Conference Paper

Analysis of Self-Medication Patterns in South Surabaya Community in the Era of the COVID-19 Pandemic

Della Nanda Shafa Nabilah, Wening Sari*

School of Medicine, YARSI University, Indonesia

*Corresponding author:
E-mail: wening.sari@yarsi.ac.id

ABSTRACT

Background: Indonesia implemented a large-scale social restriction policy throughout the COVID-19 pandemic. Hospitals and alternative health care facilities are places with a high risk of COVID-19 transmission. The general public is suggested to limit visits to health facilities unless it is an emergency. Supported this, we hypothesize that people prefer to self-medicate to take care of relatively mild health complaints at home. This study aims to analyze the pattern of self-medication within the community in the era of the COVID-19 pandemic. Methods: A cross-sectional survey was conducted on 110 residents of South Surabaya with a structured questionnaire during the COVID-19 outbreak in December 2021, to observe patterns and factors that influence people's decisions to take self-medication before and during the COVID-19 pandemic era. Results: As several as 40% of respondents had self-medication before the COVID-19 pandemic, while the prevalence of self-medication within the thick of the COVID-19 outbreak was 57.3%. The most reasons for self-medication are the concern of reaching the hospital will be being exposed to COVID-19 (67.3%), the sickness is not severe enough, compatible with the previous medication, and more efficient. The community's advantages of self-medication are that it is faster to treat (41%) and cheaper (21.8%). Conclusions: The study revealed that there was an increase in the number of respondents who did self-medication during the COVID-19 pandemic with the main reason being fear of going to the public health center or hospital.

Keywords: COVID-19, self-medication, patterns, factors

Introduction

The Indonesian government implemented a Large-Scale Social Restriction policy in April 2020. This policy is restricting certain activities of citizens in an area suspected of being infected with COVID-19 to prevent the disease's spread. Work and study from home are examples of such restrictions, as are restrictions on religious activities and/or limitations on activities in public places or facilities. In a roundabout way, the policy appeals to the public not to leave the house unless necessary, such as going to the market or shopping center to meet food needs while still adhering to the applicable protocols. The general public is also advised to avoid visiting health facilities unless an emergency or a condition requires immediate medical examination and action. (Peraturan Pemerintah RI, 2020; Mursid & Putra, 2020).

According to the Community Behavior Survey conducted by the Statistical Center Bureau during the COVID-19 Pandemic on 7-14 September 2020, 38.75 percent of Indonesians leave their homes less frequently than before the Adaptation of New Normal was implemented. When viewed by age, the elderly less frequently people leave the house. According to Badan Pusat Statistik (2020) the COVID-19 Pandemic has impacted the community, including the quandary of going to

the hospital for treatment for fear of contracting COVID-19, especially if he suffers from a chronic disease that weakens his immune system.

Individuals who believe they have a health issue or illness seek treatment to find the most appropriate treatment. People seek treatment for diseases in various ways, including going to a doctor, traditional healers, a combination of traditional and medical treatment, and self-medication using either modern or traditional medicine.

Self-medication is defined as the act of a person, family, or community selecting a drug to treat a health condition or indication without seeking the advice or consultation of a medical professional (Lei et al., 2018). The benefit of self-medication is that we do not need a medical prescription to purchase the medication we require. Self-medication can also prevent and treat symptoms and illnesses that do not necessitate medical consultation or supervision. It also benefits people who live in rural or remote areas where medical services may be complex.

Almost two years of the COVID-19 Pandemic, Indonesia reached over half a million positive cases. Hospitals are full of COVID-19 patients, and many medical personnel who died due to COVID-19 raise the suspicion that people prefer to self-medicate at home for relatively minor health complaints. Based on the description above, this research is required to determine the pattern of self-medication in the community during the COVID-19 Pandemic. This research aims to examine the pattern of self-medication among the people of South Surabaya (Nasir et al., 2020).

Material and Methods

This study is cross-sectional. This study collected data through interviews using a structured questionnaire with questions and several alternative answers. The research population is the people of South Surabaya with a sample size of 110 people. The sample was determined using the probability sampling method with the inclusion criteria of residents of South Surabaya who are over the age of 17, have received treatment either self-medication or through medical personnel during the pandemic, and are not health workers or have a family of health workers. This study approved by The YARSI University Ethics Commission (No: 405/KEP-UY/BIA/XII/2021). The frequency distribution and bivariate analysis were used in this study to analyze data on two variables that were suspected to be related or correlated.

Results and Discussion
Sociodemographic characteristics of respondents

Most respondents were aged between 46–55 (24,5%). Of 110 respondents, 25,5% were male and 74,5% were female. Half of the respondents had only senior high school education, while 37,3% had graduated from college or university or above. The occupation of respondents included housewives (43,6%) and private employees and students. Twenty-eight percent of the respondents did not have income, while 22.7% reported a monthly income of IDR2.000.000 - IDR4.000.000.

Self-medication practice

Self-medication is a common practice for Indonesians before and during the COVID-19 Pandemic. The study revealed that the prevalence of self-medication during the COVID-19 Pandemic was 57.3% in South Surabaya, which was higher than seeing a doctor (30%) and 17.3% from before the COVID-19 Pandemic (Table 2).

Similar results have been reported in other studies. Azhar et al. (2021) reported that 53% of respondents in Punjab-India did self-medication during the Pandemic, but they did not reveal the prevalence before self-medication before the COVID-19 Pandemic. In Nigeria, the prevalence of self-medication was 41%, and purpose for preventing and treating COVID-19 (Wegbom et al., 2021).

Table 2 Seeking treatment before and during Pandemic COVID-19

Seeking treatment	n	%
Before pandemic COVID-19		
Traditional healer	0	0
Medical healer	45	40.9
Medical healer and traditional healer	21	19,1
Self-medication	44	40.0
During pandemic COVID-19		
Traditional healer	2	1.8
Medical healer	33	30.0
Medical healer and traditional healer	12	10.9
Self-medication	63	57.3

Table 3. Frequency of drugs choice, source of drugs, and information

Variable	n	%
Drugs choice for self-medication		
Modern drugs	66	60.0
Traditional drugs	44	40.0
Source of drugs		
Pharmacy	95	86.4
Shop	6	5.5
Drugs seller	1	0.9
Drugs store	5	4.5
Handmade (herbal)	1	0.9
Online shop	2	1.8
Source of drugs information		
Previous prescription	43	39.0
Friends/families	39	35.5
Advertisement	1	0.9
Pharmacy	19	17.3
Books	1	0.9
Internet	7	6.4

60% of respondents prefer to self-medicate using modern medicine. The majority of respondents (86.4 %) purchase these medications at pharmacies after gathering drug information, particularly from previous doctor's prescriptions (39.0 %) and friends/family (35.5 %) (Table 3). This finding is consistent with the pattern of self-medication in Nigeria, where pharmacies are the primary source of medicine for 73.9% of the respondents. According to Wegbom et al. (2021) According to research conducted in Wuhan, China, 51.2% of respondents received information about drugs used in self-medication based on previous experience, while 27.7% received drug advice from friends, the internet (19.1%), and newspapers or magazines (2%) (Lei et al., 2018).

Pharmacies appear to be the primary source of drugs for respondents in some prior studies, implying that pharmacists and their assistant play an important role in promoting safe and effective self-medication. They have direct access to patients and consumers. Patients or consumers who self-medicate should be assessed and educated by pharmacists. Assessments include who will use the drug, the symptoms experienced, the duration of the symptoms, and previous treatment history. When providing education, some important points that can be conveyed include the dosage and how to use the drug, how long the drug can be taken, side effects

of the drug, and the actions that the patient/consumer must take if the symptoms do not improve (Rutter, 2018; Veiga et al., 2021).

Table 4. The reasons for self-medication

Variable	n	%
Fear of getting COVID-19 at the health center or hospital		
Yes	74	67.3
No	36	32.7
The other reasons		
More efficient	20	18.2
Compatible with the previous treatment	19	17.3
Prefer herbal medicine	10	9.1
Easy	15	13.6
Have no time to see the doctor	8	7.3
Mild disease	22	20.0
Try self-medicating before going to the doctor	16	14.5

During the Pandemic, 74 respondents (67.3 %) said they were afraid to go to the public health center or hospital to be exposed to COVID-19. Another reason respondent self-medicate was that the disease was still mild (20%), more efficient (18.2%), and compatible with previous treatment (17.3%). These reasons were also found in the research of Lei et al. (2018), who reported that the reasons respondents in Wuhan self-medicate included the fact that their illness was not severe enough that they did not need to see a doctor (45 %), patients thought that seeing a doctor was not worth the effort (23 %), patients did not have time to go to the doctor (12 %), and patients did not want to pay for it (12 %), and patients do not want to pay high medical costs (15%).

Table 5. Impact of self-medication

Variable	n	%
Good impact or benefit		
Faster to treat	45	41.0
Cheaper	24	21.8
Faster to treat and cheaper	25	22.7
Safe	11	10.0
Independent from the drug manufacturer	5	4.5
Drug adverse effects		
No drug adverse	63	57.3
Heal longer	20	18.2
Tremor	5	4.5
Drowsy	7	6.3
Palpitation	5	4.5
Painful	5	4.5
Nausea	5	4.5

All respondents experienced both positive and negative effects after self-medication. The perceived benefits include faster treatment (41%), lower costs (21.8%), safety (10%), and independence from manufacturer's drugs (4.5%). A total of 57.3 % of those polled reported no side effects from using the drug without first consulting a doctor. Side effects experienced by respondents included longer recovery (18.2 %), shaking (4.5%), drowsiness (6.3%), palpitations (4.5%), pain (4.5%), and nausea (4.5%). The limitation of this study was that it did not delve deeper into the types of drugs used in self-medication, so it could not be linked to the drugs that cause the side effects mentioned above.

Irrational self-medication raises certain health risks, such as drug side effects or the disease taking longer to heal or becoming more severe. According to the findings of Lei et al. (2018), 17.8% of respondents experienced adverse drug reactions as a result of self-medication. This reaction was strongly linked to the drug's usage instructions. Respondents who did not read the drug's instructions for use reported more adverse drug reactions.

Table 6. The association between seeking treatment during covid-19 and distance to the health facilities and service of health care worker

		Seeking Treatment During the COVID-19 Pandemic					
		Tradi-tional healer	Medical healer	Self-med-ication	Combina-tion of tra-ditional healers and doctors	To-tal	*p*
Distance to the nearest health facil-ity	< 1km	4	14	18	0	21	0.687
	1-3 Km	6	16	38	2	84	
	>3 Km	2	3	7	0	1	
Doctor Ser-vices at Nearby Health Facil-ities	Very good	2	7	11	1	21	0.301
	Good	8	25	50	1	84	
	Not good	1	0	0	0	1	
	Do not know	1	1	2	0	4	
Health Workers Services at Nearby Health Facil-ities	Very good	1	3	12	1	21	0.519
	Good	9	29	47	1	84	
	Not good	1	0	1	0	1	
	Do not know	1	1	3	0	4	

The purpose of this study is to determine whether there is a assosiation between seeking treatment during a pandemic and the respondent's distance to the nearest health facility, doctor services, and health workers services at the health facility. The bivariate analysis revealed no significant relationship between respondents' distance to the nearest health facility, satisfaction with the services of doctors and health workers at the nearest health facility, and seeking treatment during the COVID-19 Pandemic (Table 6). This contradicts the assertion that self-medication is more common in countries where healthcare systems are less effective due to long wait times in health facilities, difficulty getting doctor's appointments, insufficient supplies of essential drugs, delays in attention, and a lack of beds or space available in health facilities (Quispe-Cañari et al., 2020).

In a pandemic situation, self-medication can be beneficial; for example, the community can limit visits to hospitals or other health care facilities to reduce the risk of contracting COVID-19. The immediate benefits felt by the community can help them overcome their health problems quickly, easily, and affordably. Self-medication for diseases with mild symptoms can also reduce medical staff workload, especially when there is a spike in cases. However, self-medication can also have negative impacts such as choosing the wrong drug, delaying the treatment that the patient needs, getting the disease worse, and the increasing risk of drug adverse. One example of irrational self-medication is self-medication using antibiotics. This action is one of the causes of antibiotic resistance (Haque et al., 2019)

Conclusion

The study revealed an increase in the number of respondents who did self-medication during the COVID-19 Pandemic. More than half of the respondents prefer to use modern drugs to treat minor health problems without consulting the medical profession. The factors that most influences people's decisions to take self-medication in the era of the COVID-19 Pandemic are the concern of reaching the public health centers or hospital and fear of being exposed to COVID-19. The tremendous impact of self-medication that the community feels is faster to treat and cheaper.

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