

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF POLYHERBAL CREAM
AND EVALUATION OF THE
PHYSICOCHEMICAL CHARACTERISATION
WITH ITS ANTIBACTERIAL PROPERTIES**

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ABSTRACT

The study was conducted to formulate and evaluate a herbal cream which contains extracts of *Psidium guajava*, *Garcinia mangostana* and *Centella asiatica*. Creams have been developed containing the alcoholic herbal extracts. These creams were tested for pH, viscosity, spreadability and stability. All of the parameters are within the desired values. There were no changes in the physical properties of the creams after 2 months. In vitro antibacterial activity was performed against *Staphylococcus aureus* and *Escherichia coli* using agar well diffusion method. The mixture of the extracts showed the greatest zone of inhibition (20 ± 1.79 mm) against *Staphylococcus aureus* compared to other samples. The formulated cream did not show any zone of inhibition against the *Staphylococcus aureus*. For *Escherichia coli*, no zone of inhibition was observed for the extracts and the formulated creams. Therefore, the herbals extracts lose its antibacterial properties when being incorporated into the cream. This shows that herbal extracts may be unsuitable to be incorporated into the formulation of cream.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Cosmetic product is a formulation that is applied to the skin which is intended to improve the individuals' appearance. The usage of cosmetics are not something that is uncommon as cosmetics have been used by different civilizations throughout the centuries (Chaudhri & Jain, 2009). There are many types of cosmetics products that are available in the market. The examples are cream, lotion, serum, mist and others. It ranges from skincare products to make-up products such as lipsticks and foundations. Herbal cosmetics refer to products that use herbals extracts as the active ingredient. Instead of using the synthetic active ingredients, the herbal cosmetic will use active ingredients that are derived from natural source such as the leaves of the plants. This will reduce the toxicity of the products and the herbal cosmetic is safe to be used on the skin (Joshi & Pawar, 2015).