



Research Article

**DESIGN AND EVALUATION OF SUSTAINED RELEASE
FORMULATIONS OF THEOPHYLLINE USING NATURAL
POLYMERS**

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ABSTRACT

Theophylline has high oral bioavailability and narrow therapeutic index with a biological half-life of 3-4 hrs. Prolonged release dosage forms are designed to complement the pharmacological activity of the medicament in order to achieve the longer duration of action with decreased number of doses administered per day. Matrix tablets were designed using Karaya gum, Guargum and kondagogu gum as sustained release polymers. Wet granulation was employed with 1:1 drug, polymer ratio. The tablets were evaluated for uniformity of weight, hardness friability, swelling index, % drug content, drug dissolution, drug release kinetics and compared. F-2 was found to be better in terms of prolonging the drug release and all the other formulations met the pharmacopoeial requirements for physical tests.

KEY WORDS: *Theophylline, Sustained release, Guar gum, Kondagogu gum, Karaya gum.*