



## Original Article

# Consumable Medical Materials Related To The Treatment Of Covid And Multivitamins During The Pandemic

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### ABSTRACT

**Background:** Preparation for self-isolation needs to be prepared with the aim of minimizing the spread of COVID-19 infection, which includes masks, hand sanitizer, oxygen, disinfectants, and others. The demand for multivitamins related to self-isolation needs at Pharmacy X based on observations during the research has fluctuated. For this reason, this research was created to find out the picture of fluctuations/ups and downs in sales of multivitamins and the need for self-isolation for COVID-19 at Pharmacy X, based on observations from January-October 2021.

**Methods:** The method used is the observation method through invoice data for the procurement of multivitamin supplies and self-isolation requirements for each of the 5 multivitamin samples and 5 samples for self-isolation requirements whose demand level is the highest compared to the others.

**Results:** The results obtained from the observation data were fluctuations in sales of multivitamins and the need for COVID-19 self-isolation at Pharmacy X.

**Conclusion:** There has been an increase in sales of multivitamins and the need for self-isolation at Pharmacy X in July 2021 due to the peak incidence of positive cases of Covid-19 infection in Jambi Province while in August-October 2021 it experienced a decline.

### INTRODUCTION

Multivitamins are a combination of several different vitamins that are usually found in food or other natural sources. Without vitamins, the body will not be able to function normally. During the COVID-19 pandemic, multivitamins are currently being used to improve the performance of the body's immune system in fighting infections caused

by viruses and bacteria, including COVID-19 infection. This is because until now the main treatment of COVID-19 in the form of an effective antiviral has not been found, so the main step for people to overcome and prevent infection is to use supporting treatment, such as multivitamins.

Multivitamins are part of the self-isolation needs that need to be prepared. Self-

isolation is carried out for residents/communities who have symptoms similar to COVID-19 and is carried out as an effort to prevent the spread of COVID-19 by staying at home while monitoring their condition while maintaining a safe distance from people around them or family<sup>1</sup>. Apart from multivitamins, the needs for self-isolation include oxygen (oxycan), disinfectant, hand sanitizer, mask, multivitamin, thermometer, and others.

The need for multivitamins and other self-isolation needs at Apotek X The occurrence of these fluctuations is closely related to the availability of multivitamin stock in pharmacies. The availability of multivitamin stock and other self-isolation needs at Pharmacy X is influenced by the planning and procurement process carried out.

Proper planning and procurement of multivitamins as well as the need for self-isolation for COVID-19 have a very important role in determining the suitability of existing drug stocks with pharmaceutical service needs so that the quality of the products provided is guaranteed and can be obtained when needed. If planning and procurement are managed using a system that is not good, it can cause accumulation/emptiness of multivitamin stock and the need for self-isolation, causing fluctuations in sales<sup>2</sup>.

Based on the explanation above, it can be seen how important the use, management of planning, and procurement related to Multivitamins and Self-Isolation Needs is during the current COVID-19 pandemic. There is limited research on the fluctuations in multivitamin sales and self-isolation material needs during the pandemic at a local pharmacy level.

This study seeks to fill the gap by examining the sales patterns of multivitamins and self-isolation materials at Pharmacy X during the COVID-19 pandemic. The objective of this research is to analyze the sales trends of multivitamins and self-isolation necessities at Pharmacy X during the specified period.

## **METHOD**

This research uses secondary data observation methods at Pharmacy X through multivitamin sales invoice data and the need for COVID-19 self-isolation at pharmacies in the January-October 2021 period. Observations were made by looking directly at the level of sales of multivitamins and the need for self-isolation at Pharmacy X during the observation period based on invoice data at the pharmacy that has been collected.

The samples observed by the author were 5 samples each of multivitamins and 5 samples for self-isolation purposes whose demand level was the highest for the period June to August 2021 at Pharmacy X based on invoice data for procurement of supplies. These 5 multivitamin samples include Zegavit, CDR, Becom-C, Imboost Force, and Prove D3-1000. Meanwhile, 5 samples for self-isolation include masks, gloves, hand sanitizer, and portable oxygen (oxycan).

## **RESULT**

The community's needs and requirements for multivitamins and the need for self-isolation for COVID-19 are forms of things that must be provided and managed by Pharmacy X through the supply planning process. With the increasing number of positive cases of COVID-19 infection in Jambi Province, public demand for multivitamins and the need for self-isolation have also increased. To meet this demand, planning and procurement of multivitamins also self-isolation requirements was carried out at Pharmacy X.

Planning for multivitamins and the need for self-isolation for COVID-19 at Pharmacy X uses the method of proxy consumption. The proxy consumption method is a method of calculating drug needs based on the highest level of consumption, whether it is the highest drug consumption, the highest disease incidence rate, or the drug/pharmaceutical preparation with the highest level of demand by the public at a pharmacy<sup>3</sup>. The proxy consumption method is often also referred to as a combination of the

consumption method with the morbidity or epidemiology method<sup>4</sup>.

The consumption method is a planning method that uses data from the previous period's consumption with the necessary adjustments at the pharmacy, while the morbidity method is a planning method that estimates drug requirements based on the quantity, and incidence of disease and considers standard patterns of treatment for certain diseases<sup>3</sup>. The supply planning system implemented by Pharmacy X has referred to and adapted to Minister of Health Regulation No. 73 of 2016 concerning Pharmaceutical Service Standards in pharmacies, namely the system for planning supplies of pharmaceutical preparations, medical devices, or consumable medical materials in a pharmacy is carried out while still adapting to patterns of disease incidence, highest community consumption patterns, cultural patterns and the community's ability to get it<sup>5</sup>.

Multivitamin planning and the need for COVID-19 self-isolation at Pharmacy X is carried out by pharmaceutical technical personnel/pharmacy facility owner using the *proxy consumption* method by recording which products are in the highest demand, most sought after by the public, and patterns of community illnesses<sup>6</sup>. The product data is then recorded in the defect book. This data from the defect book is used by the pharmacy

to determine what products need to be procured.

Procurement is an activity to realize needs that have been planned and approved, through purchasing<sup>7</sup>. The procurement itself aims to ensure the availability of multivitamins and the need for self-isolation for COVID-19 at Pharmacy X so that supply shortages can be prevented and the incidence of fluctuations in demand for multivitamins and the need for COVID-19 self-isolation can be minimized<sup>8</sup>.

Procurement at Pharmacy X is carried out based on planning using the proxy consumption method. However, in the current COVID-19 pandemic situation, the need for multivitamins and the need for self-isolation has increased, causing the procurement process to also increase<sup>9</sup>. This causes the distribution of multivitamins and the need for self-isolation from PBF to pharmacies to be limited. To prevent this, pharmacy X stocks multivitamins and the need for self-isolation is greater than the recording that has been carried out, this causes the stock of these products to increase in pharmacies while the selling power of the products to the public decreases<sup>10</sup>. This decrease in purchasing power could be due to the changing influence of positive confirmation cases of COVID-19, so people's needs also change. This is what causes fluctuations or ups and downs in demand for multivitamins and the need for self-isolation at Pharmacy X.

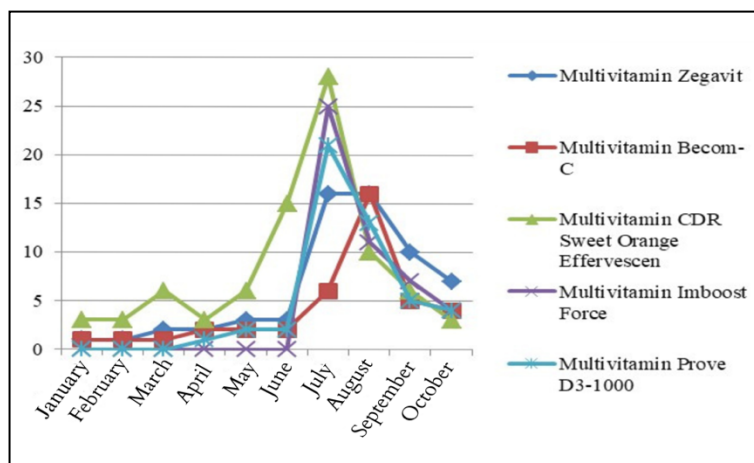


Figure 1. Multivitamin Sales at Pharmacy X

To find out the picture of fluctuations in demand for multivitamins and the need for self-isolation during the COVID-19 pandemic at Pharmacy X, author made observations at the pharmacy, namely by observing invoice data for the procurement of multivitamin supplies and the need for COVID-19 self-isolation at Pharmacy X in the period January-October 2021. Based on the observations that have been made, the results obtained include.

Based on observations made by students at Pharmacy X, the following results

were obtained Figure 1. The Table 1 shows the number of multivitamin sales at Pharmacy X for 5 types of samples in the January-October 2021 period. The sample used is a multivitamin sample with the highest sales level compared to other multivitamin products. This data is observed based on invoice data through the procurement of pharmaceutical supplies at Pharmacy X. The 5 samples include Zegavit, Becom-C, CDR Sweet Orange, Imboost Force, and Prove D3-1000.

**Table 1.** Multivitamin Sales Data at Pharmacy X

	<b>Multivitamin Type</b>	<b>Unit</b>	<b>Purchase Price (IDR)</b>	<b>Selling Price (IDR)</b>	<b>Maximum Retail Price (IDR)</b>	<b>Profit (IDR)</b>
<b>1</b>	Zegavit	Box	180.000	230.000/Box	247.500/Box	50.000
<b>2</b>	Becom-C	Box	157.500	210.000/Box	216.563/Box	52.500
<b>3</b>	CDR Sweet Orange Effervescent	Tube	36.205	45.000/Tub	49.782/Tube	8.795
<b>4</b>	Imboost Force	Box	181.300	240.000/Box	249.287/Box	58.700
<b>5</b>	Prove D-3 1000	Box	75.000	105.000/Box	103.125/Box	30.000

The table above shows the number of multivitamin sales at Pharmacy X for 5 types of samples in the January-October 2021 period. The sample used is a multivitamin sample with the highest sales level compared to other multivitamin products. This data is observed based on invoice data through the procurement of pharmaceutical supplies at Pharmacy X. The 5 samples include Zegavit, Becom-C, CDR Sweet Orange, Imboost Force, and Prove D3-1000.

Based on observations from January-October 2021, these 5 samples have experienced fluctuations in the level of demand by the public. The increase in sales of multivitamins occurred in July 2021, this was because that month there was a spike in positive confirmation cases of COVID-19 in Jambi Province, while in the following month, there was a decline in sales. The occurrence

of fluctuations or ups and downs in demand for these 5 multivitamin samples can be influenced by 2 factors,

**Internal factors**

Internal factors are factors that influence demand for multivitamins due to the influence of Pharmacy X's policies, including:

- a. There was a shortage of multivitamin stock at Pharmacy This could be due to the high demand for multivitamins from each pharmacy for pharmaceutical wholesalers, resulting in the distribution of multivitamins being limited for each pharmacy<sup>11</sup>.
- b. The selling price of multivitamins at Pharmacy X tends to change/is unstable. This is due to the rise and fall in purchasing prices for multivitamins from pharmaceutical wholesalers,

causing the level of demand for multivitamins to also increase and decrease or fluctuate<sup>12</sup>.

- c. Some multivitamins at Pharmacy X tend to have a higher selling price compared to the drug's HRP (Highest Retail Price). HRP is the highest selling price for medicines in pharmacies, drug stores, and hospital or clinic pharmacy installations. Pharmacies can only sell medicines at a price that is the same or lower than the HRP unless the price listed is no longer by applicable regulations<sup>5</sup>. The high selling prices set by pharmacies cause people's interest in a product to change. Based on observations made, people who carry out sales transactions at Pharmacy X on average feel overwhelmed by the high selling prices, some of them do not even carry out buying and selling transactions because of the high selling prices. Even with the higher selling prices set by pharmacies, the higher the profits earned by pharmacies<sup>13</sup>.

The medicine whose selling price exceeds the HRP at Pharmacy X is the Prove D-3 1000 product. Prove D-3 1000 is a vitamin containing vitamin D3, namely in the form of Cholecalciferol<sup>6</sup>. Based on the explanation of dr. Cindiawaty Pudjiadi, MARS, MS, Sp. Gk, nutrition specialist, explained "One way to maintain the body's immune system in the current pandemic conditions is to sunbathe regularly. "By sunbathing, we can get vitamin D which is produced in the skin, which can help prevent transmission of the COVID-19 virus". Vitamin D has many benefits, not only for bone health. However, it also plays a role in improving the body's immune system, especially during the current Covid-19 pandemic<sup>14</sup>. Considering the importance of the benefits of vitamin D3, this is one of the reasons why the level of demand for Prove D3-1000 at Pharmacy X experienced an increase, but also experienced a decrease or what is called fluctuation.

### External Factor

External factors are factors that influence the demand for multivitamins at Pharmacy X due to influences from outside the pharmacy, including the influence of demand for multivitamins based on people's consumption patterns and people's mindsets. For example CDR Sweet Orange Effervescent, Becom-C, Imboost, and Zegavit.

High public consumption of multivitamins at Pharmacy X based on observations during research, can be influenced by people's beliefs and mindset that multivitamins can cure Covid-19 infections<sup>15</sup>. This can be seen from people's habits when buying multivitamins at the pharmacy, the first thing they ask is "Miss, what multivitamin is good for Corona?". The public's perception of this is not completely wrong, because multivitamins such as Zegavit and Imboost Force are a form of multivitamins combined with minerals in the form of zinc. Zinc is indicated for improving the body's immune system (immunity). Apart from functioning to strengthen the immune system, zinc is also used as an alternative supplement for therapy for COVID-19 patients, alongside vitamin C<sup>16</sup>. If the immune system is well maintained, the body will have less risk of exposure to disease. This follows study before which explained that zinc can inhibit the RdRp (RNA-dependent RNA polymerase) activity of the coronavirus so that the replication of the coronavirus can be blocked by the zinc ionophore<sup>17</sup>.

Apart from Zegavit and Imboost Force, other multivitamins such as CDR and Becom-C also have benefits that are no less important for the body. CDR Sweet Orange Effervescent contains Calcium carbonate, vitamin C, vitamin D, and vitamin B6. Becom-C contains vitamin B complex, vitamin C, Nicotinamide, and Calcium pentatonate. The content of Vitamins C, D, and B6 can improve the performance of the immune system in fighting infections caused by viruses and bacteria, including coronavirus infection, and can repair body cells damaged due to

illness<sup>18</sup>. However, in-depth studies are still needed regarding the role of multivitamins as a therapy for healing and preventing COVID-19 infection.

### COVID-19 Self-Isolation Requirements

Based on observations carried out at Pharmacy X, the following results were obtained Figure 1.

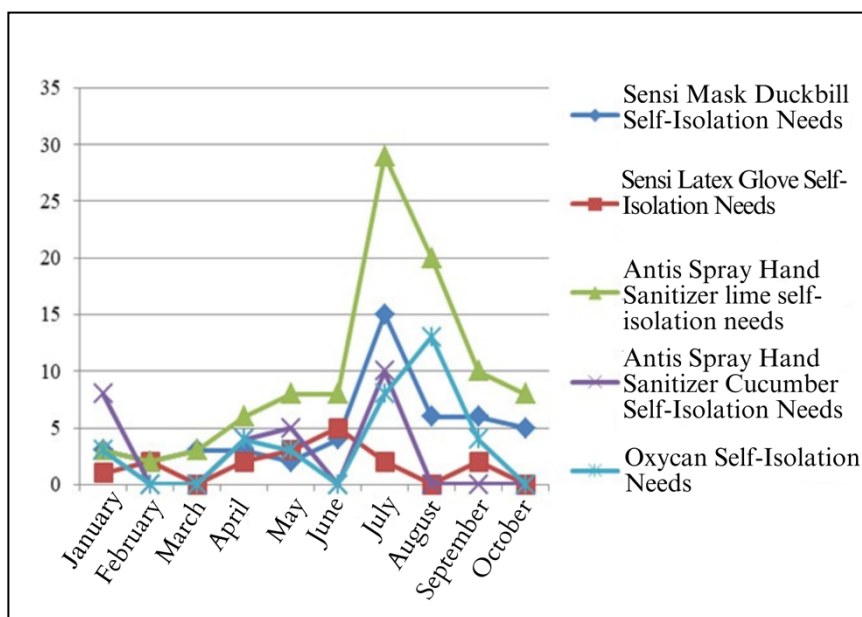


Figure 2. Request for COVID-19 Isoman Needs at Pharmacy X

In the explanation above, shows an illustration of the number of requests for COVID-19 self-isolation at Pharmacy X for 5 types of samples in the January-October 2021 period. The samples used are samples for self-isolation purposes which have the highest level of demand compared to other products. This data is observed based on invoice data through the procurement of pharmaceutical supplies at Pharmacy X. The 5 samples include Sensi Mask Duckbill (Mask), Sensi Glove Latex (Rubber Gloves), Antis Spray Hand sanitizer Lime and Cucumber (Hand Sanitizer), and Oxygan (Canned Oxygen). Based on observations, these 5 samples have experienced fluctuations in the level of demand by the public, namely experiencing an increase in demand in July 2021 and experiencing a decrease in demand in the following months, namely August-October 2021.

There are fluctuations or ups and downs in demand for COVID-19 self-isolation at Pharmacy X, this can be influenced by one of

them, because of the high selling prices set by pharmacies. The selling price set by Pharmacy X on products that the author observed for self-isolation purposes, such as Sensi Mask Duckbill (Mask), Sensi Glove Latex (Rubber Gloves), Antis Spray Hand sanitizer Lime and Cucumber (Hand Sanitizer) is far above the HRP (Highest Retail Price) provisions. The public objected to the high selling price, thus causing public demand and interest in these products to decrease. The high HRP value set by Pharmacy X the profit obtained by Pharmacy X based on pharmacy selling price calculations greater than 30%. In general, pharmacy profits range between 20-30%<sup>19</sup>.

Apart from that, the existence of stock shortages and a decrease in positive confirmed cases of COVID-19 infection can also cause a decrease in demand for self-isolation needs. This is because, with the decline in the number of COVID-19 infection cases, the needs of the community have also decreased. The use of masks and hand sanitizers during the current COVID-19 pandemic is mandatory and can even be said to have become a basic need for

society. The use of masks has been determined by the government as a mandatory requirement for everyone without exception<sup>20</sup>. For this

reason, masks and hand sanitizers are classified as the most important self-isolation needs.

**Table 1.** Request for COVID-19 Isoman Needs at Pharmacy X

	<b>The Need for COVID-19 Self-isolation</b>	<b>Unit</b>	<b>Purchase Price (IDR)</b>	<b>Selling Price (IDR)</b>	<b>MRP (IDR)</b>	<b>Profit (IDR)</b>
<b>1</b>	Sensi Mask Duckbill	Box	123.000	180.000/Box	169.125/Box	57.000
<b>2</b>	Sensi Latex Gloves	Box	158.400	250.000/Box	217.800/Box	91.600
<b>3</b>	Antis Spray Hand sanitizer Lime	Bottle	10.200	15.000/Bottle	13.464/Bottle	4.800
<b>4</b>	Antis Spray Hand sanitizer Cucumber	Bottle	10.200	15.000/Bottle	13.464/Bottle	4.800
<b>5</b>	Oxycan	Can	36.470	50.000/Can	50.146/Can	13.530

Apart from masks, hand sanitizer, and gloves, public demand for oxycan based on observations continues to increase from June-August 2021. This increase in demand for oxycan can also be influenced by the HRP (Highest Retail Price) value set by Pharmacy X, where the selling price of oxycan does not exceed/comply with highest retail price provisions<sup>21</sup>. Oxycan itself is used to normalize oxygen saturation levels in the body. Oxygen saturation levels in the COVID-19 pandemic situation are very important to pay attention to. This is because COVID-19 attacks the lungs and can cause pneumonia and even shortness of breath so that oxygen saturation levels will be disturbed<sup>22</sup>.

A mismatch between pharmacy selling prices and HRP (Highest Retail Price)

regulations can cause a decrease in public demand for multivitamins and the need for self-isolation for COVID-19 at Pharmacy products by pharmacies. So, it can influence the decline in consumption levels and public interest in these products<sup>23</sup>. This is what causes fluctuations/ups and downs in public demand for these products.

## CONCLUSION

There has been an increase in sales of multivitamins and the need for self-isolation at Pharmacy X in July 2021 due to the peak incidence of positive cases of Covid-19 infection in Jambi Province while in August-October 2021 it experienced a decline.

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