Determinant Factors of the Consumption on Traditional Herbal Medicine as Processed Biopharmaceutical Products Post Covid-19 Pandemic in the Special Province of Yogyakarta, Indonesia

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ABSTRACT

The Covid-19 pandemic has created a significant economic recession in almost all countries in the world, including Indonesia. Almost all economic sectors experienced negative growth except for the agricultural sector with positive growth. One of the agricultural commodities suspected of experiencing rapid growth in demand is biopharmaceutical plants processed into herbal products as traditional herbal medicines. Consumers consume traditional herbal medicine intending to get the benefits of improving health, especially during this Covid-19 pandemic. This study aims to determine the factors that influence the consumption of traditional herbal medicine after the Covid-19 pandemic. This research was conducted in The Special Province of Yogyakarta with locations in all regencies and city and involved 85 respondents. The data used are primary data obtained through a questionnaire and analyzed using OLS regression. The dependent variable is the consumption of traditional herbal medicine. The independent variables include the number of male family members, the average age of family members, education, price of herbal medicine, consumption of herbal medicine before the pandemic, dummy having been exposed to the Covid-19 virus, cleanliness and characteristics of herbal medicine. The results showed that the factors that significantly affected the consumption of traditional herbal medicine were the price of herbal medicine, consumption of herbal medicine before the pandemic, and product characteristics. While the factors that had a significant effect on reducing the consumption of traditional herbal medicine were the average age of family members, and the dummy had been exposed to the Covid-19 virus. Other factors in the model do not affect the consumption of traditional herbal medicine in The Special Province of Yogyakarta after the Covid-19 pandemic.

Keywords: biopharmaceutical, consumption, Covid-19 pandemic, traditional herbal medicine

1. INTRODUCTION

The Covid 19 pandemic has had a tremendous impact on the economy in almost every country in the world, including slowing down business activities, reducing production, and increasing unemployment and income uncertainty. Significant economic recession experienced by all countries, including in Indonesia [2]. All of the Indonesian economic sectors are most experienced negative growth. However, the agricultural sector became one of the sectors that experienced positive growth of 1.75%, while the horticulture sub-sector became the sub-sector with the highest growth of 4.17% [3]. Horticulture subsectors become one of the economic contributors that are considered sufficiently from the agricultural sector. One of the commodities that enter the horticulture sector is including biopharmaceutical plants that are currently trusted and sought after and closely related to the covid 19 pandemic [4].

Biopharmaceutical plants are very attached to the type of plants that are sought for health purposes. The Covid 19 pandemic is a very massive issue in terms of threatening the health of humanity that has an impact on the incidence of death. Biopharmaceutical plants are believed to help a person to maintain their health in the face of the covid 19 pandemic. Even most of them believe healing from covid-19 infection can be done through this plant. [5]

In Indonesia, especially in The Special Province of Yogyakarta, biopharmaceutical plants are often processed into a type of herbal drink, namely herbal medicine, or often referred to as traditional herbal medicine. This research aims to find out what affects the consumption of traditional herbal medicine as a biopharmaceutical processed product in The Special Province of Yogyakarta. The novelty of this study is to include the issue of the Covid-19 pandemic as one of the phenomena that are strongly suspected to affect the consumption of traditional herbal medicine in The Special Province of Yogyakarta.

2. METHODOLOGY

The basic method used is the descriptive method of analysis. This study seeks to uncover what factors affect a person's herbal consumption during this pandemic. This study was conducted in Indonesia precisely in the Special Province of Yogyakarta in mid-2021. The study was conducted across an area covering four counties and one city. This is where the respondents who participated in this study were as many as 85 respondents. These respondents are people who consume hours after Sonang with various types of processed biopharmaceutical commodities. Respondents were selected using the Incidental sampling method, i.e., anyone encountered and met the requirements to contribute to the study.

The data used are primary data that is data obtained through the first source. The data was obtained through the help of questionnaires. The data that has been obtained is analyzed to answer the purpose of using OLS regression following the following formula:

$$C = \beta_0 + \beta_1 LnFam + \beta_2 LnAge + \beta_3 LnEdu + \beta_4 LnPrc + \beta_5 LnCbp + \beta_6 Dcv + \beta_7 Cln + \beta_8 Char$$

Description:

C   : the consumption of traditional herbal medicine (Rp)

Fam : number of male family members (number)

Age : the average age of family members (number)

Edu : education (year)

Prc   : price of herbal medicine (Rp)

Cbp : consumption of herbal medicine before the pandemic (Rp)

Dcv : dummy exposed to the Covid-19 virus (0,1; 1 for exposed)

Cln   : cleanliness of herbal medicine (index: 1-5)

Char : characteristics of herbal medicine (index: 1-5)

This regression equation should, of course, be further tested. The resulting regression results must be normally distributed and meet some classical assumptions, including heteroscedasticity and multicollinearity.

3. RESULT AND DISCUSSION

The covid-19 pandemic has had a tremendous impact both on the economic side and health. There are many people in Indonesia who have been exposed to the Covid-19 virus. In terms of economic impact, many companies, especially private, have experienced a recession that has an impact on unilateral job cuts by companies. In addition, there are many sectors of industry and services that must stop their economic activities temporarily. This situation has an impact on the reduced income of the community and also their purchasing power. In terms of health, many Indonesians are sick from exposure to Covid-19 either directly or indirectly. The direct impact can be in the form of health problems to death. The impact is indirectly related to the increasing stress power of the community because of the large number of people exposed to this disease.

Public perceptions began to form in an effort to prevent the Covid-19 attack. A healthy lifestyle began to be done, one of which is exercising to consume healthy foods and additional supplements to maintain endurance. Traditional herbal medicine becomes one of the targets of the community that is believed to be an alternative that can provide benefits of increasing the body's immunity and maintaining health.

Tabel 1. Regression results of factors that affect traditional herbal consumption after the Covid-19 pandemic

Variables	Expected Sign	B	Std. Error	t	Sig.
(Constant)		4.202	2.482	1.693	0.101
LN_Fam	+	-0.153	0.168	-0.911	0.370
LN_Age	+	-0.535**	0.257	-2.081	0.046
LN_Edu	+	0.239	0.325	0.737	0.467
LN_Prc	-	0.483***	0.112	4.329	0.000
LN_Cbp	+	0.488***	0.096	5.079	0.000
Dcv	+	-0.298*	0.159	-1.872	0.071
Cln	+	-0.069	0.054	-1.285	0.209
Char	+	0.070**	0.029	2.409	0.022

Source: Primary Data Analysis, 2021.

*   : significant at ⟨ = 10%

**   : significant at ⟨ = 5%

***   : significant at ⟨ = 1%

The consumption of traditional herbal medicine used in this study was approached by how much household expenditure to consume various types of traditional herbal medicine derived from biopharmaceutical processed products. Some variables that are thought to affect the consumption of traditional herbal medicine include variables that describe the characteristics of traditional herbal medicine itself, also considering social factors, demographics, as well as the home economy.

Regression results can be used further because they are normal, as well as free from multicollinearity and heteroskedasticity problems. This regression has Adj. R^2 amounted to 0.693, which means that the variation in the explanatory variable used has been able to explain 69.3% of traditional herbal consumption by households in The Special Province of Yogyakarta, Indonesia.

3.1. The Average Age of Family Member

Consumption of traditional herbal medicine is significantly influenced by the average after household members. The relationship between the two is the opposite. Consumption of traditional herbal medicine in The Special Province of Yogyakarta turned out to be more in demand by households with relatively younger ages. The more people with young age in a household, the more tendency to consume traditional herbs. The average age of household members is 34 years. This information is quite unique because traditional herbal medicine has a stigma consumed by people of advanced age. However, when the pandemic makes young people participate in consuming traditional herbal medicine in hopes of providing better health care in dealing with the situation of the Covid-19 pandemic.

3.2. The Price of Traditional Herbal Medicine

The price of traditional herbal medicine also significantly affects the consumption of traditional herbal medicine in The Special Province of Yogyakarta. In many cases, especially in relation to drugs, rising prices will make consumption decrease [6]. However, in this study, the increase in traditional k = price even increases the consumption of traditional herbal medicine. This phenomenon is caused by traditional herbal products that do not have a good standardization. Consumers still perceive that herbal medicine at a higher price will have better quality [7]. Consumers have strong expectations of the benefits of herbal medicine. Not that the most expensive herbs will be more to be in demand, but herbal medicine at a more expensive price tends to be preferred by consumers. In addition to efficacy, consumers also consider the quality of herbal medicine to maximize their satisfaction.

3.3. The Consumption of Herbal Medicine before the Pandemic

A person's consumption of a product is influenced by information and experience of how previous consumption [8]. Based on the results of this study, consumption of household traditional herbal medicine before the pandemic significantly affected the consumption of traditional herbal medicine during the Covid-19 pandemic. Households have made the decision to recognize and believe in the benefits of traditional herbal medicine and consume them to get the same benefits during the pandemic to maintain health.

3.4. Exposed to the Covid-19 Virus

Households that have tested positive for Covid-19 tend to consume less traditional herbal medicine. The study showed significant results with negative coefficient marks. The decision to consume traditional herbal medicine is more for the purpose of prevention, not treatment [9]. Households that have tested positive for Covid-19 tend to reduce or even stop consuming traditional herbal medicine. People who experience Cvoid-19 attacks tend to take drugs recommended by doctors in the healing process.

3.5. The Characteristics of Herbal Medicine

Consumers of traditional herbal medicine prefer herbs with good characters including color, taste, smell, materials used, and the benefits offered. Interesting characteristics will give rise to the appetite to consume. This taste will encourage a person to consume more [10]. This research shows that herbs with a good appearance will make households tend to consume more. The focus of consumers is on the best possible benefits from consuming traditional herbal medicine related to maintaining health in the face of Covid-19, and the price is not a problem because it reflects the quality.

4. CONCLUSION

Traditional herbs tend to be consumed by relatively young and middle-aged people. Prices will reflect quality and influence consumers to consume traditional herbal medicine. People who have previously consumed traditional herbs will consume them during the pandemic. The decision to consume traditional herbal medicine is more for the purpose of prevention, not treatment. Consumption of traditional herbal medicine is also influenced by its quality which includes color, aroma, taste, ingredients used, and the benefits offered.

AUTHORS' CONTRIBUTIONS

This research was conducted by a research team with Arif Wahyu Widada as the lead researcher and the main author supported by other researchers who were listed on the list of authors.

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