

Universiti Teknologi MARA

**Expert System to Pre-diagnose
Children Skin Diseases with
Provision of Treatment
Suggestions and Medical Advice**

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ABSTRACT

Growing up children are so excited to do new things that exposed to polluted air, germs, bacteria and much more that can lead to many skin diseases. However, skin disease is difficult to diagnose due to the similarity of the symptoms and meeting the doctor might be difficult due to work and time or doctor might not be available in that particular time. In an effort to solve such problem, this project is developed which is a system that can assist parent in diagnosing their children skin disease. This system can be used before they meet a real doctor, so an early treatment can be done in order to prevent the skin diseases becoming worsen. There are three objectives that need to be accomplished at the end of this project. The first objective is to examine the symptoms of children skin diseases, treatments, and medical advice. The second objective is to design a rule-based engine for developing skin disease pre-diagnose expert system and the third objective is to develop an expert system based on the constructed rule-based engine. The research methodology involved in this research are Theoretical and empirical study, architecture design, system development and evaluation. The system is capable to diagnose nine type of skin disease, with a set of 48 question regarding symptoms of the skin disease. This system has been validated and tested by domain expert which is Dr Mohd Nazam. Although this system has been successfully developed, it still can be enhanced with more disease, more symptoms to cater other age range group for instances adult. The hopes are this system can be very helpful to parent as they can use this system anytime, anywhere and any wrong assumption in diagnosing disease can be avoid.

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CHAPTER 1

INTRODUCTION

This chapter provides the background of the study. Problem statement, objective and scope are discussed in detail in this chapter. Researcher also had explained the overview of research methodology and significances of this research.

1.1 Background of Study

Skin disease does not just affect the skin, but, it can give a huge impact on a person's daily life, low self-esteem, the movement is limited and depression. The worst part is, it can lead to death. It's an important issue that needs to be concerned with, so people could take skin disease as a serious matter. Skin diseases are classified in various ways. First, skin diseases can be classified as the site of involvement such as facial rashes and lesions on sun-exposed sites. Next, genetic abnormalities, infectious etiology or autoimmune mechanisms can be classified into Pathogenesis. Last but not least, the main structure affected such as epidermal diseases, abnormalities of melanocytes, vascular changes. However, these classifications are changing along with the expanding of the Science dermatology. The common skin diseases suffered by Malaysian are Hives, Eczema, Hand and foot mouth disease, Scarlet fever, Fifth disease, Diaper rash, Psoriasis, Chickenpox, and Roseola.

Children under the age of five in Malaysia are estimated to suffer from eczema, a skin condition that apparent as an itchy rash. According to Allen & Jordan(2013)