

The Level of Knowledge of Madrasah Aliyah Negeri 1 Buton Tengah Students About Dagusibu Medicine

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A B S T R A C T

Background: DAGUSIBU is an educational program established by the Indonesian Pharmacists Association (IAI) with the aim of increasing public knowledge about the proper use of drugs. **Objective:** The purpose of this study is to find out what students of Madrasah Aliyah Negeri 1 Buton Tengah know about DAGUSIBU medicine as well as to find out if there is a significant relationship between their knowledge and their age. **Methods:** This study used a cross-sectional *descriptive design method*. The research sample consisted of 70 students in grade IX of Madrasah Aliyah Negeri 1 Central Buton, and data was collected directly through questionnaires. **Results:** The results of the study showed that the level of students' knowledge in the aspect of Get was 75.72%, Use was 80.71%, Save was 80.37%, and Discard was 80.71%. Overall, the level of knowledge of students reached 73.13% which is included in the sufficient category. The chi-square test between age and knowledge level yielded a p-value of 0.696, while the chi-square test between gender and knowledge level yielded a p-value of 0.115. Therefore, there is no significant correlation between students' knowledge levels and their gender or age. **Conclusion:** the level of student knowledge based on the DAGUSIBU aspect obtained results in the aspect of getting included in the category of sufficient, in the aspect of use, the level of student knowledge is included in the good category, while in the aspect of saving it is also classified as good, and in the aspect of discarding it is included in the category of lacking. Overall, the level of student knowledge is adequate, with an average percentage score of 73.13%. According to the results of the chi-square test, there was no significant correlation between the student's gender and age and their level of knowledge.

Background: DAGUSIBU is an educational program established by the Indonesian Pharmacists Association (IAI) with the aim of increasing public knowledge about the proper use of medicines. **Objective:** The objective of this study was to determine what students at Madrasah Aliyah Negeri 1 Buton Tengah knew about DAGUSIBU medicines and to determine whether there was a significant relationship between their knowledge and their age. **Method:** This study used a descriptive cross-sectional design. The research sample consisted of 70 students in grade IX at Madrasah Aliyah Negeri 1 Buton Tengah, and data were collected directly through questionnaires. **Results:** The results showed that the students' level of knowledge in the aspects of Obtain was 75.72%, Use was 80.71%, Store was 80.37%, and Dispose was 80.71%. Overall, the students' knowledge level reached 73.13%, which is classified as adequate. The chi-square test between age and knowledge level produced a p-value of 0.696, while the chi-square test between gender and knowledge level produced a p-value of 0.115. Therefore, there was no significant correlation between the students' knowledge level and their gender or age. **Conclusion:** The level of student knowledge based on the DAGUSIBU aspects obtained results in the "obtain" aspect that fell into the "fair" category, in the "use" aspect, the level of student knowledge fell into the "good" category, while in the "store" aspect it also fell into the "good" category, and in the "dispose" aspect it fell into the "poor" category. Overall, the level of student knowledge was fair, with an average percentage score of 73.13%. According to the chi-square test results, there is no significant correlation between the gender and age of students and their level of knowledge.

INTRODUCTION

Drugs are a collection of chemicals used to cure, reduce, or prevent disease. The drug will provide benefits if used according to the rules, but it can be toxic if taken in excess of the recommended dose (Hidayati et al., 2022). To ensure the safe use of drugs, IAI introduced the concept of DAGUSIBU (Get, Use, Store, and Discard) as a monitoring effort as well as a guideline for the community. However, drug interactions in the community, especially in rural areas with limited access to health facilities, are a problem that needs special attention (Andi Zulbayu et al., 2021).

According to data from the Ministry of Health, more than 40% of Indonesians, including students, do not know the correct way to obtain and use drugs (Ministry of Health of the Republic of Indonesia, 2020). Often, people make mistakes when obtaining, using, storing, or disposing of medicines. This error can cause various problems in the treatment process (Purwidyaningrum et al., 2019). Because it is considered more accessible than official and trusted pharmacies, people still often buy drugs at stalls, which is the wrong place. Additionally, many people tend to save unused medications for reuse when experiencing similar symptoms. As a result, efforts are needed to increase public understanding of the good use of drugs (Rikomah, 2021).

Limited public knowledge about the proper use of drugs as well as lack of information about the risks that can arise from non-compliant use are the main causes of drug abuse. Adolescents are often a vulnerable group to drug abuse, both due to the influence of social pressure and a lack of understanding of the dangers posed (Wulandari et al., 2024). According to (Hendrika, 2022) The abuse of drugs, both prescription and over-the-counter, has become a serious problem among adolescents. In addition, they are often unaware of the importance of storing medications properly. Mistakes in self-medication can occur because people's knowledge of drugs is still limited, because generally they only know the name of the drug without understanding the content or active ingredients in it (Ilham et al., 2025).

Knowledge about DAGUSIBU among teenagers is currently still relatively low. This can be seen from the results of the study which showed that the level of knowledge of junior high and senior high school teenagers about DAGUSIBU drug was only 18.63%, which was included in the low category. (Sitepu et al., 2024). Pharmacy is one of the health facilities in Indonesia that acts as a place for pharmaceutical activities, as well as a means to provide and distribute medicines and pharmaceutical supplies needed by the community (Nurwanti, 2023). They tend to think that pharmacies or drug stores are the only place to get drugs, whether they are over-the-counter, limited-over, or hard drugs without understanding the differences between these types of drugs. In addition, their understanding of how to store drugs is also very limited (Zebua et al., 2024).

Against this background, the purpose of this study is to find out whether students of Madrasah Aliyah Negeri 1 Buton Tengah understand DAGUSIBU as a medicine and whether there is a significant correlation between students' knowledge and their gender or age. The novelty of this research lies in its focus on the level of knowledge in adolescents or students about DAGUSIBU drugs, which was previously more researched in the general public with various age susceptibility. This study also dissects each aspect of DAGUSIBU in detail, namely Get, Use, Store and Dispose of drugs. In addition, this study also analyzes the relationship between demographic factors, namely age and gender, and students' knowledge levels.

METHOD

Research Type and Design

This research uses a type of descriptive research, which aims to systematically, factually, and accurately describe or describe facts about a population. This study uses a *cross sectional* approach, which is data collection that is carried out at a certain time without looking at the development of previous or subsequent data.

Research Time and Place

This research has been carried out on June 2 - 10, 2025 which took place at the Madrasah Aliyah Negeri 1 school in Central Buton.

Population and Sample

This study involved 85 students in grade XI. Inclusion and exclusion criteria were used to determine purposive sampling, which resulted in 70 respondents.

The Inclusion criteria determined are students of Madrasah Aliyah Negeri 1 Buton Tengah and willing to be respondents, grade 11 students at Madrasah Aliyah Negeri 1 Buton Tengah, students who have the ability to read and understand the researcher's questions to answer research instruments. The

Exclusion Criteria determined are grade 11 students who are absent during data collection or often absent, students with certain conditions of limitations that hinder the filling of the questionnaire and students who are not willing to participate in the research.

Data Collection Techniques

This study obtained the main data through a questionnaire involving the identity of the respondents and questions about the aspects of DAGUSIBU medicine, while secondary data was obtained from the school.

Data Processing Techniques

The data processing method in this study uses an *editing* process. Data from students collected through questionnaires must be checked first. If there are still incomplete answers that cannot be corrected, then the questionnaire is not used or issued. Next, *coding* is carried out on a code sheet or card that is used to record data manually, with columns containing respondent numbers and questions. The next stage is *entry* (entering data) by filling in a code sheet with columns or boxes according to the respondents' answers. After that, *tabulating is carried out*, which is compiling data into the form of a table to make it easier to read and analyze according to the purpose of the research.

Data Analysis Techniques

Univariate analysis was used to assess the frequency distribution and percentage of respondents' knowledge levels; Bivariate analysis was performed with the Chi-Square test to find out whether or not there is a relationship between sex and age and the level of knowledge of students. For the assessment, the Guttman scale is used. Each correct answer is given a score of 1, and each incorrect answer is given a score of 0. These scores are then processed with the following formula:

$$P = \frac{F}{N} \times 100\%$$

Information:

P = Correct answer score

F = Number of correct answers

N = Number of questions

The results of the calculation are then categorized based on the following conditions:

Good : More than 75% – 100%

Enough : 60% – 75%

Less : Less than 60%

Next, the percentage results are classified into good, sufficient, or poor categories according to the calculations obtained, to make it easier to understand, then presented in the form of a frequency distribution table.

RESULTS AND DISCUSSION

This study investigated the level of knowledge of Madrasah Aliyah Negeri 1 Buton Tengah students about the concept of DAGUSIBU medicine. The aim of the research was to find out whether students understood the concept and whether there was a correlation between age and gender with their level of knowledge. Data was obtained through filling out a questionnaire by 70 respondents, then the collected answers were calculated and categorized into three levels, namely good, adequate, or lacking.

Table 1. Table of characteristics of Research Respondents (n=70)

No.	Respondent Characteristics	Frequency	Percentage (%)
1.	Gender		
	Woman	35	50,0
	Man	35	50,0
2.	Age (Years)		
	15	6	8,6
	16	24	34,3
	17	35	50,00
	18	5	7,1
	Total	70	100

Source: Primary Data, 2025

Based on Table 1, the characteristics of respondents according to gender were divided equally, namely 35 people (50%) women and 35 people (50%) men. Judging from age, most of the respondents were 17 years old as many as 35 people (50%), followed by 16 years old which is 24 people (34.3%),

15 years old which is 6 people (8.6%), and at least 18 years old which is 5 people (7.1%). This shows that some of the respondents are adolescents at an age that is an appropriate target for the DAGUSIBU drug program.

Table 2. Distribution of Respondents' Answers About DAGUSIBU Drug

No.	Questionnaire	Answer score	(%)	Average (%)	Category
Knowledge about Earn					
1.	Pharmacies are a great place to buy and get medicines.	64	91,43	75,72	Enough
2.	Drugs sold in convenience stores are usually marked with the letter "K" logo in a red circle.	31	44,29		
3.	Drugs with a doctor's prescription can only be redeemed at pharmacies.	57	81,43		
4.	In addition, drugs can also be obtained at the Health Center.	60	85,71		
Knowledge of Use					
5.	The rules for the use of drugs can be known through the information listed on the drug packaging.	64	91,43	80,71	Good
6.	For drugs obtained through self-medication, the rules of use should be read first on the packaging.	52	74,29		
7.	Liquid medications should not be used in case of discoloration, odor, or taste, even if the expiration date (ED) has not been reached.	49	70,00		
8.	Meanwhile, tablets cannot be used if they experience changes in smell, taste, or color.	61	87,14		
Knowledge about Save					
9.	The medication should not be stored in a place exposed to direct sunlight.	66	94,29	80,36	Good
10.	The proper storage temperature for solid products such as tablets and capsules is 8–15 degrees Celsius.	41	58,57		
11.	Store liquid medications, such as syrup, in the refrigerator.	53	75,71		
12.	To prevent the drug from being used accidentally, it should be stored in a place where children cannot reach.	65	92,86		
Knowledge of Disposal					
13.	It is highly recommended to dispose of any remaining medications, including expired medications.	55	78,57	55,71	Less
14.	For expired liquid medicines, their disposal is carried out with the bottle at the disposal site.	29	41,43		
15.	In liquid and cream preparations, the way to dispose of it is to remove the label and open the packaging lid.	36	51,43		
16.	Meanwhile, solid drugs that are no longer suitable for use are disposed of by pounding first, then buried in the ground.	36	51,43		

Source: Primary Data, 2025

Based on the results of table 2. The distribution of respondents' answers about DAGUSIBU drugs is known to the respondents' knowledge of aspects of DAGUSIBU, namely:

Respondents' knowledge about how to get medicine is classified as sufficient, namely 91.43% know that pharmacies are the right place to get medicine, 85.71% know that health centers are places to get medicines and 81.43% know that medicines can not only be redeemed with prescriptions at pharmacies. However, only 44.29% understand that drugs with the 'K' logo should not be purchased at convenience stores. Overall, this aspect obtained an average level of knowledge of 73.72% which is included in the sufficient category. This is because most high school students only have a sufficient level of knowledge regarding how to obtain drugs and there is still a lack of education they get on how to get good drugs (Permana et al., 2024).

Respondents' knowledge of how to use drugs is included in the good category. Most of them know the rules for using drugs seen on the packaging of medicines, 91.43%, 74.29% know the importance of reading how to use self-medication before using them, 70% know that medicines can no longer be used when there are changes even though they have not expired, and 87.14% know that tablets can no longer be used when there has been a change in smell, taste and color. From this asper, an average score of 80.71% was obtained which was included in the good category so that it can be said that students already understand how to use drugs correctly because people's habits in following the rules of use are an indicator of the correct use of drugs (Purwidyaningrum et al., 2019).

Respondents had a fairly high knowledge of how to store medicines, namely 94.29% of medicinal tofu should not be exposed to direct sunlight and 92.86% medicinal tofu should be kept away from children. However, only 58.57% know the right temperature to store tablets and 75.71% know liquid medicines should not be stored in the refrigerator. The average score for this aspect, which is 80.36%, is classified as good. This shows that students have an awareness that incorrect storage can accelerate drug breakdown (Fajar et al., 2024).

The number of respondents who know how to dispose of drugs is still low, with an average of 55.71%. As many as 78.57% of them knew that leftover medicines should not be thrown directly into landfills, but only 41.43% of them knew that liquid medicines should not be disposed of with the bottle, and 51.43% of them knew the proper way to dispose of liquid medicine preparations. This shows that students still do not know how to dispose of the medication properly. Similar conditions also occur in the wider community, which is caused by a lack of education on how to dispose of drugs properly (Ivanca et al., 2023).

Table 3. Overall Knowledge Level of DAGUSIBU

No.	Category	Percentage %
1.	Knowledge about Earn	75,72
2.	Knowledge of Use	80,71
3.	Knowledge about Save	80,36
4.	Knowledge of Disposal	55,71
Average		73,13

Source: Primary Data, 2025

Based on the results of Table 3, it is known that the level of knowledge of the respondents about DAGUSIBU drugs produced an average of 73.13% which is classified as sufficient, which consists of Get medication 75.72% (adequate), Use medication 80.71% (good), Keep medication 80.36% (good) and dispose of medication 55.71% (less).

Table 4. The Relationship between Knowledge Level and Respondent Characteristics

Characteristic	Knowledge About DAGUSIBU						Total	%	Value <i>p-value</i>
	Good		Enough		Less				
Gender	N	%	N	%	N	%			
									0,115
Woman	14	20,00	18	25,71	3	4	35	50,0	
Man	8	11,43	22	31,43	5	7,14	35	50,0	
							70	100	
Age									
15 Years	2	2,86	4	5,71	0	0	6	8,57	0,696
16 Years	8	11,43	13	18,57	3	4,29	24	34,29	
17 Years	4	5,71	14	20,00	17	24,29	35	50,0	
18 Years	2	2,86	3	4,29	0	0	5	7,14	
							70	100	

Source: Primary Data, 2025

Table 4 shows that the level of knowledge of respondents by gender is in the category of adequate; The majority of respondents, both male and female, were in the sufficient category, according to the Chi-square test results, with a $p = 0.115$ value greater than 0.05, indicating that there was no significant relationship between gender and student knowledge level. In terms of age, the results of the chi-square test show that the level of knowledge of the respondents is in the category of sufficient or less.

Thus, it can be concluded that not only biological factors such as age and gender affect the student's level of knowledge, but also other factors such as sources of information, experience, environment, and socio-culture. Students with greater access to information generally show a better level of knowledge. In line with the opinion of Panjaitan et al. (2023) who stated that knowledge is more influenced by education and access to information than only by demographic factors.

COVER

The results of the study show that the level of knowledge of Madrasah Aliyah students about DAGUSIBU drugs in the Obtain aspect is in the Sufficient category (80.36%), the Use aspect is in the good category (80.71%), the Save aspect is also included in the good category (80.36%), while the Disposal aspect is still in the Insufficient category (55.71%). Overall, the students' level of knowledge

is adequate, with an average of 73.13%. According to the results of the chi-square test, there was no significant correlation between the student's gender and age and their level of knowledge.

This study only involved grade XI students and involved a limited number of respondents. In addition, the study did not look at other factors; only assesses the relationship between age and gender with knowledge level.

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