

RESEARCH ARTICLE



Received: 03-02-2022

Accepted: 21-06-2022

Published: 22-09-2022

Citation: Balocnit DA, P. Doctor JG (2022) Madre de Cacao and Sunflower as Human Lice Eradicator. Indian Journal of Science and Technology 15(36): 1823-1826. <https://doi.org/10.17485/IJST/v15i36.290>

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Funding: Kalinga State University

Competing Interests: None

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Published By Indian Society for Education and Environment ([iSee](#))

ISSN

Print: 0974-6846

Electronic: 0974-5645

Madre de Cacao and Sunflower as Human Lice Eradicator

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Abstract

Objectives: To control human lice by using the natural resources in the locality of the city of Tabuk in the form of plant extracts (*Gliricidia sepium* and *Helianthus annuus* extracts). In addition, the researchers wanted to prove the effectiveness of using the Madre de cacao and sunflower extracts. The ultimate aim of this research is the introduction of reliable lice eradicators to the locals of Tabuk City boundaries who can't afford to buy commercialized lice eradicators. **Methods:** In every treatment, it has a constant level of recommended volume of mixed extract of Madre de cacao and sunflower. The purpose was to observe the effectiveness of the mixture and to determine the most effective ratio of mixed extract volume. Each trial possesses a time interval of five days. The total number of lice was determined by adding the number of lice died and the number of alive after the application. **Findings:** Madre de cacao and sunflower are effective in eradicating human lice. The appropriate ratio of combined Madre de cacao and sunflower extract in eradicating human lice is 1:1. **Novelty:** This kind of natural lice eradicator is safe for the health of human beings due to its low toxic level. Human lice infestation is a big factor that may disturb the academic performance and health of children. So, these organic extracts may help address this health problem of kids.

Keywords: Madre De Cacao; Herbal Treatment; Chemical Treatment; Lice; Sunflower Extract

1 Introduction

The medicinal plants of the Philippines are a great but unappreciated resource with numerous applications for both non-communicable and communicable disease indications. The Philippines had long conducted limited research in this area. The Traditional and Alternative Medicine Act of 1997, which reiterated the government's commitment to the promotion and development of traditional treatment, particularly herbal medicine, provided support for this movement.

The World Health Organization has also recommended states to design and implement national traditional medicine policies and initiatives, particularly in light of Universal Health Coverage.

Plants have a long history in the treatment of numerous ailments, and are one of the most important sources of novel pharmacologically active chemicals that strike

the pharmaceutical sector in medication development. Approximately 35,000-70,000 plant species have been tested for therapeutic purposes as of today. Plants with ethnopharmacological applications have long been the principal sources of medicine for early drug discovery. The bioactivity of plants has contributed to the isolation of significant anticancer medicines such as paclitaxel and camptothecin in today's drug hunt.

As the need for pharmaceuticals grows in response to our growing population and increasing number of ailments, researchers continue to look for new and more effective drug sources. Medicinal plants are a top priority in the hunt for natural goods for the pharmaceutical business.

Madre de Cacao can serve to be the remedy for many diseases such as alopecia, boils, bruises, burns, colds, cough, fever, fractures, gangrene, headache, itch, prickly heat, rheumatism, skin sore, tumors, and ulcers which were used by our ancestors during the early days when commercialized medicines are still unknown here in our locality. Nowadays, it is also used as an insecticide, nematocide, and antibacterial. ([www.google.com/Philippine Medical Plants](http://www.google.com/Philippine%20Medical%20Plants)).

Another plant involved is the Sunflower (*Helianthus annuus*). This large course plant has rough triangular leaves and large flower heads consisting of a broad central disc of florets which contain the seeds surrounded by conspicuous yellow rays. The plant is named for its own sun following habit. The flower heads turn with the sun each day until reaching bloom when they remain facing East.

The chemical contents of the two plants (*Gliricidia sepium* and sunflower), both possess the potential of eradicating human lice.

In the content of Madre de cacao, it possesses Tannins that are considered potentially antidiarrheal, antidysenteric, antimutagenic, antioxidant, bactericidal, hepatoprotective, pesticidal and viricidal ([www.google.com/Philippine medical plants](http://www.google.com/Philippine%20medical%20plants)). This means that Madre de cacao has potential lice eradication. In addition, its tannin content, which is antibacterial, helps the patient avoid infections on the wound caused by lice bites and scratching.

Likewise, sunflower also possesses tannin. This plant (sunflower) also possesses vitamin E that is good in the nourishment of the hair and scalp. It helps the wound in its healing process that was caused by head scratching and bites made by lice. Moreover, Vitamin E. in the sunflower also helps the hair in its growing process. Thus, combining the two plant extracts gives a reliable and safe human lice eradicator.

Table 1. The weight and extracted volume of Madre de cacao and sunflower.

Treatments	Weight (kg)	Extracted Volume
Madre de cacao	2	100 ml
Sunflower	2	100 ml

2 Materials and Methods

There were twenty (20) participants in the study who were divided into two groups; ten (10) participants for the Test Group and ten (10) participants under the Control Group. Participants under the Test Groups were treated five (5) times using the Madre de cacao and Sunflower leaves extract to eradicate their hair lice. On the other hand, participants under the Control Group were treated using the Licealix Shampoo, a commercial product known to eradicate hair lice. The amount of mixture and treatment time were tabulated in Table 2.

Table 2. The manipulation of the extracted solution was applied to the sample children.

T	Madre de cacao leaves extract (ml)	Sunflower leaves extract (ml)	R (min)	T	n	Ex	X	%
T1	20	50	1	10	18	7	0.38	38%
			2	10	15	5	0.33	33%
			3	10	12	4	0.33	33%
Average					15	5.3	0.36	36%
T2	35	50	1	10	19	8	0.42	42%
			2	10	18	10	0.56	56%
			3	10	16	6	0.38	38%
Average					17.7	8	0.45	45%
T3	50	50	1	10	25	23	0.92	92%
			2	10	24	22	0.92	92%
			3	10	20	19	0.95	95%

Continued on next page

Table 2 continued

T4					Average	23	21.3	0.93	93%
T4	50	35	1	10	26	17	0.65	65%	
			2	10	26	15	0.58	58%	
			3	10	24	13	0.54	54%	
T5					Average	25.3	15	0.59	59%
T5	50	20	1	10	21	9	0.43	43%	
			2	10	19	9	0.47	47%	
			3	10	17	6	0.35	35%	
T6					Average	19	8	0.42	42%

The primary materials for the conduct of the study were Madre de cacao (*Gliricidia sepium*) and Sunflower (*Helianthus annuus*) leaves. Both extracts which came from Madre de cacao and sunflower were combined to form the solution for the study. The extracts served as the media for lice eradication process in the study. Some include laboratory materials such as a graduated cylinder for measuring the volume of the extracts, mortar and pestle for pounding the leaves, volumetric flask to serve as a container for the extracts, strainer for removing impurities, and beakers as mixing containers.

2.1 Preparation of Madre de cacao and sunflower

The researchers gathered leaves of Madre de cacao and sunflower plants. Then, they washed the leaves of both plants to remove the dirt. Thirdly, the leaves of Madre de cacao and sunflower were pounded separately until the juice was released for extraction. The pounded leaves are extracted with the use of cloth, and then it was strained by the researchers putting them on separate containers.

2.2 Mixture Preparation

The researchers mixed the extracts coming from the Madre de cacao and sunflower into one container with the recommended amount of volume, and then it is ready for application.

2.3 Application

The researchers applied the mixture on the dry hair of the sample children until the hair became wet. After the application, one of the researchers put a plastic cover on the samples' hair and kept it intact while the other held the time monitoring. After the application with its recommended time, the researchers removed the plastic cover and brushed the hair with a fine comb for observation on the effectiveness of the solution extract.

Each treatment refers to a single sample. In every treatment, it has a constant level of recommended volume of mixed extract of Madre de cacao and sunflower. The purpose was to observe the effectiveness of the mixture and to determine the most effective ratio of mixed extract volume. Each trial possesses a time interval of five days. The total number of lice was determined by adding the number of lice died and the number of alive after the application.

3 Results and Discussions

3.1 Effect of herbal treatment

3.1.1 Treatment 1

shows that volume with 2:5 ratios (20ml of madre de cacao extracts and 50ml of sunflower) in the solution mixture has an average of 36% of mortality on the total number of lice population in this treatment. This means that the recommended ratio of volume applied in every replication in this treatment is less effective.

3.1.2 Treatment 2

shows that the volume of solution extract with a 3.5:5 ratio (35ml of Madre de cacao extract and 50ml of sunflower extract) had an average of 45% of mortality on the total number of lice population in this treatment.

3.1.3 Treatment 3

shows that both extracts with 1:1 RATIO (50ml of Madre de cacao extract and 50ml of sunflower extract) are the most effective ratio of the mixture solution due to the high mortality rate of about 93% among the total number of lice population.

3.1.4 Treatment 4

shows that the volume of solution extract with a 5:3.5 ratio (50ml Madre de cacao extract and 35ml sunflower extract) had a result of 59% mortality among the total number of lice population, which is less effective.

3.1.5 Treatment 5

shows that 5:2 ratios of the mixture solution (50ml Madre de cacao extract and 20ml sunflower extract) had a shallow rate of mortality which covers 42% of the total number of lice population.

3.2 Effect of herbal cum chemical treatment

Based from the results, the commercialized product Licealiz shows a 50% mortality rate on the lice population, while combined Madre de cacao and sunflower extract shows 88.3% mortality rate on the lice population. Therefore, combined extract of Madre de cacao and sunflower are more effective than the commercialized product.

Participants attributed several positive ('healthy') aspects and beliefs to using Madre De Cacao (MDC): MDC was rated as being healthier, more natural, providing a higher tolerability, having few or no side effects, allowing for easier ingredient absorption by the body, and allowing for better degradation. In addition to all of these factors, many participants' apparent awareness of the MDC's detailed contents had a crucial effect. Knowing a plant, either by name or by cultivating it in one's own garden, was considered to offer a foundation of confidence for organic medicine users.

Table 3. The comparison between the extract of Madre de cacao and Sunflower from the commercialized lice eradicator (Licealiz)

Treatment	Amount	Time	Total No. Lice	Total No. of Dead Lice	Percent-age
Licealiz	10 ml	10 mins	20	10	50%
Extract of Madre de cacao (50ml) and Sunflower (50ml)	100 ml	10 mins	17	15	88.3%

4 Conclusions

Madre de cacao and sunflower are effective in eradicating human lice. The appropriate ratio of combined Madre de cacao and sunflower extract in eradicating human lice is 1:1. This kind of eradicator is safe for the health of human beings due to its low toxic level. Human lice infestation is a big factor that may disturb the academic performance and health of children.

Based on the interviews, the ingredients used to make the organic solution against hair lice (this study), are the most common and readily available brand utilized by the common people in the community like Kalinga Province. It is also the cheapest and non-prescriptive.

5 Recommendations

1. Using the combined Madre de cacao and sunflower extract for eradication of human lice is highly recommended because of its effectiveness and easy access due to the abundance of plants in the locality of Tabuk City, especially to the people in the rural areas of Tabuk.
2. The researchers highly recommend the continuous application of the extract on the lice-infested individual until lice are totally eliminated.
3. The researchers also recommend the propagation of sunflower and Madre de cacao
4. It is also recommended to the Barangay Health Workers to advise their clients to use the extract.
5. This research is recommended for further chemical analysis