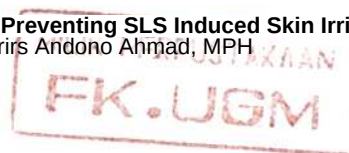




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The Efficacy of Neem Oil Cream of Various Concentration in Preventing SLS Induced Skin Irritation
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ABSTRACT



Introduction

Humans are constantly exposed to irritant agents but since the primary functions of our skin are to defend body against the harmful forces of the environment so our skin constantly builds up a protective barrier against allergens, dirt and common irritants. However, if we frequently wash our skin, we can often dissolve this natural protection and as we come into contact with harmful irritants daily, it can cause certain types of dermatitis especially occupational dermatitis. Irritants are materials that cause irritation of a tissue and irritants usually found in soaps and detergents that are associated with skin irritation is the sodium lauryl sulphate (SLS). In occupations that need to wash hands constantly, irritant contact dermatitis (ICD) is the most common, which is a frequent type of occupational dermatitis, affecting over 60,000 persons annually. So, to prevent dermatitis due these agents, the use of a barrier cream was recommended. Barrier creams are taught to act like an invisible pair of gloves, preventing contact between the skin and potential irritants. Many herbal products are being tested for barrier creams and one of the barrier creams that was found to be effective was the neem oil (*Azadirachta indica*) because it has a wide spectrum of biological activities. Nimbidin and sodium nimbidate found in the neem oil posses significant dose dependent anti-inflammatory activity. The objective of the study was to determine the efficacy of neem oil cream at various doses in reducing irritation caused by SLS 0.5% and my hypothesis was, neem oil cream at doses 2.5%, 5% and 10% can reduce inflammation with repeated SLS 0.5% - induced irritation better than vehicle.

Method

Double blind control trial with the standardize procedure using phase II (done in five days) of Repeated Short Time Occlusive Irritation Test (RIOT) was carried out. The intervention used in this experimental study was a preventive type that was done to evaluate the risk of a healthy person to get skin irritation after being applied with neem oil cream and induced by SLS compared to vehicle. Randomization was also conducted to determine which part on the back gets the intervention. Data were analyzed using one way ANOVA.

Results

The results showed no significance between the creams in all days. However, neem oil cream of 5% and 10% might probably had some protective effect and placebo showed a good trend of protective effect on sls induced skin compared to the various concentrations of neem oil creams but again statistically it was not significant ($p > 0.05$). So the efficacy of neem oil creams with various concentration in preventing SLS induced skin irritation failed.

Conclusion



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The hypothesis was rejected. This is because neem oil cream at doses 2.5%, 5% and 10% did not reduce inflammation with repeated SLS 0.5% - induced irritation better than vehicle.

Keywords: Neem oil cream, prevention, skin irritation.