



Research Article

**FORMULATION AND EVALUATION OF FAST DISSOLVING
ORAL FILMS OF TERBUTALINE SULPHATE USING 3^2 FULL
FACTORIAL DESIGN**

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ABSTRACT

Fast dissolving films are playing an important role in the current pharmaceutical drug delivery systems. They have convenience and ease of use over solid and liquid dosage forms. In the present research, fast dissolving oral film of terbutaline sulphate were developed for treatment of asthma in pediatric and geriatrics using HPMC K15 LV as film forming polymer, SSG as superdisintegrant and PEG-400 as plasticizer. The films were prepared by solvent casting method. Optimization of HPMC E15 LV, SSG and PEG-400 was carried out using 3^2 full factorial designs. The formulated films of terbutaline sulphate were evaluated for their physic-mechanical parameters like disintegration time, tensile strength, percent elongation, folding endurance and In-vitro drug release. Estimation of drug content uniformity of terbutaline sulphate films was performed and the results were satisfactory. Optimized batch F_3 has thickness $(0.188 \pm 0.001 \text{ mm})$, disintegration time $(13.40 \pm 1.81 \text{ sec.})$ tensile strength $(1.35 \pm 0.183 \text{ Mpa})$, % Elongation (30.27 ± 1.81) , folding endurance (152 ± 6.83) , $CPR_{1 \text{ min}}$ 66.214 ± 1.27 and $CPR_{10 \text{ min}}$ 98.978 ± 2.49 .

Key words: Fast dissolving oral film, terbutaline sulphate, 3^2 full factorial design, first pass effect