



The Correlation of Students' Knowledge and Attitudes about Acne Vulgaris in the Nursing Study Program Cenderawasih University

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Abstract

Acne vulgaris is a type of skin disorder that often occurs in adolescents and young adults. Although this skin disorder is not a fatal disease, it is very disturbing for the sufferers and could lead to their low self-confidence. This study determines the correlation between the knowledge about and attitudes to acne vulgaris of students in the Nursing Study Program of the Cenderawasih University. This research is a quantitative study using a cross sectional approach. Data were analyzed by univariate and bivariate analysis using Spearman Rank statistical test with a degree of confidence 95% ($\alpha = 0.05$) to discover the correlation between the two variables. A stratified random sampling technique was applied to find a sample size of 165 respondents. The results indicated that there was a correlation between the knowledge about and attitudes of students to acne vulgaris with p-value of $p = 0.029$. The strength of the relationship between the two variables is expressed by the correlation coefficient $r = 0.171$. Based on the Spearman Rank category, the strength of the relationship is at low category. This study suggest the importance of students having knowledge about skin health, receiving the right sources of information about skin care related to acne vulgaris in order to enhance a good attitude and minimize the incidence of acne vulgaris.

Keywords: Knowledge; Attitude; Acne Vulgaris; Students.

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1. Introduction

Acne vulgaris is a chronic inflammatory disease caused by the influence of abnormal fat metabolism, abnormal keratinization and bacterial proliferation [6]. Acne vulgaris which is more commonly known as acne and is a skin disorder most frequently suffered by teenagers and young adults. This skin disorder also often occurs in adulthood. This skin disorder is actually not fatal but it is quite worrying because it can reduce the self-confidence of the sufferer [19]. Acne vulgaris sufferers can also experience changes in social interactions, dissatisfaction in appearance and overall quality of life [8]. Many studies have been conducted regarding acne vulgaris. As [1] stated, there was a positive association between the prevalence of acne and consumption of full-fat milk. The study also showed that there was association between the prevalence of acne and the consumption of dairy foods, chocolate, pizza and French fries with the incidence of acne. Similarly, a study conducted by [5], also explained that sweet and oily foods were recognized as risk factors for moderate to severe acne. In the contrary this study also stated that spicy food and smoking were not associated with acne severity. Additionally, research conducted by [9] found that acne and obesity are common in people with polycystic ovary syndrome. Their results indicated that there was less incidence of acne in obese patients with polycystic ovary syndrome compared to non-obese patients. However, [20] stated that there is no relationship between body mass index (BMI) in overweight and obese adolescents with the incidence of acne vulgaris. Furthermore, [21] explained that adolescents during puberty might experience an increase of sebum production. This condition causes the highest incidence of acne in adolescence. Acne vulgaris cases in adolescents are quite high, namely around 47-90% [10]. It has been said that people with acne vulgaris usually have higher serum androgen levels and sebum levels than people without acne vulgaris although the levels of serum androgen in people with acne vulgaris are still within normal level [10]. Adolescence is considered a stressful period due to the burden of study and peer pressure. Friedlander and his colleagues [4] suggested that stress is one of the main trigger factors in aggravating acne vulgaris. In Indonesia, acne vulgaris is common in adolescents and young adults. The highest incidence of acne vulgaris is found in women aged 14-17 years and in men aged 16-19 years [3]. Furthermore, [19] showed that the incidence of acne vulgaris can occur in adults over 40 years old and can remain into old age, with results showing 10% cases of acne at the age of 30-40 years. Complications that may occur due to acne are comedonal acne, papulo-pustular acne, conglobata acne and other severe acne [11]. Another study conducted by [16] surveying the knowledge and treatment of acne among students in Jember proved that ignorance of the right acne treatment contributed to the incidence of acne vulgaris among students. The study also found that many teenagers often do not control the food they consume, as they are ignorant of the foods that could aggravate acne [16]. In addition, it has been said that the continuous use of certain cosmetics for a long period might cause acne vulgaris in certain people. This indicates that the lack of knowledge and bad attitudes or practices in relation to acne vulgaris can worsen the incidence of acne vulgaris in adolescents and adults. This is supported by [17], who stated that there is a significant relationship between adolescents' knowledge of and attitudes to the acne. This study further explained that the incidence of acne among declined among adolescents who have good knowledge and attitudes towards acne vulgaris. This observational study at a nursing study program in Cenderawasih University in Jayapura Papua along with the results of interviews from seven students found that there were two students who did not have problem with acne, and one student who could deal with acne well, while the remaining four students experienced inflammation of acne as a result of not knowing the

right and proper acne treatment. One of the four students complained of pustules or pimples with pus. Based on the description above, this study aims to determine whether there is a correlation between the knowledge and attitudes of students about acne vulgaris in the Nursing Study Program Cenderawasih University.

2. Method

2.1. Data Collection

This research is a quantitative correlational study. The research used a cross sectional design. Research data were collected using questionnaires to reveal information about students' knowledge and attitudes about acne vulgaris. The population of this study comprised 282 students of the Nursing Study Program from of four levels: 39 students of semester II, 84 students of semester IV, 76 students of semester VI and 83 students of semester VIII. Using the Slovin's formula according to [18], a total sample of 165 respondents was obtained. Stratified random sampling technique was carried out to obtain a sample of 165 respondents who meet the inclusion and exclusion criteria. The distribution of respondents was as follow: 23 students of semester II, 49 students of semester IV, 44 students of semester VI and 49 students of semester VIII. Data were analyzed using univariate and bivariate analysis.

2.2. Sample Demographics

Respondents in this study were students of the Nursing Study Program which consisted of four levels of students. The number of the respondents was 165 students, 23 respondents (13.9%) were men and 142 respondents (86.1%) were women. The distribution of respondents is presented in Table 1 below.

Table 1: Frequency Distribution of Respondents by Gender

Gender	The number of respondents	Percentage (%)
Male	23	13.9
Female	142	86.1
Total	165	100

The age distribution of respondents was as follows: A total of 72 respondents (43.6%) were 18-20 years old and as many as 93 respondents (56.5%) were 21-23 years old. The distribution of respondents by age is presented in Table 2. The distribution of respondents by age is presented in Table 2 below.

Table 2: Frequency Distribution of Respondents by Age

Age	The Number of Respondents	Percentage (%)
18 – 20	72	43.6
21 – 23	93	56.4
Total	165	100

2.3. Data Analysis

The correlation test used was the Spearman Rank statistical test with a confidence interval of 95% ($\alpha= 0.05$) to analyze the correlation between students' knowledge and attitudes about acne vulgaris. The correlation test was applied to test the following hypotheses:

Null hypothesis (H0): There is no correlation between students' knowledge and attitudes about acne vulgaris in the Nursing Study Program Cenderawasih University. Alternative hypothesis (Ha): There is a correlation between students' knowledge and attitudes about acne vulgaris in the Nursing Study Program Cenderawasih University.

The criteria for testing the hypothesis were as follows:

1. Reject the alternative hypothesis (Ha) if the p-value < 0.05 and accept the alternative hypothesis (Ha) if the p-value > 0.05 .
2. Accept the null hypothesis (H0) if the p-value is > 0.05 and reject the alternative hypothesis (Ha) if the p-value > 0.05 .

Data processing was carried out using the SPSS statistics version 26.

3. Results

3.1. Respondents' Knowledge Level about Acne Vulgaris

The level of knowledge of Nursing Study Program Cenderawasih University students about acne vulgaris is as follows: 120 respondents (72.7%) had good knowledge and 45 (27.3%) had poor knowledge. The frequency distribution of respondents' knowledge about acne vulgaris is presented in Table 3 below.

Table 3: Frequency Distribution of Respondents' Knowledge about Acne Vulgaris

Level of Knowledge	The Number of Respondents	Percentage (%)
Good knowledge	120	72.7
Poor knowledge	45	27.3
Total	165	100

3.2. Attitudes of Respondents Towards Acne Vulgaris

The description of the attitudes of Nursing Study Program Cenderawasih University students towards acne vulgaris is as follow: 96 respondents (58.2%) had good attitude and as many as 69 people (41.8%) respondents had poor attitude. The frequency distribution of respondents' attitudes towards acne vulgaris is presented in Table 4 below.

Table 4: Frequency Distribution of Respondents' Attitudes towards Acne Vulgaris

Attitudes	The Number of Respondents	Percentage (%)
Good attitudes	96	58,2
Poor attitudes	69	41,8
Total	165	100

3.3. Correlation Between Knowledge and Attitudes of Students about Acne Vulgaris

Correlation analysis using the Spearman Rank test with a confidence level of 95% was applied to see the extent of the correlation between students' knowledge and attitudes about acne vulgaris. Based on data analysis, the following results were obtained:

Table 5: Correlation Analysis of Students' Knowledge and Attitudes about Acne Vulgaris

Attitudes Category	Knowledge Category				Total		<i>p-value</i>
	Good		Poor		n	%	
	n	%	n	%			
Good	76	46.1	20	12.1	96	58,2	0.029
Poor	44	26.7	25	15.2	69	41,8	
Total	120	72.7	45	27.3	165	100	

Table 5 shows that 76 (46.1%) respondents had good knowledge and good attitudes; 44 (26.7% respondents had good knowledge and poor attitudes; 20 respondents (12.1%) had poor knowledge and good attitudes and 25 respondents (15.2%) had poor knowledge and poor attitudes. The Spearman Rank statistical test obtained $p\text{-value} = 0.029$. The $p\text{-value} < 0.005$, so based on the hypothesis testing criteria it was concluded that there was a correlation between the knowledge and attitudes of students towards acne vulgaris. Furthermore, based on the results of data processing, a correlation coefficient of $r = 0.171$ and a coefficient of determination of $r^2 = 0.0292$ was obtained. This shows that although there is a correlation between the knowledge and attitudes of students about acne vulgaris, the strength of the relationship between the knowledge and attitudes of students about acne vulgaris is low.

4. Discussion

4.1. Respondents' Characteristics

The characteristics of respondents in this study include gender and age. The stratified random sampling technique resulted in the number of female respondents being more than the number of male student, at (686.1%). This is because the number of female students in the Nursing Study Program Cenderawasih Universitas is far greater than the number of male students. This is also consistent with the fact in health care settings the number of female nurses is far greater than the number of male nurses. This number indicates that the nursing profession is more attractive to women. Furthermore, in terms of age of the respondents, the

difference between the ages of 18-20 and 21-23 years is not great. This is due to the fact that the capacity for admission of students every year to the Nursing Study Program is constant. The characteristics of the respondents who were scattered in this way represented the study population, because the sample selection using stratified random sampling technique was appropriate for this study.

4.2. Interpretation and Discussion of Results

Student knowledge about acne vulgaris in the Nursing Study Program, based on the research results shown in Table 3, revealed that there were 120 respondents (72.7%) with good knowledge and 45 respondents (27.3 %) with poor knowledge with poor. These results indicated that the average knowledge of students about acne vulgaris in the Nursing Study Program at Cenderawasih University was good. The knowledge referred to in this research is the knowledge that students have about the problems of acne vulgaris, which include the definition, types of acne, and causes of acne, acne prevention, and acne treatment. This knowledge is obtained through the senses, experience, feelings or knowledge obtained through other learning processes. This is in line with the opinion of [12], which explains that knowledge is the result of human senses or the result of knowing about something through their senses. Most of a person's knowledge is obtained through the senses of hearing and sight. However, a person's knowledge is also influenced by many factors including education, work, experience, beliefs and socio-culture. The results of this study are in line with the results of previous studies which revealed that 72% of the total people who experience acne vulgaris have good knowledge [7]. However, it is different from the results of research conducted by [15] which found that the knowledge of students about acne vulgaris in India on average was limited or moderate knowledge. Table 5 showed that 26.7% of respondents had good knowledge about acne vulgaris but had poor attitude about acne vulgaris. Likewise, 12.1% of respondents had a good attitude about acne vulgaris but had poor knowledge about acne vulgaris. Only 46.1% of respondents had good knowledge about acne vulgaris and good attitude about acne vulgaris. This means that the strength of the relationship or correlation between knowledge and attitudes can be classified as very low (coefficient of determination $r^2 = 0.0292$). The inconsistency between the respondents' knowledge and attitudes about acne vulgaris is presumably because respondents are influenced by the myths about acne vulgaris, inappropriate treatment of acne and bad habits regarding the incidence of acne vulgaris. This is consistent with the study carried out by [14], which revealed that even though someone has a good knowledge about acne, it does not mean that they have a good attitude towards the incidence of acne vulgaris too. Therefore, more in-depth research such as qualitative research is required.

4.3. Students' Attitudes about Acne Vulgaris in the Nursing Study Program

Based on the results of the study in Table 4, 96 respondents (58.2%) had a good attitude toward acne vulgaris and 69 respondents (41.8%) had a poor attitude. The difference between these two levels of attitudes is not much compared to the difference in respondents' knowledge about acne vulgaris. The attitude referred to in this study refers to the behavior of respondents in the form of actions in response to stimulus received [2]. The high percentage of poor attitude is presumably due to the fact that respondents did not respond correctly to the information they had obtained from various sources regarding acne vulgaris. Table 5 shows that 38.8% of respondents had inconsistency between knowledge and attitude and 61.2% had consistency between knowledge

and attitude. From these results it can be seen that the number of respondents with consistent knowledge and attitude was greater than those with inconsistent knowledge and attitude. This is in line with the results of [13] regarding the relationship between knowledge and attitudes of adolescents who suffer from acne vulgaris at SMA Negeri 8 Bogor City. They concluded that respondents who have good knowledge will have good attitude towards the incidence of acne vulgaris they suffer.

4.4. Correlation Between Knowledge and Attitudes of Students about Acne Vulgaris in the Nursing Study Program Cenderawasih University

Table 5 showed that p-value = 0.029. This value is less than $p = 0.05$. Based on the hypothesis testing criteria it can be concluded that there was a correlation between the knowledge and attitudes of students about acne vulgaris in Nursing Study Program Cenderawasih University. The results of this study are in line with research conducted by [17] which shows that there is a relationship between the level of knowledge and attitudes of adolescents about acne vulgaris at SMK Al-Huda Kebumen. The results of this study also indicated that the correlation between knowledge and attitudes of students is a positive correlation because $r = 0.171$. This means that the knowledge about acne vulgaris and the respondent's attitudes towards acne vulgaris are consistent. However, 38.8% respondents had inconsistency between knowledge and attitudes. This is acceptable because the strength of the correlation between knowledge and attitudes is very low ($r^2 = 0.0293$). This is in line with the results of research by [13] and [7] which showed that even though someone has good knowledge of acne vulgaris they do not always have a good attitude because of the myths and misunderstanding of acne vulgaris. However, there are also people who have poor knowledge but have a good attitude because they received the right information regarding acne vulgaris treatment. For this reason, it can be concluded that people with acne vulgaris that have good knowledge about acne vulgaris and receive the right information of acne vulgaris, can be expected to have a good attitude toward acne vulgaris.

5. Conclusion

Based on the results it can be concluded that there is a correlation between students' knowledge and attitudes about acne vulgaris in the Nursing Study program Cenderawasih University. 46.1% of students had good knowledge and good attitudes, 26.7% students had good knowledge y with a poor attitude, 12.1% students had poor knowledge with a good attitude and 15.2% students were poor in both knowledge and attitude. 38.8% respondents had inconsistency between knowledge and attitude about acne vulgaris.

6. Recommendations

It is necessary to conduct health promotion in the form of education about the importance of maintaining healthy skin and cleanliness. Students need to have good knowledge about skin health and find the right information about skin care related to acne vulgaris in order to develop a good attitude and reduce the incidence of acne vulgaris. Further research is needed to explore the other factors such as genetic, environment, weather that contributing to the incidence of acne vulgaris.

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