

The Influence of Education on The Level of Knowledge and Behavior about the Antibiotic for Lectureres at Sahid University Surakarta

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ABSTRACT

The problem of drug misapplication is a case that still often encountered in society. Many people buy potent drugs without a doctor's prescription. Lack of knowledge in knowing the side effects of drugs, storing drugs and disposing of unused drug waste to be destroyed first causes many cases of medication errors to occur, thus increasing ineffectiveness in drug administration therapy. The aim of the research was to determine the profile of drug storage and disposal, family members of Sahid University Surakarta lecturers in drug management at home, the quality profile of drug management, and analyze the factors that influence drug management at home and their effects after being given the correct used antibiotics education. This research uses a pre-experimental design method with a pretest/posttest intervention design without control group, sampling for this research uses a purposive sampling technique. The sample for this research were lecturers at Sahid University of Surakarta in accordance with the inclusion and exclusion criteria that had been determined with a total of 20 respondents. The results of the research show that the results of the Wilcoxon Test have a p value = 0.000 ($p < 0.05$). This shows that providing antibiotics medicine education influences the level of knowledge and behavior of the lecturers at Sahid University of Surakarta regarding drug use. The conclusion of this research showing that there is a need to disseminate knowledge about used antibiotics medicine especially regarding antibiotic drugs, so that the public understands better how to use drugs properly and correctly.

KEYWORDS

Antibiotics Medicine, Knowledge, Behavior

1. INTRODUCTION

The problem of antibiotic drug misapplication is a case that is still often encountered in society. Lack of knowledge in knowing the side effects of antibiotic drugs, storing antibiotic drugs and disposing of unused antibiotic drug waste to be destroyed first causes many cases of medication errors to occur (Dwiaini, 2022). Several studies show that the level of public knowledge regarding self-medication is in the sufficient category, however, accuracy in selecting drugs > 50% still indicates the irrationality of therapy. This causes the emergence of medication error cases and increasing cases of resistance to antibiotics (Kumar et al., 2020).

Based on data from the 2018 Basic Health Research (Riskesdas), it was found that in Indonesian society, 35.2% of households stocked antibiotics for self-medication. This requires educating the public regarding knowledge of antibiotic drug management (Noviani et al., 2024). Based on research in China, the factors that influence medication management in the household are age, gender and occupation (Duan et al., 2021).

The Drug Aware Family Movement (GKSO) program hopes that people will become smarter and wiser in using drugs. The Family Drug Awareness Movement (GKSO) program is a program to improve the proper and correct management of antibiotic drugs (Djuria, 2019). The Drug Aware Family Movement program was previously launched by IAI, however providing this information was only by placing banners or posters in health facilities, especially pharmacies without providing specific and direct drug information to patients and the public (Dewi et al., 2019; Nugraheni et al., 2020).

Based on the survey, information was obtained that many lecturers at Sahid University, Surakarta, still keep medicine at home, both for stock and leftover medicine from doctors. Some members also have regular medications for chronic illnesses. The high level of drug storage at home and the lack of knowledge of lecturers regarding drug use can lead to the possibility of medication errors and increased inaccuracy of therapy. This requires education regarding the good and correct management of antibiotic drugs. Counseling or education about good management of antibiotic drugs It is hoped that lecturers at Sahid University Surakarta will understand the proper and correct use of antibiotic drugs so that treatment goals and quality of life can be achieved and will not cause environmental pollution due to incorrect disposal of drug waste.

This is what prompted researchers to conduct research on the effect of education on the level of knowledge and behavior regarding antibiotic drug management for lecturers at Sahid University, Surakarta. This research was also carried out as an effort to support the government program in implementing GERMAS.

2. METHODOLOGY

2.1 Research Design

This research uses a pre-experimental design research design with a pretest/posttest intervention design without control group. Before being given education, respondents will be given a (pretest) and after being given education about antibiotic management a (posttest) or measurement will be carried out again after being given the education.

2.2 Population and Sample Used

This research was conducted at Sahid University, Surakarta. The research was conducted in May 2023. The population in this study consisted of 20 respondents. The sampling

technique uses purposive sampling. This research variable consists of the independent variable, namely the influence of education on antibiotic management and the dependent variable in this research is knowledge and behavior regarding antibiotic drug management.

2.3 Data Collection Techniques

The sampling technique uses purposive sampling. Sampling in this study was based on inclusion and exclusion criteria. The inclusion criteria in this study were lecturers aged 25 years and over and less than 65 years, not experiencing hearing loss, and willing to be research respondents. Exclusion criteria in this study were lecturers who also worked as health workers or were basically health workers, and were not cooperative in research.

2.4 Tools and Instruments Used

Data were collected using a knowledge questionnaire on antibiotic drug management which contained 10 multiple choice questions and a drug use behavior questionnaire sheet. This questionnaire contained the respondent's behavior in using drugs, which consisted of 10 statements where there were 4 answer choices using a Likert scale. The questionnaire in this research was no longer tested for validity and reliability, because the instrument is standard and reliable which is commonly used and has a Cronbach's Alpha of 0.902 so it is feasible to carry out research.

2.5 Data Analysis

Data analysis was first conduct with a normality test, then a bivariate test Wilcoxon Statistical, after the data was collected, the completeness of the data was re-checked, data entry, tabulation and data analysis were conduct with the SPSS package program.

3. RESULTS AND DISCUSSION

3.1 Result

A. Respondents Characteristics

Based on table 1, it is found that the dominant number of characteristics based on gender is female at 70%, the highest age range is 25 to 30 years old at 55%, the highest level of education is master's level at 85%, for the study program category the number is evenly distributed at 20%.

Table 1. Distribution of Characteristics of FSHS Lecturer Respondents (n=20)

Respondent Characteristics	Frequency (f)	Percentage (%)
1. Gender		
Man	6	30
Woman	14	70
2. Age		
25-30 years	11	55
31- 40 years	9	45
3. Education		
S1	0	0
S2	17	85
S3	3	15
4. Study Program		
BusinessAdministration	4	20
Psychology	4	20
DKV	4	20
Design interior	4	20

Respondent Characteristics	Frequency (f)	Percentage (%)
Total	20	100

Source : Primary data (2023)

B. Level of Knowledge and Behaviour

Assessment of the level of knowledge and behavior of respondents is categorized into 3 categories. The level of knowledge is said to be good if the value is 76-100%, sufficient with a value of 56-75%, less with a value of 0-55%.

Table 2 shows the characteristics of the respondents based on the level of knowledge when the pre-test was carried out, as many as 10 respondents had knowledge in the poor category. At the time of the post-test there was an increase in the level of knowledge in the sufficient and good categories. This is because respondents looked for answers after taking the pre-test so that during the post-test the respondents changed their answers to the questionnaire so that the pre-test and post-test scores increased.

The behavior during the pre-test showed that the level of behavior was less than 12 respondents. After being given education on antibiotic drug management, behavior in the fair and good categories increased. Data normality using the Kolmogorov-Smirnov method resulted in the data not being normally distributed and continued with statistical tests using the Wilcoxon test. The results obtained were p value = 0.000 ($p < 0.05$), so it can be said that there is a significant difference between the knowledge and behavior of respondents before and after providing education regarding the use of antibiotics.

Table 2. Level of Knowledge and Behaviour

Category	Knowledge				Behaviour			
	Pre		Post		Pre		Post	
	Freq	%	Freq	%	Freq	%	Freq	%
Good	2	10	9	45	1	5	6	30
Enough	8	40	9	45	7	35	8	40
Not Enough	10	50	2	10	12	60	6	30
Total	20	100	20	100	20	100	20	100

Source: Primary Data (2023)

C. The Wilcoxon Statistical Test

Table 3 shows the results that the Z score = 5.58 and 5.59 for knowledge and behavior while the p value = 0.001. With a p value = $0.001 < 0.05$, H_0 is rejected, which means that there is an influence of antibiotic drug management education on the level of knowledge and behavior of FSHS lecturers at Sahid University, Surakarta.

Table 3. Wilcoxon Test Analysis Knowledge and Behavior Levels

Item	Mean	SD	Z	P
Before Knowledge Education	26.99	2.47	5.58	0.001
After Knowledge Education	17.50	3.00		
Behavior before education	27.66	1.47	5.59	0.001
Behavior after education	15.34	4.01		

Source: Primary Data (2023)

3.2 Discussion

A. Respondents Characteristics

The characteristics of respondents based on gender showed that the results of the 20 respondents taken in the research were 14 female respondents who took part in this research, because at the time of data collection female respondents tended to be more enthusiastic about participating in this research. This is because women tend to care more about their own health, especially and the health of their families, compared to men who are more passive about their own health(Lestari, 2020).

Based on the characteristics of the respondents in terms of age, the ages in this study were respondents aged 25-64 years and were divided into 2 age groups, namely early adulthood (24-30 years), late adulthood (31-40 years). Data obtained from the control group for ages 25-35 years was 11 respondents (55%). From the results of these percentages, it can be seen that the majority of people who are willing to be respondents in this research are people in the early adulthood/young lecturer category, because a person's age influences a person's ability to understand.

This is in line with Tagum-Briones et al., (2023) research, the results of the research show that age influences a person's memory, and influences a person's responsibility to make decisions regarding treatment for themselves, so that on average, young people are more likely to be active.

At the level of education in this study, the results showed that the majority of respondents who took part in the research were at Master's level, namely 17 respondents (85%). The research conducted by Herawati et al., (2021) also showed that the level of education influences a person's knowledge. Lack of education causes a person's knowledge about the use of antibiotics to be inappropriate, where someone with low education tends to have low knowledge, whereas the higher the level of education, the better the knowledge they have (Novelni et al., 2020).

Based on the results of measuring the level of knowledge and behavior before and after being given education, the results showed that 10 respondents were still in the poor category and 12 respondents showed poor behavior during the pre-test. After being given education about antibiotic drug management, the level of knowledge of respondents increased. and the respondent's behavior was in the sufficient category when the post test was conduct. Research conducted by Abubakar et al., (2020) on undergraduate pharmacy students in their final year in Asia also showed that their knowledge about antibiotic drug resistance was sufficient, but knowledge about the use of antibiotic therapy was still poor, so there was a need for training on appropriate antibiotic therapy, and correct antibiotic management to increase their knowledge. This is in line with research by Meinitasari et al.,(2021) that providing education or training can increase a person's knowledge in managing the use of antibiotic drugs. The education delivered by lecture or seminar method with the aim of providing knowledge to the general public about antibiotic drug management (Pratiwi & Anggiani, 2020 ;Hajrin et al., 2020).

B. Bivariate Analysis

The effect of education on antibiotic management on the level of knowledge and behavior of FSHS lecturers at Sahid University, Surakarta, was that the Z score = 5.58 and 5.59 for knowledge and behavior, while the p value = 0.001. With a p value = 0.001 < 0.05, H0 is rejected, which means that there is an influence of DAGUSIBU education on the level of knowledge and behavior of FSHS lecturers at Sahid University, Surakarta. The results of this study are in line with research conducted by Saftia et al., (2024) which also shows that providing education about the use of antibiotics has an influence on people's knowledge and

behavior in using antibiotics. Research conducted by (Pratiwi & Anggiani, 2020) also concluded that providing education can increase knowledge about antibiotics. Previous research also showed that there was a significant relationship between knowledge and behavior of using antibiotics (Kondo et al., 2020).

Research by Karuniawati et al., (2021) on the relationship between knowledge and attitudes towards the rationality of antibiotic use behavior at Sandi Karsa Hospital also shows the results of a significant relationship between knowledge and behavior of using antibiotics, the higher the knowledge, the higher the respondents use antibiotics rationally. Knowledge is an effort to develop personality and abilities inside or outside the home that lasts a lifetime. Education influences the learning process, the higher a person's education, the easier it is for a person to obtain information and if a person's education is low, it is difficult for a person to receive information and this can affect their attitudes and behavior (Hajrin et al., 2020).

4. CONCLUSION

It is necessary to disseminate knowledge regarding the management of antibiotic drugs so that the public better understands how to use drugs properly and correctly. Factors that influence a person's knowledge and behavior in managing antibiotics, apart from providing education or training, are also influenced by age, occupation and educational background.

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