Correlation of Laboratory Management with Students Ability to Monitoring Nutritional Status

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ABSTRACT

The laboratory can act as its function if it is managed properly so that it contributes to the effectiveness of students in understanding a lesson. The purpose of the study was to determine the correlation between laboratory management and students' ability to monitor nutritional status. This study uses quantitative research methods with correlational analysis using a Likert scale. The research locus is the Nutrition Laboratory of the Faculty of Public Health, Teuku Umar University. The sample used was a total sampling of a population of 65 students majoring in Nutrition who took the nutritional status monitoring course in 2022. The data were analyzed using a questionnaire analysis test and an analysis of the student's ability to monitor nutritional status. To test the truth of the hypothesis, a computerized rank spearmen correlation test was used with the help of SPSS software version 25. The results showed that 94% of students thought that the laboratory management activities of the Faculty of Public Health, Teuku Umar University were very good. Almost all nutrition students have very high scores (92%) while the rest have high scores (1%), moderate scores (5%), and low scores (2%). Based on the spearmen rank test, a significance value of (0.000) < alpha (0.05) was obtained with a correlation coefficient of 0.442. In conclusion, there is a correlation between laboratory management and the ability of students to monitor nutritional status with a currently level of relationship strength

ARTICLE INFORMATION

Introduction

The laboratory is a means of supporting the learning process that is used to carry out practical activities such as experiments, investigations, or other scientific activities using special equipment that is not found in other rooms (Emda, 2017; Sani, 2021).

Learning activities in the laboratory can create and increase students' curiosity about physical phenomena and symptoms. Learning activities in the laboratory can train students in analyzing data, compiling reports, and scientific methods, developing creativity and training them to think and be scientific and critical (Zainudin, 2016).

The laboratory can play a role as it functions if it is managed properly. Laboratory management is defined as the activity of maintaining resources, finances, equipment, facilities, and other physical objects to achieve optimal goals efficiently and effectively by focusing on the sustainability of the function of resources (Irjus et al., 2020; Susilowati, 2012).

To manage a laboratory, it is necessary to pay attention to the main elements in management which consist of planning, arrangement, administration, security, maintenance, and supervision. All of these basic elements form the basis for laboratory development and improvement activities as a management function (Decaprio, 2013).

The success of good laboratory management greatly affects the quality of the laboratory. The quality of laboratories from good management activities certainly contributes to the effectiveness of the learning process and also motivation in learning so that students have good abilities in understanding effective lessons (Novianti, 2011).

With this background, it encourages the author to research the correlation between laboratory

management and the ability of students to monitor nutritional status.

Method

This study uses quantitative research methods with correlational analysis to test the research hypothesis, namely the correlation between laboratory management and students' ability to monitor nutritional status. The research locus is the Nutrition Laboratory of the Faculty of Public Health, Teuku Umar University on July – September 2022. The Likert scale is used to measure the independent variable, namely student opinions about laboratory management which consists of planning, arrangement, administration, observation, maintenance, and supervision. The dependent variable in this study is the ability of students to monitor nutritional status as seen from the value of learning outcomes for nutritional status monitoring courses. This study uses primary data from questionnaires using google forms and secondary data derived from student learning outcomes in nutritional status monitoring courses. The study population was students majoring in Nutrition who took the nutritional status monitoring course in 2022 as many as 65 people. The research sample is a total sampling of several populations. The data were analyzed by using a questionnaire analysis test and an analysis of students' ability to monitor nutritional status.

Analysis of the questionnaire data using the formula:

$$X = F \times N \times 100\%$$

Information:
X = Percentage of respondent response analysis
F = Frequency of respondents' answers
N = Total Score

Table 1. Questionnaire Interpretation Indicators

Percentage	Criteria
0 – 20	Very not good
21 – 40	Not good
41 – 60	Pretty good
61 – 80	Well
81 – 100	Very good

Table 2. Indicators of Student Ability in Monitoring Nutritional Status

Value Interval	Criteria
0 – 25	Low
26 – 50	Moderate
51 – 75	High
76 – 99	Very High

To test the hypothesis, a computerized *rank spearmen* correlation test was used with the help of SPSS version 25 *software.*

Table 3. Interpretation of Correlation Test

Percentage	Criteria
0.00 – 0.19	Very low
0.20 – 0.39	Low
0.40 – 0.59	Currently
0.60 – 0.79	Strong
0.08 – 1.00	Very strong

Results
Questionnaire Analysis

Table 4. Laboratory Management Questionnaire Analysis Test Results

Indicator	%	Category
Planning	94%	Very good
Organization	94%	Very good
Administration	93%	Very good
Security	93%	Very good
Maintenance	97%	Very good
Supervision	91%	Very good
Average Percentage	**94%**	**Very good**

Table 4 shows that the average percentage of laboratory management activities is 94%. This shows that the management of the Nutrition Laboratory of the Faculty of Public Health, Teuku Umar University as measured through the indicators of planning, organization, administration, security, maintenance, and supervision is very good.

Analysis of Students' Ability in Monitoring Nutritional Status
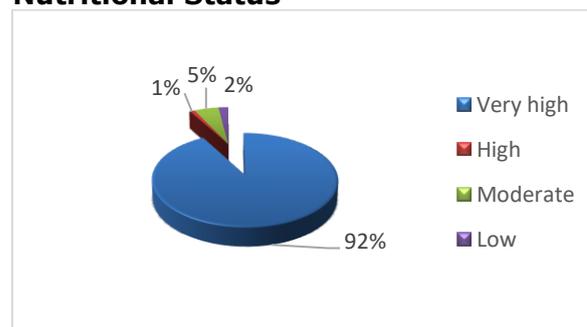

Figure 1. Analysis of Students' Ability in Monitoring Nutritional Status

In Figure 1, it is known that almost all nutrition students have very high scores (92%) while the rest have high scores (1%), moderate scores (5%), and low scores (2%).

Research Hypothesis Test Results

Hypothesis testing was carried out using the spearmen rank test using the SPSS version 23 program and the following test results were obtained:

Table 5. Correlation of Laboratory Management with Students' Ability in Monitoring Nutritional Status

Rs	Significance	Correlation Curve	Relationship Level
0.442	0.000	Positive	Currently

Table 5 shows a significance value (0.00) < alpha (0.05), so there is a correlation between laboratory management and student learning outcomes with a correlation coefficient of 0.442, which means the direction of the relationship is positive (unidirectional) with a moderate level of strength.

This shows that the Laboratory of the Faculty of Public Health, Teuku Umar University can manage the laboratory well to support the ability of students to monitor nutritional status.

Several previous studies are also in line with this research and explain that laboratory management or known as laboratory management has a significant relationship with the achievement of student competence in carrying out KDPK and Antenatal Care practice activities with sufficient strength and positive direction (Rahmatul, 2020).

Other studies also explain that there is a relationship between the quality of laboratory services and the scores on the OSCA practicum exam for family planning midwifery care (Yunitasari & Mufdlilah, 2013). The results of the research conducted by Harini & Rusiawati (2019) also explain the same thing, namely that there is a relationship between practice guidance factors and the achievement of student pregnancy care skills competencies. Furthermore, research by Susanto (2017) explains that there is a relationship between laboratory management abilities and learning outcomes in laboratory management courses.

Conclusion

1. The Nutrition Laboratory of the Faculty of Public Health, Teuku Umar University is very well managed
2. Almost all students of the Faculty of Public Health, Teuku Umar University have good nutritional status monitoring skills.
3. There is a correlation between laboratory management and students' ability to monitor nutritional status with a currently level of relationship strength.

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