of mucoadhesion. Also, alternative approach is to employ mucoadhesive polymers that adhere to mucin/epithelial surface. Such polymer applied to any mucus membranes and perhaps non-mucus membrane as well. Thus, mucoadhesive polymers would find application in the eye, nose, vagina and GIT including the buccal cavity and rectum.

The objective of present work is to design and develop various bioadhesive drug delivery systems by using different polymeric systems which got place in the drug delivery research in order to prolong contact time in the various mucosal route of drug administration as the ability to maintain a delivery system at a particular location for an extended period of time has a great appeal for both local disease treatment as well as systemic drug bioavailability. Considerable attention is focused on the development of bioadhesive controlled drug delivery systems, offering the advantages of better therapeutic efficacy and is easier to comply with than the conventional regimens requiring more frequent dosing and minimize side effects.

In present study among various bioadhesive polymers such as, carbopol, hydroxypropylmethyl cellulose, carboxymethyl cellulose, sodium alginate, gelatin, gaur Gum, polyvinyl pyrrolidone, chitosan, polyethylene glycol will be studied along with their effect of combination and composition of various polymer materials on development of various better different bioadhesive drug delivery systems.