



Formulation and Evaluation of Transdermal Patch of Iodine as Ladies Bindi

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Abstract : Iodine is daily dietary essential element. It is well absorbed from orally but oral consumption are food source depending and sometimes not meet daily requirement And the deficiency of Iodine Occur , Iodine is more important in pregnant women and need of iodine is also more in pregnancy Hence, I attempt was made to prepare and evaluate A transdermal patch containing iodine for ladies as a model drug by solvent casting method using hydrophilic ,and lipophilic polymers. Which has both properties as Make up (Bindi) as well as Pharmaceutical patch to deliver Iodine to Females; Various formulations were prepared by using Ethyl cellulose, polyvinyl pyrrolidone as film former and Propylene glycol as plasticizer as well as penetration enhancer .The ,prepared transdermal patches were evaluated for their physicochemical and mechanical parameters. A 3² full factorial design was applied to the formulations containing different concentration of polymer and plasticizer combination. From factorial design batches (F1-F9) the batches with higher drug release and higher permeability were considered as optimized batches. The results of *In-vitro* study indicates that the formulation prepared by using ethyl cellulose, polyvinylpyrrolidone, propylene glycol for suitable proportion exhibited higher release of drug ,and improved *In-vitro* permeation through Rat skin than the formulation prepared by using ethyl cellulose polyvinylpyrrolidone, propylene glycol .Finally it can be concluded that the transdermal drug delivery of Iodine can be achieved through a transdermal patch formulated by using ethyl cellulose polyvinylpyrrolidone and propylene glycol.

Keywords : Ethyl cellulose, polyvinylpyrrolidone, propylene glycol, *In-vitro* drug release, *In-vitro* permeation.

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