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Formulation and evaluation of polyherbal antiurolithiatic floating effervescence tablet containing Sphaeranthus Indicus and Tribulus terrestris fruit extracts

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Objectives: The present investigation was based on the design and evaluation of floating tablets of Sphaeranthus indicus and *Tribulus terrestris* fruit extracts as the medicinal source and the excipients that can enhance the bioactivity and prolong the gastric retention time.

Methods:

The fruit extracts were prepared from the powdered dry fruits of *Sphaeranthus indicus* and *Tribulus terrestris* using Soxhelt apparatus for 8 h. direct compression technique was used for the formulation of polyherbal floating effervescence tablets which consists of different compositions of Hydroxy Propyl Methyl Cellulose (HPMC K4M, HPMC K15M), Micro Crystalline Cellulose (MCC) and Sodium bicarbonate ($NaHCO_3$). The formulations were evaluated for thickness, hardness, friability, average weight variation, drug content, floating lag time, duration of floating and *in vitro* drug release. The data obtained from the *in vitro* dissolution studies were fitted in different models.

Results: All the tablets were satisfactory during the preformulation studies while F5 polyherbal formulation showed the maximum floating time of 12 h, minimum floatation lag time of 30 s and drug release of 99.67. The dissolution kinetic studies for the optimum formulation was found to follow Korsemeyer and Peppas model with R^2 value, rate constant K_K and n as 0.9720, 1.0236 and 1.7385 respectively with a significance of $P<0.05$ and showed better results compared to that of film coated herbal tablets.

Conclusions:

Thus this polyherbal floating effervescence tablets can be used not only as an effective drug release method for herbal drugs to enhance their bioactivity but also as a replacement for film coated herbal tablets.