FORMULATION OF *VITEX NEGUNDO* ETHOSOMAL LOADED TOPICAL HERBAL GEL AND ITS EVALUATION FOR ARTHRITIS TREATMENT

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ABSTRACT

The current research aims to develop and test a system of vesicular drug carriers for topical drug administration of *Vitex negundo* Linn. to provide sustained drug delivery. The ethosomes of *V. negundo* Linn. were produced using thin-film hydration, and their *in vitro* drug release profiles, size, drug content, and other characteristics were examined. To attain the desired results, for drug release and entrapment effectiveness, the composition of lecithin and ethanol was changed to form ethosomes. The ethosomal size of the vesicle of the optimized formulation batch was measured to be the units 13.47 nm with -3.97 mV as zeta potential. The percent drug release of ethosomal gel was 83.24 %, and the percent entrapment efficiency was 89.40 %. The formation of spherically shaped vesicles was confirmed by optical and scanning electron microscopy observations. It was observed that as the ethanol concentration increased, the formulation's *in vitro* profile for drug release increase, and lipid concentration decreases.