

CHAPTER I

INTRODUCTION

1.1 Background

Various skin problems occur such as rough skin texture, and dullness, which are part of the skin's protection mechanism as an initial barrier against external factors. Free radicals are one of the main causes of skin death due to oxidative stress in the body. Free radicals are molecules that have one or more unpaired electrons in their outer orbit, they are formed through normal cellular metabolic processes, nutrient deficiencies, and responses to external factors such as pollution and ultraviolet rays. An effective preparation to overcome the problem of dead skin, dullness and roughness in skin texture is a body scrub preparation. Exfoliators in body scrub preparations usually use microplastics, to get effective and safe results, use natural ingredients durian albedo and trigona honey¹. Replaced with durian albedo because durian albedo contains amylopectin compounds that function as an exfoliators for trigona honey contains high Vitamin C which serves as an antioxidant or moisturizer and is effective and safe for the skin².

Durian skin has 2 skin parts, Durian Albedo is the soft part of the durian skin or the white skin. Durian albedo contains amylopectin which serves as an exfoliator, stabilizer and emollient in cosmetic body scrubs, thus providing several benefits for skin health by removing skin roughness due to dead skin cells and free radicals³. The exfoliator atioxidan of Albedo durian tested by ferric thiocyanate method showed total phenolic content of 64.27mg/g GAE (gallic acid equivalent) and

¹ Resa Frafela Rosmi Syaekhoni Laelatul Latifah, Pudjono, "Formulasi Dan Evaluasi Mutu Fisik Sediaan Body Scrub Cream Varietas Ubi Jalar Dalam Fase Air Dan Minyak," *Pharmacy Peradaban Journal* 2, no. 1 (2022): 20–32.

² Syaekhoni Laelatul Latifah, Pudjono.

³ Ersi Arviana Ihsan Minawati, Yuyun Febriani, "Formulasi Dan Evaluasi Lulur Limbah Kulit Dalam (Albedo) Buah Durian (Durio Zibethinus Murr.) Sebagai Kosmetik Alami," *Jurnal Famasi Klinis Dan Sains Bahan Alam* 2, no. 1 (February 3, 2022): 78–85. Minawati, Yuyun Febriani.

flavonoid content of 46.03mg/g QE (quercetin equivalent) which functions as an antioxidant in the preparation body scrub cream⁴.

Trigona honey is used or combined with durian albedo because it has a high Vitamin C content which functions as an antioxidant or moisturizer for dry skin and brightens dull skin and has a high propolis content which is beneficial for warding off free radicals, the main cause of dead skin such as pollution, and ultraviolet rays. Trigona honey can be used as an antioxidant body scrub or even skin lightener while durian albedo functions as a plastilizer or stabilizer and exfoliant in body scrub preparations⁵. In the Qur'an, it has been mentioned that honey contains many benefits and medicines for humans, namely Q.S An-Nahl verse (69), which reads⁶:

ثُمَّ كُلِي مِنْ كُلِّ الثَّمَرَاتِ فَاسْلُكِي سُبُلَ رَبِّكِ ذُلُلًا يَخْرُجُ مِنْ بَطُونٍهَا شَرَابٌ مُخْتَلِفٌ أَلْوَانُهُ ۚ فِيهِ شِفَاءٌ لِلنَّاسِ إِنَّ فِي ذَلِكَ لَآيَةً لِقَوْمٍ يَتَفَكَّرُونَ 69

“Then eat of every (kind of) fruit and follow the path of your Lord which has been made easy (for you). From the belly of the bee proceeds a drink (honey) of various colors, in which is a cure for man. Surely in such is a sign (of God's greatness) for those who think ”.

Based on the above background in this study, a body scrub preparation with durian albedo natural exfoliator and trigona honey as a moisturizer was made.

⁴ Nina Arlofa, “Uji Kandungan Senyawa Fitokimia Kulit Durian Sebagai Bahan Aktif Pembuatan Sabun,” *Jurnal Chemtech*, no. 1 (2015): 343–54, <https://ejournal.lppmunsera.org/index.php/Chemtech/article/view/5>.

⁵ Melisa Oktavin Hehakaya, Hosea Jaya Edy, and Jainer Pasca Siampa, “Formulasi Dan Uji Aktivitas Antioksidan Sediaan Body Scrub Ekstrak Etanol Daun Matoa (Pometia Pinnata),” *Pharmacon* 11, no. 4 (2022): 1778–85, <https://ejournal.unsrat.ac.id/v3/index.php/pharmacon/article/view/42148/40373>.

⁶ Subhan Sihabul Millah, *Khasiat Madu Dalam Al-Qur'an Dan Sains (Analisis QS.Al-Nahl Ayat 69 Dalam Tafsir Mafatih Al-Gaib Karya Fakhruddin Al-Razi)*, 2022.

1.2 Problem Formulation

The formulation of the problem in this research is:

1. What are the results of the physical quality evaluation of body scrub cream with durian albedo and trigona honey?
2. Which combination of durian albedo and trigona honey affects the physical quality evaluation of the body scrub cream preparation?

1.3 Research Objectives

The objectives of this research are:

1. Knowing the results of evaluating the physical quality of Body Scrub cream from a combination of durian albedo and trigona honey.
2. Which combination of durian albedo and trigona honey concentration affects the physical quality evaluation of body scrub cream preparation.

1.4 Research Benefits

1. Theoretical Benefits

The results of this study can add to the repertoire of science and can be used as a reference material for further research, especially the preparation of body scrub combinations of durian albedo (*Durio zibethinus* L) and trigona honey.

2. Practical Benefits

The results of this study are expected to add insight to readers, especially in the cosmetics industry and body scrub users by utilizing durian albedo (*Durio zibethinus*) and trigona honey.

1.5 Authenticity of Research

Research on durian albedo has been carried out by several researchers as shown in the table below.

Table 1 Authenticity of Research

Research Title	Research Methods	Variable	Results	Research Differences
Formulation and evaluation of durian (<i>durio ziberthinus</i>)	Ekperimental posttest design.	Dependen: Scrub formulation and evaluation	formulation of scrub preparation from durian thorn skin durian thorn skin and durian inner skin (albedo)	Independen: Durian albedo (<i>Durio zibethius</i>) and Trigona honey

murr) fruit albedo scrub as a natural cosmetic ⁷ .		Independen: kulit dalam (<i>albedo</i>) buah durian (<i>Durio zibethinus</i> Murr.)	has a difference based on the physical properties test with the best formulation is the 3% inner skin (<i>albedo</i>) scrub preparation formulation both in terms of aroma, texture, and color.	
Application of black glutinous rice (<i>Oryza sativa</i> var glutinous) and honey as basic ingredients for making body scrub ⁸ .	Ekperimental laboratorium	Dependen: Application and making of body scrub. Independen: Black glutinous rice and honey.	The best formulation of bodyscrub products is the addition of black glutinous rice and honey at 4.6% with the characteristics of mauve color, a slight aroma of black glutinous rice and honey, more texture of scrub granules, has a pH of 7, does not cause skin irritation, can moisturize the skin and has good emulsion stability.	Independen: Durian (<i>Durio zibethius</i> L) albedo and trigona honey
Physical Quality and Stability of Salak Pondoh Fruit Extract (<i>Salacca edulis</i> Reinw.) Body Scrub Preparation with Stearic Acid Emulgator and triethanolamin e ⁹ .	Eksperimen laboratorium	Dependen: Physical quality and stability of body scrub Independen: Salak Pondoh Fruit Extract (<i>Salacca edulis</i> Reinw.)	The physical quality of body scrub preparations shows that all tests carried out such as organoleptic, homogeneity, spreadability, pH, viscosity and emulsion type are in accordance with predetermined requirements.	Independen: Durian (<i>Durio zibethius</i> L) albedo and trigona honey

⁷ Yuyun Febriani dan Ersi Arviana Ihsan Minawati, "Formulasi Dan Evaluasi Lulur Limbah Kulit Dalam (Albedo) Buah Durian (*Durio zibethinus* Murr.) Sebagai Kosmetik Alami," *Jurnal Famasi Klinis Dan Sains Bahan Alam* 2, no. 1 (February 3, 2022): 78–85.

⁸ Nina Hairiyah et al., "Aplikasi Beras Ketan Hitam Dan Madu Sebagai Bahan Dasar Pembuatan Body Scrub," *Teknologi Industri Pertanian, Politeknik Negeri Tanah Laut* 24, no. 2 (2020): 1–8.

⁹ Pramita Yuli Pratiwi Alvita Defayanti, Indri Kusuma Dewi, "Mutu Fisik Dan Stabilitas Sediaan Body Scrub Ekstrak Buah Salak Pondoh Dengan Emulgator Asam Stearat Dan Trietanolamin," *PHARMADEMICA: Jurnal Kefarmasian Dan Gizi* 3, no. 1 (October 6, 2023): 18–28, <https://doi.org/10.54445/pharmademica.v3i1.35>.