

Preparation and physicochemical evaluation of nicotine amide 4% soft stick in acne treatment

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Background and Aims: Acne is one of the most common skin diseases in the world. Although the patients usually don't experience any pain, they will be annoyed by its physiological and dermatological problems especially cosmetically. This study was designed to show the efficacy of Nicotine amid as a stick in treating acne. Nicotine amide is vitamin B3 drug that can be used as an antimicrobial agent without the side effects of antibiotics. Also it has brightening, moisturizing and anti-inflammatory activity.

Methods: The water soluble formulation of stick was selected, that were prepared by combination of stearic acid, sodium hydroxide, propylene glycol and water. Stick was made by heating and congealing process. The pharmaceutical properties of the formulation such as consistency, transparency spread ability on skin and pH were evaluated. The release of nicotine amid from formulation was studied by USP dissolution method and was assayed by using this product on some patients in the office of a dermatologist. The stability of formulation was studied at room temperature (25C) for three months.

Results: The results show that the desirable formulation was the one which had pH 8.0, good spread ability, melting point 51°C and freezing point 51.3°C. The use of propylene glycol in this formulation as an enhancer helps the absorption of the drug.

Conclusions: This study showed that the stick form of nicotine amid is one of the most effective drug forms to cure the acne. It is also easy to use and affects only the area that it is supposed to.

Keywords: Nicotine amide; Stick; Acne