

UNIVERSITI TEKNOLOGI MARA

HYDRATION EFFECT OF THE FORMULATED LOTION
CONTAINING MANGO (*MANGIFERA INDICA L.*)
EXTRACTS

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ABSTRACT

Mango (*Mangifera Indica* L.) is the most important fruit in *Anacardiaceae* family, and is a tropical fruit with high nutritional and medicinal value. Fully ripe mango is famous for its strong aroma, intense peel colouration, and delicious taste, with high amount of bioactive compounds such as phenolic compounds, β -carotene, and vitamin. Mango contains AHA which is known for its hydrating properties. The aims of this study were to investigate the effects of the mango extract on the hydration skin hydration, physically characterised the formulations and evaluate the efficacy of the mango lotion using Corneometer, Tewameter and Visioscan. From the data obtained, out of all the formulations lotions, lotion containing 5% of Mango Extract have the best hydration properties on the skin. Lotion with 5% of Mango extract significantly increased the water content and decreased the transepidermal water loss (TEWL) in the stratum corneum of the skin. This due to the presence of the high concentration of the Mango extract that contain alpha hydroxy acid (AHA) that is responsible to attract and bind water from the atmosphere and drawing them to the stratum corneum of the skin. This lotion also significantly increased the smoothness of the skin due to the optimum water content in the skin. Lotion with 5% of Mango extract also showed the ability to decrease fine wrinkles.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF STUDY

The skin is an important organ system. It is not only the largest organ in the body, but also perhaps the most complex with at least five different cell types contributing to its structure and other cell types of circulatory and immune systems being transient residents of the skin. In terms of the number of functions performed, the skin outweighs any other organ. Its primary function is for protection which covers physically, chemically, immune, pathogen and UV radiation (Menon 2002). Skin is also the basis for the several billion – dollar industries such as personal care, cosmetics, and the fashion business. For pharmaceuticals, it is both a challenge (barrier) and an opportunity (large surface) for delivering drugs. Skin consists of the stratum corneum layer that is composed of corneocytes. These cells influenced the degree of hydration which varies from to 10 to 30% bound water of the skin (Menon 2002).

A hydration process can keep the water content of the skin or the body cell at the optimum level. The stratum corneum with its structural and functional components is responsible