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The Relationship of Common Cold Knowledge Level and Self-Medication Behavior in Non-Faculty of Health Students at Yogyakarta Muhammadiyah University

Pinasti Utami[1]*, Uun Unarih[2], Salma Fajar Puspita[3], Devi Ristian Octavia[4], Fitriana yuliastuti[5]

[1, 2]School of Pharmacy, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Indonesia, 55183

[3]Department of Pharmacy, Faculty of Mathematics and Natural Sciences, Universitas Islam Indonesia

[4]Departemen Famasi Fakultas Ilmu Kesehatan Universitas Muhammadiyah Lamongan, Indonesia,62218

[5]Departemen Farmasi, Fakultas Ilmu Kesehatan, Universitas Muhammadiyah Magelang, Indonesia, 56126

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A B S T R A C T

The results of the National Health Survey in 2016 showed that 72.44% of the people carried out self-medication treatment and data from the Health Profile of the Bantul District Health Office in 2019. Acute nasopharyngitis (Common cold) was included in the top ten diseases with 84,142 patients. Self-medication behavior must be followed with high knowledge in order for treatment to be appropriate and rational. This study aims to determine the relation between the level of common cold knowledge and common cold self-medication behavior in non-health faculty students at the University of Muhammadiyah Yogyakarta. This was an observational study with a cross-sectional research design using descriptive analysis. The sampling technique used was the probability sampling technique with systematic random sampling. In this study, 400 respondents who were non-medical students at the University of Muhammadiyah Yogyakarta were included in the study. The instruments used in this study were a common cold knowledge level questionnaire and a common cold self-medication behavior questionnaire. The data were analyzed using the spearman rank correlation test. The results of this study showed that the level of knowledge of respondents regarding common cold self-medication was known, namely 84.5% of respondents were included in the category of high knowledge, 15.5% of the category of fair knowledge. For common cold self-medication behavior, 82.3% were found to be in the high behavior category, 12.5% in the fair behavior category, and 5.4% in the poor behavior category. The results of the correlation test between the level of knowledge and self-medication behavior produced a significant correlation value (p-value 0.005) with a correlation coefficient of 0.141. Based on the results of the study, it can be concluded that there is a relation between the level of common cold knowledge and the behavior of common cold self-medication in non-medical faculty students at the University of Muhammadiyah Yogyakarta.

Keywords: Behaviour, Common cold, Knowledge, Self-medication

* *Corresponding* author: Pinasti Utami, School of Pharmacy, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Indonesia. E-mail: *pinasti.utami@umy.ac.id*

1. Introduction

Self-medication is an effort made by a person in the choosing of medicines in minor illnesses based on one's own initiative without the advice of a doctor (1). The categories of the minor illnesses are fever, pain, dizziness, cough, flu, dyspepsia, diarrhea, skin diseases and others (2). According to the World Health Organization (WHO), as many as 80% of people in various countries are doing self-medication (3). Self-medication practiced by the Indonesian population of 62.65% in urban areas and 61.88% in rural areas, this study is in line with the results of the National Health Survey in 2012 which noted that there were 66% of people in Indonesia self-medicating and the Central Statistics Agency which stated that the percentage of people who do self-medication is 72.44% (4). This shows that the behavior of self-medication in Indonesia is still quite high. Based on Riskesdas data, it stated that in Indonesia there are 103,860 (35.2%) out of 294,959 households store medicines for self-medication (5). According to data from the Health Profile of the Bantul Regency Health Office in 2019, acute nasopharyngitis (Common cold) is a disease that is always included in the top ten diseases in public health centers (Puskesmas) in Bantul regency, namely 84,142 patients (6). The common cold is an infectious disease that attacks the upper respiratory tract caused by a virus. The main viruses that cause disease common colds are rhinovirus, influenza virus, and adenovirus (7). This disease is usually experienced by children to adults. Currently, Common cold is more common in Indonesia which has a tropical climate with high rain intensity.

Self-medication behavior is influenced by several factors, one of which is knowledge. Knowledge is an important domain for shaping someone's behaviour, especially related to the practice of self-medication. The wrong choice of medicines for common cold medicine will not give optimal results, even will increase the cost of treatment. Based on previous research, the problems that arise in the handling of common cold are the poor understanding of common cold (1.3%), not knowing the main cause of common cold (88.8%), not knowing the symptoms of common cold correctly (3.8%), and not being able to distinguish the symptoms of common cold with other almost similar respiratory tract diseases (95.6%) (8). It can be concluded that the knowledge of common cold self-medication is still poor. Knowledge of common cold is very necessary to choose the right medicines, so that the medicines that taken are in accordance with the symptoms (9).

Yogyakarta, as a city of students, is dominated by many students from outside the region. Living alone make they tend to do self-medication to their severity of mild illnesses. Research on self-medication among students has been carried out in Indonesia and abroad. One of the studies in Indonesia found the level of self-medication knowledge in medical students was obtained 93.93% for high knowledge, 6.06% for fair knowledge, and no students with poor knowledge (10). Meanwhile, the level of self-medication knowledge of non-medical students obtained 7.50% for high knowledge, 8.69% for fair knowledge, and 83.79% for low-knowledge students. Whereas, in the United Arab Emirates, self-medication in non-medical students is high (59%), but lower than in medical students (86%) (11). This means that the level of self-medication knowledge in non-medical students is lower than medical students. This research was conducted on non-medical students with the aim of determining the relationship between the level of common cold knowledge and common cold self-medication behavior in non-medical students at the University of Muhammadiyah Yogyakarta as a form of contribution to Muhammadiyah's charitable efforts and it is hoped that this research can be used as the basis for further research.

2. Methods

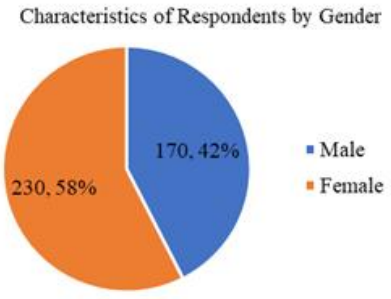
This research is an observational study using a cross-sectional research design, that is descriptive, to describe the relation between knowledge levels and common cold self-medication behavior in Non-Medical Students at Muhammadiyah University of Yogyakarta. The data collection period is carried out from June to August 2021. For sampling, this study used the Probability Sampling with Systematic random sampling. In this study, 400 respondents were active non-medical students at the University of Muhammadiyah Yogyakarta, aged 18-24 years, class of 2017, 2018, and 2019, had a history of common cold, had or were doing common cold self-medication, and agree to fill out the e-questionnaire (google forms™). The instruments used in this study are the common cold knowledge level and the common cold self-medication behavior questionnaire that has been validated and reliable by previous researchers (12). The data that has been obtained then analyzed using the help of SPSS (Statistical Product and Service Solutions) 15th version and Microsoft excel. The score, used for statements on the e-questionnaire (google forms™), used the Guttman scale where answering "True" is worth 1 and answering "False" is worth 0 for positive statements and vice versa for negative statements. Data analysis used using spearman rank correlation test.

3. Result and Discussion

This study involved 400 respondents with the following characteristics:

Gender Characteristics

Figure 1. Characteristics of Respondents by Gender



Based on the Figure 1, respondent who did the most self-medication was female as many as 230 respondents (58%). The results obtained are in accordance with the results of a study conducted (Bunardi & Rizkifani, 2019) in which respondents with the female (79.8%) did more self-medication than those with the male (20.2%). This is because in addition to the majority population is female, and there are tendency that woman more likely to do self-medication than man (13).

Characteristics by Faculty

Muhammadiyah University of Yogyakarta has seven Non-medical Faculties. This study used proportions. So that the sample obtained can represent all existing Faculties. The following is the percentage of respondents.

Table 1. Characteristics of Respondents by Faculty

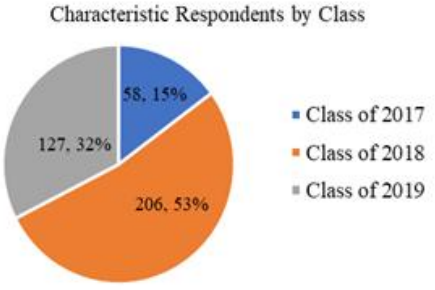
Faculty	Amount	Sample	Percentage %
Faculty of Social and Political Science	3.895	86	21,5
Faculty of Language Education	1.202	33	8,3
Faculty of Islamic Studies	1.937	43	10,8
Faculty of Agriculture	1.612	35	8,8
Faculty of Engginering	2.853	65	16,3
Faculty of Economic and Bussiness	4.490	99	24,8
Faculty of Law	1.757	39	9,8

Based on the table above, all data that obtained are in accordance with the minimum number of samples of each faculty so that respondents can be representative of each faculty rightfully. The highest number of respondents was obtained by the Faculty of Economics and Business. That's because the population of the faculty of economics and business has the highest number of students, namely 4,490 students.

Characteristics by Class

This research involved the student of 2017, 2018, and 2019. The following is a picture of the number of respondents per class:

Figure 2. Characteristics of Respondents by Class



The following is the percentage of knowledge and behavior by class:

Table 2. *Level of Knowledge and Behavior by Class*

Class	% Knowledge	% Behaviour
2017	84,75%	84,76%
2018	85,73%	84,11%
2019	85,17%	83,95%

Based on the table above, the percentage who has a high level of knowledge is the class of 2018, which is 85.73% while the high level of behavior in the class of 2017 is 84.76%. From those results, each class has the same percentage of knowledge and behavior. This is slightly different from the theory that the level of knowledge is getting better along with the increase in the length of lectures (class). The longer the respondent's college period, the better the level of knowledge will be and the high knowledge will affect the respondent's behavior to be good as well. This theory is in line with research conducted by Sari in 2013, which states that the higher class the higher knowledge that they get (14). Because this research was conducted during a pandemic, respondents accessed information via internet and asked pharmacists to find out about self-medication for the common cold.

Knowledge Level Common Cold

The common cold knowledge level of respondents in this study used 4 indicators. The indicators at the level of common cold knowledge are as follows:

Table 3. Common Cold Knowledge Level

INDICATOR	QUESTION NUMBER	ANSWER	
		TRUE (%)	FALSE (%)
1. General Information on Common Cold			
Common cold (runny nose, cough) is an upper respiratory disorder.	1	94,00%	6,00%
Average		**94,00%**	**6,00%**
2. Symptoms and Causes of Common Cold Disease			
Common cold can be characterized by sore throat.	2	93,50%	6,50%
Common cold can be characterized by mucous discharge in the nose and sneezing.	3	98,25%	1,75%
Common cold is accompanied by fever >38.5^{0}C.	4	51,00%	49,00%
Most common colds are caused by viruses.	5	90,25%	9,75%
Weather changes cannot cause the occurrence of common cold.	6	77,50%	22,50%
Common cold transmission can be through direct contact with the sufferer.	7	88,25%	11,75%
Average		**83,13%**	**16,88%**
3. Pharmacological and Non-Pharmacological Therapy			

Nasal relief or decongestant is used to treat nasal congestion.	8	96,00%	4,00%
The medicine that common cold uses are antibiotics.	9	39,25%	60,75%
Taking vitamin C can relieve the common cold.	10	86,00%	14,00%
Drinking plenty of water can reduce the common cold.	11	97,00%	3,00%
Average		**79,56%**	**20,44%**
4. Knowing the Rules for Using Medicine, Side Effects of Medicine and Drug Stability			
The time limit for the use of common cold medicine is less than 4 months.	12	77,50%	22,50%
If you forget to take the medicine, you can take 2 doses at a time.	13	90,00%	10,00%
An indication of a drug is the usefulness of a drug.	14	87,75%	12,25%
Contra indication of a drug is a circumstance that does not allow a drug to be used by a person.	15	93,00%	7,00%
A side effect of a drug is an unexpected and dangerous reaction caused by a treatment.	16	83,75%	16,25%
Common cold medications have the side effect of drowsiness.	17	93,99%	6,01%
If the drug has exceeded the expiration date, it should not be taken.	18	87,00%	13,00%
If the tablet medicine has changed color, it can still be taken.	19	86,96%	13,04%
Average		**87,49%**	**12,51%**

Based on the results of the table above, it can be seen that there are still indicator items that have an error rate. This shows that each indicator is still not known correctly by students.

1. General Information of Common Cold

In this study out of 400 respondents, 376 respondents (94%) answered correctly regarding the question on the item General Information of common cold. Based on the table above, this is in line with Banun in 2017 regarding the relation of knowledge level to common cold self-medication behavior in non-medical students, there were 327 (92%) of 354 respondents who knew general information about common cold correctly (15). This shows that students know the general information about common cold well.

2. Symptoms and Causes of Common Cold

The questions in indicator one consist of six questions, where the correct answers to questions number two, three, five, and seven are "TRUE". Meanwhile, question items number four and six are Negative questions. And the right one for the question is "FALSE". So caution is needed in coding. The average results obtained, from the level of knowledge of the symptoms and causes of common cold diseases in non-health students of the University of Muhammadiyah Yogyakarta, who answered correctly as much as 83.13%. This shows that largely respondents know the symptoms and causes of common cold well. The respondent's error in answering the question "a symptom of fever in common cold occurs less than 38◦C". Then the cause of common cold is usually caused by a virus (generally rhinovirus) and its spread can be through physical or airborne contact, which is spread through sneezing or coughing (7). But in reality, there are still many people who do not know the main cause of common cold. Some people still think that the causes of common cold are weather changes, drinking ice, lack of rest, and rain. Weather changes are not the main cause of common cold. However, with the change in weather, it will make the body's condition decrease so that it is easily attacked by the virus that causes the cold common.

3. Pharmacological and Non-Pharmacological Therapies

The next indicator is to know the right therapy when a common cold occurs, both pharmacologically and non-pharmacologically. In this study, the question had four question items, of which two were "TRUE" (numbers eight and eleven) and two answers were "FALSE" (numbers nine and ten). From the average obtained, the level of knowledge of pharmacological and non-pharmacological therapies in respondents, who answered correctly was 79.56%. This suggests that respondents knew about pharmacological and non-pharmacological therapies common.

Question number eight and nine are knowledge of pharmacological therapy common cold. Treatment in common cold only treats the symptoms that appear. So treatment is only symptomatic, that is, it relieves or over turns the symptoms, without causing the virus (causative). Decongestant is a pharmacological therapy of common cold which can function as a nasal congestion lozenge. The question for number nine of the data is known that approximately (60.75%) respondents use Antibiotics in the treatment of common cold without getting a prescription from a doctor. This shows that there are respondents who do not understand common cold medicine. Antibiotics are medicine that can be used under the supervision of a doctor and are not used for common cold self-medication. The use of antibiotics in the case of common cold is an irrational form of drug administration and not according to the indications of its use (off label use), and can be classified as a medication error. The out-of-place use of antibiotics is associated with increased antibiotic resistance in the community. Resistance of microorganisms to antibiotics increases mortality, morbidity, and increased costs due to infection (17).

Questions number ten and eleven are knowledge of non-pharmacological therapies in the common cold. Based on a study involving 11,306 participants, the participants who took vitamin C regularly did not suffer from the

common cold. Vitamin C dosage for the treatment of common cold is 1 to 3 grams (1,000 to 3,000 milligrams) per day (18). Meanwhile, the questions number 11 shows 97.00% answered correctly. Water has many functions, including as a solvent, a constituent of cell structure, a catalyst for enzymatic processes, a filler of inter-joint spaces, a regulator of body temperature, a role in blood circulation, and excretion of metabolic waste. Fluid intake that must be met is at least 8 glasses per day with a minimum glass size of 250 ml. Viruses or bacteria that cause common cold can come out of the body through water that the body secretes, either through urine or sweat.

4. Drug Use Rules, Drug Side Effects, and Drug Stability Knowledge

In this study, questions regarding Drug Use Rules, Drug Side Effects, and Drug Stability were eight questions consisting of six "TRUE" answer questions (12, 14, 15, 16, 17) and two "FALSE" answer questions (13 and 19). Based on the average obtained, regarding the rules of drug use, indications and contraindications of medicine, side effects of medicine, and drug stability, respondents who answered correctly were 87.49%. This shows that the respondent's knowledge level is high in the question.

Question number 12 based on Ministry of Health of the Republic of Indonesia (2007), regarding guidelines for over-the-counter medicine and limited over-the-counter medicine, states that if the illness for more than three days has not been cured, immediately see a doctor (20). In question number 13, taking medicine not in accordance with the dosage will be very risky to cause side effects of the drug. In addition, the accuracy of the dosage, method and duration of drug administration will greatly affect the therapeutic effect of the drug (21). Knowing the rules for using medicine, indications and contraindications of medicine, side effects of medicine, and drug stability is very important to know these four terms, so that there are no mistakes in consuming medicine or what is commonly called DRPs (Drug Related Problems). Common cold medicine containing chlorpheniramine maleate have a side effect, namely drowsiness. As per ISO Vol 52 of 2019, it is stated that, the side effects of chlorpheniramine maleate are dizziness, nausea, vomiting, impaired coordination, and drowsiness. The statement in favor of question number 19 if the tablet drug has changed color then, indicates a malfunction of the tablet. Color changes in tablets can be caused by several factors such as temperature, the presence of microbial substances entering, or the uneven color mixing process of the tablets (22). Therefore, if the medicine shows physical changes such as changes in color, smell, and taste, it should not be taken.

The measure of the level of knowledge can be adjusted into three, namely: 1. High knowledge when respondents can answer 76-100% correctly of the total question answers; 2. Fair knowledge when respondents can answer 56-75% correctly of the total question answers; 3. Poor knowledge when respondents were able to answer 56% of the total question answers(24).

The level of knowledge of knowing the common cold self-medication of respondents is described in the following table:

Table 4. *Knowledge Level of Respondents*

Category	Knowledge Score (%)	Amount	Percentage (%)
High	76-100	338	84,5
Fair	56-75	62	15,5
Poor	≤56	0	0

Based on the table above, 338 respondents (84.5%) non-medical students of Muhammadiyah University of Yogyakarta are included in the category of high knowledge, 62 respondents (15.5%) belong to the category of fair knowledge, and there are no respondents who belong to the category of poor knowledge. There are several things that cause the high level of knowledge of non-medical students of the University of Muhammadiyah Yogyakarta towards common cold self-medication, including: 1. common cold is the most common so that knowledge about common cold disease is very widely known by the public; 2. Student is considered to have a high level of intellectuality, intelligence in thinking, and planning in acting (25); 3. The large amount of access to information to find out about self-medicating common cold, both from advertisements on television, the internet, as well as from people closest to them who have experienced the common cold, causing a high level of knowledge in this study.

Common cold Self-medication Behavior

In the behavioral analysis of respondents this study found seven indicators. The category of indicators in the research on self-medicated behavior common cold in Non-Health Students of Muhammadiyah University of Yogyakarta as follows:

Table 5. Common Cold Self-Medication Behavior

INDICATOR	NUMBER OF QUESTION	ANSWER	
		TRUE (%)	FALSE (%)
1. Exact Drug Indications			
I conclude the occurrence of common cold if symptoms of sneezing and nasal congestion arise.	1	92,75%	7,25%
I didn't notice the content of the common cold medicine used.	2	54,00%	46,00%
Average		73,38%	26,63%
2. Exact Rules of Use of the Drug			
I don't use the description on the packaging of the drug as a source of information to treat the common cold.	3	74,50%	25,50%
Before taking common cold medicine I read the instructions for use and its warnings.	4	95,50%	4,50%
Average		85,00%	15,00%

3. Proper Dosage			
Before taking the medicine, I read the rules of use (dosage of the drug) first.	5	98,25%	1,75%
Average		98,25%	1,75%
4. Exact time intervals of Drug Administration			
Before taking the medicine, I read the time span of using the medicine.	6	92,25%	7,75%
Average		92,25%	7,75%
5. Right Time of Administration			
If the symptoms of common cold do not decrease in more than 3 days then what I do is see a doctor.	7	78,25%	21,75%
Average		78,25%	21,75%
6. Beware of Drug Side Effects			
When I traveled far, I experienced a common cold and still took medicine.	8	78,25%	21,75%
Average		78,25%	21,75%
7. Proper Follow-up			
If I don't understand the rules for using medicine, I ask the pharmacy officer or pharmacist.	9	93,50%	6,50%
Average		93,50%	6,50%

1. Exact Drug Indications

The exact indicator of the indication of the drug is listed on questions number one and two, where the exact number one on question number one is "TRUE" and number two is "FALSE". Of all the data obtained, self-medication behavior regarding the exact indication of the drug in respondents who answered correctly was 73.38%. The average respondent who answered incorrectly because they did not pay proper attention to the indications of the drug on the packaging. The circulating common cold medicine are mostly in a combined dosage form of several active ingredients, each of which is an ingredient, aimed at overcoming a variety of varied common cold symptoms. The use of the drug is said to be appropriate among other things if the choice of drug is in accordance with its indications. Based on the composition of the active substance, this combination common cold drug is considered rational enough to treat common cold symptoms because it is symptomatic (26). The common cold combination drug has a composition consisting of antihistamines, decongestants with other varied auxiliary components such as analgesic-antipyretic, antitussive and expectorant. In the selection of common cold medicine combinations should be considered according to the common cold symptoms experienced. There is question number two it is very important for the subject to pay attention to the content of the drug listed on the drug brochure so that the treatment carried out can achieve efficacy and in accordance with common cold symptoms.

2. Exact Rules of Use of the Drug

In this indicator, there are two questions with the right answer being "FALSE". From all the data obtained, self-medication behavior regarding the right rules for using medicine in respondents who answered correctly was 85.00%. The average error in not knowing the rules for using the drug correctly before taking the drug, they should pay attention to the information or rules of use listed on the packaging of the drug such as the drug taken after meals or before meals, because it will affect the effectiveness of the drug. In question number 4, it is very important for respondents to read and understand the instructions for use of the drug listed on the packaging before consuming the drug. All over-the-counter and restricted over-the-counter medicines have instructions on the packaging to make it easier for subjects, especially those who do common cold self-medication, to make it easier to understand.

3. Proper Dosage

The Right Indicator of Drug Dosage Listed on question number five, the answer for this question is "TRUE". There were 400 respondents who answered correctly as many as 393 (98.25%). The dosage of the drug greatly affects the therapeutic effect of the drug. Based on the information contained in the packaging of common cold medicine with a limited class of over-the-counter medicine, that the maximum use of the drug is consumed within 3 days for adult doses and >12 years if the disease persists, then immediately consult a doctor. Common cold medicine at normal doses is taken 3 times a day in the amount of 1 tablet each time you drink. Excessive dosing of medicine, especially for medicine with a narrow therapeutic range, will risk causing unexpected side effects of the drug. In addition, if the dose of the drug is too small, it will not guarantee the achievement of the expected therapeutic level that means the dose given must be appropriate. This shows that almost all respondents pay attention to or read the dosage of the drug first.

4. Exact time intervals of Drug Administration

The next indicator is the exact time interval of drug administration. In this study, the question of the exact time interval of drug distribution was listed in question number six. The time interval of drug use is important in the use of a drug, because it can affect the duration of effectiveness of the drug, namely the time difference between the time of start of action and the time it takes for the drug to drop back to the minimum concentration. Inappropriate intervals of drug use will lead to inappropriate frequency of use of the drug (27). Therefore the answer to this question is "TRUE". The results showed that 92.25% answered correctly in understanding or reading the time span of drug use.

5. Right Time of Administration

The exact indicator of the duration of administration of the drug is indicated on question number seven. According to Ministry of Health of the Republic of Indonesia (2007), about the guidelines for the use of over-the-counter and over-the-counter medicine limited to mention if symptoms persist for more than 3 days then immediately check with a doctor. Treatment in cold common only treats the symptoms that appear (symptomatic) without killing the virus that causes it (20). Therefore, the use of common cold medicine is not intended for the long term, and if the symptoms of common cold do not decrease or get heavier

after taking the medicine, it is necessary to consult a doctor or health care unit.

There were 78.25% answered correctly, knowing that 87 respondents (21.75%) answered incorrectly, the possibility that could happen is that when the disease does not improve, respondents look for other alternatives or change medications without seeing a doctor. And another possibility is because of the over-busyness and tight schedule of the students themselves and thinking the common cold is a mild illness so that it leaves it until it heals itself.

6. Beware of Drug Side Effects

The indicator of side effects of the drug listed in question number eight was 78.25% of respondents answered correctly. However, as many as 87 (21.75%) respondents who answered inappropriately were likely to travel without riding or the use of common cold medicine with the intention of being able to rest while on the trip. Generally the side effects of common cold medications can cause drowsiness. With these side effects, it is likely to affect student activities during lecture activities.

7. Proper Follow-up

In this study, the question about the exact follow-up as written in the question number nine. The right follow-up is if self-medication has been carried out, but the pain continues, it can be consulted with a doctor or other health worker. There were 93.5% answered exactly this question. Efforts made in the follow-up can be in the form of continuing treatment, changing medications, adding medicine, stopping the use of medicine, or consulting a doctor.

Based on Jayanti and Arsyad (2020), the quality of behavior at each level of behavior can be done by scoring, namely: A score of 76%-100% is said to be high behavior, a score of 56%-75% is said to be fair behavior, and a score of <56% is said to be poor behavior (28). The behavior about the common cold self-medication of respondents is described in the following table 6:

Table 6. *Self-medication Behavior Level Common Cold*

Category	Self-medication Behavior Score (%)	Frequency	
		Amount	Percentage (%)
High	76-100	329	82,3
Fair	56-75	50	12,5
Poor	≤56	21	5,4

The Table 6 above explains that 329 (82.3%) respondents of Non-medical Students of Muhammadiyah University of Yogyakarta are included in the category of high behavior, 50 (12.5%) respondents are included in the category of fair behavior, and 21 (5.4%) student respondents are included in the category of poor behavior. The factors that affect individual health and public health are heredity, environment, behavior, and community service (29). In addition to the above factor that affects health, there are other factor that affect clean living behaviors, including social class, economy class, knowledge, attitudes, health status and personal habits. A high knowledge of self-medication will indicate the success of treatment.

The relation of common cold knowledge levels to common cold self-medication behaviors

This research was carried out non-parametric test analysis using the Spearman Rank test. This statistical analysis test aims to test the relationship between two research variables, namely the level of knowledge of common cold and the self-medication behavior of common cold. The selection of this non-parametric test method is based on the scale produced by the connected variables, namely ordinal to ordinal. This test was performed using SPSS version 15.

Table 7. Spearman Rank Analysis

			Knowledge	Behavior
Spearman's rho	Knowledge	Correlation Coefficient	1,000	0,141**
		Sig. (2-tailed)	.	0,005
		N	400	400
	Behavior	Correlation Coefficient	0,141**	1,000
		Sig. (2-tailed)	0,005	.
		N	400	400

**. Correlation is significant at the 0.01 level (2-tailed)

Based on the Table 7, it is known that the sig value (2-tailed) pin this study is 0.005, which means that there is a significant relationship between the common cold knowledge level variable and the common cold self-medicated behavior variable. If the respondent's knowledge level is high, the better the self-medication behavior and vice versa, the lower the level of knowledge, the less good the self-medication behavior is. It is proven that the better a person's level of knowledge, the better the use of common cold self-medication medicine. Research conducted by Banun (2017) and Wijayanti (2021) showed similar results to this study (15,30).

Furthermore, to determine the degree of closeness or strength of correlation, guidelines for the interpretation of the value of the correlation coefficient are used. The correlation coefficient in this study is 0.141. The value is in the range of values 0.00-0.200 and included in the category of very weak relationships, which means that the relationship that occurs between the level of knowledge of common cold and common cold self-medication behavior is very weak. These results are similar to other studies which show a correlation coefficient of 0.212 in the group of non-health faculty students at Mulawarman University. This means that the relationship between the variable level of knowledge and self-medication behavior is weak (31). In contrast to the research conducted by Wijayanti which showed that there was a strong relationship with correlation coefficient 0.735 between the level of knowledge of common cold and common cold self-medication behavior

in non-medical university students in the city of Semarang (30).

The weak relationship between the level of knowledge and self-medicated behavior can occur because the relationship between knowledge and behavior is not yet conclusive, many studies have concluded that there is a very weak and even negative relationship, while some other studies have found a convincing relationship. Although a person's attitude is good, it does not necessarily have high behavior because behavior is influenced by several factors, namely knowledge, intelligence, perception, emotions, motivation and so on that function to process external stimuli.

4. CONCLUSION

There is a significant relationship between the level of knowledge of common cold and the behavior of common cold self-medication in non-medical students of Muhammadiyah University of Yogyakarta with a correlation coefficient of 0.141 (weak).

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