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## Conference Paper

# The Effect of Education Using Slide Media on Students' Knowledge of Antacid Drug Self-Medication

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**Abstract.**

Self-medication is a person's attempt to self-treat themselves. In previous studies, it has been stated that the level of knowledge of students regarding self-medication of antacid drugs is lacking, so education is needed to increase students' knowledge of how to carry out self-medication properly. Slide media is an educational tool that can be more effective than leaflets for health promotion. The purpose of this study was to determine the effect of education using slide media on students' knowledge about self-medication of antacid drugs at the Luhur Islamic Boarding School in Malang City. This was quantitative research with a pre-experimental method and one-group pretest-posttest research design. The sampling was carried out non-randomly with the number of samples determined by the Slovin formula, and 68 respondents were selected. Respondents filled out the pretest to determine their knowledge of antacid self-medication, then education on the subject was given by using PowerPoint slides and respondents were given a posttest afterwards. The findings showed that education about self-medication of antacid drugs using slide media had a significant effect on students' knowledge at the Luhur Islamic Boarding School.

**Keywords:** self-medication, antacids, education, PowerPoint slides media, knowledge level

## 1. Introduction

Data from Religion & Life (2011) stated that the country with the largest Muslim population in 2010 was Indonesia and is expected to rank second after Pakistan in 2030. As a country with that designation, it is not surprising that there are many Islamic boarding schools in Indonesia. According to the 2019 Islamic Boarding School Database, the number of Islamic boarding schools in Indonesia reached 26,971 Islamic boarding schools.

Pesantren is an institution that has its own peculiarities which are based on the idea of continuity of tradition in order to generate new innovation and change [1], [2]. In its simplicity, which includes the lack of facilities and health promotion in Islamic boarding

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schools, many Islamic boarding schools in Indonesia have important issues regarding the health of their santri (a.k.a students in Islamic boarding schools) [3]. Habits that have been passed down from generation to generation such as drying clothes in the room, eating together in one place, lack of hygiene, and exchanging personal items such as combs and clothes with others can cause various diseases and are susceptible to be transmitted due to lack of sanitation in Islamic boarding schools [4], [5]. Santri often do not consider too much about healthiness when choosing food due lacking of knowledge of students regarding nutritional food guidelines and how to maintain healthy living behavior. The condition of long-distance communication with both parents and the pressure of pesantren education also make students experience stress [5]. One of the health problems that arise due to poor sanitation and the wrong diet is gastritis [6]

Gastritis is a health problem that often occurs in the community. Quoted from the East Java Provincial Health Office (2011), the incidence of gastritis (ulcer) in East Java in 2011 reached 44.5%, with a total of 58,116 events. It was explained by the chairman of the board of the Luhur Islamic Boarding School that many students had acute gastritis. Pesantren also do not have a boarding school health unit, but there are only P3K boxes and some drugs that commonly used by students. Therefore, health promotion is very important, especially education related to self-medication of antacid drugs to provide insight regarding antacid drugs as the first line of treatment for acute gastritis.

Initially, gastritis is treated according to symptoms by taking neutralizing drugs to overcome excessive stomach acid release (antacid types) or drugs that suppress acid [7]. Antacid drugs are over-the-counter drugs so they can be used as self-medication. Self-medication is the use of medicinal products by consumers to treat self-recognized disorders or symptoms, or the intermittent or continuous use of drugs prescribed by a doctor for chronic or recurrent disease or symptoms[8]. Self-medication has potential risks if you do not have good knowledge, such as errors in *self-diagnosis* and wrong choice of therapy. Health professionals are one of those who have a potential role in preventing these risks because these professions work on three main therapeutic aspects of professionalism in their daily practice, namely information, therapeutic advice, and education [9].

Based on previous research [10], it was explained that the level of knowledge of students regarding antacid drugs was still very lacking, so education was needed on how to use various antacid dosage forms and when to use them. In the research of [11] also explained that it was necessary to increase student knowledge regarding how to use and side effects of antacids. Apart from these two studies, it is also explained in that education can increase the level of knowledge and rationality of drug use.

According to the function of health promotion as a distributor of health information, health promotion media are divided into three types, namely: print media, electronic media and outdoor media [12]. In the study from Bd, Susanti and Hidayah, 2019, it was explained that education with electronic media such as slide more effective than print media in the form of leaflets, so the researchers selected educational media in the form of slide in providing health promotion.

Slide presentation or also known as *Microsoft Power Point* is windows based application with an animation facility that could be used as a medium of learning (Rusdi and Habibi, 2018).

## 2. Research Method

This is a *pre-experimental* method with a *one group pretest posttest* research design. The research instrument is a questionnaire that refers to previous research [10], [11] and has been tested for validity and reliability by researchers. The questionnaires were distributed to respondents before and after the education was given. The sampling technique used is *non-probability sampling with purposive sampling technique*, namely the sampling is not random, but based on special considerations or selection (inclusion and exclusion criteria). Calculation of the number of respondents using the Slovin formula obtained a minimum sample of 68 respondents. The data obtained are primary data consisting of demographic data and the level of knowledge of students at the Luhur Islamic Boarding School Malang City about self-medication of antacid drugs.

Data is analyzed using univariate analysis and bivariate analysis. Univariate analysis are used to describe the characteristics of the variables, namely age, college, faculty/department, gender, and semester level. For bivariate analysis, Wilcoxon test is used.

## 3. Results and Discussion

This study was carried out on April 17, 2021 after the dawn prayer in the hall of the Luhur Islamic Boarding School Malang City. In this study, demographic data and the results of the pretest and posttest of the respondents' knowledge level was obtained. The data obtained are as follows :

### 3.1. Univariate Analysis

The univariate analyses are presented in Table 1 and Table 2. Respondents mostly are woman (51.5%). This is in line with previous research that women are three times more at risk of developing gastritis than men, quoted in [11].

In accordance with the inclusion criteria in the study (respondents should be 18 years and over), the majority of respondents are 21 years old, which is 35.3%. It is explained in Muttaqin's research (2016), that adolescents have limitations in understanding information. Respondents in this study, namely santri of the Luhur Islamic Boarding School, consisted of students from various majors from various universities. Most students come from Brawijaya University with a percentage of 39.7%. Beside that, most santri are from the Faculty of Science as many as 12 people (17.6%) and currently on the 6th semester with a percentage of 36.8%. In the research of, it is stated that the level of education affects the ability to absorb and understand the knowledge received. Generally, someone with a higher level of education will more easily explain the disease he is suffering from.

As many as 73.5% of respondents have experienced gastritis. This is in line with the statement from Board of the Islamic Boarding School's Health Department that most students experienced gastritis/ulcer disease. This is because the students are lazy to schedule meals or because of the mental stress on education at the pesantren which usually coincides with the university schedule. Referring to Ar-Rasily and Dewi, experience is a source of knowledge and can also be a way to obtain the truth. Therefore, personal experience is a factor that can affect the level of knowledge.

To overcome the symptoms of gastritis, as many as 70% of respondents buy ulcer drugs. This is in line with the guidelines for how to treat acute gastritis by buying ulcer drugs to overcome the symptoms felt [7]. A total of 67.6% of respondents who experienced gastritis took antacids. This is in line with the research conducted by Fibriani and Susanto (2019) at the "X" Pharmacy in Turen District and [13] at Kimia Farma Sutoyo Malang which stated that antacids are the most frequently used gastritis drugs.

### 3.2. Bivariate Analysis

It has been described that the level of knowledge of respondents before and after education increased descriptively (Table 3). In the pretest assessment, 34 respondents had sufficient knowledge and 19 respondents had poor knowledge. After providing

5

TABLE 1: Demographic characteristics of respondents (Author's own work).

Variable	Number of respondents	
	Frequency	Percentage
<b>Sex</b>		
Male	33	48,5
Female	35	51,5
<b>Age</b>		
19 years	14	20,6
20 years	16	23,5
21 years	24	35,3
22 years	9	13,2
23 years	2	2,9
24 years	2	2,9
25 years	1	1,5
<b>University</b>		
UNIKAMA	1	1,5
Machung	1	1,5
STIH	1	1,5
UNMER	1	1,5
UMM	1	1,5
UNISMA	1	1,5
POLINEMA	2	2,9
UM	13	19,1
UIN Malang	20	29,4
UB	27	39,7
<b>Faculty</b>		
Economic and Business	11	16,2
Administration Science	1	1,5
Language and Culture	5	7,4
Computer Science	4	5,9
Marine and Fisheries	4	5,9
Agriculture and Animal Husbandry	5	7,4
Law	3	4,4
Mathematic and Science	12	17,6
Literature	14	11,7
Syariah	4	5,9
Mechanical	6	8,8
Vocation	3	4,4
Teaching	2	2,9
<b>Grade (semester)</b>		
2	8	11,8
4	15	22,1
6	25	36,8
8	17	25
10	3	4,4

education related to self-medication of antacid drugs, all 68 respondents had a good level of knowledge.

TABLE 2: History of gastritis, symptoms of gastritis, how to treat gastritis, and history of antacid drugs (Author's own work).

Variable	Number of respondents	
	Frequency	Frequency
<b>History of gastritis</b>		
Yes	50	73,5
No	18	26,5
<b>Symptoms</b>		
Stomachache	18	36
Nausea	1	2
Bloated	5	10
Stomachache, nausea, bloated, vomiting	7	14
Stomachache, nausea, bloated	6	12
Stomachache, bloated, vomiting	1	2
Stomachache, nausea, vomiting	5	10
Stomachache, bloated	3	6
Stomachache, nausea	4	8
<b>Cara mengatasi gastritis</b>		
Check at the doctor	5	10
Buying gastritis drug	35	70
Other (including : smeared with eucalyptus oil, nothing to do, slept, ate immediately, and went to Pesantren Health Department)	10	20
<b>History of antacid use</b>		
Yes	46	67,6
No	22	32,4

TABLE 3: Comparison of the level of knowledge of respondents before and after education (Author's own work).

Category	Indicator (%)	Number of respondents			
		Pretest		Posttest	
		Total	Percentage (%)	Total	Percentage (%)
Good	76 - 100	15	22,1	68	100
Sufficient	56 – 75	34	50	0	0
Low	≤ 55	19	27,9	0	0
Total		<b>68</b>	<b>100</b>	<b>68</b>	<b>100</b>

5

Inferential statistical analysis test was conducted using the Wilcoxon test to prove whether education related to self-medication of antacid drugs with slide media had a significant effect. The results of statistical analysis test get asymp Sig 0.000 <0.05, so H0 is rejected. Wilcoxon test decision making can also use the calculated Z value. Based on table 4, obtained Z count -7.185 which is smaller than Z table (-1.96) so that

5

H0 is rejected. From the results of the statistical analysis above, it can be stated that the scores of respondents before and after being given education were significantly different. This shows that self-medication education on antacid drugs with slide media has an effect on students' knowledge.

The results of this study are in line with research that education can increase the level of knowledge and rationality of drug use. WHO (2000) also states that health education can improve health literacy, increase knowledge, and develop life skills that are conducive to individual and community health. In addition to the two literatures, there is also another study from [14] which states that health education is effective in increasing knowledge. Slide media is also an effective health education intervention in increasing knowledge [15].

TABLE 4: Wilcoxon test result.

Test statistics	
	POS_score – PRE_score
Z	-7.185 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000
a. Wilcoxon Signed Ranks Test	
b. Based on negative ranks.	

## 4. Conclusion

This study involved 68 samples from a total of 211 population of students at the Luhur Islamic Boarding School in Malang City to obtain data on the level of knowledge before and after being given self-medication education on antacid drugs. The pretest and posttest data were analyzed using the Wilcoxon test and the asymp value Sig 0.000 < 0.05. In addition, the calculated Z value is also obtained with a value of -7.185 which is smaller than Z table (-1.96) so that H0 is rejected. This shows that education about self-medication of antacid drugs with slide media has an effect on the knowledge of students at the Luhur Islamic Boarding School Malang City.

4

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