

## Empowering Housewives in Making Clitoria Ternatea Tea for Reducing Stress

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### ABSTRACT

The occurrence of the COVID-19 pandemic has caused many people to experience anxiety and difficulties, both because of the impact of decreased body immunity. A few people who suffer from COVID-19 experience stress, changes in concentration, irritability, decreased productivity, interpersonal conflicts, and insomnia. Insomnia can lead to physical and psychological health problems. This psychological health affects insomnia which causes anxiety, depression, and even memory loss. Stress is a form of physical, psychological, emotional, or mental tension that is considered a threat that causes anxiety, depression, social dysfunction and even the intention to end one's life. The solution to deal with this is by utilizing the clitoria ternatea (butterfly pea). The implementation of this community service was conducted on September 18, 2022 in RW.014, Kelapa Dua Village, Tangerang Regency by provided education about the benefits of clitoria ternatea. Participants in this community service are all housewives in RW.014, Kelapa Dua Village, Tangerang Regency with the aim of providing information about the benefits of clitoria ternatea and improving skills on how to make clitoria ternatea tea. This community service regarding the clitoria ternatea contributes to increasing the knowledge and skills of housewives to apply the making of clitoria ternatea tea drinks. After being educated about the clitoria ternatea and its benefits, housewives became more motivated to made a clitoria ternatea tea drink and apply it for themselves, their families, and some of them inspired to start a home industry business.

**Keywords** : Empowering Housewives, Clitoria Ternatea Tea, Stress

### INTRODUCTION

The COVID-19 pandemic induce many people cause to be experience of anxiety and difficulties because of the impact of declining health itself and in terms of the economy. Not a few people who suffer from COVID-19 experience stress, changes in concentration, irritability, decreased productivity, interpersonal conflict, and insomnia (Brooks et al., 2020; Morin & Carrier, 2020). A survey conducted by GridHEALTH with 100,000 members in the Survivor Crop Facebook group, more than 1,500 people stated that they experienced insomnia or difficulty sleeping during the COVID-19 pandemic (Hartono, 2020). Insomnia can also cause problems with physical health, such as heart disease, high blood pressure, obesity, diabetes, impaired immune system and decreased sexual stimulation. In addition, psychological disorders will also affect the consequences of insomnia, which can cause anxiety, depression, and even memory loss (Rimbawan & Ratep, 2016).

Stress is a form of tension from physical, psychological, emotional and mental. Stress would be seen as a threat that would lead to anxiety, depression, social dysfunction and even the intention to make away with oneself. Divide the stress level into four levels, namely mild, moderate, severe, and very heavy stress (Tabroni et al., 2021). Meanwhile, depression is a mental illness that affects a person's feelings, physical health and behavior. Approximately 30% of patients suffering from depression do not respond to drug therapy and 70% of patients fail to achieve complete recovery (Adelina, 2013).

The solution to overcome from depression is use non-pharmacological therapy by utilizing the clitoria ternatea or commonly called butterfly pea. Butterfly pea is a special herb in traditional medicine. All parts of the clitoria ternatea, from the roots to the flowers are believed to have a

healing effect and strengthen the performance of the organs (Marpaung, 2020). The root of the clitoria ternatea (*Clitoria ternatea* L) can be used as an antidepressant because it contains saponins, alkaloids, flavonoids, fatty acids, delphinidine 3,3',5' triglucosides, phenols and betasitosterol (Adelina, 2013). Although the type of compound that acts as an antidepressant is not yet known, at least *Clitoria ternatea* has been shown to increase the amount of acetylcholine and acetylcholinesterase activity in the brain. Oral treatment using an alcoholic extract of *Clitoria ternatea* at a dose of 460 mg/kg body weight significantly prolongs the time required to traverse the maze, as produced by chlorpromazine in anxious rats. Animals treated with *clitoria ternatea* at a dose of 100 mg/kg showed a significant increased in infection ratio and discrimination index providing evidence for nootropic activity (Chauhan et al., 2012). A review study conducted by (Jamil & Pa'Ee, 2018) concluded that *clitoria ternate* can be an antimicrobial agent against selected microorganisms using its leaf, flowers, stems and roots.

Based on the problems that arise, the authors want to empowered the community by making *clitoria ternatea* tea drink to improve the economy and support health, including the benefit for antidepressants. The output is to publish a sinta indexed community service journal.

## METHOD

The kind of this community service were systematic, was included coordinate with the head of RW. 014, provided information about *clitoria ternatea*, provided skills about make *clitoria ternatea* tea drink, and at least made a final report. This community service conducted by empowering housewives. Community empowerment is a social action carried out in a community or society by making plans and actions to solve social problems or meet social needs in accordance with existing capabilities and resources (Hamid, 2018).

This community service activity was conducted in RW.014, Kelapa Dua Village, Tangerang Regency on September 18, 2022. Participants in this community service program were all housewives in RW.014, Kelapa Dua Village, Tangerang Regency. The target in this community service program is to provided information and improved skills on how to made *clitoria ternatea* tea drink, along with its benefits. The involvement of partners in this community service program is coordinated with the head of RW.014 and housewives in RW.014, Kelapa Dua Village, Tangerang Regency.



**Figure 1.** Filling the Questionnaire



**Figure 2.** Giving Explanation about Making *Clitoria Ternatea* Tea Drink and The Benefits

**RESULTS AND DISCUSSION**

The results of the implementation of activities in community service are shown in the distribution table for the consumption of clitoria ternatea in the table 1

**Table 1.** Distribution of Clitoria Ternatea’s Consumption for Pre-Test

Clitoria Ternatea Consumption	Yes		No	
	n	%	n	%
Consumption of clitoria ternatea	9	30	21	70
Hear about clitoria ternatea	19	63.3	11	36.7
The benefit of clitoria ternatea	13	43.3	17	56.7
Consumption of clitoria ternatea in other’s shape (except clitoria ternatea tea drink)	2	6.7	28	93.3
<b>Total</b>	<b>30</b>	<b>100</b>	<b>30</b>	<b>100</b>

Source : Processed Data, 2022.

**Table 2.** Distribution of Clitoria Ternatea’s Consumption for Post-Test

Clitoria Ternatea Consumption	Yes		No	
	n	%	n	%
Consumption of clitoria ternatea	9	30	21	70
Hear about clitoria ternatea	30	100	0	0
The benefit of clitoria ternatea	25	83.3	5	16.7
Consumption of clitoria ternatea in other’s shape (except clitoria ternatea tea drink)	2	6.7	28	93.3
<b>Total</b>	<b>30</b>	<b>100</b>	<b>30</b>	<b>100</b>

Source : Processed Data, 2022.

The results of the implementation discussed the interpretation and discussion of the results of community service activities, the limitations of this community service activity focussed on the benefits of community service activities for respondents, respondent’s families and healthy lifestyle. The results of this community service activity showed that the community did not know much about the clitoria ternatea.

**Consumption of Clitoria Ternatea**

Based on table 1 on the question item on the consumption of clitoria ternatea tea drinks, it can be concluded that there are 21 respondents (70%). Meanwhile, 9 respondents (30%). So, it can be concluded that most of the respondents have never consumed a clitoria ternatea drink. Regular consumption of clitoria ternatea drinks can help you lose weight because it is a diuretic, regulates blood sugar levels, and lowers cholesterol. In addition, clitoria ternatea tea drink can also contribute to relieving stress. The best way to drink clitoria ternatea tea is to brew enough dried clitoria ternateas with hot water. Drink the clitoria ternatea tea one hour before or after meals (Ikhwan et al., 2022).

According to a research study (Handito et al., 2022) consumption of 2 g of clitoria ternatea dissolved in 400 ml of water or equivalent to 2.16 mg of delfinidine 3-glucoside can reduce blood sugar levels in 15 men with an average age of 22.53. years with an average body mass index of 21.57 kg/m<sup>2</sup> who were given a diet drink containing 50 g of sucrose. Thus, it has been shown to reduce blood sugar levels, so that it can reduce a person's risk of developing diabetes mellitus.

**Hear about Clitoria Ternatea**

Based on table 1 in the second question, there were 19 respondents (63.3%) who had heard of clitoria ternatea. Meanwhile, 11 respondents (36.7%) who never heard about clitoria ternatea. So it can be concluded that most of the respondents have heard about the clitoria ternatea. After being educated about the clitoria ternatea on the post-test results, all respondents showed that they had heard about the clitoria ternatea as many as 30 respondents (100%).

Butterfly pea is a vine that resembles a butterfly with the Latin name *clitoria ternatea*, usually grows in tropical areas, usually found in yards or forest edges. The flower of *clitoria ternatea* has vivid, deep-blue, and white colouration. The colouration of *clitoria ternatea* usually used as a natural colourant in some food (Muhammad Ezzudin & Rabeta, 2018). Plants belonging to this leguminous tribe originated in tropical Asia, but have now spread throughout the tropics. This plant besides growing wild can also be planted in the yard as an ornamental plant. The *clitoria ternatea* belongs to the Papilionaceae or Fabaceae (legumes) tribe (Gollen B et al., 2018).

#### **The Benefit of Clitoria Ternatea**

Based on table 1 on the respondents' knowledge of the benefits of *clitoria ternatea*, it can be concluded that there are 13 respondents (43.3%). While respondents who already know the benefits of *clitoria ternatea* there are 17 respondents (56.7%). So it can be concluded that most of the respondents already know the benefits of *clitoria ternatea* even though they only know some of the benefits, namely to treat the eyes. After the post test, the results showed that 28 respondents (93.3%) said they already knew the benefits of *clitoria ternatea*. And the remaining 2 respondents (6.7%) said they did not know about the benefits of *clitoria ternatea*.

*Clitoria ternatea* can be used as a base for rice. Benefits for Health, namely to improve brain memory, reduce stress, help improve eye health, help relieve asthma, have anti-cancer potential, overcome diabetes, prevent the growth of microorganisms, lose weight, and maintain heart health (Chayaratanasin & Et al, 2019; Mahmud et al., 2018; Marpaung, 2020).

Antioxidant activity in managing oxidative stress in biological systems takes place through various mechanisms, such as free radical scavenging, inhibition of oxidative enzymes, as metal ion chelators, and as cofactors of antioxidant enzymes (Lakshan et al., 2019). The publication in the "International Journal of Pharmacognosy and Phytochemical Research" tested the rhubarb and its ingredients. The result, cancer cells can die up to 63.8 percent because of the flavonoid content in the *clitoria ternatea*, such as kaempferol, delphinin and quercetin. There are at least four mechanisms of an active substance component to fight cancer, namely antiproliferative activity (prevent or slow the spread of cancer cells, inhibition of angiogenesis (formation of new blood vessels), induction of apoptosis (cancer cells commit suicide), and prevention of metastasis.

#### **Consumption of Clitoria Ternatea in Other's Shape (except *clitoria ternatea* tea drink)**

Based on table 1 in the fourth question regarding the consumption of *clitoria ternatea* in other forms (besides *clitoria ternatea* tea drink) there are 2 respondents (6.7%) who have consumed *clitoria ternatea*, in the form of *clitoria ternatea* rice, cakes, donuts, and steamed sponge. Meanwhile, respondents who had consumed *clitoria ternatea* in other forms (other than *clitoria ternatea* drink) were 28 respondents (93.3%).

*Clitoria ternatea* can be used as a dye that can give blue and red colors due to the presence of anthocyanin compounds. This content has good stability in providing local natural color in the food industry. Therefore, *clitoria ternatea* can be used as a coloring agent for food (Handito et al., 2022).

### **CONCLUSIONS AND SUGGESTIONS**

The implementation of community service is carried out by providing education about the benefits of *clitoria ternatea* on September 18, 2022. This community service about *clitoria ternatea* contributes to increasing knowledge and skills for housewives to apply the making of *clitoria ternatea* tea drink. After being educated about the *clitoria ternatea* and its benefits, housewives became more motivated to make a *clitoria ternatea* tea drink and apply it for themselves, their families, and some of them inspired to start a home industry business.

The suggestion for this community service is hoped that with this community service activity, the community would become more aware about *clitoria ternatea* and its health benefits. In addition, housewives are expected to be able to implement the manufacture of *clitoria ternatea* tea drinks both for consumption by themselves, their families and as a business that can be developed to increase their income. So that it can be used as a non-pharmacological alternative

in reducing stress levels or other health problems in accordance with the benefits of the clitoria ternatea itself.

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