

# The Education of Home Herbal Utilization As Healthy Drink for Virus Antidote

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**Abstract** The herbal drink in Indonesia has a fast development for its easy usage and minimum side effect. Some house plants have metabolite compounds with an important role as antiviral such as rosella (*Hibiscus sabdariffa*), *Curcuma domestica* Val, *Zingiber officinale*, *Cymbopogon citratus*, and *Pandanus amaryllifolius* R. The purpose of our community empowerment activities was to introduce the benefits of house plants for supporting health, particularly as an antiviral during a pandemic. The method of community empowerment activities was carried out by explaining the example of home plants, their bioactive compound content, and their health benefits. The community was also taught to make simple and practical healthy drinks. The results showed that the community became more aware of the benefits of roselle and turmeric so that they did not doubt making a healthy drink to be consumed regularly during the pandemic. The results showed that about 85% of the community understood the benefits, and 90% were able to make herbal drinks. The conclusions of these community empowerment activities were going well. The community understood the benefits of house plants as an antiviral during a pandemic and succeeded in making simple healthy drinks from house plants.

## 1. INTRODUCTION

Health is the most important thing in life and is very influential on the continuity of activities. The pandemic affect health and community activities in carrying out their activities. Thus, people need more virus antidotes so that they can carry out their activities smoothly (Yuliana, 2020). Currently, drink or food contains ingredients that can improve health and prevent disease. Health drinks are drinks with ingredients with active compounds which contribute to body health (Sukmawati & Merina, 2019).

Based on Law Number 36 Year 2009, health is physical, mental, spiritual, or social health that everyone enables to productive lives socially and economically. Development in the health sector is inseparable from national development. These efforts can be made through the application and use of house plants as herbal drinks independently in the community.

Examples of efforts that can be made to increase community immunity during the community service activities with the use of herbal ingredients are easy to find, safe for consumption, and nutritious to maintain endurance. Herbs are natural things that come from nature and have minimal side effects when consumed (Herdiana et al., 2014). Plants can be used for body health when we are sick and are highly recommended for routine. Indonesia is a country that has many nutritious herbal plants with antioxidant content.

Rosella is an herbal plant that has been studied extensively for its efficacy and bioactive compounds. Rosella flowers contain vitamins, minerals, and bioactive components such as organic acids, phytosterols, and polyphenols, and some of them have antioxidant activity. Important content that acts as an antioxidant on rosella

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flower petals is anthocyanin pigments belonging to the flavonoid group.

*Curcuma domestica Val* is a rhizome that is commonly cultivated in the tropics and subtropical. This plant is widely used as a spice for herbs. Curcumin content in *Curcuma longa L* has a lot of efficacy for treatment such as anti-inflammatory, anticancer, and increasing immunity which is required during a pandemic era (Li, 2011).

Cinnamon is expected to be effective as an antioxidant and antibacterial so that it can be applied as a natural antioxidant and food preservative. Cinnamon has natural antioxidant activity because Cinnamon extract contains cinnamaldehyde, eugenol, trans-cinnamic acid, phenolic compounds, and tannins. These plants will bring additional value.

These community empowerment activities aim to introduce to the community the benefits of house plants for health, especially as an antiviral during a pandemic. After implementation, we hoped that the public would know the types of herbal ingredients and their benefits and would be able to process these ingredients into herbal drinks. Under the next condition, people would have good immunity. There are no side effects from the use of herbal ingredients in the long term, and we could save costs to keep the body healthy.

## 2. METHOD

The service is implemented in a workshop for education about the Utilization of Home Herbal Plants (*Rosella, Curcuma domestica Val, Zingiber officinale, Cymbopogon citratus, and Pandanus*) as healthy drinks for virus antidote. The activity was done on March 27<sup>th</sup> - 29<sup>th</sup>, 2021, at the women’s association of Jatim Bank Kediri city.

In the first stage, the community was introduced to the types of house plants that have health benefits. Further, The community is taught to make simple healthy drinks that are practical to use. This activity has received permission from the Bhakti Wiyata Institute of Health Sciences and the Women Association of Bank Jatim in Kediri City. The method of the education was carried out by discoursing to explain of *Rosella, Curcuma domestica Val, Zingiber officinale, Cymbopogon citratus, and Pandanus* and their content of bioactive compounds and their benefits for health.

The subjects of the education are the association of women from Jatim Bank. The raw materials were needed in the manufacture of herbal drinks such as roselle stew and mixed with other plants (stew of ginger, turmeric, lemongrass, pandan, or other ingredients). Ingredients were dried *Rosella, Curcuma domestica Val, Zingiber officinale, Cymbopogon citratus, and Pandanus* which were drunk with hot water or boiling. Instruments needed in making herbal drinks are very simple and do not require special tools, mix enough of these ingredients in hot water.

The stew was filtered, cooled, and ready to drink, or it can also be added with palm sugar for a sweeter taste. The result of this activity was an understanding of the benefits and how to make herbal drinks during the

pandemic, which can be seen based on the community’s success in independently making herbal drinks. The method of the community empowerment activities is carried out by discoursing short demonstrations. Descriptive analysis was used to describe knowledge about the benefits of herbal plants and the success of making herbal drinks independently after education.

## 3. RESULT AND DISCUSSION

Education success levels were shown in the success of making herbal drinks independently. This education is done to teach about how to make herbal drinks, enthusiasm public increased and became aware of benefits of the home plants that are processed into herbal drinks. The community was not aware of the ingredients of the herbal drink, the benefits of the ingredient, and how to make herbal drinks.

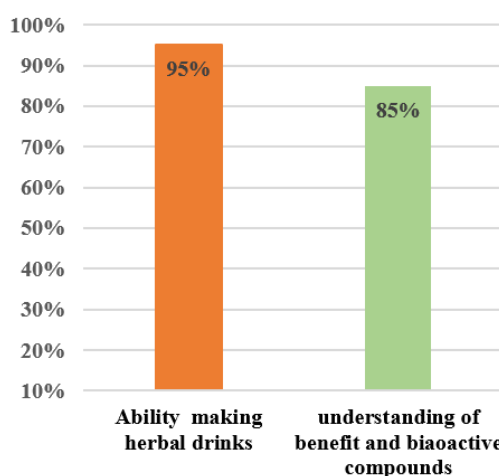


Figure 1 . The percentage of the ability to make herbal drinks and understanding of the benefit and bioactive compounds of home plants

Some people have understood the benefits of home plants as herbal drinks and how to make them, and it was shown an ability to make herbal drinks independently. The subjects were divided into groups to practice making herbal drinks directly after discoursing and a short demonstration. First, the subject is introduced to examples of house plants that can be utilized as traditional medicinal ingredient. All subjects were also given an explanation of the metabolite compounds in these plants and examples of formulations for making herbal drinks.

Table 1 . Ingredients for making herbal drinks during the pandemic

No	Ingredient	Quantitative
1	<i>Hibiscus sabdariffa</i> (Rosella petals dry)	3 petals
2	<i>Curcuma domestica val</i>	1 segment
3	<i>Zingiber officinale</i>	1 segment
4	<i>Cymbopogon citratus</i>	2 sheets
5	<i>Pandanus</i>	2 sheets
6	<i>Cinnamomum</i>	sufficiently
7	Palm Sugar	sufficiently
8	Water	sufficiently

**Table 2.** Plant data, content of bioactive compounds and their benefits as antiviral

No	Ingredients	Bioactive Compounds	Benefits
1	<i>Hibiscus sabdariffa</i> (Rosella petals dry)	Vitamins (C, D, B1, B2), Calcium 486 mg, omega 3, magnesium, Beta carotene, and essential amino acids such as lysine and agrinine (Indonesian Health Department, 2000) and Anthocyanins (Mardiah et al., 2017)	The health drink can treat various diseases such as hypertension, diabetes, and diuretics. Antioxidant (Mardiah et al., 2017)
2	<i>Curcuma longa L</i>	Curcumin and essential oils (Li, 2011). Alkaloids, flavonoids, and tannins (Mardiah et al., 2017).	Appetite enhancer, wound medicine, itchy rash, and cosmetic ingredients. Antioxidant (Yamamoto et al., 2005)
3	<i>Zingiber officinale</i>	Magnesium, Phosphorus, Zinc, Folic Acid, Vitamins (B6, A, riboflavin) and niacin, gingerol, beta carotene, capsaicin, caffeic acid, curcumin, and salicylate (Friska & Daryono, 2017). Essential oil (zingiberin, camphor, lemonin, borneol, shogaol, cineol, fellandren, zingiberol, gingerol, zingeron)	Aleviating flu, reducing pain for menstruation, and increasing heart health (Friska & Daryono, 2017)
4	<i>Cymbopogon citratus</i>	Essential oils, saponins, polyphenols, and flavonoids (Bassolé et al., 2011)	Maintain body fitness, mouthwash Antibacterial (Bassolé et al., 2011)
5	<i>Pandanus</i>	Flavonoids, alkaloids, saponins, tannins, polyphenols, and dyestuffs, essential oils (Djenar et al., 2020)	Overcoming aches and pains and hair fall. Dandruff medicine, black hair, overcoming no appetite (Djenar et al., 2020)

The results showed that about 85% of the community understood the benefits, and 90% could make herbal drinks according to the stages properly and smoothly (Figure 1). Some direct questions were given to workshop participants that could be answered well. The recipe for the herbal drink is shown in Table 1.

The importance of healthy food and drink which come from nature, such as from nutritious plants, helps the body to get natural antioxidants so as not easy to get illness (Pereira et al., 2020). The community has been familiar with these home plants but did not understand the benefits of plants in health. Finding balanced healthy and nutritious food and drink must be supported by a healthy lifestyle and learning to process and consume food with balanced nutrition (Sitoayu, 2018).

#### 4. CONCLUSION

The Community empowerment activities were done at the women Association of Jatim Bank, Kediri City. It was about making home herbal drinks during the pandemic for the utilization of plants around the house. The method of education is carried out by discoursing to explain the example home plants, their content of bioactive compounds, and their benefits for health. People were also taught to make simple and healthy drinks that are practical to boost their immunities and to treat illnesses. this community empowerment activity was successful. People from not knowing to understanding the benefits of home plants as herbal and healthy drinks that can be consumed regularly during a pandemic. The community became more active in asking questions to the presenters, an increase of about 85% compared to before the education was given.

The conclusion of the community empowerment generates knowledge and skills for Women Association of Jatim Bank Kediri City in the formulation of herbal drinks by utilizing house plants.

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#### CONFLICT OF INTERESTS

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