

DESCRIPTION OF THE KNOWLEDGE AND BEHAVIOR OF ADOLESCENTS TOWARDS SELF-MEDICATION OF ULCER DISEASES

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A B S T R A C T

Peptic ulcer disease is a condition affecting stomach acid, often caused by ulcers or inflammation in the stomach, and can be characterized by epigastric pain, nausea, and a feeling of early satiety. Management of peptic ulcer disease can be conducted through self-medication, which is the initial step taken independently using over-the-counter and limited over-the-counter medications that do not require a doctor's prescription. It is crucial to ensure that self-medication is carried out correctly, including selecting appropriate patients, the correct dosage, proper indications, and suitable medications. This study aims to evaluate the knowledge and behavior of students at SMA Negeri 1 Batauga regarding self-medication for peptic ulcer disease. The research method used is a non-experimental descriptive survey with purposive sampling technique involving 85 respondents. Primary data were collected by distributing questionnaires to students at SMA Negeri 1 Batauga. The results show that out of 85 respondents, the knowledge percentage was high (14.12%), medium (80.0%), and low (5.88%). Regarding self-medication behavior for peptic ulcer disease, 51.76% exhibited good behavior, 43.53% showed enough behavior, and 4.71% had not enough behavior. Based on the overall average, the percentage of knowledge and behavior of students at SMA Negeri 1 Batauga towards self-medication for peptic ulcer disease indicates a medium level of knowledge (68%) and enough behavior (74%).

INTRODUCTION

Teenagers are often trapped in unhealthy eating habits, which can lead to eating disorders and the risk of causing gastritis or ulcers (Siska, 2017). Ulcers are one of the health problems that are commonly found in everyday life (Wiatma, 2017). Gastritis, or ulcer, is a condition where inflammation occurs in the stomach lining (Ferdayani, 2023). Gastric acid disease occurs due to excessively high levels of stomach acid and impaired stomach function which causes the organ to not function properly (Indah & Dewi, 2019).

Based on data from the World Health Organization (WHO), the prevalence of peptic ulcer disease varies across countries, including 22% in the United Kingdom, 31% in China, 14.5% in Japan, 35% in Canada, and 29.55% in France. Globally, the incidence of peptic ulcers is estimated to be between 1.8 and 2.1 million cases per year. In Indonesia, the prevalence of peptic ulcers is quite high, reaching approximately 40.8% (Saparina & Ratna Sefrianti, 2020). Data from Southeast Sulawesi shows that in 2019, there were 32,243 cases (21.4%), in 2020, 37,140 cases (22.8%), and in 2021, 41,250 cases (Anggraeni et al., 2022).

Several causes of peptic ulcer recurrence include infection with the bacterium *Helicobacter pylori*, the use of non-steroidal anti-inflammatory drugs (NSAIDs), inconsistent eating patterns, alcohol consumption, smoking habits, and stress. While it has been commonly believed that irregular eating patterns are a major cause of peptic ulcer recurrence, many people are not aware that psychological factors and stress can also contribute to flare-ups. Peptic ulcers can affect anyone, including adolescents (Putri et al., 2018).

Gastritis or peptic ulcers frequently occurring in adolescents, especially among students, are often caused by irregular eating patterns. Consumption of spicy and acidic foods can also increase stomach acid production (Elfira Sri Futriani et al., 2020). Additionally, another factor contributing to peptic ulcer recurrence in adolescents, particularly in school students, is skipping breakfast and choosing unhealthy snacks at school, which can elevate stomach acid levels. Furthermore, a common mistake among these individuals is using medications not recommended for their condition in an

attempt to quickly alleviate symptoms. Therefore, it is crucial for school-aged adolescents to understand proper medication management for peptic ulcers (Imam et al., 2022).

Peptic ulcer treatment can involve using medications such as antacids, which help reduce stomach acid production if the condition is not too severe. Additionally, it is important to get adequate rest, maintain a regular eating schedule, and choose appropriate foods and beverages, such as boiled foods, mashed foods, and those that are not too spicy or acidic. It is also recommended to avoid high-caffeine drinks and consume more mineral water (Indah & Dewi, 2019).

Peptic ulcers can also be treated with traditional herbs, one of which is the *binahong* leaf (Idea et al., 2023). This leaf is commonly used as a medicinal ingredient (Nurwanti et al., 2024). *Binahong* leaves contain flavonoids with antioxidant (Hamzah et al., 2022) and anti-inflammatory properties, which can help reduce stomach inflammation.

Peptic ulcers can be managed through self-medication, a process where individuals identify symptoms and select medications without medical assistance (Siregar et al., 2021). It is crucial to ensure that self-medication is done correctly, by selecting the right patient, dosage, indications, and medication (Barbara et al., 2022). Knowledge about self-medication is essential to avoid errors, as improper self-medication can lead to adverse health effects (Anggraeni, 2019). Although medications aim to treat diseases, there are cases where individuals experience drug poisoning due to a lack of knowledge about proper medication use (Wulandari & Dhrik, 2022).

Self-medication behavior must be carried out properly; incorrect practices can lead to various health problems. When done correctly and in accordance with proper medication guidelines, self-medication can be beneficial. Main factors influencing self-medication behavior include high treatment costs and a lack of education and health knowledge (Sitindon, 2020).

A study on self-medication for peptic ulcers was conducted by Adelya Syahfitri (2022) titled "Overview of Knowledge and Self-Medication Behavior for Peptic Ulcers among Pharmacy Students at Poltekkes Kemenkes Medan." The study found that the knowledge about self-medication for peptic ulcers among pharmacy students at Poltekkes Medan had an average percentage of 67.06%, while self-medication behavior had an average percentage of 68.14%, indicating a fairly good level.

The demanding schedule of high school students, with classes running from 07:00 to 14:00, often leads them to complain of stomach pain. Symptoms can be similar to those of peptic ulcers, such as nausea, vomiting, bloating, early satiety, and a feeling of fullness (Lady et al., 2019).

Based on this explanation, the researcher is conducting a study on the knowledge and behavior of adolescents related to self-medication for peptic ulcers, titled "Overview of Adolescent Knowledge and Behavior Regarding Self-Medication for Peptic Ulcers at SMA Negeri 1 Batauga."

METHODOLOGY

Research Type

This study employs a descriptive survey method. In the context of public health, a descriptive survey aims to describe or provide an overview of health issues affecting groups or individuals in a specific community. This research will outline the knowledge and behavior of adolescents regarding self-medication for peptic ulcers at SMA Negeri 1 Batauga.

Location and Time of Study

The study was conducted from May 20 to May 27, 2024, at SMA Negeri 1 Batauga, located in Batauga District, South Buton Regency.

Population and Sample

The population for this study comprises 528 students at SMA Negeri 1 Batauga. A sample of 85 students was selected using Slovin's formula. The sampling technique used is purposive sampling, which involves selecting samples based on specific considerations (Sugiyono, 2020). The inclusion criteria for respondents were that they must be students of SMA Negeri 1 Batauga and must agree to participate in the study. Exclusion criteria included respondents being ill at the time of data collection, not being present at the location, or not being enrolled at SMA Negeri 1 Batauga.

Data Collection Techniques

Data was collected using a questionnaire, which consisted of a series of questions regarding students' knowledge and behavior related to self-medication for peptic ulcers. The questionnaire for knowledge about self-medication included 18 questions with true or false answer options. The

questionnaire for self-medication behavior consisted of 17 questions with response options of always, often, sometimes, and never.

Data Analysis

Data analysis involved evaluating the number of respondents and the percentage of each answer from the questionnaires covering aspects of knowledge and behavior. The analysis was descriptive, with results presented in the form of frequency distribution tables. Frequency tables were compiled using Microsoft Excel.

RESULTS AND DISCUSSION

Based on the results of the survey conducted among students of SMA Negeri 1 Batauga, 85 respondents met the inclusion criteria and agreed to complete the questionnaire for this study. The characteristics analyzed in this study include gender and grade level.

Table 1. Respondent Characteristics by Gender

Gender	Number of Respondents	Percentage
Female	56	65,88%
Male	29	34,12%
Total	85	100

Table 1. shows that out of 85 respondents, 56 (65.88%) are female, and 29 (34.12%) are male.

Table 2. Respondent Characteristics by Grade Level

Grade	Number of Respondents	Percentage
Tenth (X)	27	31,76%
Eleventh (XI)	31	36,48%
Twelfth (XII)	27	31,76%
Total	85	100

Table 2. shows that out of the total 85 respondents, 27 (31.76%) are from the Tenth (X) grade, 31 (36.48%) are from the Eleventh (XI) grade, and 27 (31.76%) are from the Twelfth (XII) grade.

Analysis of Respondents' Knowledge Level on Self-Medication for Peptic Ulcers

Knowledge level is the first variable in this study. The assessment of knowledge level is based on the percentage of correct answers provided by respondents on the questionnaire. Knowledge is considered high if the percentage score is between 80-100%, moderate if the percentage is between 50-79%, and low if the score is below 49%. The results of the knowledge assessment for students of SMA Negeri 1 Batauga will be presented, categorized by gender and class. Each category will be detailed in the following tables.

Results of the Study on Students' Knowledge of Self-Medication for Peptic Ulcers at SMA Negeri 1 Batauga by Gender

Table 3. Level Of Knowledge Of Respondent Regarding Self-Medication For Stomach Ulcers Based On Class

Gender	Amount		Knowledge					
	N	%	High	%	Medium	%	Low	%
Female	56	65,88%	9	16,07%	46	82,14%	1	1,79%
Male	29	34,12%	3	10,34%	22	75,87%	4	13,79%
Amount	85	100%						

Source: Primary Data, 2024

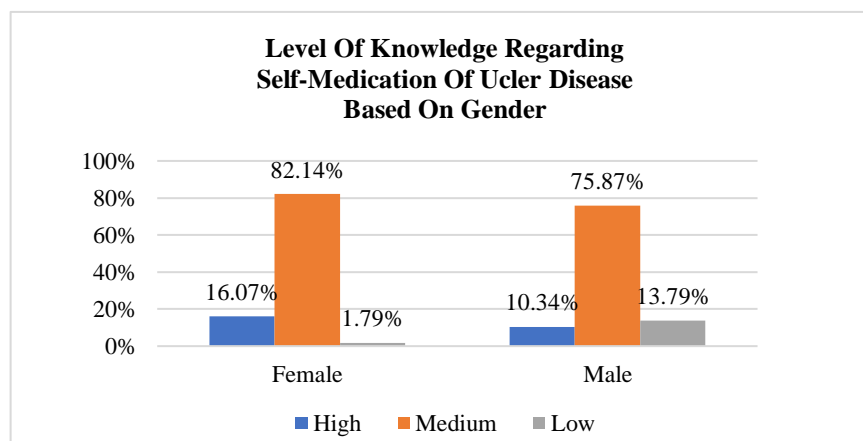


Figure 1. Graph of Self-Medication Knowledge Levels for Stomach Disorders by Gender

Based on figure 1. above, it can be concluded that female respondents have greater knowledge and awareness of the symptoms, causes, and self-medication for stomach disorders compared to male respondents. This observation is supported by Picture 1.1, which shows that the knowledge level of females is categorized as high at 16.07%, medium at 82.14%, and low at 1.79%. In contrast, the knowledge level of males is categorized as high at 10.34%, medium at 75.87%, and low at 13.79%. According to Mufida et al. (2022), the higher self-medication knowledge among females compared to males is because females tend to be more concerned about health, both for themselves and their families. This is supported by another study conducted by Riyanti (2024), which found that females are more knowledgeable about the symptoms and self-medication for gastritis due to their greater health awareness. One reason females are more vigilant about their health, particularly with stomach disorders, is that they have a threefold higher probability of gastrointestinal disturbances compared to males. The estrogen hormone, which plays a role in increasing the risk of gastrointestinal issues through enhanced stomach secretion and relaxation of the esophageal sphincter, contributes to this (Wangi et al., 2023).

Results of the Study on the Knowledge Level of SMA Negeri 1 Batauga Students Regarding Self-Medication for Stomach Disorders by Class

Table 4. Level Of Knowledge Of Respondent Regarding Self-Medication For Stomach Ulcers Based On Class

Class	Amount		Knowledge					
	N	%	High	%	Medium	%	Low	%
Ten (X)	27	31,76%	4	14,81%	21	77,78%	2	7,41%
Eleven (XI)	31	36,48%	1	3,23%	27	87,10%	3	9,67%
Twelve (XII)	27	31,76%	7	25,93%	20	74,07%	0	0,0%
Amount	85	100%						

Source: Primary Data, 2024

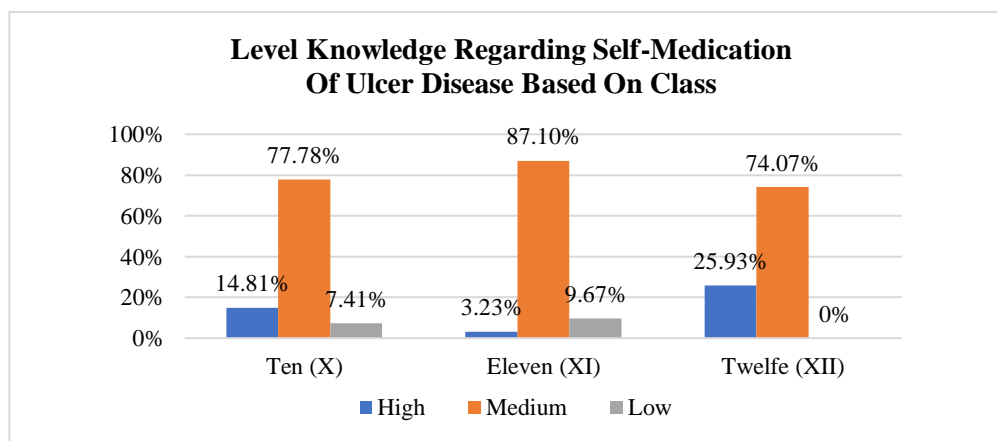


Figure 2. Graph Of Knowledge Level Of Self-Medication For Stomach Ulcers Based On Class

From figure 2 above, the research results on the level of knowledge about self-medication for stomach ulcers based on class indicate a stable level of knowledge, with all three classes predominantly having moderate knowledge levels. This can be observed in figure2, which shows that for grade ten (X), the knowledge levels are categorized as high at 14.81%, medium at 77.78%, and low at 7.41%. In grade eleven (XI), the knowledge levels are high at 3.23%, medium at 87.10%, and low at 9.67%. For grade twelve (XII), the knowledge levels are high at 25.93%, medium at 74.07%, and low at 0%. These results indicate that there is no relationship between the knowledge of self-medication for stomach ulcers and the grade level. This is due to the lack of curriculum content at SMAN 1 Batauga addressing self-medication for stomach ulcers. Furthermore, the school has not yet established cooperation with hospitals or community health centers to conduct socialization on self-medication for stomach ulcers. Respondents obtain information on self-medication for stomach ulcers primarily through friends, family, pharmacists, and the internet.

The Research Results on the Level of Knowledge of Students at SMA Negeri 1 Batauga Regarding Self-Medication for Stomach Ulcers

Table 5. Assessment Of Respondent's Level Of Knowledge Regarding Self-Medication For Stomach Ulcers

Information	Amount		Knowledge					
	N	%	High	%	Medium	%	Low	%
Respondent	85	100%	12	14,12%	68	80,0%	5	5,88%

Source: Primary Data, 2024

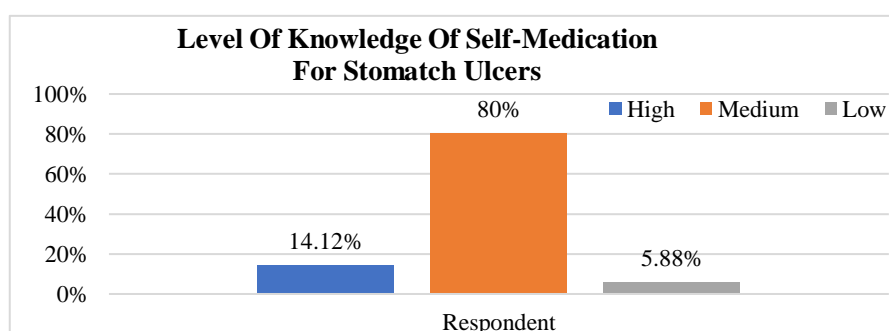


Figure 3. Graph of knowledge level of self-medication for stomach ulcers

figure 3 above shows that the majority of respondents are in the moderate knowledge category. This is evident from figure 3, which indicates that the percentage of respondents with high knowledge is 14.12%, medium knowledge is 80%, and low knowledge is 5.88%. The overall average percentage of knowledge among students at SMA Negeri 1 Batauga shows a medium level (68%). This is due to many respondents not being aware that symptoms of stomach ulcers include bloating or a feeling of fullness in the abdomen, nausea, pain in the upper abdomen or left side of the stomach, a burning sensation in the chest, a sensation of pressure in the throat, a bitter or acidic taste in the mouth, and frequent belching. Regarding general information about stomach ulcer symptoms, many

respondents answered incorrectly because diarrhea, which is not a symptom of stomach ulcers, was included in the statements.

Regarding knowledge of how and when to take stomach ulcer medications, such as Promag and Mylanta, many respondents answered incorrectly about the timing of medication, as they do not understand that these medications should be taken one hour before or two hours after meals. Stomach ulcer medications are more effective when taken 1-2 hours after eating, as the digestive tract is less likely to be affected by the ulcer and the stomach is mostly empty. Similarly, many respondents answered incorrectly regarding whether stomach ulcer medication should be taken until finished even if symptoms have improved. This misunderstanding is due to a lack of knowledge about antacids; many respondents believe the medication should be continued until finished even after recovery. According to the Indonesian Pharmacists Association (2017), it is advised to take ulcer medications as soon as symptoms appear. However, once conditions improve and symptoms disappear, medication use should be stopped. Antacids are classified as over-the-counter medications, and it is important not to use them continuously for more than two weeks without a doctor's guidance.

Additionally, many respondents provided incorrect answers about the limit on antacid use, such as taking it four times a day, due to a lack of understanding. According to the Basic Pharmacology End Drug Notes (2023), the limit for antacid use is four times a day. Regarding knowledge about storing liquid antacid medications after opening, many respondents answered incorrectly. These medications should be stored for no more than one month after opening. This error is due to a lack of understanding about drug storage. According to Bahiyah (2020), liquid antacid medications have a shorter shelf life after opening, which is one month. Once opened, the medication is exposed to air, which can alter its chemical structure and reduce its effectiveness and benefits.

Results of the Analysis of Respondents' Behavior Towards Self-Medication for Stomach Ulcers

Self-medication behavior for stomach ulcers is the second variable in this study. To measure respondents' behavior in self-medication for ulcers, a behavior questionnaire using a Likert scale was employed. In this questionnaire, for positive statements, the response options are scored as follows: "always" is given a value of 3, "often" a value of 2, "sometimes" a value of 1, and "never" a value of 0. Conversely, for negative statements, "always" is given a value of 0, "often" a value of 1, "sometimes" a value of 2, and "never" a value of 3. Behavior is considered good if the score falls between 76-100%, fairly good if the score is between 50-74%, and poor if the score is below 49%. The following are the results of the assessment of SMA Negeri 1 Batauga students' behavior, categorized by gender and age. Each category will be presented in the following tables.

The Research Results on SMA Negeri 1 Batauga Students' Behavior Towards Self-Medication for Stomach Ulcers Based on Gender

Table 6. Respondent's Behavior Towards Self-Medication For Ulcer Disease Based On Gender

Gender	Amount		Knowledge					
	N	%	Good	%	Enough	%	Not Good	%
Female	56	65,88%	36	64,29%	19	33,92%	1	1,79%
Male	29	34,12%	8	27,59%	18	62,07%	3	10,34%
Amount	85	100%						

Source: Primary Data, 2024

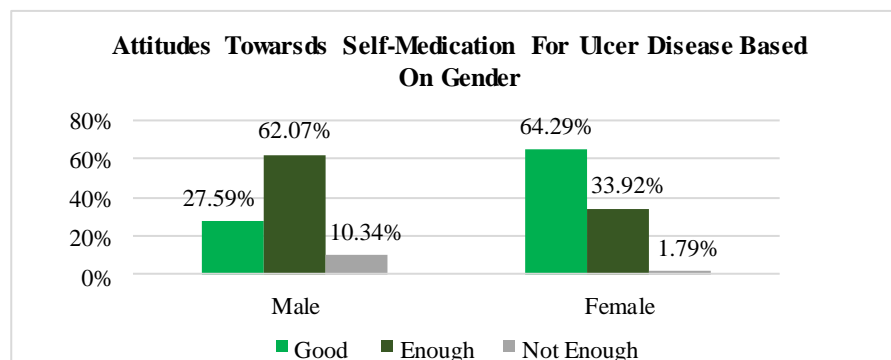


Figure 4. Graph Of Self-Medication Behavior For Stomach Ulcers Based On Gender

From figure 4 above, which analyzes self-medication behavior for stomach ulcers based on gender in this study, the results indicate that female respondents exhibit better self-medication behavior for stomach ulcers compared to males. This is illustrated in figure 4, showing that 64.29% of females have behavior categorized as good, 33.92% as enough, and 1.79% as not enough. In contrast, among males, 27.59% have behavior categorized as good, 62.07% as enough good, and 10.34% as not enough. Females tend to be more aware of the importance of careful medication use to maintain their health, including the use of stomach medications. Additionally, females are often more open in communicating about their health issues, resulting in receiving more information or advice regarding medication use from doctors or healthcare professionals.

The Research Results on SMA Negeri 1 Batauga Students' Behavior Towards Self-Medication for Stomach Ulcers Based on Grade Level

Table 7. Respondent Behavior Towards Self-Medication For Stomach Ulcers Based On Class

Class	Amount		Attitude					
	N	%	Good	%	Enough	%	Not Enough	%
Ten (X)	27	31,76%	14	51,85%	13	48,16%	0	0,0%
Eleven (XI)	31	36,48%	15	48,39%	14	45,16%	2	6,45%
Twelve (XII)	27	31,76%	15	55,56%	10	37,04%	2	7,40%
Amount	85	100%						

Source: Primary Data, 2024

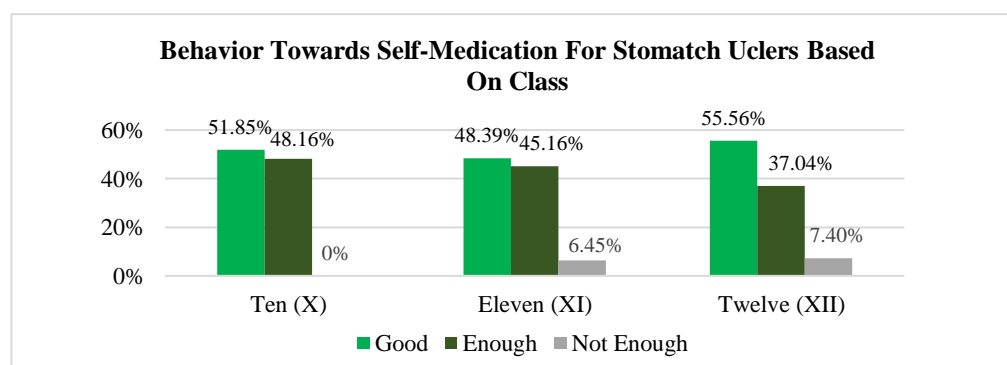


Figure 6. Grap For Assessing Self-Medication Behavior For Stomach Ulcers Based On Class

From figure 6, the research findings on self-medication behavior for stomach ulcers based on grade levels indicate that there is a stable behavior pattern. In all three grades, the behavior is predominantly categorized as good. This can be seen in figure 6, where the behavior levels in grade ten (X) show 51.85% in the good category, 48.16% in the enough category, and 0% in the not enough category. In grade eleven (XI), the behavior levels are 48.39% in the good category, 45.16% in the enough category, and 6.45% in the not enough category. In grade twelve (XII), the behavior levels are 55.56% in the good category, 37.04% in the enough category, and 7.40% in the not enough category. These results indicate that there is no relationship between self-medication behavior for stomach ulcers and grade levels. This lack of relationship is attributed to the respondents' habits and experiences with self-medication for stomach ulcers.

The Research Results on SMA Negeri 1 Batauga Students' Behavior Towards Self-Medication for Stomach Ulcers

Table 8. Assessment Of Level Of Respondent Behavior Regarding Self-Medication For Stomach Ulcers

Information	Amount		Knowledge					
	N	%	Good	%	Enough	%	Not Enough	%
Respondent	85	100%	44	51,76%	37	43,53%	4	4,71%

Source: Primary Data, 2024

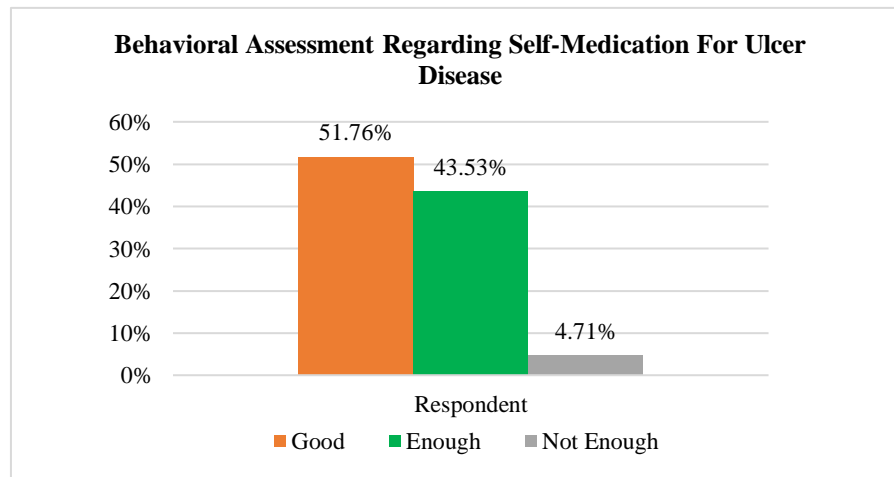


Figure 7. Ulcer Self-Medication Behavior Assessment Graph

From figure 7 above, regarding self-medication behavior for stomach ulcers among 85 respondents, it is evident that 4 people (4.71%) exhibited not enough behavior. Respondents with not enough behavior tend to have bad habits, such as frequently consuming acidic foods and not following a regular eating pattern when experiencing stomach ulcers. These respondents often avoid taking medication and instead leave the condition untreated.

From this study, it can be observed that the majority of SMA Negeri 1 Batauga students demonstrate good self-medication behavior for stomach ulcers, as shown in figure 7 above. However, when considering the overall average percentage of behavior towards self-medication for stomach ulcers, it is rated enough good, with a percentage of 74%. In comparison to knowledge about self-medication for stomach ulcers, among the 85 respondents, 12 (14.12%) have high knowledge, 68 (80.0%) have medium knowledge, and 5 (5.88%) have low knowledge. Overall, the average percentage of knowledge regarding self-medication for stomach ulcers indicates a medium level of knowledge, which is 68%. According to previous research (Barbara et al., 2022), high knowledge does not necessarily influence behavior, and similarly, moderate knowledge does not necessarily impact behavior.

CONCLUSION

Based on the study of knowledge levels and self-medication behavior for stomach ulcers at SMA Negeri 1 Batauga, the following conclusions can be drawn. The level of knowledge among SMA Negeri 1 Batauga students regarding self-medication for stomach ulcers is as follows: 12 students have high knowledge (14.12%), 68 students have medium knowledge (80.0%), and 5 students have low knowledge (5.88%). The behavior of SMA Negeri 1 Batauga students regarding self-medication for stomach ulcers is categorized as follows: 44 students exhibit good behavior (51.76%), 37 students exhibit enough behavior (43.53%), and 4 students exhibit not enough behavior (4.71%). On average, the overall percentage of knowledge and behavior among SMA Negeri 1 Batauga students regarding self-medication for stomach ulcers shows medium knowledge (68%) and enough behavior (74%).

Limitations in this research include research time, research personnel, researcher abilities, as well as the respondent's lack of understanding of the statements in the questionnaire and the potential for dishonesty in filling out the questionnaire, which can affect the accuracy of the research results.

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