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Efficacy of ligas (*Semecarpus cuneiformis Blanco*) ground leaves and virgin coconut oil (*Cocos nucifera L.*) as a topical remedy for eczema

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Abstract

This study investigated the efficacy of a topical remedy formulated with ligas ground leaves and virgin coconut oil (VCO) in managing eczema symptoms compared to a commercially available remedy containing topical steroids. A repeated measures design was employed, with five participants applying the ligas ground leaves and VCO topical remedy to the affected area of their skin and the commercial treatment to a different affected area for five days. Participants completed a survey questionnaire for sensory evaluation of treatment in terms of safety and usability and provided photographs of their eczema symptoms for a visual assessment of improvement. They also recorded the number of days it took for their eczema to heal. Data were analyzed using t-tests, mean percentage, and standard deviation to determine the difference between the two treatments. The t-test results indicated that the calculated t-computed value accepted the null hypothesis (Ho) at the 0.05 significance level, suggesting no statistically significant difference between the ligas ground leaves and VCO as a topical remedy and the commercial treatment in terms of healing progress in the surface area, the number of days it takes for the target condition to heal, safety, and usability of the product. Hence, the topical remedy made from ligas leaves and VCO has the same efficacy as the commercial remedy in treating eczema. Further studies of ligas leaves in the medical field are highly encouraged to add to the limited literature exploring the benefits of ligas.

Keywords: *eczema, topical remedy, ligas, virgin coconut oil*

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1. Introduction

Atopic dermatitis, commonly referred to as eczema, can be a severe condition if not controlled, and several environmental factors that occur in tropical regions could worsen its symptoms (Kantor & Silverberg, 2017; Langan et al., 2020; Wang et al., 2024). Filipinos are more prone to allergies and eczema. While the exact cause of eczema remains unknown, it is thought to be a complex combination of genetic tendency and environmental factors (Nemeth et al., 2024; Damour et al., 2019). Many rely on readily available but often inadequate forms of relief, such as soothing gels, which may only provide temporary symptom management (Baker, 1999). Lack of access to comprehensive and effective treatment, due to severe financial constraints, is a major obstacle to long-term treatment of eczema, causing many Filipinos to suffer and discontinue treatment. Therefore, increasing comprehensive treatment options, advocating for better access to health care, and exploring effective management strategies are important to address the burden of eczema in the Philippines and beyond.

Many individuals worldwide, both adults and children, suffer from eczema, a skin disorder. Many people cannot afford the typical treatment for this ailment since it is costly. Prices range from 3.24 to 85.26 US dollars (190 to 5000 pesos). This is a problem for people who suffer from the illness but lack the funds or income to pay for it. People with eczema have a different quality of life and experience discomfort. The patient experiences itching redness, and inflammation as a result of this ailment. The fundamental characteristics of Atopic Dermatitis (AD), a complicated disorder, are an imbalanced skin microbiota, immune response failure, and a compromised skin barrier (Mishra et al., 2024). Additionally, there is a higher chance of bacterial and viral infections in AD patients (Bodet et al., 2019).

Many people suffering from eczema cannot afford the essential drugs and therapies, thus worsening this disease. Eczema patients may also experience feelings of humiliation and loneliness because of the look of their skin due to the disease. The lack of a definite solution for eczema can be emotionally draining for people who suffer from it. Many people who are unable to pay for the treatment either continue living their lives normally or look for alternate therapies elsewhere, which may have negative side effects that exacerbate their disease. Hence, many patients look for affordable alternatives at the comfort of their homes. For instance, the study of De Leon et al. (2018) showed the potential of ligas (*Semecarpus cuneiformis Blanco*) as treatment for eczema.

Ligas is a small tree that reaches a height of twelve meters. At the extremities of the branches, a dense cluster of lanceolate-obovate to oblong-obovate leaves grows, measuring 10 to 25 centimeters in length, with hairy undersides that are white, round or slightly pointed tips, and typically pointed bases (Stuart, 2015). Ligas leaves have traditionally been used for numerous therapeutic applications, especially for treating skin conditions (Galang, 2016). In Mt. Arayat, Pampanga, it is used to cure chicken pox and indolent ulcers. In Antique, if an area of the body itches, use coconut oil mixed with seven burnt leaves. Scabies is treated with leaves by the native Sambal-Bolinao people of Pangasinan, Philippines. Redolent ulcers can occasionally be treated externally using pericarp oil, which has escharotic and caustic properties. Burned leaves are applied topically and breathed to cure wounds in Malaysia. Bohol uses leaves to alleviate gas problems, chicken pox, and loose bowel motions. Leaves are used to cure wounds in Aklan. (Stuart, 2015).

Studies also showed virgin coconut oil (VCO) as potential cure for eczema (Castro & Apostol, 2020; FIbriansari et al., 2022; Olshanskaya, 2018; Evangelista et al., 2014; Varma et al., 2018; Chew, 2019). VCO is made from fresh coconut kernels without the use of chemicals, which makes it an outstanding combination of gastronomic joy and potential medicinal value (Ng et al., 2021). The high content of medium-chain triglycerides (MCT) gives it special properties. Lauric acid, a well-known MCT, has antibacterial properties that can be used to treat bacteria and fungi (Roopashree et al., 2021). These properties mean that virgin coconut oil can heal wounds and provide mild protection against skin diseases. It can treat eczema symptoms, provide moisture, and reduce inflammation (Huzar, 2023).

Given the potential of both ligas and VCO as remedy for eczema, this research aimed to develop an effective and affordable treatment using these two commonly and widely available in the Philippines, and they are cheaper than other treatments for eczema patients. The substance also has therapeutic properties, including anti-inflammatory, antimicrobial, and zinc properties, which can help alleviate redness, dryness, irritation, and itching. Specifically, the study evaluated the quality of the topical remedy derived from ligas and VCO for treating the surface area of eczema symptoms in terms of: healing progress in the surface area, number of days it takes for the target condition to heal, perception of the participants in terms of safety and usability and significant difference in the effect of topical remedy to a commercial remedy containing topical steroids.

In order to prove the effectiveness of the topical eczema treatment, five eczema sufferers from the Philippines are doing the experiment. From August 5–September 12, 2024, the study was conducted in Nagcarlan and Liliw, Laguna. Particular precautions were taken during the study to make sure that no issues arise for the participants, such as burning, redness, or irritation. The study assessed the product's safety, efficacy, usability, and cost-efficiency to reduce the financial burden that eczema sufferers typically undergo.

To investigate the potential efficacy of ligas ground leaves and virgin coconut oil as a topical remedy for treating the surface area of eczema symptoms, this study tested the following hypothesis:

H0: There is no significant difference in treating eczema with ligas ground leaves and virgin coconut oil as a topical remedy compared to a commercial remedy containing steroids in terms of healing progress in the surface area, number of days it takes for the target condition to heal, safety, and usability.

2. Literature Review

2.1. Eczema

Numerous individuals suffer from eczema, a chronic, dry, and itchy skin condition. According to Winsborough (2024), eczema is an incurable skin illness. That is why there are therapies and treatments available to help relieve the symptoms for those who have it. Fortunately, there are short-term treatments for eczema; they can be very costly for some people, leaving them with no other option than to suffer in absence and occasionally turn to home remedies to ease their discomfort. Topical steroids, also known as topical corticosteroids, glucocorticosteroids, or cortisone, are anti-inflammatory medications used to manage eczema, dermatitis, and other skin conditions (Gabros et al., 2023; Mehta et al., 2016). They are available in various forms, including creams, ointments, and solutions (Oakley, 2023). In this study, the topical remedy composed of ligas and VCO were compared to Clobetasol, a topical steroid medication. Clobetasol reduces swelling, redness, itching, and rashes caused by skin conditions like eczema and psoriasis. It works by reducing inflammation in the skin (Cleveland, 2024.).

2.2. Ligas

Ligas, a tree native to the Philippines, is found in dry thickets and secondary forests at low altitudes in Cagayan, Ilocos Norte, Bontoc, La Union, Pangasinan, Zambales, Bataan, Nueva Ecija, Rizal, Pampanga, Bulacan, Laguna, Quezon, and Sorsogon Provinces in Luzon, as well as Mindoro, Palawan, Leyte, Negros, and Guimaras. It is also found in Borneo, Lesser Sunda Island, Sulawesi, and Taiwan (Stuart, 2015). According to De Leon et al. (2018), the Ligas leaves contain steroids, and numerous essential oils have antibacterial, antimicrobial, antiviral, anti-inflammatory, and antiseptic properties and antibacterial characteristics; properties needed for eczema healing. Ligas leaves have traditionally been used for numerous therapeutic applications, especially for treating skin conditions. Locals have historically used these leaves to relieve itching, treat chicken pox, accelerate wound healing, and treat skin fungal infections (Galang, 2016). Distinct kinds of trees can be characterized by the related families (taxa) to which they belong and the similarities present within their group. All living creatures are separated into hierarchical groups based on shared traits (Virginia Cooperative Extension, 2021). A study conducted by Misha et al. (2024) proved that *Semecarpus anacardium Linn*, part of the Anacardiaceae family (to which *Semecarpus cuneiformis Blanco* also belongs), has anti-inflammatory properties. In this research, clinical trials of inflammatory illnesses were conducted using animal models to better evaluate their potential therapeutic uses. It was proven to be safe for human skin for anti-inflammation.

2.3. Virgin Coconut Oil

Understanding its attributes, VCO is often used in topical therapy for eczema due to its unique digestion. MCTs have been shown to enhance satiety, weight loss, and cognitive function (da Silva Lima & Block, 2019). Because of these benefits, VCO is widely used in topical eczema treatments. MCTs may have an alternative mode of digestion, which enhances fat loss, satiety, and cognitive performance. The method of extraction for VCO is cold-pressed as it preserves more antioxidants, bioactive elements, and lauric acid, MCT that has positive health effects. Refined coconut oil is made from fresh coconut meat or milk and processed without heat, chemicals, or bleaching agents (Roopashree et al., 2021; Mohamad Nasir et al., 2017). Because of its well-known anti-inflammatory and antibacterial qualities, VCO is often used to treat eczema. As it moisturizes the skin, it also lessens its dryness and itching (Ellis, 2023).

3. Methodology

3.1. Research Design

This study employed a repeated measures design, also known as a within-subjects design. Within-subjects design, or repeated measures design, involves testing the same participants under different conditions or time points. By comparing individual responses directly and using the same participants for all conditions, researchers can control variables better and increase the study's power (Kim, 2010; Budiu, 2023; Dovetail, 2023.). This approach minimized the need for a large sample size and enhanced the precision of the comparisons between treatments.

The availability, affordability, efficacy, and safety of the treatment were the main points of data that the researchers collected using the quantitative approach. Five participants were randomly assigned to receive a topical remedy of ground ligas and VCO topical remedy on one area of their skin and a commercially available treatment on a different area. This design allowed for a direct comparison of the treatments' effects within the same individual, controlling for individual variations in skin type and sensitivity. Perceptions of the participants on the usability and safety of the topical and commercial remedy were collected. In addition, the two remedies were tested for the difference in healing progress, healing time, and perception of product safety and usability between a topical remedy and a commercial remedy containing topical steroids.

3.2.Sampling and Population

This research employed purposive sampling, a non-probability sampling technique where researchers selected participants because they possess specific characteristics necessary for the study. In other words, researchers chose participants "on purpose" in purposive sampling. Also known as judgmental sampling, this method relies on the researcher's judgment when identifying and selecting individuals, cases, or events that can provide the best information to achieve the study's objectives (Nikolopoulou, 2023).

The research involved 5 participants from different locations in the Philippines: 4 from Nagcarlan, Laguna, and 1 from Bulacan. These 5 participants, from different parts of the Philippines, were diagnosed with eczema exhibiting diverse symptoms and causes. Researchers observed that one participant experienced redness due to allergies or sun exposure. A doctor diagnosed the second participant with bumps on their hands, attributing it to a fruit

and seafood allergy. The third participant, also diagnosed with eczema, experienced bumps on their neck, which the doctor attributed to a seafood allergy. The fourth participant exhibited wounds and redness on their stomach, believed to be caused by the type of fabric they wear. Four of the participants were advised to use creams containing topical steroids as treatment, but the fifth participant, also diagnosed with eczema, was prohibited from using any steroid-containing treatments as it could worsen their symptoms. This participant was also restricted from using cleaning liquids as they could trigger their eczema. After selecting the target conditions for the study, researchers submitted qualified scientist forms and risk assessment forms for approval. Once approved, researchers asked participants to complete human participant forms and human informed consent forms.

3.3.Research Procedure

Before obtaining the leaves, a letter of request was sent to the owner of the lot where the tree is located in Purok 2, Barangay Taytay, Nagcarlan, Laguna. The leaves obtained for the study was then verified by Museum of Natural History, University of the Philippines Los Baños (UPLB) through e-mail. After the verification it was then identified as ligas. The VCO was purchased from a convenient store.

This study was conducted using refined leaves of ligas and VCO. The materials needed were 5-10 ligas leaves, 1 ½ tbsp of VCO, mortar and pestle, fine mesh strainer, beaker, dropper, and airtight jar. First, 5-10 ligas leaves were collected from the tree and rinsed under running water. Second, the leaves were patted dry before grinding them into fine powder using mortar and pestle. Third, after grinding the ligas leaves it is then added to a beaker along with the virgin coconut oil, then the mixture is then stirred a few times and filtered through a strainer. Next, to ensure that the components are evenly distributed, carefully stir the mixture. Cover the mixture and leave undistributed at a room temperature for 24 to 48 hours (about 2 days). After that, pour the mixture into a clean, airtight glass jar or container. Lastly, the patient can then apply the topical remedy to the skin.

3.4.Research Instrument

The study used an observation tool to collect data on the time of healing and surface area of the healed affected after applying the two remedies. In addition, survey questionnaires

were also utilized to determine the perception of the participants on the usability and safety of the two remedies.

3.5.Risk and Safety

This research involved applying a treatment containing ligas extract and VCO to the skin of the participants. Safety precautions were taken to address potential risks like skin irritation, allergic reactions, and carryover effects between treatments. Participants were screened for allergies, provided informed consent, monitored for adverse reactions, and instructed to report any unusual symptoms. These measures aimed to minimize risks and prioritize the safety of all participants during the study.

3.6.Data Analysis

Standard deviation and mean were used in computing the level of the perception of the participants in using the topical remedy. T-test was used using GraphPad to compute the significant difference between the topical remedy and commercial remedy in terms of the healing progress of the surface area affected by the condition and the number of days it takes for the target condition to heal.

3.3.Research Ethics

The participants were acquired within the bounds of Philippines, interviewed and given survey questionnaires. The survey that the researchers utilized gives participants the choice of disclosing their identity or not, and the researchers secured the response data with the Republic Act 10173, officially known as the Data Privacy Act of 2012 (DPA) which strives to safeguard people's private information by controlling the gathering, use, and archiving of data. It provides standards for the appropriate management of personal data, protecting people's privacy and granting them control over their data. The said participants willingly participated in the study. Ligas leaves were obtained from Purok 2, Brgy Taytay Nagcarlan Laguna securing a permit letter from the owners. No data were tampered with in finalizing the research paper.

4. Findings

Table 1 presents the average daily percentage of surface area healed by both the developed product and the commercial remedy. The table demonstrates that both remedies

show improvement in healing surface area each day. Notably, the developed product effectively reduces the target area within a day without causing any flare-ups. However, out of the 5 participants, only 1 did not experience healing with either the developed product or the commercial remedy.

Table 1

Average percentage of daily progress of healing for the surface area of the target condition

Treatment	Participants				
	#1	#2	#3	#4	#5
Researchers Product	0.85	0.77	0.52	0.55	0
Commercial Remedy	0.84	0.76	0.42	0.47	0

Table 2

Test of difference between the two remedies based on the average percentage of daily progress of healing for the surface area of the target condition

Treatment	n	Mean	Sd	t-statistical	df	alpha	Critical value	Decision
Researchers Topical Remedy	5	0.54	0.33	0.1905	8	0.05	2.306	Accept
Commercial Remedy	5	0.50	0.33					

Table 2 indicates that the computed t-value of 0.1905 is less than the critical value of 2.306 at the 0.05 level of significance with 8 degrees of freedom with mean scores between 0.54 and 0.50. There is no significant difference between the percentage of surface area healed by the developed product and the commercial remedy, supporting the acceptance of the null hypothesis.

Figure 1

Analysis of researchers' topical remedy and commercial remedy on days of healing

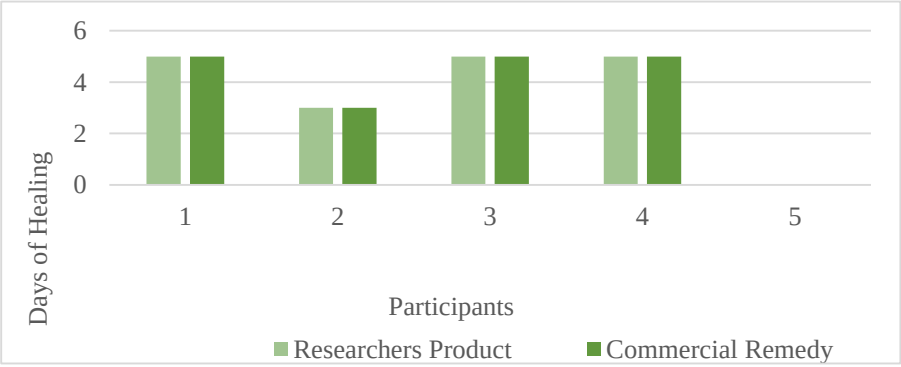

Figure 1 illustrates the difference in days it takes for the target condition to heal. Based on the chart, the study found that both remedies take 3-5 days for the target condition to heal. The chart also shows that one (1) participant's condition did not changed in 5 days.

Table 3

Test of difference between the days of healing

Treatment	n	Mean	Sd	t-statistical	df	alpha	Critical value	Decision
Researchers Topical Remedy	5	3.60	2.19	0.0000	8	0.05	2.306	Accept
Commercial Remedy	5	3.60	2.19					

Table 3 depicts that the topical remedy made from of ligas ground leaves and VCO is not significantly different from the commercial remedy in terms of the days it took for the target condition to heal. Since the t-computed value of 0.0000 is less than the critical value of 2.306 at the 0.05 level of significance with 8 degrees of freedom and the mean score of 3.60, the null hypothesis is accepted.

Table 4

Perception of the participants in terms of safety using commercial remedy

Indicators	Mean	SD	Verbal Interpretation
I experienced no redness, itching, or burning at the application site after using the topical remedy.	4.2	1.6	Strongly agree
I noticed no worsening of my original condition after using the topical remedy.	4.2	1.6	Strongly agree
I developed no hives, rash, or swelling after using the topical remedy.	4	1.54	Strongly agree
The topical remedy did not irritate my skin.	4.2	1.6	Strongly agree
I felt safe using the topical remedy.	4.4	0.8	Strongly agree
General Average	4.2	1.428	Strongly agree

Legend: 4.20-5.00 Strongly Agree; 3.40-4.19 Agree; 2.60-3.59 Neither agree nor disagree; 1.80-2.59 Disagree; 0.5 -1.79 Strongly Disagree

Table 4 outlines the safety summary of the commercial medications used by the participants. The product was easy for the participants to use. As indicated by the overall

mean score of 4.2 and a standard deviation of 1.428 for safety, the participants strongly agree that commercial remedies are safe for treating the condition.

Table 5

Perception of the participants in terms of safety using commercial remedy

Indicators	Mean	SD	Verbal Interpretation
The application process for the topical remedy was simple and convenient.	5	0	Strongly agree
The topical remedy absorbed quickly into my skin without leaving a greasy residue.	5	0	Strongly agree
The smell of the remedy did not cause me any discomfort.	5	0	Strongly agree
The texture of the remedy did not cause me any discomfort.	5	0	Strongly agree
The topical remedy was user-friendly.	5	0	Strongly agree
General Average	**5**	**0**	**Strongly agree**

Legend: 4.20-5.00 Strongly Agree; 3.40-4.19 Agree; 2.60-3.59 Neither agree nor disagree; 1.80-2.59 Disagree; 0.5 -1.79 Strongly Disagree

Table 5 outlines the usability summary of the commercial medications used by the participants. The product was easy for the participants to use. As indicated by the overall mean score of 5 and a 0-standard deviation, the participants strongly agree that commercial remedy is easy to apply and does not cause any irritation, pain or swelling for treating the condition.

Table 6

Perception of the participants in terms of usability using researchers' topical remedy

Indicators	Mean	SD	Verbal Interpretation
I experienced no redness, itching, or burning at the application site after using the topical remedy.	4	1.54	Strongly agree
I noticed no worsening of my original condition after using the topical remedy.	4	1.54	Strongly agree
I developed no hives, rash, or swelling after using the topical remedy.	4.2	1.6	Strongly agree
The topical remedy did not irritate my skin.	4.2	1.6	Strongly agree
I felt safe using the topical remedy.	4	1.54	Strongly agree
General Average	**4.08**	**1.564**	**Strongly agree**

Legend: 4.20-5.00 Strongly Agree; 3.40-4.19 Agree; 2.60-3.59 Neither agree nor disagree; 1.80-2.59 Disagree; 0.5 -1.79 Strongly Disagree

Table 6 shows the safety summary of the topical remedy made by the researchers used by the participants. The product was easy for the participants to use. As indicated by the overall mean score of 4.08 and a standard deviation of 1.564 for safety, the participants strongly agree that topical remedies made of ligas leaves and VGO are safe for treating their condition.

Table 7

Perception of the participants in terms of usability using researchers' topical remedy

Indicators	Mean	SD	Verbal Interpretation
The application process for the topical remedy was simple and convenient.	5	0	Strongly agree
The topical remedy absorbed quickly into my skin without leaving a greasy residue.	5	0	Strongly agree
The smell of the remedy did not cause me any discomfort.	4.8	0.4	Strongly agree
The texture of the remedy did not cause me any discomfort.	5	0	Strongly agree
The topical remedy was a user-friendly.	4.8	0.4	Strongly agree
General Average	**4.92**	**0.16**	**Strongly agree**

Legend: 4.20-5.00 Strongly Agree; 3.40-4.19 Agree; 2.60-3.59 Neither agree nor disagree; 1.80-2.59 Disagree; 0.5 -1.79 Strongly Disagree

Table 7 highlights the usability summary of the researchers' topical remedy used by the participants. The product was easy for the participants to use. As indicated by the overall mean score of 4.92 and a 0.16 standard deviation, the participants strongly agree that commercial remedy is easy to apply and does not cause any irritation, pain or swelling for treating the condition.

Table 8

Test difference between the perception of the participants in terms of safety

Treatment	n	Mean	Sd	t-statistical	df	alpha	Critical value	Decision
Researchers Topical Remedy	5	4.2	0.141	1.5000	8	0.05	2.306	Accept
Commercial Remedy	5	4.08	0.110					

Table 8 indicates that there is no discernible discrepancy between the participants' experiences with the commercial treatment and the researchers' summary of the topical remedy's safety. The null hypothesis is accepted since the t-computed value of 1.5000 is lesser than the critical value of 2.306 at the 0.5 level of significance with 8 degrees of freedom and mean scores that fall between 4.08 and 4.2.

Table 9

Test difference between the perception of the participants in terms of usability

Treatment	n	Mean	Sd	t-statistical	df	alpha	Critical value	Decision
Researchers Topical Remedy	5	4.92	0.110	1.6330	8	0.05	2.306	Accept
Commercial Remedy	5	5	0					

Table 9 shows that there is no statistical significant difference in the participants' experiences with the usability of the researcher's topical remedy and commercial remedy. With degrees of freedom equal to 8, a mean of scores between 4.92 and 5, and a t-computed value of 1.6330 that is less than the critical value of 2.306 at the 0.05 level of significance, the null hypothesis is then accepted.

5. Discussion

The findings show that the healing surface area of both therapies improves daily. The solution developed by the researchers is notable since it efficiently decreases the target area in a day without triggering flare-ups. As seen from analyzing the data collected, there is no discernible difference between the commercial remedy and the researchers' topical remedy in terms of the percentage of surface area healed. With eight degrees of freedom, the calculated t-value of 0.1905 is less than the crucial value of 2.306 at the 0.05 level of significance. The acceptance of the null hypothesis is supported by the mean scores, which range from 0.54 to 0.50. Hence, the surface area healed by the commercial remedy has the same effect as the topical remedy made from ligas leaves and VCO. According to De Leon et al. (2018), the Ligas leaves contain steroids, and numerous essential oils have antibacterial, antimicrobial, antiviral, anti-inflammatory, and antiseptic properties and characteristics. Among of the

five participants, just one did not show any improvements after using the commercial remedy or the researchers' product for targeted healing.

The researchers' topical therapy was indicated to take 2–5 days to cure, whereas the commercial medication shows that it takes 3–5 days. Additionally, the data reveals that one participant either did not heal at all or did not heal in seven days. In terms of the number of days it took for the target disease to recover, the finding shows that the topical remedy composed of pulverized leaves of Ligas and VCO is not substantially different from the commercial medication. The null hypothesis is accepted since the t-calculated value of 0.0000 is less than the crucial value of 2.306 at the 0.05 level of significance with 8 degrees of freedom and a mean score of 3.60. This means that the time of healing by the commercial remedy is the same time as the topical remedy made from ligas leaves and VCO. This affirms the claim of Cherney (2023) that eczema flares can last from a few days to a few weeks. The healing time from eczema ultimately depends on the underlying cause. For example, eczema symptoms relating to irritant exposure may heal quickly once you remove the irritant, whereas allergic triggers may result in longer-lasting flares. Since the participants have different severity and conditions, one participant might need more days or weeks for their condition to heal.

The topical treatment did not cause rashes or hives, nor did it cause any skin irritation in the participants. The explanation of the safety of both the topical treatments and commercial remedies was met with significant agreement from the participants regarding the topical cure's safety. Compounded topical pain creams have gained popularity among some prescribers and patients, as they are marketed as having fewer side effects, a lower likelihood of abuse, and the potential for greater efficacy and convenience than certain oral pain medications (Schwinn & Jackson, 2020).

The participants overwhelmingly agreed that it was simple and convenient to use the commercial remedy and the topical remedy developed by the researchers. The topical medication was easy to apply and did not irritate the skin in any way, nor did its smell or texture leave a greasy residue after it effortlessly absorbed into the skin.

The participants' perception of the topical remedy's safety and the participants' experiences with the commercial therapy do not differ significantly. Given that the t-computed value of 1.5000 is less than the crucial value of 2.306 at the 0.5 level of significance, with 8 degrees of freedom and mean scores that range from 4.08 to 4.2, the null hypothesis

is accepted. This demonstrates that the participants' opinions on the usability of the researcher's topical medicine and commercial remedy do not differ statistically. The null hypothesis is therefore accepted when there are 8 degrees of freedom, a mean score that is between 4.92 and 5, and a t-computed value of 1.6330 that is less than the critical value of 2.306 at the 0.05 level of significance.

5. Conclusion

Based on the findings of the study, it can be inferred that the topical remedy made from ligas leaves and VCO has the same efficacy as the commercial remedy in treating eczema in terms of the surface area healed and time of healing. Perception of the participants in the usability and safety of the topical remedy shows that it is safe to use and easy to apply. However, further studies of ligas leaves in the medical field are highly encouraged to add to the limited literature exploring its benefits.

Disclosure statement

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Institutional Review Board Statement

This study was conducted in accordance with the ethical guidelines of Plaridel Integrated National High School. The conduct of this study has been approved and given relative clearance(s) by Plaridel Integrated National High School and the Purok 2, Brgy Taytay Nagcarlan, Laguna.

Declaration

The author declares the use of Artificial Intelligence (AI) in writing this paper. In particular, the author used QuillBot in paraphrasing ideas. The author takes full responsibility in ensuring proper review and editing of contents generated using AI.

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