

V-ITCHY: Making Ointment with Jalantir Leaf Extract for Itchy Skin Sufferers

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Abstract

Skin diseases remain a significant public health issue in Indonesia, particularly in tropical regions where warm and humid conditions favor microbial growth. The prevalence of skin infections, such as dermatitis and fungal infections, is exacerbated by poor hygiene practices and socio-economic factors, especially in densely populated environments like boarding schools. This study aims to develop a practical and affordable solution in the form of an ointment derived from jalantir leaf extract, known for its antimicrobial and anti-inflammatory properties. Utilizing a Research and Development (R&D) approach, three formulations were tested: F1 (5%), F2 (10%), and F3 (15%). The ointments underwent stability, pH, spreadability, adhesion, and effectiveness tests. Results indicated that all formulations were stable and safe, with F3 (15%) exhibiting the highest effectiveness (85%) but increased stickiness. Meanwhile, F2 (10%) demonstrated the best balance of spreadability, adhesion, and therapeutic effect (75%). Thus, F2 is recommended as the optimal formulation for treating skin conditions while ensuring user comfort. This research highlights the potential of jalantir leaf extract as a natural alternative for managing skin diseases, particularly in communities with limited access to healthcare.

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Key Words

Jalantir leaf extract, skin disease, ointment

Introduction

Skin diseases are a significant health problem in Indonesia, especially in hot and humid tropical regions. These climatic conditions create an ideal environment for the growth of microorganisms such as fungi, bacteria, viruses and parasites that cause skin diseases. In addition, socio-economic factors such as unhealthy lifestyle habits and low education on personal hygiene exacerbate the prevalence of skin diseases in the community.

Data from the 2018 Riskesdas shows that the prevalence of dermatitis in Indonesia reached 6.8%, while cases of skin infections such as tinea corporis and tinea cruris are problems often found in health facilities. Skin diseases not only cause physical discomfort such as itching and inflammation, but also affect the quality of life of sufferers, including psychological and social disorders due to stigma.

Unhygienic living habits, such as the shared use of personal items, further increase the risk of spreading skin diseases. This condition often occurs in densely populated environments, such as Islamic boarding schools, orphanages, and areas with limited access to clean water. One of them is in the environment of SMP Islam Cendekia Cianjur Boarding School, where students often use personal items together, which makes the spread of skin diseases common.

Practical and affordable medical solutions to this problem are still often out of reach. In this context, the need for an effective skin ointment has become even more urgent. An ointment

designed to treat various skin diseases caused by fungal and bacterial infections, particularly ringworm. This ointment is expected to be a practical solution that helps relieve symptoms while preventing the spread of the disease. With its easy-to-use, safe and affordable formulation, the skin ointment can be an important part of efforts to reduce the burden of skin diseases in Indonesia, especially in densely populated environments.

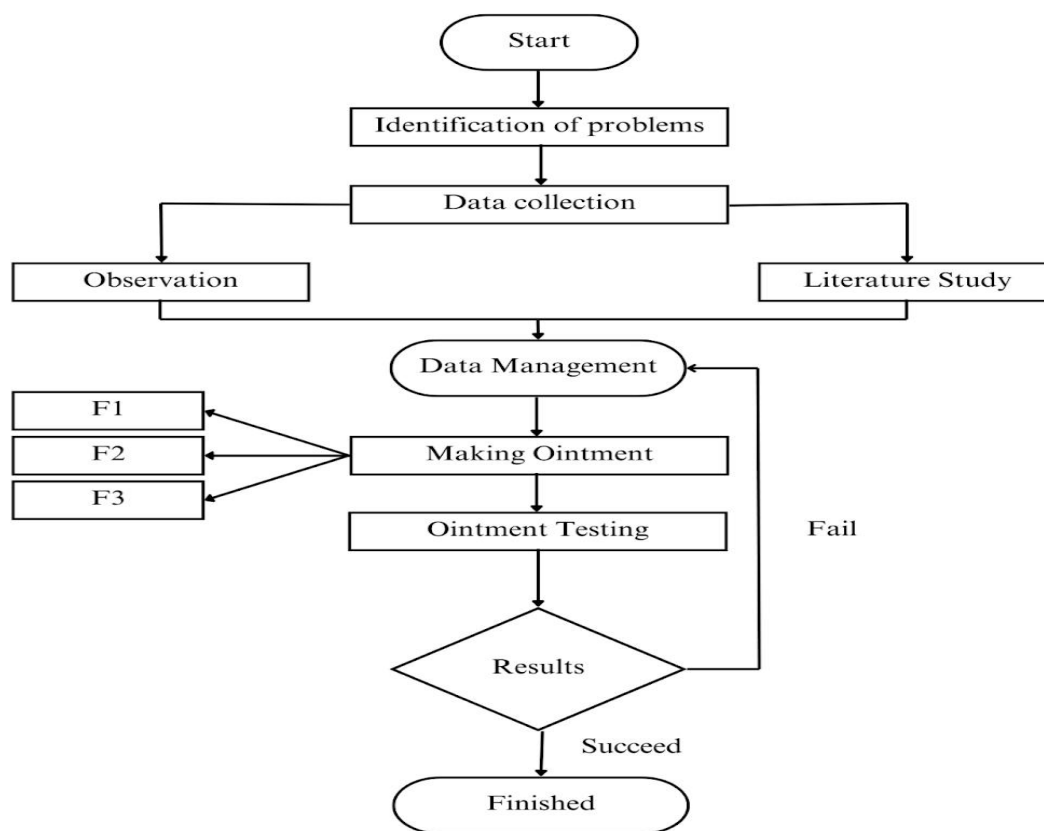
Metodology

This study used a Research and Development (R&D) approach to produce a product in the form of jalantir leaf extract ointment that is effective, safe, and of high quality in overcoming skin disease problems in Indonesia. This approach is in line with the community's need for practical and affordable solutions to overcome skin diseases, as described in the introduction. This ointment is expected to be an alternative treatment that not only relieves symptoms but also supports the improvement of quality of life, especially for vulnerable groups who often experience limited access to quality health products.

The research began with an exploratory phase, where a literature review was conducted on the active ingredients of jalantir leaves, such as flavonoids and tannins, which have antimicrobial and anti-inflammatory properties. This study provided a scientific basis for the pharmacological benefits of jalantir leaves in treating skin infections caused by fungi, bacteria or allergic reactions. At this stage, observations were also made on the main ingredients, such as Vaseline album and adeps lanae as ointment bases, as well as the identification of tools to be used in the manufacturing process and product testing.

The development phase began with designing ointment prototypes using varied formulations made in the form of Formulas F1, F2 and F3, namely 5% (F1), 10% (F2), and 15% (F3) concentrations of jalantir leaf extract. The manufacturing process involved melting the base ingredients, mixing the extracts until homogeneous, and preliminary testing to ensure consistency and homogeneity. This testing includes organoleptic tests, stability at various temperature conditions, pH, spreadability, and adhesiveness tests, to ensure the ointment meets quality standards that are suitable for the user's skin needs. To directly assess the effectiveness of the product, field tests were conducted on volunteer subjects with mild skin problems. This process involves observing changes in skin condition, user response, and evaluating the ointment's performance over a period of time. The data obtained became the basis for refining the formulation, ensuring that the final product meets the needs of users and is able to compete in the market.

The final stage of the research included small-scale production as a prototype ready for further testing or for initial distribution needs. Documentation of the entire research process is systematically organized, ensuring that the jalantir leaf extract ointment product is not only innovative, but also relevant to the needs of society and has significant commercial potential. With this R&D approach, it is hoped that the developed ointment can contribute to addressing the burden of skin diseases in Indonesia, provide effective solutions, and support the creation of a healthier life for the wider community.



Flowchart 1. Research Design and Procedure

Hasil dan Pembahasan

Table 2. Jalantir Leaf Extract Ointment Testing Results

Parameter Test	F1 (5%)	F2 (10%)	F3 (15%)	Description
Organoleptic Test	Brownish green, typical jalantir aroma, light consistency	Brownish green, typical jalantir aroma, medium consistency	Brownish green, typical jalantir aroma, thicker consistency	The higher the concentration, the thicker the ointment
Stability Test (4 weeks)	Stable at 4°C, 25°C, and 40°C	Stable at 4°C, 25°C, and 40°C	Stable at 4°C, 25°C, and 40°C	No change in color, odor, or texture
pH test	5,8	6,0	6,3	In accordance with skin pH (5.5-6.5)

Spreadability Test (cm)	5,2 cm	4,5 cm	3,8 cm	The higher the concentration, the lower the spreadability
Adhesion Test (seconds)	30 seconds	40 seconds	55 seconds	Formula F2 has the best balance
Skin Repair Effectiveness (%)	50%	75%	85%	Formula F3 is more effective, but stickier

Based on this table, this study produced jalantir leaf extract ointment products with three concentration variations, namely F1 (5%), F2 (10%), and F3 (15%). Each formulation has passed various parameter tests to ensure its effectiveness and quality.

The first parameter test is the organoleptic test which has test results that all formulations have a brownish green color with a distinctive aroma of jalantir leaves while the consistency gets thicker as the concentration of the extract increases. The second test result, the stability test, showed that the ointment remained stable at 4°C, 25°C, and 40°C for 4 weeks, without significant changes in color, odor, and texture. The third test result, the pH test, shows that all formulations have a pH in the range of 5.5-6.5, which is in accordance with the pH of human skin and safe to use. The fourth test result, the spreadability and stickiness test, showed that the 10% formulation had the best balance with a spreadability of 4.5 cm and stickiness of 40 seconds, making it easier to apply without wearing off quickly.

Effectiveness tests on 30 volunteers with mild skin problems for 14 days showed skin condition improvement rates of 50% in the 5% formulation, 75% in the 10% formulation, and 85% in the 15% formulation, with the 15% formulation indicating the highest effectiveness but tending to be stickier. Based on these results, the 10% formulation is recommended as the best option as it has the optimal balance between effectiveness, comfort, and stability.

Kesimpulan

The results of this study indicate that the use of ointment using jalantir leaf extract is effective in treating skin problems. Natural ingredients contained in jalantir leaves, such as flavonoids and tannins are proven to have a good effect on the skin because they have antimicrobial and anti-inflammatory properties

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