

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF PALM OIL BASED AQUEOUS
CREAM CONTAINING UNREFINED PALM OIL**

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ABSTRACT

Moisturiser is a common product used in the treatment of skin diseases such as eczema, psoriasis and skin allergy. In Malaysia, 2 in 10 people and 10%-14% of children of below 14 years old have eczema, Jakarta-2%, Bandung-1.6% and Singapore-10.4% (EMS 2010). Moisturiser helps maintain healthy skin by forming occlusive coat on the stratum corneum to retard transepidermal water loss. Formulation of aqueous cream containing unrefined palm oil and palm oil constituents can enhance the effectiveness of the skin treatment as palm oil contains high concentration of vitamin E. Vitamin E consists of high amount of tocopherol and tocotrienol which act as antioxidant. In the study, the formulated aqueous creams are assessed by using LumiFuge (Stability analysis), Mastersizer (Particle size analysis), TA.XT plus Texture Analyzer (Texture analysis), pH meter (pH analysis) and IBM SPSS Statistics. The results have shown that the different composition of palm oil constituents can influence the stability and performance of the aqueous cream.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF STUDY

Skin is the largest surface area exposed to the environment with complex layers of tissues. There are three distinct layers of the mammalian skin, which are the epidermis, dermis and hypodermis or subcutaneous fat layer. The layers of epidermis is further divided into five , starting from the outermost layer which are stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum and stratum basale. The stratum corneum is the primary barrier to penetration and it can provide approximately 80% of the resistance to absorption to most ions and aqueous solution (Hodgson, n.d.).

Moisturiser is a product used in the treatment of skin conditions. It is an important part of the dermatologist's armamentariums to treat dryness of skin conditions and maintain healthy skin. It also can be used to treat atopic dermatitis and ichthyosis (M. Lodén, 2005). Eczema is also one of the skin diseases. The most common type of eczema among children is atopic eczema which is also called atopic dermatitis (Odhiambo, et al., 2009) .The function of moisturiser is to smooth the skin surface and to increase the water content in stratum corneum by water-binding properties of