

## **Intra HerdiC: Indonesian Traditional Herbal Medicine stop Covid-19**

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### **ABSTRACT**

Covid-19 pandemic is still a threat to all countries including Indonesia. Until May 2021, the Covid-19 pandemic in Indonesia has been going on for more than a year. According to World o Meters data, Indonesia is in the top 20 in Asia as a country with the spread of covid-19. Based on data from Merdeka.com, covid-19 cases during May 2021, positive cases of Covid 19 increased by 4,871 to 1,753,101 cases. Patients recovered increased by 4,364 to 1,616,603 people. The number of patients who died increased by 192 to 48,669 people.

During a health crisis due to the Covid-19 pandemic that has not yet ended, traditional medicine is an alternative that can be used by the community to break the chain of transmission and maintain body immunity. The Ministry of Health of the Republic of Indonesia advises the public to reuse traditional medicines in the form of herbs, standardized herbal medicines, and Phyto-pharmacy through the Surat Edaran Dirjen Pelayanan Kesehatan number HK.02 / 02 / IV / 2243/2020 concerning the Use of Traditional Medicines for Health Care, Disease Prevention and Health care. The World Health Organization (WHO) welcomes various innovations around the world including the use of traditional medicines and developing new therapies to seek potential treatments for Covid-19.

One of the effective alternatives to traditional medicine that can be used to increase a person's immune system is Jamu. Jamu is a traditional Indonesian herbal medicine that has been used for centuries in Indonesian society to maintain health and treat diseases. Jamu has extraordinary health benefits because it consists of spices such as ginger, turmeric, betel leaf, tamarind, and honey which are considered to increase

endurance. Turmeric as the main ingredient of Intra HerdiC has antioxidant and antibacterial benefits due to the role of curcumin compounds (Chan et al., 2011). Ginger (*Zingiber Officinale*) is used as an ingredient in herbal medicine because it contains essential oils with active chemical compounds, which are efficacious in preventing and treating various diseases (Santoso, 2008). Some literature states that betel leaf has antibacterial potential (Jenie et al., 2011), antioxidants, and antithyrosins and contains bioactive compounds in the form of groups phenolic, flavonoids, and caffeoylquinic acid (Tan et al., 2014). Turmeric contains curcumin compounds that have many benefits, such as antioxidants, anti-inflammatory, antibacterial, and antiviral properties, which are very suitable if used to increase immunity to stay healthy during a pandemic.

There are many benefits contained in herbal medicine, resulting in high demand for drugs traditional herbal medicine during the Covid-19 pandemic. However, herbal medicine which is believed to be able to increase immunity and health has a bitter and unpleasant taste, and the additional ingredients used are often not from agricultural organic ingredients. The technique of making and packaging herbal medicine which is still done traditionally also causes Indonesian people or the millennial generation to be reluctant to consume herbal medicine. So far, most of the medicinal herbs in circulation tend to pay less attention to hygiene aspects in their production, so that often in herbal medicine there are bacteria that are harmful to health.

Responding to these opportunities and challenges, Intra HerdiC is here as an innovation of traditional herbal medicine that is safe, high quality, and efficacious using local resources, using organic agricultural ingredients, and has a display and packaging that can arouse the taste of the community and millennial generation to consume herbal medicine. The noble goals of the creation of Intra HerdiC are (1) suppressing and breaking the chain of the spread of the Covid-19 virus through increasing the body's immunity by consuming Intra HerdiC. (2) Safeguarding and preserving the traditional herbal drink/medicine which has been passed down for centuries to the Indonesian

people. (3) Prosperity of local farmers by increasing their economic income from the sale of the main ingredient for making Intra HerdiC.

The main ingredients of Intra HerdiC are ginger, turmeric, and tamarind. Apart from these main ingredients, other ingredients are also added to add flavor and give an appetizing aroma such as cinnamon, lemongrass, betel leaf, and palm sugar. In the process of making Intra HerdiC tamarind fruit used is  $\pm$  9 months old. Next, the brown fruit is selected, and the seeds are separated. The mixture is then added with water in a ratio of 1: 4, then boiled in boiling water with a ratio of 1: 4 for 2.5 minutes and 5 minutes then the filtrate is taken for analysis. The next step is peeled turmeric rhizome, weighed 250 g, washed, and then added with water according to the treatment, then blended for 3.5 minutes and then separated the filtrate. The turmeric filtrate is boiled for 3 minutes, added 0.5 kg of palm sugar, and ginger filtrate. Intra HerdiC was chilled. In the next step, HerdiC is added with honey as a bitter taste remover. The Intra HerdiC that has been made will then be tested.

The results obtained from the Intra HerdiC test, namely tamarind extract with a cooking time of 2.5 minutes gave the best results with a total phenolic value of 0.75 g GAE / 100 g tamarind extract, and antioxidant capacity of 0.053% tested by the DPPH method and 0.252 mg of vitamin C. / 100g. The formula for tamarind turmeric drink with the highest antioxidant activity and is preferred is a formula with 5 parts of turmeric, 25 parts of tamarind leaves, and 70 parts of water which has a total phenol of 1.06 g GAE / 100 g of beverage formula, 0.123% antioxidant capacity, vitamin C 0.688 mg / 100 g and overall reception of 4.06.

Based on the test results, Intra HerdiC has advantages, namely (1) Intra HerdiC has a variety of compounds that can increase the body's immunity, such as essential oils with active chemical compounds, curcumin compounds, and bioactive compounds in the form of phenolic, flavonoid and caffeoylquinic acid groups, so they are effectively used. to prevent the spread of Covid-19. (2) Intra HerdiC is produced with attention to hygiene aspects so that it is safe for consumption by various groups of people, from children to adults. (3) Additional materials for the production of Intra

HerdiC are also obtained using organic agricultural products in the Kintamani and Bedugul areas. (4) Intra HerdiC has sweet and refreshing taste so it is suitable for consumption by the millennial generation. The sweet taste is obtained from the addition of fresh honey which is produced by farmers around the Kintamani and Bedugul hills. So, Intra HerdiC as an innovation for traditional Indonesian drinks is very suitable for consumption by the public that are effectively used to prevent the spread of Covid-19.

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