

***ANNONA MURICATA L.* (SOURSOP) LEAVES
EXTRACT THERAPY CREAM AS ATOPIC
DERMATITIS ECZEMA**

FATIN IZZANI BINTI ROSSAIDI

**BACHELOR OF SCIENCE (Hons.)
CHEMISTRY WITH MANAGEMENT
FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA**

FEBRUARY 2025

***ANNONA MURICATA L. (SOURSOP) LEAVES EXTRACT
THERAPY CREAM AS ATOPIC DERMATITIS ECZEMA***

FATIN IZZANI BINTI ROSSAIDI

**BACHELOR OF SCIENCE (Hons.) CHEMISTRY WITH
MANAGEMENT FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA**

FEBRUARY 2025

This Final Year Project Report entitled “***Annona Muricata L. (Soursop) Leaves Extract Therapy Cream as Atopic Dermatitis Eczema***” was submitted by Fatin Izzani Binti Rossaidi in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry with Management, in the Faculty of Applied Science and was approved by

Dr. Non Daina Masdar
Supervisor
B. Sc. (Hons.) Chemistry with Management
Faculty of Applied Sciences
Universiti Teknologi MARA
02600 Arau
Perlis

Dr. Siti Nurlia Ali
Coordinator
B. Sc. (Hons.) Chemistry with
Management
Faculty of Applied Sciences
Universiti Teknologi MARA
02600 Arau
Perlis

Dr. Nur Nasulhah Kasim
Head of Programme
B. Sc. (Hons.) Chemistry with
Management
Faculty of Applied Sciences
Universiti Teknologi MARA
02600 Arau
Perlis

Date: _____

Abstract

ANNONA MURICATA L. (SOUSOP) LEAVES EXTRACT THERAPY CREAM AS ATOPIC DERMATITIS ECZEMA

In recent decades, the demand for effective treatments for skin conditions like atopic dermatitis has led to a rise in the therapy cream industry. However, many available products often contain synthetic ingredients that may worsen or irritate sensitive skin. Hence, therapy creams made from natural substances, such as soursop leaves, have gained popularity for their ability to soothe and heal atopic dermatitis. The healing properties, the soursop leaves provide a natural, reliable option for those seeking relief from the discomfort and flare-ups associated with atopic dermatitis by *Annona Muricata*. In this study, the bioactive compounds present in *A. Muricata* were quantified through chemical and biological analysis to be assessed as potential natural ingredients in therapy products development. It was proved that zinc and copper sulphate were naturally present in *A. Muricata* leaves. *A. Muricata* was formulated together with other skin friendly ingredients could enhance the efficacy of developed therapy creams. Maceration extraction technique was carried out to extract pure crude from plant sample. The percentage yields recovered was 85.17%. Heavy metal analysis using ICP-OES proved that the concentration of metal elements present in plant extracts were below the maximum permissible limits for therapy products. Through HPLC and FTIR analysis, the significant constituents present in plant samples were determined. The antioxidant properties were quantified by using IC₅₀ value. Anti-bacterial assay, *S. aureus* and *E. coli* were used for determining the ability of plant extracts to inhibit bacterial growth. The inhibition zone value was between 7 mm to 14 mm in diameter. Therapy cream were formulated by using 1 ml of plant extract. The therapy creams were subjected to physical evaluations. Skin patch test was also conducted to 25 respondents at different age groups. The developed therapy creams were tested negative for any skin irritancy or allergies and safe for human skin application when use as intended.

Table of Content

	Pages
Abstract	iv
Abstak	v
Acknowledgement	vi
Table of Contents	vii
List of Tables	x
List of Figures	xi
List of Symbols	xii
List of Abbreviations	xiii
CHAPTER 1: INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	4
1.3 Significance of Study	5
1.4 Objective of Study	6
1.5 Scope and Limitation of Study	7
CHAPTER 2: LITERATURE REVIEW	8
2.1 Introduction	8
2.2 Eczematic Diseases	8
2.2.1 Atopic Dermatitis	8
2.3 <i>A. Muricata</i> Leaves	12
2.3.1 Culturation Soursop Leaves in Malaysia	12
2.3.2 Chemical compound in <i>Anona Muricata</i> Lin. (<i>A. Muricata</i>)	12
2.4 Beneficial of <i>A. Muricata</i> Extraction	18
2.5 Method of Extraction	20
2.6 Chemical Characterization	23
2.6.1 Gas Chromatography Mass Spectrometry (GC-MS)	24
2.6.2 Fourier Transform Infrared Spectroscopy (FTIR)	25
2.6.3 High-performance liquid chromatography (HPLC)	26