

Literatur Review : Formulation and Characteristics of Lotion Preparation with Varying Concentrations of Red Ginger Etanol Extract

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Abstract

Background - Red ginger (*Zingiber officinalis* var. *rubrum*) is known as a pharmacological plant that contains bioactive compounds such as gingerol, shogaol, and zingiberene with various therapeutic benefits such as UV protection, anti-inflammatory, antioxidant, and antimicrobiota. Red ginger ethanol extract is obtained through extraction with ethanol solvent, so it is often chosen because of its ability to dissolve active compounds well. The addition of red ginger ethanol extract in lotion is less effective if applied directly to the skin because it evaporates easily, so it is more effective if used as an additive in lotion to improve the quality of the lotion. The process of making this lotion involves ingredients such as red ginger ethanol extract, stearic acid, cetyl alcohol, triethanolamine, glycerin, liquid paraffin, metal paraben, propyl paraben, and water.

Purpose - This research aims to determine the effect of the concentration of red ginger (*Zingiber officinalis* var. *rubrum*) ethanol extract in lotion production by focusing on variations in the concentration of red ginger ethanol extract in the formulation.

methodology - This study uses a systematic literature review method, namely collecting, analyzing and evaluating previous research regarding lotion preparations with varying concentrations of red ginger ethanol extract in lotion preparations.

Findings - Several studies present different results regarding the best concentration of red ginger ethanol extract in lotion preparations. The research results show that the best concentration is based on the purpose of using the lotion. Lotion with a concentration of 10% produces lotion preparations that meet the requirements with a pH value of 6. Lotion with a concentration of 3% has an SPF value of 25.89 with ultra protection from sunlight. An ethanol extract concentration of 80% is the best concentration for antidiabetic foot lotion because at this level it can inhibit the pathogenic bacteria *Staphylococcus aureus* which causes diabetic foot.

Originality - From several studies that have been carried out, it is recommended to add red ginger ethanol extract with the highest concentration to increase protection from sunlight and as an antidiabetic foot. However, it should be noted that increasing the concentration of the active substance of red ginger ethanol extract can affect the pH value. If the pH value is too acidic it has the potential to cause skin irritation, and if it is too alkaline it can cause dry, scaly skin. Therefore, further research needs to be carried out to influence other factors that can reduce this deficiency.

Keywords: ethanol extract, red ginger, lotion preparation
