



THE LEVEL OF COMMUNITY KNOWLEDGE AND BEHAVIOR REGARDING DRUG DESTRUCTION IN THE COMMUNITY HEALTH CENTER IN 2023

Heny Puspasari*, Dani Suryaningrat, Sella Silfia

Department of Pharmacy, Akademi Farmasi Yarsi Pontianak, Pontianak, Indonesia

Email: aptheny@gmail.com

Abstract

People often throw drugs directly into the trash without separating the drugs first. Based on research conducted in the community of Pucang Sewu Village, Surabaya showed that 57.9% of 140 respondents did not dispose of drugs properly. This study aims to determine the level of knowledge and behavior of the community related to drug destruction in the community at Sungai Raya Dalam. This research included descriptive conducted on the community at Sungai Raya Dalam. The sampling method used is Accidental Sampling. The instrument used is a questionnaire. This research will be conducted from April–May 2024. The results of the research data showed the level of knowledge of respondents about drug destruction both as many as 64 people with a percentage of 64%, enough 33 people with a percentage of 33%, and less than 3 people with a percentage of 3% and positive behavior about drug destruction 93 people with a percentage of 93% and negative behavior of 7 people with a percentage of 7%. Based on the results of the research conducted, it can be concluded that the majority of people in the community in the health community at Sungai Raya Dalam have good knowledge of drug destruction and have positive behavior in drug destruction.

Keywords: *Knowledge level, Behavior, Drug destruction*

Introduction

Medicines that are damaged or have expired should be destroyed in a good and correct manner. Damaged and expired drugs that people have at home cannot be monitored to see if they are destroyed properly. The lack of information received by the public regarding proper and correct procedures for destroying damaged and expired medicines means that many people still throw medicines directly into the trash.

Consumable medicines should also be considered for disposal because research conducted in India shows that household medicine disposal is easy and fast (Sonowal *et al.*, 2017). In developing countries like India, research shows that 65% of 163 respondents dispose of drug waste in final disposal sites (TPA) without special treatment (Swaroop *et al.*, 2015). Based on research conducted in Saudi Arabia, it shows that 73% of all respondents threw unused medicine in the trash (AlAzmi *et al.*, 2017). The importance of people having the correct knowledge regarding



medicines is a necessity for society to avoid negative impacts on personal health and the environment (Octavia *et al.*, 2020). Research conducted in the community of Pucang Sewu Village, Surabaya, showed that 57.9% of 140 respondents did not dispose of medicine properly.

People throw drugs directly into the trash without separating the drugs first. This can have bad impacts on the environment because it can pollute groundwater, rivers, lakes, or even drinking water (Savira *et al.*, 2020). The results of research conducted by (Wasistha, 2021) show that the level of knowledge of drug destruction in Pontianak City is included in the good category, namely 61 respondents with a percentage of 52.13% and the level of drug destruction behavior among the community in Pontianak City is included in the poor category, as many as 87 respondents with a percentage of 74.35%.

Medicine destruction is an activity to resolve unused medicines because they are expired or damaged, or their quality does not meet standards. The purpose of this destruction is to protect the public from dangers caused by the use of medicines or health supplies that do not meet the quality requirements for safety and usefulness. Apart from that, destruction also aims to avoid costs such as storage costs, maintenance, and safeguarding of medicines or other health supplies that are already in use. Not suitable for maintenance (Energiae & Sinica, 2021).

Medicine waste contributes to environmental pollution when disposed of inappropriately. Disposal of unused or expired medicines through household waste can cause pharmaceutical residues to enter the environment. Apart from environmental risks, there are public health risks, namely the possibility of accidental or intentional misuse and poisoning if taken from rubbish bins (OECD, 2022). Based on Minister of Health Regulation Number 58 of 2014, the destruction and withdrawal of medicines that cannot be used must be carried out in a manner that complies with the provisions of the applicable laws and regulations. Destruction is carried out for medicines if: The product does not meet quality requirements, is expired, does not meet the requirements for use in health services or scientific purposes, and its distribution permit is revoked.

Based on this background description, it is necessary to carry out this research which aims to provide more insight to the people of Sungai Raya Dalam in the destruction of drugs. The respondents involved in this research were the community at UPT Puskesmas Sungai Raya Dalam so that they could see the level of knowledge and behavior of the community in destroying drugs.

Methods

This research was conducted descriptively, to obtain the level of knowledge and behavior of drug destruction in the Sungai Raya Dalam community. According to Resseffendi (2010). Descriptive research is research that uses observations, interviews, or questionnaires regarding the current situation, regarding the subject we are researching. Sampling was carried out by accidental sampling by distributing questionnaires to the community in the working area of the UPT Puskesmas Sungai Raya Dalam.

The research was conducted at the UPT Puskesmas Sungai Raya Dalam, Kubu Raya Regency. The population used in this research is the community in the working area of the UPT Puskesmas Sungai Raya Dalam and the sample used in this research is 100 respondents who are willing to fill out a questionnaire using paper and can read and know the level of community knowledge regarding drug destruction. The data obtained from the community is in the form of respondent characteristics such as age, gender, and education.

Results and Discussion

Characteristics of Respondents by Gender

The characteristics of respondents based on gender are divided into two, namely men and women, which can be seen in Table 1.

Table 1. Distribution of Communities in the UPT Working Area of the Sungai Raya Dalam Community Health Center Based on Gender

Gender	Frequency	Percentage (%)
Man	46	46
Woman	54	54
Total	100	100

Based on the results of community respondents in the working area of the UPT Puskesmas Sungai Raya Dalam based on gender in Table 2 above, it shows that of the 100 community respondents in the working area of the UPT Puskesmas Sungai Raya Dalam there were 46 people who were male (46%), and 54 people female (54%).

Respondent characteristics based on age

Based on the results of the characteristics of respondents, the community in the UPT Puskesmas Sungai Raya Dalam working area based on age is in the range 18-64. The respondents who mostly participated in this research were aged 18-25 and 26-33 years with a frequency of 25 people with a percentage of (25%). In this study, the age criteria for respondents were limited to obtaining information starting from teenagers aged at least 18 years and elderly people aged 65 years to receive and remember the information provided. The results of the characteristics of community respondents in the UPT Puskesmas Sungai Raya Dalam working area based on age for 100 people can be seen in table 2.

Table 2. Distribution of Communities in the UPT Working Area of the Sungai Raya Dalam Community Health Center Based on Age

Age	Frequency	Percentage (%)
18-25	25	25
26-33	25	25
34-41	19	19
42-49	16	16
50-57	10	10
57-64	5	5
Total	100	100

Respondent Characteristics based on Last Education

Based on the results of data on the frequency distribution of community respondents in the working area of the UPT Puskesmas Sungai Raya Dalam. Based on the education above, it shows that of the 100 respondents in this study, the most at least 39 had a bachelor's degree with a percentage of (39%). The results of the characteristics of community respondents in the UPT Puskesmas Sungai Raya Dalam working area based on the education of 100 people can be seen in Table 3.

Table 3. Frequency Distribution of Communities in the UPT Working Area of the Sungai Raya Dalam Health Center Based on Education

Education	Frequency	Percentage (%)
Elementary School	12	12
Junior High School	13	13
Senior High School	36	36
Bachelor	39	39
Total	100	100

Characteristics of Respondents by Occupation

Based on the results of data on the frequency distribution of community respondents in the working area of the UPT Puskesmas Sungai Raya Dalam based on the work above, it shows that of the 100 respondents in this study, 46 people (46%) mostly work in the private sector. The results

of the characteristics of community respondents in the UPT Puskesmas Sungai Raya Dalam working area based on the education of 100 people can be seen in Table 4.

Table 4. Frequency Distribution of Communities in the UPT Working Area of the Sungai Raya Dalam Community Health Center Based on Occupation

Occupation	Frequency	Percentage
Housewife	26	26
Student	15	15
civil servants	8	8
National Police	3	3
Private	46	46
TNI	2	2
Total	100	100

Results of All Knowledge Research Data

Based on Table 5, it can be concluded that the level of knowledge of the community at UPT Puskesmas Sungai Raya Dalam regarding the destruction of drugs in all indicators shows a good level of knowledge based on the average value of knowledge percentage which shows a figure of 79%. According to Arikunto (2018) the knowledge category can be divided into several types of knowledge according to the range of values. A score of $\geq 75\%$ means good knowledge, a score of 56-74% means sufficient knowledge, and $< 55\%$ means poor knowledge. The overall level of knowledge of the community at UPT Puskesmas Sungai Raya Dalam regarding culling is as follows:

Table 5. Knowledge of the Whole Community Regarding Drug Destruction in the UPT Working Area of the Sungai Raya Dalam Health Center

No	Indicator	Total		Percentage (%)	Knowledge Category		
		Yes	No		Good	Enough	Not Enough
1	Expiration limit on the packaging	96	4	96	√		
2	Eye drops	95	5	95	√		
3	Syrup medicine	90	10	90	√		
4	Mixed medicine	84	16	84	√		
5	Disposal of medication liquid	69	31	69		√	
6	Drugs that don't used	89	11	89	√		
7	Inhaler/insulin	74	26	74		√	
8	Medicine burned	68	32	68		√	
9	Medication returned to the Pharmacy	62	38	62		√	
10	Drug destruction in an inappropriate way	63	37	63		√	
Average				79	√		

Results of All Behavioral Research Data

Based on Table 6, it can be concluded that the level of community behavior at UPT Sungai Raya Dalam Health Center regarding drug destruction in all assessment indicators related to drug destruction behavior has 7 positive behaviors out of 10 questions and 3 negative behaviors out of 10 questions. The average results of drug destruction behavior at the UPT Puskesmas Sungai Raya Dalam show a figure of 67.2% where the value falls into the positive category of > 50 . According to Azwar (2018), the category of positive behavior has a value of > 50 and negative behavior has a value of ≤ 50 . The percentage results of the overall level of community behavior at the UPT Puskesmas Sungai Raya Dalam regarding culling are as follows:

Level of Public Knowledge Regarding Drug Destruction at UPT Sungai Raya Dalam Health Center in 2024

Based on data on the level of community knowledge at UPT Puskesmas Sungai Raya Dalam Health Center in 2024, it can be seen in Figure 1, showing that the majority of community knowledge levels are classified as good, where of the 100 respondents who filled out the questionnaire, there were 64 people who fell into the percentage range of good knowledge levels

with an average percentage (64%), 33 (33%) respondents had a sufficient level of knowledge and 3 (3%) respondents had a poor level of knowledge. This data shows that the community at UPT Sungai Raya Dalam Health Center in 2024 has a good level of knowledge about drug destruction.

Table 6. Behavior of the Entire Community Regarding Drug Destruction in the UPT Working Area of the Sungai Raya Dalam Health Center

No	Indicator	Respondent's Answer					Behavior (%)
		Always	Often	Sometimes	Seldom	Never	
1	Distribute medicine to people other	4	2	10	19	63	88
2	Store medicines that are not used because they are damaged	4	3	13	8	72	88
3	Keep the medicine and stop taking it as the condition improves	12	15	15	16	42	72
4	Store medicines that you no longer take because of side effects	2	9	7	9	73	88
5	Even if you keep medicines you haven't taken	9	11	17	18	45	76
6	Throw away the medicine because it is damaged	45	19	13	8	15	74
7	Storing medicine because it smells and tastes bad	5	4	4	15	72	89
8	Discard solid medication or mixed with coffee	4	0	8	6	82	27
9	Dispose of liquid medication into sink or toilet	9	9	5	8	69	36
10	Burning drugs is not used as an alternative method of destruction	10	4	5	6	75	34
Average							67.2

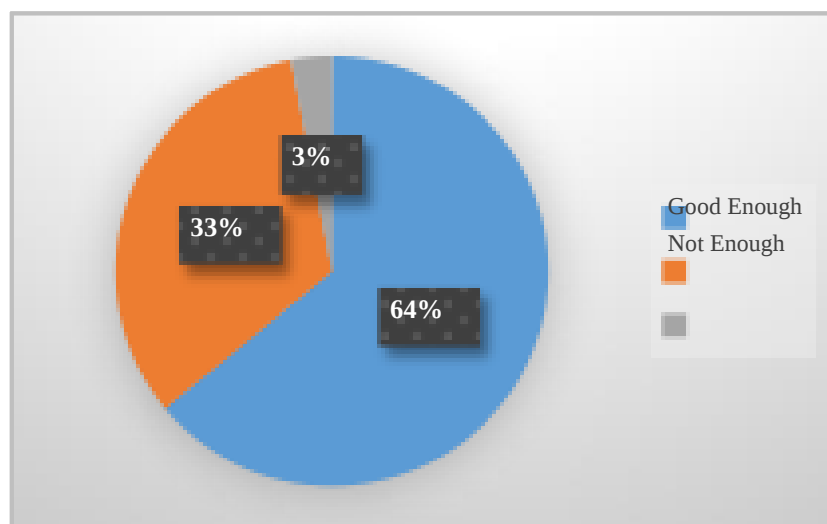


Figure 1. Level of Community Knowledge Regarding Drug Destruction at UPT Puskesmas Sungai Raya in 2024

According to Notoadmodjo (2021), knowledge is the result of a person's knowledge of an object through their senses. So, each person's knowledge will be different depending on how each person perceives an object. Knowledge can be obtained through various types of information media, for example, books, the internet, or other mass media. Factors that influence knowledge include education, information or mass media, work, environment, experience, age, social, cultural, and economic. According to Suwaryo and Yuwono (2017), a person's age also matters. Influences a person's comprehension and thinking patterns. As you get older, your understanding and thinking patterns develop, so the knowledge you gain gets better.

Community Behavior Regarding Drug Destruction at UPT Sungai Raya Dalam Health Center in 2024

Based on data on the level of community behavior at UPT Puskesmas Sungai Raya Dalam in 2024. The diagram above shows that the majority of community behavior levels are classified as good where of the 100 respondents who filled out the questionnaire there were 93% were in the positive category and 7% of people who were in the negative category. This data shows that the community at UPT Puskesmas Sungai Raya Dalam in 2024 has a positive level of behavior regarding the destruction of drugs.

Improper management of damaged or expired medicines it can pose big risks that have long-term impacts. Several studies have revealed that B3 waste (including damaged and expired medicines) is not implemented due to inconsistent policies (Ministry of Health of the Republic of Indonesia, 2020). Apart from that, programs to minimize excessive use of medicines and waste of damaged and expired medicines at the household scale have also not been implemented evenly in Indonesia.

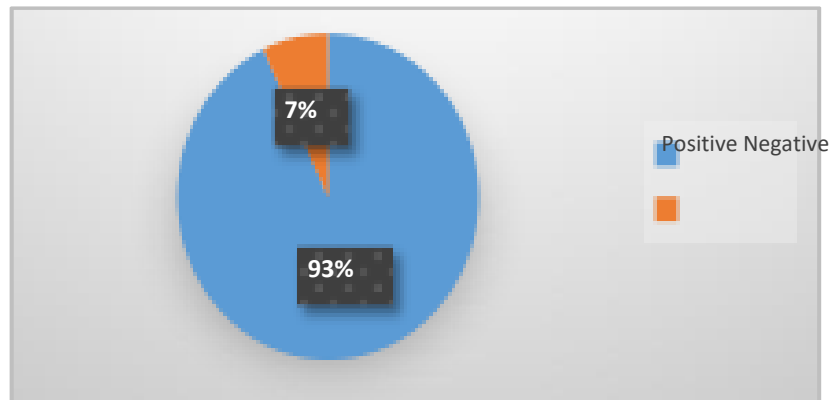


Figure 2. Community Behavior Regarding Drug Destruction at UPT Puskesmas Sungai Raya in 2024

Conclusion

Based on the results of the research conducted, it can be concluded that the majority of people at UPT Sungai Raya Dalam Health Center have good knowledge of drug destruction with a percentage of 64% and have positive behavior in drug destruction with a percentage of 93%.

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