ABSTRACT

Fluconazole is an imidazole derivative and used for the treatment of local and systemic fungal infection. The oral use of fluconazole is not much recommended as it has many side effects. Commercially fluconazole topical gel preparation are not available in the market, thus this formulation is made for better patient compliance and to reduce the dose of drug and to avoid the side effects like liver damage and kidney damage.. The gel was formulated by changing the polymer ratio. FT-IR study confirmed the purity of drug and revealed no interaction between the drug and excipients. Gel formulations were characterized for drug content, pH determination, viscosity measurement, *in vitro* diffusion, antifungal activity and skin irritation. Among the five formulations, F1 was selected as the best formulation as its %CDR after 4½ h was 97.846% and release rate of drug from F1 formulation is best fitted to Higuchi model. The viscosity of the F1 formulation was within the limits and F1 formulation did not show any skin irritation. Gel formulation F1 was found to be stable at 30 ±2°C and 65 ± 5 RH. It was found that at 40 ± 2°C and 75 ± 5 RH the gel formulation was not stable and %CDR was decreased. Efficient delivery of drug to skin application was found to be highly beneficial in localizing the drug to desired site in the skin and reduced side effects associated with conventional treatment.

Key words: Fluconazole, Carbopol 934p, Topical gel, Higuchi matrix model