

**FORMULATION AND EVALUATION OF MUCOADHESIVE VAGINAL TABLET
OF CLINDAMYCIN PHOSPHATE**

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By

KANOJIA DIXITABEN MAHENDRAKUMAR

Enrollment No.: 150823202001

Supervisor

Dr. Dipti H. Patel
Associate Professor
M.Pharm, Ph.D



**FECULTY OF PHARMACY
PARUL INSTITUTE OF PHARMACY AND RESEARCH
PARUL UNIVERSITY, PO.LIMDA, TA: WAGHODIYA,
DIST: VADODARA-391760, GUJARAT, INDIA
PARUL UNIVERSITY**

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Submitted by

Dixita M. Kanojia

Supervised by

Dr. Dipti H. Patel

Parul Institute of Pharmacy and Research

Abstract:

Problem statement: The bacterial vaginosis most frequently occur in women of reproductive age group or childbearing age group. In which problems are occur like early or late miscarriage, preterm labour, preterm delivery, preterm labour rapture of membrane, low birth weight and Increase efficiency of HIV. For bacterial vaginosis conventional dosage form are available which have problem like leakage, messiness and short residence time.

Purpose: The main purpose of this study was to formulate mucoadhesive intravaginal tablet of clindamycin phosphate. It was developed to achieve good therapeutic effect and patient compliance in the treatment of bacterial vaginosis. The formulation has sustain release effect with good mucoadhesion due to mucoadhesive polymer so that ultimately decrease dose frequency.

Method: The mucoadhesive vaginal tablets were prepared by direct compression method. FTIR had employed to study drug excipient incompatibility. Analytical method was developed using HPLC. Optimization of formulation was done by 3^2 full factorial design using DOE.

Result: Mucoadhesive vaginal tablets were evaluated for % swelling index, Mucoadhesin strength, drug content, *in-vitro* % drug release, *ex-vivo* mucoadhesion time. The *ex-vivo* mucoadhesion time of optimized batch F3 upto 9 hr, 99.25 % drug content, 88.34% drug release at 8 hr were observed. Stability study shows developed mucoadhesive intravaginal tablet was stable at $30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ at $65 \pm 5\%$ RH and $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ at $75 \pm 5\%$ RH condition after three months.

Conclusions: From the results it was concluded that the mcoadhesive vaginal tablet had maximum drug release in 8 hr, good mcoadhesion time as well as good stability. This study

proves optimized vaginal formulation of clindamycin phosphate is potential against bacterial vaginosis.

Keywords: Bacterial Vaginosis, Mucoadhesive vaginal tablet, Clindamycin Phosphate, 3^2 full factorial design