

CHAPTER I

INTRODUCTION

1.1 Background

Indonesia is one of the countries that has a tropical climate with a large amount of sunlight and can cause dry and chapped lips. Hot weather causes the skin to become dehydrated resulting in dry and chapped lips. The lips have a lower protection compared to the skin of other areas, so the lips become easily cracked due to the cracking of the keratin surface layer¹. The lips are the part of the skin that needs protection to stay moisturized, and the layer of the corneum that thins to 3-4 layers, which does not happen to other parts of the skin. Thin lip skin and exposure to sunlight and air that is too hot or too cold can increase the likelihood of lip damage².

People in Indonesia usually overcome the problem of chapped lips by using lip balm either natural or synthetic, namely by applying it to the lips as an alternative to lip protection from chapping or chapped lips³. One of the plants that plays an important role in making lip balm preparations is grape leaves because they contain vitamin E and flavonoids. The vitamin E content contained in grape leaves can help moisturize and prevent irritation on dry and chapped lips, namely by forming a thin layer to prevent water evaporation from the surface of the skin caused by the heat of the sun⁴.

Lip balm is a preparation that can be used by applying it to the lips to prevent drying and protect against environmental factors that can be detrimental, lip balm has a base that can be said to be the same as a colorless lipstick base preparation, so it looks like it is transparent, but now there have been many innovations in lip

¹ Jacobsen, P. (2011). The little lip book, USA: Carm Laboratories Incorporated. Page 27.

² Ambari, Y. (2020). Study on the Formulation of Lip Balm Preparation of Secang Wood Extract (Ca Eselpinia Sappan L.) with Beeswax Variations. Journal of Islamic Pharmacy. 5(2): 36-45.

³ Zuhriah, A. (2021). Evaluation of Lip Balm Stability Test from Aloe Vera Extract (Aloe Vera L). Open journal Systems, 15(8), 4987-92

⁴ Arifin, B. a. (2018). structure, bioactivity and antioxidant flvonoids. Journal of Particles.doi, :10.31629/Zarah V6il.313.

balm products that use dyes, both natural and synthetic dyes so that the product looks more attractive and increases the marketing price⁵.

The vine grows in areas with a tropical climate. The fruits of this vitamin-rich grape are round, round, slightly oval and the flesh is white or red depending on the variety⁶. The components contained in grape plants are protein, fiber, calcium, vitamin B6, folate, vitamin A, lutein + zeaxanthin, vitamin E and vitamin K. The main compounds contained in grape leaves are phenolic and flavonoids as well as polyphenols⁷. Phenolic is one of the phytochemical components contained in the grape plant and has several pharmacological activities. This ingredient has several properties such as, to relieve heart disease, cancer, reduce plasma oxidation, and slow down premature aging and can be a natural moisturizer. In addition to the grape plant itself has antioxidant, anti-inflammatory, and antimicrobial effects.⁸ In addition to grapes, one of the natural ingredients that has many benefits for health is honey.

Honey is a good source of antioxidants for the body, honey also has other pharmacological activities such as antibacterial, antiemutable, anti-inflammatory and so on. Honey also has benefits in various aspects, including in terms of food, health, and beauty. Honey contains several organic compounds, which have been identified such as polyphenols, flavonoids, and glycosides. In addition, rambutan honey has antioxidant activity that is able to accelerate the healing of oral mucosal wounds.⁹

⁵ Sarwanda. et al. (2019). Tengawang Fat as Lipstick Raw Material. Journal of Forest Product Research. 34(4). ISSN: 0216-4329.

⁶ Astria, et al., (2018). Analysis of Vitamin C Levels in Green Grapes (*Vitis viniv/feral.*). Mulawarman University. Journal of Anatomy. 3(2): 1-8.

⁷ Mukhriani, et al. (2019). Extraction, Separation of Compounds, and Identification of Active Compounds. Health Journal. 7(2): 362-7.

⁹ Yusliati ER, Bachtiar BM. Antioxidant Activity of Rambutan Honey: The free radical-scavenging activity in vitro and lipid peroxidation inhibition of oral mucosa wound tissue in vivo. RJMP.2015; 9 (6): 284-92.

Based on the benefits of grape leaves (*Vitis vinifera L.*) and grape honey which can provide various benefits, especially as a moisturizer, it is necessary to conduct research on a good lip moisturizing formula as well as the physical character of lip balam preparations with a combination of grape leaf extract and grape honey to moisturize the lips.

1.2 Problem Formulation

1. What are the results of phytochemical screening of phenolic compounds and flavonoids contained in grape leaf extract?
2. What are the results of the physical characteristics of lip balm preparations combined with grape leaf extract and rambutan honey?

1.3 Research Objectives

1. Knowing the presence of phenolic compounds and flavonoids contained in grape leaf extract.
2. Knowing the physical characteristics of lip balm preparations combined with grape leaf extract and rambutan honey.

1.4 Research Benefits

1. Theoretical benefits

The results of this study can be used as a reference material for further research on lip balm, especially those made from grape leaf extract and honey as a moisturizer on the lips.

2. Practical benefits

The results of this study are expected to add to the treasure of science and increase readers' insight into the efficacy and content contained in grape leaves and honey that can moisturize chapped lips.

1.5 Originality of Research

This research has previously been conducted by researchers as seen in the table below:

Table 1 Originality of Research

Research Title	Research Methods	Variable	Result	Research Differences
Lip Balm Lip Moisturizer by Utilizing Grape Leaf Extract (<i>Vitis vinifera</i> L.) ¹⁰	Laboratory Experiments	<p>Dependent:</p> <p>Evaluation of the physical quality of Lipbalm preparations</p> <p>Independence:</p> <p>Grape leaf extract (<i>Vitis vinifera</i> L.)</p>	The results of the research on grape leaves into Lip Balm preparations met the phytochemical quality of the preparation and the concentration of grape leaves 3 in Lip Balm preparations could increase moisture by 39.93%.	<p>Dependent:</p> <p>Evaluation of the physical quality of LipBalm preparations</p> <p>Independence:</p> <p>Combination of Red Wine (<i>Vitis vinifera</i> L) leaf extract and Rambutan Honey (<i>Nappelium Lappaceum</i>).</p>
Formulation and Evaluation of Physical Stability of Almond Oil Lip Balm Preparation (<i>Prunus amygdalus dulcis</i>). ¹¹	Laboratory Experiments	<p>Dependent:</p> <p>Evaluation of the Physical Stability of Lip Balm Preparations</p> <p>Independence:</p> <p>almond oil extract (<i>Prunus amygdalus dulcis</i>).</p>	The formula of the lip balm preparation is stable over a 28-day shelf life. The resulting formulas I, II, and III are peachy, have a distinctive raspberry flavor and have a fairly hard and slightly soft texture, are easy to apply, homogeneous, do not show coarse grains and do not bubble, and there is no significant	<p>Dependent:</p> <p>Evaluation of the physical quality of LipBalm preparations</p> <p>Independence:</p> <p>Combination of Red Grape Leaf Extract (<i>Vitis vinifera</i> L) and Rambutan Honey (<i>Nappelium Lappaceum</i>).</p>

¹⁰ Chandra Devina. 2023. Lip Balm Moisturizer by Utilizing Grape Leaf Extract (*Vitis vinifera* L.). Journal of Pharmaceutical and Health Sciences. Vol.1, No.2.

¹¹ Limanda Dhea, 2016. Formulation and Evaluation of Physical Stability of Almond Oil Lip Balm Preparation (*Prunus amygdalus dulcis*). Tanjungpura University, Pontianak, West Kalimantan.

Research Title	Research Methods	Variable	Result	Research Differences
			difference in pH during 28-day storage.	
Formulation and Physical Properties Test of Olive Oil Lip Balm Preparation (<i>Olea europaea</i> L.) with Tengawang Fat Base. ¹²	Laboratory Experiments	Dependent: Evaluation of the Physical Quality Test of LipBalm Preparations Independence: olive oil extract (<i>Olea europaea</i> L.) with a tengawang fat base	The lip balm preparation of olive oil with a base of tengawang fat is physically stable during the storage period of 28 days. Lip balm with olive oil has an attractive color, aroma and texture as a lip moisturizing cosmetic.	Dependent: Evaluation of the physical quality of LipBalm preparations Independent: Red Grape Leaf Extract (<i>Vitis vinifera</i> L) and Rambutan Honey (<i>Nappelum Lappaceum</i>).

¹² Destina Rise. 2022., Formulation and Physical Properties Test of Lip Balm Preparation of Olive Oil (*Olea europaea* L.) with a tengawang fat base. Journal of Pharmacy Science and Practice. Vol.8, No.1.