The Relationship of Knowledge to The Sterilization Behavior of The Tool to Prevent Disease Transmission in Dental Health Students

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Abstract

When taking action in the field of dentistry, knowledge is a factor that greatly influences the operator's actions. Knowledge is the result of understanding after feeling an observed object. If their knowledge is good, their attitudes and actions will be better when carrying out sterilization. Behavior is an individual action that is observable or cannot be observed as a human interaction with the environment in the form of knowledge, attitudes and actions. The type of research in this study is an analytical survey with a cross sectional approach, the sample is level II and III students of the Department of Dental Health, Poltekkes, Ministry of Health, Palembang who will fill out a questionnaire. Analysis uses the Chi-Square test. Most students have a level of knowledge with good criteria and have behavior with good criteria. There is a significant relationship between knowledge and sterilization behavior in preventing cross infection with a p value = 0.000.

Keywords: Knowledge and Behavior, Students, Sterilization, Disease Transmission

1. Introduction

Health behavior is divided into three parts, namely knowledge, behavior, attitude and action. Knowledge means the domain that influences the beginning of individual behavior. Knowledge is the result of "understanding", which occurs after involving sensing an object. A person's knowledge is obtained through the sense of sight and the sense of hearing.[1]

Students's knowledge about sterilization and cross-infection helps reduce morbidity and mortality due to infections acquired from health facilities. Therefore, institutions or universities must emphasize increasing awareness regarding the spread of cross-infection because it can occur when clinical practices do not prevent infection from occurring. This knowledge must be strengthened when a person begins to enter the clinical period because it allows them to develop behavior and practices that are in accordance with procedures to prevent and control infections.[2,3]

If good knowledge can create good and sufficient actions because if the individual has gained knowledge, he can have a basis for being able to carry out an action, if someone does not have a strong foundation then the effect tends to be less good or relatively good. Knowledge is a determinant in making behavior and actions.[4]

Sterilization is an important part of health care and infection control, and indicates the absence of microorganisms. Sterilization and disinfection can destroy pathogenic bacteria, microbes, and spores on medical devices used to achieve a sterile condition, so as to inhibit the formation of cross-infections, and reduce the number of infections.[3] Sterilization is the most practical and guaranteed safe technique, but in certain circumstances sterilization equipment may not be available. In carrying out dry sterilization (oven) a high temperature is required as a result of which only certain materials are sterilized because they can melt

other materials, the temperature used is 170o C for 1 hour or 160o C for 2 hours.[5]

These results are in accordance with other research regarding the knowledge of dental nurses at the Ranotana Weru Dental Clinic, Manado City, there is a relationship between knowledge and behavior regarding sterilization to prevent disease transmission.[6,7]

2. Method

This research is an analytical survey type research. An analytical survey is a research method that aims to provide a relationship to the object under study through collected data or samples. The research approach is cross-sectional by measuring the independent variable, namely knowledge, and the dependent variable, namely equipment sterilization behavior.

The sample in this study was students who were the research population. Therefore, the sample for this study consisted of 147 students from the Department of Dental Health, Palembang Health Polytechnic who met the inclusion criteria. To analyze the data obtained, univariate analysis was carried out which produced an average distribution and bivar analysis was used for the variables studied which were suspected to have a relationship. In this study, the Chi-Square test was used to obtain information on the relationship between 2 variables, namely knowledge of student behavior regarding sterilization of equipment to prevent disease transmission.

3. Results

After conducting research on the relationship between knowledge and the behavior of sterilizing tools to prevent disease transmission among students majoring in dental health at the Health Polytechnic of the Ministry of Health in Palembang, the following results were obtained in Table 1, 2 and 3 below.

From Table 1. shows that of the 147 students, 93 people have good knowledge, 52 people have sufficient knowledge and 2 people have poor knowledge about the sterilization of dental and oral health equipment.

Table 1. Frequency distribution of students' knowledge level regarding sterilization of dental and oral health equipment

Knowledge Criteria	n	Percentage
Good	93	63,3%
Enough	52	35,4%
Not enough	2	1,4%
Total	**147**	**100%**

Table 2. Frequency distribution of student behavior levels regarding sterilization of dental and oral health equipment

Behavior Criteria	n	Percentage
Good	111	75,5%
Enough	33	22,4%
Not enough	3	2,0%
Total	**147**	**100%**

From Table 2 below, it shows that of the 147 students, 111 people had good behavior, 33 people had adequate behavior and 3 people had poor behavior regarding the sterilization of dental and oral health equipment.

We did an analysis to assess the relationship between knowledge and behavioral aspect and showed in Table 3. therefore it can be concluded that there is a relationship between knowledge and the behavior of sterilizing tools to prevent disease transmission among students of the Department of Dental Health, Health Polytechnic, Ministry of Health, Palembang with p-value = 0.000 (P<0.05),

Table 3. The Relationship between Knowledge and Behavior of Sterilization of Tools to Prevent Disease Transmission in Students of the Dental Health Department, Health Polytechnic, Ministry of Health, Palembang

		Behavior				
		Good	Enough	Not enough	Total	Score P
Criteria Knowledge	Good	83	10	0	93	
	Enough	28	23	1	52	
	Not enough	0	0	2	2	0,000
	Total	**111**	**33**	**3**	**147**	

4. Discussion

Based on table 1, it is found that the level of student knowledge regarding sterilization of dental and oral health equipment has good criteria. Based on table 2, it is found that the behavior level of most students has good behavior criteria.

Knowledge is determined by information, education, employment, age, experience, environment, surroundings. And interest in knowledge is closely related to education, because it is hoped that the higher the education, the broader the knowledge will be.[1]

Meanwhile, behavior is determined by predisposing factors (beliefs, knowledge, attitudes, beliefs), supporting factors (facilities available or not available in the physical environment, health facilities, driving factors (namely attitudes and behavior).[8] Students who have sufficient knowledge and those who are lacking can increase their knowledge regarding the sterilization of dental and oral health equipment in order to increase good behavior so that they can produce good actions so that they can prevent disease transmission to students in the Department of Dental Health, Health Polytechnic, Ministry of Health, Palembang.

The campus is expected to increase the number of learning media in the form of posters or other media related to student knowledge and behavior regarding the sterilization of dental and oral health equipment to prevent disease transmission to students in the Dental Health Department of the Palembang Health Polytechnic.

Researchers can then add skills to make the relationship between Knowledge and Behavior more visible, followed by Skills.

The results of the study prove that there is a significant relationship between knowledge and management of infection prevention. This is in accordance with the theory which states that knowledge or cognitive is a very important domain for the formation of a person's actions (over behavior). Knowledge influences the decision-making process and direct application to action. In a situation, someone may already have knowledge, but has not yet reached the level of understanding and application so that it does not appear in that person's behavior.[9]

This research proves the theory that the higher the level of knowledge of the respondent, the management of infection prevention is carried out well, and vice versa, if the respondent's knowledge is low, the management of infection prevention is carried out poorly.[10]

5. Conclusions

Based on the results of the research description and discussion of the relationship between knowledge and student behavior regarding sterilization of equipment to prevent disease transmission as follows:

1. Knowledge of sterilization of dental and oral health equipment. Most of the students in the Department of Dental Health, Poltekkes Kemenkes Palembang, have good knowledge.

2. The behavior of students regarding the sterilization of dental and oral health

equipment in the Dental Health Department of the Health Polytechnic, Ministry of Health, Palembang, mostly has good behavior.

3. There is a relationship between knowledge and student behavior regarding sterilization of dental and oral health equipment to prevent disease transmission in the Dental Health Department of the Health Polytechnic, Ministry of Health, Palembang.

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