COMPARISON BETWEEN THE EFFECT OF THE COMMUNITY-BASED INTERACTIVE APPROACH AND THE INFLUENCE OF THE DISTRIBUTION OF BOOKLETS REGARDING THE SELF-MEDICATION KNOWLEDGE, ATTITUDE, AND BEHAVIOR OF STUDENTS

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ABSTRACT

Objective: This study was conducted to compare the effectiveness of booklet media and a community-based interactive approach (CBIA) on non-medical science students. The study was conducted at the Departments of Pedagogy and Forestry at the University of Tanjungpura, Pontianak.

Methods: The study design was pre-experimental with a pre- and post-test of the respondents, who were divided into groups that either carried out the CBIA or were given a booklet. There were 78 respondents who participated in the study until its completion. Scores of knowledge, behaviors, and attitudes were measured with questionnaires, both before and 6 weeks after interventions with the CBIA and the booklet.

Results: The results demonstrate that both the CBIA and the booklet intervention significantly influence the level of knowledge, attitudes, and behaviors (p<0.05).

Conclusions: Although the distribution of the booklets was more effective than the CBIA method in improving the self-medication attitude of the students, both interventions were equally effective in improving the self-medication knowledge and behavior of the non-medical science students.

Keywords: Booklet, Community-based interactive approach, Knowledge, Self-medication, Student.

INTRODUCTION

A society must play an active role to get healthy and be socially and economically productive. A society's effort to medicate itself is known as self-medication [1]. The practice of self-medication is commonly found in youngsters and students [2-5]. In the self-medication practices of students, there are inappropriate doses, dosage forms, frequency, duration of treatment, and poor knowledge of the students regarding self-medication; this is alongside the discovery of problems related to self-medication practice [6,7].

Student groups can easily obtain information through media advertising exposure. Only a small proportion of students rely on journals and the internet to get the correct information about self-medication [8]. Most of the information from electronic media contains complex and misleading information [9]. Limited knowledge of the culture of medicines and their use can cause medication errors in the implementation of self-medication [1,9,10].

The Indonesian government introduced the active mother learning method program to empower the community in health education [1,11]. It has now turned into a community-based interactive approach (CBIA) involving not only housewives but also groups considered influential, such as students, are also involved in the health efforts as well [11,12]. A study comparing the effectiveness of the CBIA method with different respondents has not been found; at this point, students are expected to be the agents of change and spread self-medication information. The student population is considered as a group that can gain information the most easily and is expected to implement and spread information to their surroundings [2,13,14]. The purpose of this study is to compare the influence of the CBIA method by distributing booklets to improve self-medication knowledge, attitudes, and behavior.

METHODS

The study design was pre-experimental with a pre- and post-test group design; the respondents were divided into two groups: One carried out the CBIA, and the other was given the booklets. The study was undertaken in 2013, in Pontianak City, in the West Borneo province of Indonesia. The respondents were given intervention in the form of either the CBIA method or the booklets about self-medication; this was done after the pre- and post-test were conducted 6 weeks after that. The data collected was obtained using questionnaires, which had previously been tested for validation and reliability.

The respondents were individuals who were willing to participate in the study and who provided informed consent. The minimum sample size for each intervention group was 26 respondents [15]. The sampling was done using a consecutive sampling method. The inclusion criteria for this study were (a) students of non-medical science departments of University of Tanjungpura, Pontianak, (b) domiciled in Pontianak, and (c) doing self-medication in the past month for at least one out of six specific complaints, namely, headaches, fever, common cold, cough, diarrhea, and gastritis. The exclusion criteria of this study were (a) having obtained education about self-medication, (b) having experienced severe or chronic diseases and is now hospitalized, (c) being in a post-surgery or surgery condition, and (d) having been disqualified from the study.

The analyses were done by univariate, bivariate, and multivariate analysis, using SPSS. The bivariate tests used were Wilcoxon, Mann–Whitney, and Chi-square. The multivariate test used in this study was logistic regression. The degree of significance used in the bivariate test was p≤0.05, and in the multivariate test, it was p≤0.25.

RESULTS

Rationality of self-medication practice by students

Table 1 shows the distribution of the rationality of self-medication practice by students. Of the total respondents, 15.4% met all four criteria.

Influence of the CBIA and booklet intervention on the self-medication knowledge, attitude, and behavior in students

The results of the Wilcoxon test (Table 2) show that the CBIA method and the distribution of the booklet both significantly increase the score of the self-medication knowledge, attitude, and behavior of the students. There are significant differences between the scores of knowledge, attitudes, and behaviors before and after the CBIA intervention ($p \leq 0.05$).

Comparison between the effectiveness of the CBIA method and the distribution of the booklet in improving the self-medication knowledge, attitude, and behavior of students

The results previously obtained in the Mann–Whitney test, shown in Table 2, demonstrate that there are significant differences between the CBIA and the booklet intervention group in improving the self-medication attitude of students ($p = 0.009 > 0.05$). The booklet intervention significantly affects the attitude improvement. There is no significant difference in the scores of knowledge and behavior between the CBIA and the distribution of booklet interventions in improving the self-medication knowledge or the behavior of the students.

Influence of confounding factors on the improvement of self-medication knowledge, attitude, and the behavior of students

The result of the Chi-square test (Table 3) shows that the variables of the status of semester and the relatives working as medical workers

potentially affect the dependent variable ($p \leq 0.05$) or potentially as confounding variables ($p \leq 0.25$). However, the results obtained in Table 3 show that the variables of status of semester and relatives working as medical workers do not affect the increase in knowledge, attitudes, and behaviors. The results of the multiple logistic regression test of the backward methods of the variables related to the improved self-medicine knowledge, attitude, and behavior of students are shown in Table 4.

DISCUSSION

The rationality of the self-medication practice on students was still low, even the self-medication conducted by the medical students was wrong [7]. The rational use of medicines in self-medication was low due to the non-optimum knowledge of self-medication. Therefore, it requires effective and optimal education.

Both the CBIA method and the distribution of the booklet interventions manage to increase the scores of the self-medication knowledge, attitude, and behavior significantly. The previous study demonstrates that both the CBIA and the leaflets have been successful in improving knowledge, attitudes, and behaviors in self-medication practice [9]. The CBIA method can improve self-medication knowledge, attitudes, and behaviors due to its active or direct delivery of information from two sides between the respondents and the speakers. In comparison, the distribution of the booklet has a weakness, in that the information delivered is passive or it comes only from one source, the author.

The intervention significantly influences the attitude improvement. The intervention is the distribution of booklets, which gives significant influence - approximately 5 times higher than the CBIA method in improving the self-medication attitude of the students. Both interventions improved the knowledge and behavior significantly, as shown by the Wilcoxon test result, which was explained previously. The booklet used in this study is a visual aid that has many pages and broad content and is an information medium that is appropriate for the student respondents, making it more effective in improving self-medication attitudes, as compared to the CBIA method.

CONCLUSION

Both the CBIA method and the distribution of booklets provide a significant influence on the improvement of self-medication knowledge,

Table 1: Distribution of self-medication rationality criteria of study samples

Self-medication rationality criteria	Frequency n=78 (%)
Right medicine class	19 (24.4)
Right medicine	58 (74.4)
Right rule	37 (47.4)
Limited use of medicine (not more than 3 days)	58 (74.4)
Rational self-medication	12 (15.4)

Table 2: Comparison of scores of self-medication knowledge, attitude, and behavior before and after the CBIA and booklet intervention using Wilcoxon and Mann–Whitney test

Variables	CBIA			Booklet			pp Mann–Whitney
	Pre-test score	Post-test score	p	Score before	Score after	p	
Knowledge	11.70±1.288	12.08±1.211	<0.004*	10.71±1.792	11.46±1.343	<0.001*	0.368
Attitude	14.54±1.592	15.19±1.050	<0.003*	14.10±2.577	15.00±1.118	<0.003*	0.009*
Behavior	5.24±2.640	6.16±2.021	<0.003*	5.02±2.242	5.80±1.939	<0.001*	0.164

Mann–Whitney tests; Remarks: *p: Significance≤0.05. CBIA: Community-based interactive approach

Table 3: Equality of possible confounding variables using the Chi-square test

Possible confounding variables	CBIA (%)	Booklet (%)	p
Age			
15-20 years	17 (55.3)	21 (44.7)	0.642
>20 years	20 (50)	20 (50)	
Semester status			
2nd semester	16 (88.9)	2 (11.1)	0.000
4th semester	1 (25)	3 (75)	
6th semester	5 (13.5)	32 (86.5)	
8th semester	19 (100)	0 (0)	
Relatives working as medical workers			
Yes	28 (46.7)	32 (53.3)	0.050
No	13 (72.2)	5 (27.8)	

p: Significance≤0.05. CBIA: Community-based interactive approach

Table 4: Results of the multiple logistic regression test of the backward methods of the variables related to the improved self-medicine knowledge, attitude, and behavior of students

Variables	Significant	OR	95% CI for Exp (B)	
			Lower	Upper
Knowledge				
Step 3[a]				
Semester	0.075			
Semester (1)	0.129	2.889	0.735	11.360
Semester (2)	0.424	0.370	0.032	4.231
Semester (3)	0.377	0.602	0.195	1.855
Step 3[a]				
Attitude				
Intervention	0.004	0.249	0.097	0.639
Constant	0.006	7.749		
Step 3[a]				
Behavior				
Semester	0.419			
Semester (1)	0.642	0.725	0.187	2.809
Semester (2)	0.999	0.000	0.000	
Semester (3)	0.115	0.392	0.123	1.256
Constant	0.117	2.167		

Odds ratio, CI: Confidence interval

attitudes, and behaviors. Although the booklet media is more effective at improving the attitude, the CBIA method and booklet media are equally effective in improving the self-medication knowledge and behavior of non-medical science students of this study.

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