Increasing attention has been focused on achieving systemic delivery of drugs by means of dermatological application of semi-solid dosage forms. Among the various semi-solid dosage forms, a much more tendency has been shown towards the gel formulation because of its esthetic value, controlled release of drugs, etc.

In the present study, Terbinafine HCL hydrotropic starch gel were prepared using corn and potato starches along Urea and Mannitol as a hydrotropic salts and Terbinafine HCL as model drug. Hydrotropic salts produce swelling and gelatinization of starch without the uses of heat i.e., decreases the gelatinization temperature, the effect being concentration dependent.

Hydrotropes are recognized as a class of compounds, which in fairly high concentrations increases the solubility of a variety of poorly soluble drugs in water.

Terbinafine HCL, an antifungal drug used in the treatment of fungal infection caused by the organism like Candida albicans, Tinea, etc. The drug is slightly soluble in water with low bioavailability due to first pass metabolism. The oral administration of Terbinafine HCL causes gastric upset, and many other side effects, so Terbinafine HCL was used as a drug of choice in the research work.
The present investigation was done to explore new pharmaceutical application of hydrotropy and the present work reports on some properties of hydrotropic starch gels, particularly the release of Terbinafine HCL.

The need and objective of the present work is presented in chapter-3.

Standardization of all materials used in formulation of hydrotropic starch gels was done. The hydrotropic starch gels were prepared using different starches & hydrotropic salts in varying concentration. The effect of hydrotropic salts (Urea and Manitol) on solubility of Terbinafine HCL were determined. It was observed that the solubility of Terbinafine HCL increase as the concentration of salts was increased.

The prepared hydrotropic starch gels were evaluated for physico chemical characterization and were found acceptable. In-vitro drug release of hydrotropic starch gels was significant when compared to marketed creams.

The hydrotropic starch gels were also subjected for drug polymer studies and were found that there was no interaction between the drug and polymer.

Stability studies were performed to assure that the formulation retains its activity.