



IMPROVEMENT THE SKILLS OF POSBINDU PARTNERS IN UTILIZING RAMBUTAN SEED FLOUR (*Nephelium lappaceum*) AS TRADITIONAL HERBAL MASKS

Mimin Kusmiyati¹, Elvi Trinovani¹, Angreni Ayuhasuti¹, Ayu Nala El Muna Haerussana¹, Dicki Bakhtiar Purkon^{1*}

¹D-3 Pharmacy Study Program, Department of Pharmacy, Poltekkes Kemenkes Bandung, Jl. Prof. Eyckman No. 24, Bandung, Indonesia, 40161

*Correspondence e-mail: dickibakhtiar_farmasi@staff.poltekkesbandung.ac.id

Abstract. **Background:** Various types of plants in Indonesia have pharmacological efficacy against various skin disorders/diseases, such as rambutan seeds which contain fat, polyphenols, flavonoids, and vitamin C which are good for the skin so that they can be used as ingredients for face masks and are traditional beauty care products that are safer than traditional beauty care products. with modern beauty products. Posbindu partners as representatives of the public in North Cimahi Village need to provide information about skin health, facial skincare, the use of rambutan seed herbs as antioxidants and anti-acne, and skills in making traditional herbal masks from the use of rambutan seeds.

Methods: The method of community service activities for PKM is carried out with skin health counseling, demonstrations, and discussions with 20 Posbindu partner members. Increased understanding of partners is evaluated from the results of the pre-test and post-test during the extension.

Results: The result is an increase in partners' understanding about skin health and care and how to make traditional herbal masks from rambutan seeds with the acquisition of an understanding percentage that was initially 10% increased to 40-100% for each question given.

Conclusion: It can be concluded that this activity is an effort to improve the health status of Posbindu partner families by utilizing rambutan seed waste as a traditional herbal face mask that is safe to use and has efficacy as an antioxidant and anti-acne.

Keywords: anti-acne, antioxidant, herbal traditional face mask, rambutan seeds, *Nephelium lappaceum*

Background

The development of science and technology has had a major influence on the development of drugs from natural ingredients (herbs) for cosmetic products, including cosmetic products such as face masks as skin lightening and anti-acne. Many people still think that taking care of the face with natural ingredients is safer because there is no mixture of chemicals.

Skin health is also one of the visible physical markers that a person is young or old. Skin that is difficult to capture and retain moisture will be damaged and dry (1). Traditional beauty treatments with natural ingredients (herbs) become opportunities or have great potential because they are relatively easy to obtain, such as rambutan seeds which are included in the waste category but have

research results as antioxidants, antibacterial and anti-acne (2). Rambutan seeds contain fatty compounds, polyphenols, vitamin C and flavonoids which have a close correlation with antioxidant efficacy as skin lightening (3,4).

Acne is one of the most common diseases that often occur in adolescents to adults. In Indonesia, the incidence of acne sufferers around 80-85% occurs in adolescents with a peak incidence at the age of 15-18 years, 12% in women aged > 25 years, and 3% at the age of 35-44 years. For people who suffer from acne or have skin disorders on the face, it can cause psychological torment. The appearance of acne can be caused by several factors, namely: genetic factors, hormonal, stress, *Propionibacterium acnes* microorganisms, environmental factors, and the influence of cosmetics (5). A face mask is a beauty mask in the form of a paste, gel, or powder that is applied to the skin area on the face to cleanse and tighten the skin. In terms of pharmacological activity, face masks function to stimulate the circulation of blood flow and lymphatic vessels, improve skin by accelerating the process of cell regeneration, and provide nutrition to skin tissue. There is a simple formulation for making traditional face masks in the form of a paste obtained by mixing rose water and then applying it to the facial skin and waiting for 10-15 minutes until it dries (6).

Rambutan seeds (*Nephelium lappaceum*) are useful waste for making traditional herbal masks because they contain polyphenols (flavonoids and vitamin C), fats, and carbohydrates which are indicated as antioxidants, antibacterial, and anti-acne (7). So that it can be used as an active ingredient in making herbal traditional masks for skin lightening and anti-acne and conveying methods for making and using traditional herbal masks from rambutan seeds to Posbindu partners and the public in general (which was delivered by Posbindu partners).

The method of counseling this PKM community service activity includes providing health education about skin health, the use of herbal ingredients as skin lightening and anti-acne, and how to make traditional herbal masks as anti-acne. The procedure for making traditional herbal masks from rambutan seeds, the process is as follows: (a). Rambutan seeds are cleaned first, (b). Dried rambutan seeds, (c). After drying, the rambutan seeds are mashed using a blender, (d). After being finely ground, the rambutan seed powder is filtered to separate it from the less fine powder, (e). Furthermore, the selected rambutan seed powder is added a little rose water into the rambutan seed flour, (f). The traditional herbal rambutan seed face mask is ready to use. This activity was carried out for Posbindu partner mothers in the working area of Pasir Kaliki Public Health Center, North Cimahi Village, Cimahi City, West Java with a total of 20 Posbindu partner participants. The improvement in understanding and skills of Posbindu partners was evaluated through the results of pre-test and post-test questionnaires during the activities carried out whose data were processed/analyzed by Ms. Excel.

Problem

Posbindu partners in the working area of Pasir Kaliki Public Health Center North Cimahi Village feels that they do not have much health knowledge about skin health and the use of herbal ingredients to maintain skin health and do not have sufficient skills to process plant materials that have herbal efficacy as antioxidants and anti-acne in treating skin, especially the face. Also, this Posbindu partner in North Cimahi Village has never had any training on the use of rambutan seeds as an ingredient in making traditional herbal masks as antioxidants (skin lightening), antibacterial and anti-acne (3).

Table 1. Situation Analysis from Posbindu Partners

Aspect	Mitra Posbindu in North Cimahi Village
Condition	<ol style="list-style-type: none"> 1. Posbindu partners have been formed. 2. Posbindu partners are in the working area of the Pasir Kaliki Public Health Center who are willing to participate in the implementation of various health counseling activities.
Facilities and Infrastructure	<ol style="list-style-type: none"> 1. Multipurpose Building (GSG) RW. 04 Cimindi Raya Complex, Kel. North Cimahi, Cimahi City. 2. The equipment used in the demonstration of how to make traditional herbal masks has been prepared by a team of lecturers and students.
Human Resources	<ol style="list-style-type: none"> 1. Active partners are \pm 20 people. 2. The educational background of partners ranges from SMP, SMA, and D-3. 3. Limited knowledge about skin health, understanding of acne/acne disease, the importance of using herbal ingredients as antioxidants, antibacterial and anti-acne, do not understand how to make traditional herbal face masks from rambutan seeds.
Management	<ol style="list-style-type: none"> 1. Management is still lacking because the number of partners is not enough. 2. The training and guidance obtained regarding health education activities on skin health and the use of rambutan seed herbal ingredients as traditional face masks are still not widely implemented or not optimal. 3. The utilization of rambutan seeds as traditional medicine/cosmetic/nutraceutical products is still lacking.

Methods

This community service is carried out to Posbindu partners in the working area of the Pasir Kaliki Public Health Center, North Cimahi Village. This activity is given to provide counseling/increase understanding to partners who do not understand skin health and its care. Part of the rambutan plant, namely the seeds, has been known to have anti-acne/anti-acne and antibacterial properties (3). The method of implementing this community service activity uses the Community Partnership Program (PKM) scheme in the form of providing understanding (education) of health, diffusion/application of science and technology, or innovation of research results and skills training to partners (8).

Preparation Stage

- a. The team of lecturers coordinated with Posbindu partners and health workers

at Pasir Kaliki Public Health Center in preparing all implementation of extension activities in North Cimahi Village (the working area of Pasir Kaliki Public Health Center, Cimahi City).

- b. Prepare materials about the benefits of antibacterial, anti-acne, the use of herbal ingredients from rambutan seeds and other ingredients, and how to make traditional herbal masks as anti-acne.
- c. Make a simple formulation from a combination of herbal rambutan seeds and various other ingredients as an anti-acne.

Counseling to Posbindu Partners

- a. The objectives of counseling to Posbindu Partners are:
 - 1) Increase the health knowledge of Posbindu partners about the benefits of antibacterial/anti-acne, the use of herbal ingredients, and how to make traditional herbal masks as anti-acne.

- 2) Improve the skills of partners in making herbal ingredients *Simplicia*, namely: herbal ingredients that have been dried for several days so that they can last a long time because the water content is small (<10 %) and avoids microbial contamination. But it can also be used as fresh herbal ingredients for direct use.
 - 3) Improve the skills of partners in making traditional herbal masks from rambutan seeds as anti-acne.
 - 4) Increasing the role of Posbindu partners as agents of change in promoting family health.
- b. Counseling materials, namely in the form of:
- 1) *PowerPoint* soft file material (PPT)
 - 2) Booklet on anti-acne materials, skin health, skincare, the use of herbal ingredients as anti-acne, and how to make traditional herbal masks as anti-acne.

Evaluation of Counseling

Evaluation of counseling was carried out using pre-test and post-test questionnaires to see the improvement of health knowledge and skills delivered. Then the data obtained is processed/analyzed by *Ms. Excel*.

Results and Discussion

Community service with the Community Partnership Program (PKM) scheme is carried out by a team of lecturers and students from the D-3 Pharmacy Study Program, Department of Pharmacy, Poltekkes Kemenkes Bandung, in collaboration with Posbindu partners in the working area of the Pasir Kaliki Public Health Center, North Cimahi Village, to carry out health education and the use of rambutan seeds as a traditional herbal mask that has anti-acne properties and is safe to use (3). The activities that have been carried out can be seen in Figures 1 and 2.



(a)



(b)

Figure 1. Photo documentation when the opening of the health counseling activity was carried out by Dra. Mimin Kusmiyati, M.Si. as the head of the PKM community service team in giving remarks and the entire series of planned activities to all Posbindu partners in the working area of the Pasir Kaliki Public Health Center (a and b).

One type of skin disease that often occurs in adolescents and adults today is acne. One of the causes of acne is infection with the microorganism

Propionibacterium acnes. In a study conducted by Enda, N. (2016) on rambutan seeds against *Propionibacterium acnes* bacteria in vitro with the good diffusion method, data

showed that the ethanol extract of rambutan seeds had concentrations of 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% have antibacterial effectiveness against *Propionibacterium acnes* bacteria as the cause of acne. The polyphenol and flavonoid compounds from rambutan seeds are closely related to their pharmacological activity as anti-bacterial/anti-acne in this test. So the extension team tried to apply the results

of the study as a traditional herbal mask as an antioxidant and anti-acne (3).

One form of facial treatment that has been found and carried out since ancient times to clean the facial area including pores and improve facial skin is by using a face mask. Various dosage forms/types of facial masks are used for facial skincare, such as powder masks, cream masks, gel masks, paper, and cloth masks as well as traditional face masks using natural herbal ingredients (9).



Figure 2. Photo documentation of a series of events in PKM community service activities in the work area of Pasir Kaliki Public Health Center North Cimahi Village which includes: (a). Providing health education about skin health and the use of herbal ingredients from rambutan seeds as anti-acne, (b). Implementation of giving pre-test and post-test questions assisted by the student team, and (c). Photo with the team of lecturers and students in this PKM activity

Rambutan seeds as waste can be obtained very easily when it is a fruiting season and the price of rambutan seed waste is relatively cheap (affordable) and

several Posbindu partners have rambutan plants in their yards. The procedure for making masks has several stages in the formulation, which include:

1. Rambutan seeds are cleaned first after being separated from the rambutan flesh.
 2. After cleaning, the rambutan seeds are dried by aerating at room temperature to obtain a dry material (simplicia) with a moisture content of <10%.
 3. After drying then blended and sifted.
 4. The rambutan seed flour is ready to be mixed with rose water and ready to use.
 5. The mixture is applied to the face evenly and left for 10-15 minutes, then cleaned.
- The process of making traditional masks as anti-acne from rambutan seeds can be seen in Figure 3.

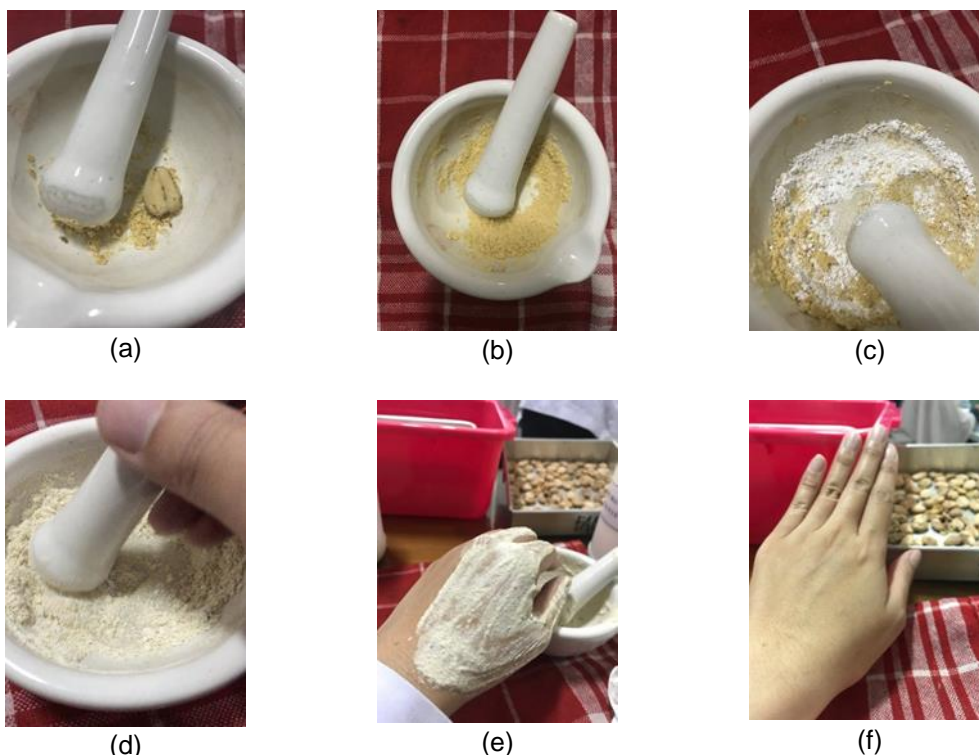


Figure 3. The procedure for making traditional herbal masks from rambutan seeds as an anti-acne

The mask has the benefit of deep cleansing by cleaning the dirt attached to the deeper layers of the skin, binding dead skin cells, repairing skin pores, cleaning the remnants of excess fat on the skin's surface, reducing irritation. skin cleanses the comfort of the skin, smoothes the outer layer of the skin, and nourishes the skin so that it is brighter. Traditional face masks that have been applied to the face area can be removed by rinsing the face with water followed by wiping the face with a damp cloth until clean (10). Oleum rosae used aims to form a good final preparation and cover the distinctive aroma of

rambutan seeds. Masks with natural herbal ingredients are now preferred by the public, especially for women because they are considered to have fewer serious side effects from the impact of using masks and are more natural than the composition of the ingredients used. The use of traditional herbal masks is also more efficient and economical compared to those mixed with certain chemicals (10).

Masks made from natural plant parts are widely used, except rambutan seeds. Its manufacture is also relatively easy and tends to be safe to use. In the

current condition of the Covid-19 pandemic, it affects people's lifestyles so that they are more effective and efficient in managing spending on skincare products/types of cosmetics used. People today are starting to realize the importance of using skincare products/cosmetics from natural herbal ingredients to minimize skin contact with various types of chemicals and easy access in finding various information about the use of natural ingredients that can be used in skincare/cosmetic products in the current technological era (11).

After providing health insight about the skin, the use of herbal ingredients from rambutan seeds, and demonstrations on how to make traditional herbal masks as anti-acne. Then the data processing of the average percentage value obtained from the

results of the pre-test and post-test that has been given to Posbindu partners is carried out. The increase in the average post-test percentage value for each question can be seen in Figure 4. Evaluation of improving the understanding of skin health and the use of rambutan seed herbal ingredients as an anti-acne in principle is to see and know the processes that occur in the learning process. The learning process carried out includes input, transformation, and output then evaluation is carried out. Pre-test and Post-test are one form of learning evaluation (12). The post-test is the opposite of the pre-test to evaluate which is carried out by the extension team at the end of each presentation of the material to determine the level of understanding obtained by Posbindu partners on the material that has been delivered.

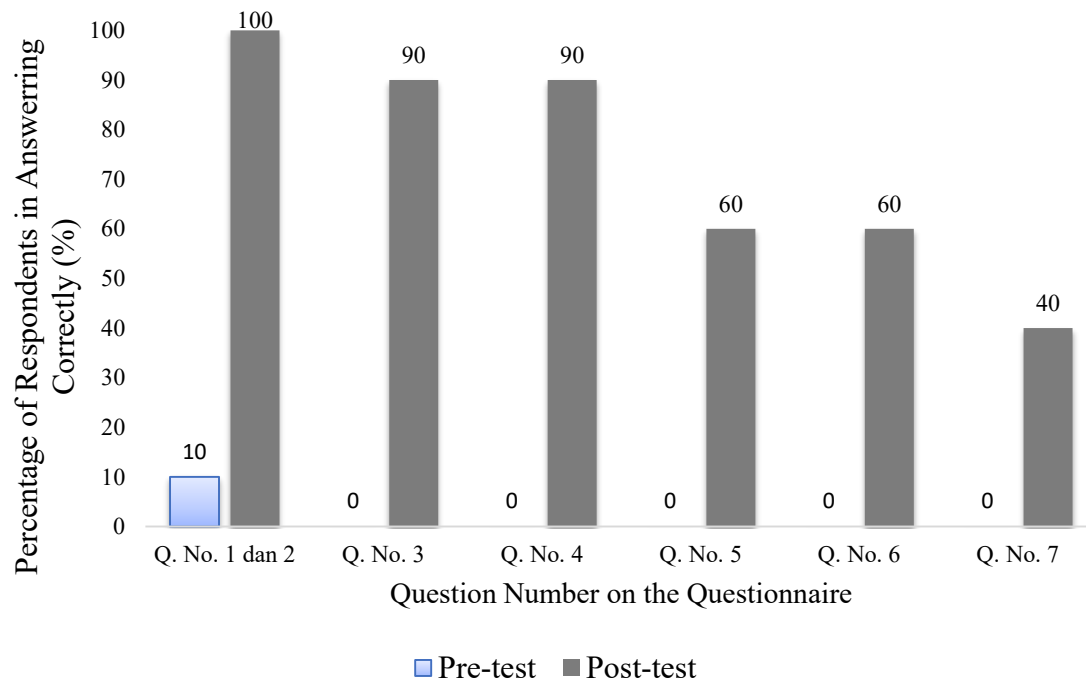


Figure 4. Bar chart of the results of the pre-test and post-test to increase health understanding about skin health, the use of herbal ingredients, especially rambutan seeds, and how to make traditional herbal masks as anti-acne

The results of the data in Figure 4 show that Posbindu partners have increased understanding so that they can apply and disseminate health education and how to make traditional herbal masks as anti-

acne to other family members/public so that health status within the family scope increases. Especially those related to skin problems and their natural treatment by

utilizing the waste of rambutan seeds as a traditional face mask as an anti-acne.

After the implementation of community service, the Community Partnership Program (PKM) is completed, Posbindu partners can apply the skills of making traditional herbal masks as anti-acne to become part of entrepreneurship to be able to increase income with knowledge about entrepreneurship obtained during outreach activities.

Conclusions

The implementation of community service activities for the Community Partnership Program (PKM) has been running smoothly by the agreement and joint planning. The outputs of this activity are increasing understanding of health, especially about skin health in the facial area, understanding of the use of herbal ingredients, and skills in processing rambutan seeds as ingredients for making traditional herbal masks as anti-acne which are safe to use using natural ingredients. natural herbs, tools that are simple and easy to obtain. The development of community service activities can then use other types of plants/herbs that allow the community to apply them within the scope of their respective families or become products that have economic value as cosmetic products with more complete testing including cosmetic product stability tests, hedonic tests, and other tests when it will be commercialized.

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