

# The Use of Supplements by Yogyakarta Residents During Covid-19 Pandemic

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**Abstract**— The increase in the use of health supplements occurred during the covid-19 pandemic. This is due to the need to maintain and improve the body's immune system in preventing infection with COVID-19. The types of supplements that are widely circulated in Indonesia and are widely used by the public are herbal and non-herbal supplements. The two types of supplements are usually used as self-medication by the community based on the information and knowledge that they have or receive from trusted sources. This research is a descriptive study. The sampling technique used the cluster sampling method by dividing according to the districts in DIY, namely the City of Yogyakarta, Sleman, Bantul, Gunung Kidul and Kulon Progo based on predetermined inclusion criteria. Data collection was carried out using a questionnaire and data analysis was completed by descriptive statistics. Respondents in this study were 105 people. Based on the data on the characteristics of the respondents, the highest age groups were 25-55 year old or 47%. Most respondents are female with a total of 57%. The education level of the most respondents is Senior High School, which was 48%. The type of supplement widely used by respondents was non-herbal supplement (37%). A total of 59% of respondents answered that the main reason for choosing supplements was the price and the most common goal was to increase the body's immunity. Advertising is the largest source of product information (33%) and respondents choose to purchase supplement products directly (82%). Respondents routinely use supplements during COVID-19 pandemic to boost their immune system. The use of non-herbal supplements is higher than herbal supplements by considering its price. Most supplement product information is obtained from advertisements and the products were often purchased directly rather than through online.

**Keywords**— Covid-19, herbal supplements, non-herbal supplements.

## I. INTRODUCTION

The use of health supplements in Indonesia has increased significantly. The practical and instant change of lifestyle is one of the reasons for it. In addition, the increasing pollution can be a consideration in improving the body's vitamins and minerals intake through the use of supplements. Dietary supplements are also needed by workers who do not have time to exercise regularly and workers with high stress levels. The level of public trust in health supplement products is very high, especially for several herbal and non-herbal products that have been circulating in Indonesia for a long time. These herbal and non-herbal supplements are usually used as self-medication by the public based on the information and knowledge which they have or receive from trusted sources.

The current pandemic conditions require people to search for supplements as an immunomodulator. Improving the immune system is very important, especially in families with members that included in risk categories which are vulnerable

to infection, such as children, the elderly, pregnant and lactating women. Many people think that the amount of vitamins and minerals consumed from food is not enough to keep the body healthy, so this is the reason for using supplements. <sup>[1]</sup> The research conducted on college students found that the most widely used types of supplements were vitamin C (non-herbal) and herbal supplements with the aim of improving health. <sup>[2]</sup>

Health Supplements are products intended to complete nutritional needs, maintain, improve and/or improve health functions, have nutritional value and/or physiological effects, contain one or more ingredients in the form of vitamins, minerals, amino acids and/or other non-plant ingredients which can be combined with plants. Safety Criteria, benefit and quality of health supplements include the use of raw materials in accordance with the provisions of the Indonesian Pharmacopoeia, Indonesian Herbal Pharmacopoeia, pharmacopoeias of other countries or recognized scientific references; verifying the safety and benefits through empirical and/or scientific; and the implementation of Good Manufacturing Practices is carried out in accordance with the provisions of laws and regulations. <sup>[3]</sup>

Supplement products circulating in Indonesia must be produced by a pharmaceutical company that meets the Good Manufacturing Product (GMP) requirements and has a distribution permit from the Food and Drug Supervisory Agency (BPOM) which is registered in the category of food or traditional medicine. There are about 3500 types of supplement products currently circulating in Indonesia. <sup>[4]</sup> This shows that people have quite a lot of choices of types of supplements with good quality standards as alternative product choices for consumption.

Research related to the pattern of using supplements in the community during the pandemic has never been carried out, previous research on the use of supplements was carried out limited only to groups college or school students who were considered in need for additional nutritional intake to support their dense activities. The purpose of this study was to determine the pattern of using health supplements, both herbal and non-herbal products, in the community during the pandemic.

## II. METHOD

This research is a descriptive study by observing the variables studied. The number of samples in the study was 105 respondents. Sampling was carried out using probability sampling method with cluster sampling technique, namely the

sample was taken by dividing according to the number of districts in DIY, namely the City of Yogyakarta, Sleman, Bantul, Gunung Kidul and Kulon Progo. The inclusion criteria in this study were users of health supplements with at least one and were willing to be respondents. Data collection was carried out using a questionnaire which was first tested for validity and reliability. All questions in the questionnaire were declared valid and reliable. Statistic descriptive analysis is use in this research to analyze the data.

III. RESULT

The number of respondents in this study was 105 respondents. Based on the data on the characteristics of the respondents, the highest age groups were 25-55 year old (47%). Most respondents are female with a total of 57%. The education level of the most respondents is Senior High School, as many as 48%. Complete data on respondent characteristics can be seen in table I.

TABLE I. Characteristics

Variable	Total (n)	Percentage (%)
<b>Age</b>		
<24 years	48	46
25-55 years	49	47
56-65 years	6	6
>65 years	2	2
<b>Gender</b>		
Male	45	43
Female	60	57
<b>Education</b>		
Elementary	3	3
Junior High School	5	5
Senior High School	50	48
Diploma	13	12
Bachelor	22	21
Magister	12	11

The results of data collection related to the use of herbal and non-herbal supplements in this study can be seen in table II. As many as 53% respondents used supplements regularly during the pandemic with 54% taking once per day. The type of supplement that was widely used by non-herbal supplement respondents was 37%. The main consideration of respondents in using supplements is the price (59%). A total of 67% respondents use supplements with the aim of increasing the body's immunity and 56% respondents feel a healthier effect after using supplements. Most respondents get information on supplement products from advertisements with a total of 33% and 82% respondents getting supplements by direct purchase.

IV. DISCUSSION

This study aims to look at the pattern of using herbal and non-herbal supplements in the community during the COVID-19 pandemic. The results showed that the largest number of respondents was aged 25-56 years who were included in the productive age group and women were the most dominant. The results of this study are in line with previous research on the perception of the use of health supplements that the age group with the most supplement users is 21-30 years, then 31-40 years and the last is 41-50 years. However, for gender the results in the previous study are not in line with the results of

this study because the data obtained identified that highest supplement users are male. [1]

Another study related to the use of traditional, integrative and complementary medicine in Hong Kong during COVID-19 pandemic showed that the characteristics of the respondents were mostly female, with the highest age group being 18-55 years old and the education level having the most diplomas. The reason or purpose of using supplements for respondents in this study is in accordance with this study, namely increasing the body's immune system during the covid-19 pandemic. [5] Data obtained from research on the use of herbal products and natural ingredients in Saudi Arabia showed that 44.8% respondents routinely use herbal supplement products during the pandemic with the aim of increasing the immune system and maintaining a healthy body. Respondents in the study got the most product information from social media and family or friends. [6]

TABLE II. The Pattern in Consuming the Supplements

Variable	Total (n)	Percentage (%)
<b>Routine</b>		
Yes	56	53
No	49	47
<b>Daily consumption</b>		
Once	57	54
Twice	19	18
Three times	29	28
<b>Types</b>		
Herbs	29	28
Non herbs	39	37
Herbs dan non herbs	37	35
<b>Reasons in choosing the supplements</b>		
Complete product composition	23	22
Price	62	59
Side effects	17	16
Other	3	3
<b>The Goals</b>		
Lifestyle	22	21
Body immune	70	67
Maintaining health	13	12
<b>Effects</b>		
Feeling healthy	59	56
Not easily tired	29	28
Improved immunity	16	15
Not feeling the effect	1	1
<b>Product Information</b>		
Family	23	22
Friend	31	30
Health workers	14	13
Advertisement	35	33
Brochure	1	1
Other	1	1
<b>How to purchased</b>		
Direct purchase	86	82
On line	10	10
Other	9	9

Regarding the types of herbal or non-herbal supplements consumed, the study shows that non herbal types (37%) was found to be the most consumed by the respondents compared with the herbal supplements (28%). In other words, people tend to believe that non herbal supplements may be a more

effective way to prevent the disease during the pandemic. This result is consistent with the previous study which stated that the majority of respondents prefer to choose the non-traditional medicine than herbal or traditional medicine. The study revealed that western medicine or non-herbal medicine is more favourable than the herbal or traditional medicine in some aspect. The inconvenience of the taste and look, the slow process to cure or prevent disease, and the difficulties of preparing the herbal medicine were some of the reasons. The result of the study also found that the increased use of non-herbal medicine or western medicine compared to the herbal medicine were related to the safety reassurance based on the scientific tests before launched on the market, the ease in consuming non herbal medicine, and the speed of the non-herbal medicine to cure the disease.

Regarding the factors related to the choice of medicine, cost was seen as an important aspect having non-herbal medicine since non-herbal medicine was perceived to be cheaper than herbal medicine which its price trend is increasing during the pandemic. Thus, the majority of respondents (59%) continued to use non herbal medicine according to its affordable price compared to herbal medicine. Those finding was similar to the previous study, which have shown that non herbal medicine is cheaper than herbal medicine and to be faster in reducing the symptoms of disease.<sup>[7]</sup>

Most respondents gained the information on supplement products from advertisements with a total of 33%. This may be affected by the role of advertisements in public media which may have a significant impact on public behavior. Therefore, it can increase public awareness about health issues during the pandemic, including the consumption of the supplement. Other reliable sources of information besides the internet and mass media such as newspapers, magazines and television related to supplement products are family, friends and health workers. This has stimulated an increase in sales of supplements to family, friends and health workers.<sup>(1)</sup> Respondents in this study chose to directly buy supplements used in pharmacies or drug stores compared to online purchases, which shows that people have a high level of trust in services given in pharmacies or drug stores compared to

online purchases.

## V. CONCLUSION

Respondents routinely use supplements during COVID-19 pandemic with the aim of boosting the immune system. The use of non-herbal supplements is higher than herbal supplements by considering the price. Most supplement product information is obtained from advertisements compared to family, friends or health workers. Respondents prefer direct purchases compared to online purchases to get the supplement products used

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