

Effect on Preference of Clinical Practice Subjects

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Abstract

This study was a cross-sectional descriptive survey study that confirms the effect on subjects that prefer clinical practice in order to prepare basic data for efficient clinical practice guidance for nursing college students. The study participants were 201 students attending C University, and the data collection period was from October 1 to October 15, 2022. The collected data were analyzed using SPSS 18.0 as descriptive statistics, Pearson correlation, Chi square test, ANOVA test, and Multiple regression test. As a result of the analysis, it was found that clinical decision-making and critical thinking were correlated under the statistical significance level ($r=.730$, $p<0.01$). The most favorite clinical practice department was community nursing, and male students preferred community nursing the most (Male=45.6%, $\chi^2=.000$), female students were found to prefer similar levels of practical subjects with child nursing, adult nursing, and maternal nursing ($\chi^2=000$). Clinical decision-making was found to be higher in students who preferred community nursing at a statistical significance level than those who preferred child nursing ($F=4.91$, $p<0.01$). Critical thinking was higher among students who preferred adult nursing than those who preferred other subjects ($F=4.65$, $p<0.01$). Through the analysis results, it was found that general characteristics vary, but clinical decision-making ability and critical thinking affect the preference of clinical practice subjects. Therefore, based on the results of this study, the professor of clinical practice suggests the development of a program to foster clinical decision-making and critical thinking to make students interested in clinical practice subjects.

Keywords: *Clinical Decision Making, Critical Thinking, Preferred Clinical Practice Subjects*

1. INTRODUCTION

The clinical environment has been changing rapidly since recent medical advances and widespread Internet penetration have made it easier to obtain information related to medical activities compared to the past [1]. As a result, patients' health needs for themselves have increased, which requires accurate and qualitative decision-making by nurses [2]. In other words, nurses' decision-making based on scientific and reasonable grounds for cases requiring nursing intervention in specific clinical situations is more important than developing knowledge to improve nursing practice. Decision-making is a process of recognizing a problem, examining and selecting alternatives, and is defined as the process of reaching choice through an individual's complex intellectual process among several possible alternatives[3]. In addition, the basis for rational decision-making can be seen as based on critical thinking.

Clinical decision-making is a cognitive process in which nurses identify patients' problems in clinical

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practice and choose appropriate alternatives to perform best care, which significantly affects patient care[4]. In order to implement efficient nursing intervention, it is a very important process to accurately identify the patient's problems. Even if the nursing knowledge learned through theory is abundant when a problem occurs, it is difficult to say that it is living nursing knowledge if decision-making is not made at an appropriate timing. In addition, it can be said that choosing an appropriate alternative socially and economically for the subject when there are various alternatives is a key ability that has a great influence on patient care.

Johns (1995) stated that critical reflection training is achieved by scientific reflection through one's own practical experience and structuring the order of positive nursing [5]. In other words, critical thinking is not achieved at one moment, but through various and repetitive practical experiences, and can only be obtained through deep reflection on one's experience. It can be said that after repeated and deep self-reflection, the order of nursing that one must perform is structured. In self-reflection, it is very important to acquire experience in the right direction, and it can be said that critical thinking is the basis for it. Critical thinking refers to the personal characteristics, habits, attitudes, and emotional tendencies required to think critically[6]. It is difficult to change the characteristics one has in nature, but one can change habits and attitudes through training. To measure critical thinking tendencies, Facione (1990) developed research tools with intellectual passion, curiosity, prudence, confidence, systemicity, intellectual fairness, sound reflection, and objectivity, and has been used by many scholars [7]. The term critical thinking is a combination of the modifier 'critical' and the noun 'thought'. The word 'critical' comes from the Greek word 'kritidos', meaning that it can ask, understand, and analyze questions, and the word 'thinking' is a cognitive activity related to understanding the world around it[8]. Facione said that critical thinking tendencies are not just the desire or preference to think critically, but the habit of using his thinking skills or the mind of choosing to use them. He is using his thinking skills and his thinking tendency in a clear contrast. For example, it is argued that a person may have the ability to do a job but may not be inclined to do it. In other words, critical thinking means approaching a problem with curiosity passionately and carefully when it occurs, and looking objectively without losing confidence in the problem. Also, critical thinking means that people have a wealth of knowledge about problems and that they do not lose their fairness and, on the other hand, sound reflection. Such objectivity and systematicity are called critical thinking, and it can be said to be an essential item for clinical decision-making.

The current nursing curriculum consists of clinical practice by learning humanities and nursing theory classes in the lower grades and then going up to the higher grades. In general, critical thinking is dealt with in theoretical subjects, but many students have difficulty in gaining critical thinking and clinical decision-making experience due to theoretical classes conducted in classrooms. In addition, it is difficult to properly grasp the problem because there are many problems to have abundant knowledge of clinical problems before accumulating theoretical knowledge of nursing. If so, when directly experiencing clinical problems through clinical practice, it seems appropriate timing to solve clinical problems with a professor of clinical practice guidance.

Looking at relatively recent research on clinical practice, ES Lee et al. (2011) studied the relationship between clinical performance ability and satisfaction with clinical practice education. Through this study, it was found that the higher the satisfaction with clinical practice education, the more positive the clinical performance ability showed [9]. In general, it is considered difficult to show low clinical performance ability if satisfaction with clinical practice education is high. However, it is judged to be a meaningful study that confirmed the facts through research. In 2020, HJ Kwon et al. [10] studied the relationship between the theoretical and practical performance of nursing students and clinical performance ability, which is also similar to that of ES Lee et al. [9]. In other words, it is also considered common sense that students with high theory and practice grades are positive in clinical performance. This is also considered meaningful as a study to

confirm facts. In a study by YB Choi et al.[11], which was studied at a slightly different level, a study on clinical practice stress, academic self-efficacy, and career identity of nursing college students was conducted. In this study, it was already understood that nursing students were stressed through clinical practice. YB Choi et al.[11] were a study that identified the relationship to utilize the self-efficacy and career identity of nursing college students to solve the cause of stress. However, the limitation of this study was that it focused on the negative emotions of stress. This is because it is difficult to affirm that clinical practice is negative for everyone. The relationship between nursing college students and nurses they face directly during the clinical practice period affects clinical practice satisfaction, whether positive or negative. In the effect of the image of nurses perceived by nursing students studied by Lee Young-in et al. [12], it was found that the image of nurses had a significant effect on the satisfaction of clinical practice. However, the above studies are mainly focused on which factors are related to clinical practice satisfaction after already performing the practice. Then, in 2018, KT Jeong et al. [13] began to study the relationship between clinical practice satisfaction and nursing professional staff and study students' clinical practice satisfaction. This was a meaningful study in that it was a student-centered study. Efficient clinical practice will be conducted if practical research is continued to cultivate nursing professionals. However, there have been no follow-up studies on the development and application of programs to cultivate nursing professionals. However, it was found that the content analysis approach of nursing college students' strategy to improve clinical practice operation [14] was relatively recently aware of problems in clinical practice operation. However, since this study is also focused on the operation of clinical practice, it was insufficient to make nursing students like clinical practice.

Accordingly, the researcher judged that it is important for nursing students to highlight and cultivate what the clinical practice advisor emphasizes and fosters in order to enable them to like clinical practice and further conduct clinical practice efficiently. Therefore, this study identified the advantages of clinical practice decision-making and critical thinking through literature review, and the purpose of this study was to first find out whether these advantages affect the preference of clinical practice departments and to collect basic data to develop programs to efficiently guide clinical practice departments.

2. METHODS

2.1 Research design and purpose

This study is a cross-sectional descriptive survey study that confirms the effect on the preferred clinical practice subjects to prepare basic data for efficient clinical practice guidance for nursing college students. The study participants were 201 students attending C University, and data were collected using structured questionnaires. The data collection period was from October 1 to October 15, 2022. The specific purpose of the study is, first, to grasp the general characteristics of nursing college students. Second, it identifies the correlation between health status, critical thinking, and clinical decision-making. Third, it identifies the preferred subjects for clinical practice according to general characteristics. Fourth, it analyzes the differences in temporary decision-making and critical thinking by subject of the practical department. Fifth, the impact of critical thinking sub-factors on clinical decision-making is analyzed.

2.2 Research tools

2.2.1. Clinical decision making

Clinical decision making refers to a cognitive process in which nurses identify problems and select appropriate alternatives to perform patient care in clinical practice [15], and in this study, the clinical decision

making in nursing scale (CDMNS) developed by Jenkins [4] is measured using translated and reviewed by MK Baek [16]. The four sub-category of clinical decision-making consist of a 5-point scale of 40 questions, including 10 questions alternatives and selection surveys, 10 questions review of values and goals, 10 questions evaluation and re-evaluation of conclusions , and 10 questions consistency of information and new information. The reliability of the clinical decision-making tool(Chronbach's alpha) in this study was 0.738.

2.2.2. Critical thinking

Critical thinking refers to the personal characteristics or habits, attitudes, and emotional propensity required to think critically [17]. In order to measure critical thinking propensity, the critical thinking propensity measurement tool developed by Facione [7] was used. This research tool is a five-point Likert scale consisting of seven sub-category, including 5 questions intellectual passion/curiosity , 4 questions prudence , 4 questions confidence , 3 questions systemicity , 4 questions intellectual fairness, 4 questions sound reflection , and 3 questions objectivity(Fig. 2). The reliability of critical thinking propensity (Chronbach's alpha) in this study was 0.855.

3. RESULT

3.1 General characteristics

Table 1. General characteristics

N=201					
Category	Type	N(%)	Category	Type	N(%)
Gender	Male	68(33.8)	Regular Exercise	Yes	76(37.8)
	Female	133(66.2)		No	125(62.2)
Age (Born in)	1995	1(.5)	Smoking	Yes	27(13.4)
	1998	1(.5)		No	174(86.6)
	1999	41(20.4)	Alcohol	Yes	110(54.7)
	2000	73(36.3)		No	91(45.3)
	2001	57(28.4)		Breakfast	Yes
2002	28(13.9)	No	112(55.7)		
Grade	The 2 nd	63(31.3)	Resident	With parents	94(46.8)
	The 3 rd	77(38.3)		Dormitory	73(36.3)
	The 4 th	61(30.3)		Live apart	34(16.9)
Health Condition	Very bad	5(2.5)	Favorite Major	Adult	40(19.9)
	Little bad	64(31.8)		Maternity	35(17.4)
	General	75(37.3)		Pediatric	44(21.9)
	Little good	51(25.4)		Psyche	37(18.4)
	Very good	6(3)		Community	45(22.4)

Frequency analysis was performed to confirm the general characteristics of the study participants (Table 1). There were 68 male students (33.8%) and 133 female students (66.2%). 57 (28.4%) were 21 years old, followed by 41 (20.4%) aged 23, 28 (13.9%), 1 (0.5%) aged 27, and 1 (0.5%) aged 24. As for the grade, 38.3% were in the third grade, 31.3% were in the second grade, and 30.3% were in the fourth grade. 86.6% of students did

not smoke, 13.4% of students smoked, while 54.7% of students drank alcohol and 45.3% did not. 44.3% of the students ate breakfast and 55.7% of the students did not eat breakfast. When asked about their current health status, 37.3% said "normal," 31.8% said "a little bad," 25.4% said "a little good," 3% said "very good," and 2.5% said "very bad." Lastly, one's favorite clinical practice subjects were community nursing, 21.9%, followed by child nursing, 21.9%, followed by adult nursing, 18.4% mental nursing, and 17.4% maternal nursing.

3.2 Correlation between health status, critical thinking and clinical decision making

Pearson's correlation analysis was performed to confirm the correlation between health status, clinical decision-making, and critical thinking tendency (Table 2). As a result of the analysis, it was found that health status was correlated with clinical decision-making under statistical significance level ($r=-.201$, $p<0.01$), and clinical decision-making and critical thinking were found to be correlated under the statistical significance level ($r=.730$, $p<0.01$).

Table 2. Correlation between health status, critical thinking and clinical decision-making

Category	Mean	SD	1	2	3
1.Health condition	2.95	.89	1	-.201**	-.043
2.Decision making	2.26	.36		1	.730**
3.Critical thinking	2.38	.34			1

** , $p<0.01$

3.3 Subjects preferred for clinical practice according to general characteristics

Table 3. Subjects preferred for clinical practice according to general characteristics

N=201

Variable		Age					Total	χ^2
		Adult	Mart.	Pedi.	Psych.	Com.		
		N(%)	N(%)	N(%)	N(%)	N(%)		
Gender	Male	5(7.4)	3(4.4)	8(11.8)	21(30.9)	31(45.6)	68(33.8)	.000**
	Female	35(26.3)	32(24.1)	36(27.1)	16(12.0)	14(10.5)	133(66.2)	
Grade	2 nd	9(14.3)	18(28.6)	5(7.9)	30(47.6)	1(1.6)	63(31.4)	.000**
	3 rd	6(7.8)	12(15.6)	13(16.9)	7(9.1)	39(50.6)	77(38.3)	
	4 th	25(41.0)	5(8.2)	26(42.6)	0(.0)	5(8.2)	61(30.3)	
Smoking	Yes	36(20.7)	30(17.2)	35(20.1)	36(20.7)	37(21.3)	174(86.6)	.153
	No	4(14.8)	5(18.5)	9(33.3)	1(3.7)	8(29.6)	27(13.4)	
Alcohol	Yes	28(25.5)	15(13.6)	35(31.8)	12(10.9)	20(18.2)	110(54.7)	.000**
	No	12(13.2)	20(22.0)	9(9.9)	25(27.5)	25(27.5)	91(45.3)	
Exercise	Yes	11(14.5)	8(10.5)	22(28.9)	2(2.6)	33(43.4)	76(37.8)	.000**
	No	29(23.2)	27(21.6)	22(17.6)	35(28.0)	12(9.6)	125(62.2)	

Chi-a square analysis was conducted to confirm the subjects of clinical practice according to general characteristics (Table 3). As a result of the analysis, male preferred community nursing the most by gender (Male=45.6%, $\chi^2=.000$), female was found to have a similar level of preference for practical subjects with child nursing (27.1%), adult nursing (26.3%), and maternal nursing (24.1%, $\chi^2=000$). Depending on the grade, mental nursing was the most preferred in the second grade at 47.6%, and community nursing was the highest in the third grade (50.6%, $\chi^2=.000$), 4th graders were found to prefer child nursing the most (42.6%, $\chi^2=000$). Depending on the presence or absence of smoking, there were statistically insignificant results($\chi^2=.153$). Depending on whether or not they drink alcohol, people who drink alcohol preferred child nursing (31.8%), followed by adult nursing (25.5%), community nursing (18.2%), maternal nursing (13.6%), and mental nursing (10.9%). Those who exercised regularly preferred community nursing (43.4%), child nursing (28.9%), adult nursing (14.5%), maternal nursing (10.5%), and mental nursing (2.6%) ($\chi^2=000$). People who did not exercise regularly preferred mental nursing (28.0%), followed by adult nursing (23.2%), maternal nursing (21.6%), child nursing (17.6%), and community nursing ($\chi^2=000$).

3.4 Differences in critical thinking and clinical decision making by preferred clinical practice

ANOVA analysis was conducted to confirm the difference between clinical decision-making and critical thinking according to the preferred practice subject (Table 4). As a result of the analysis, clinical decision-making was found to be higher in students who preferred community nursing than in students who preferred child nursing ($F=4.91$, $p<0.01$). Critical thinking was higher among students who preferred adult nursing than those who preferred maternal nursing and community nursing ($F=4.65$, $p<0.01$).

Table 4. Differences in critical Thinking and clinical decision making by preferred clinical practice

Dependent var.	Independent var.	Mean	SD	F/p	Post-test result
Clinical decision making	Adult(a)	2.27	.45	4.91/.001	e>c
	Mart.(b)	2.23	.40		
	Ped.(c)	2.07	.36		
	Psych.(d)	2.28	.29		
	Com.(e)	2.40	.20		
Critical thinking	Adult(a)	2.51	.47	4.65/.001	a>b,e
	Mart.(b)	2.23	.35		
	Ped.(c)	2.30	.25		
	Psych.(d)	2.37	.33		
	Com.(e)	2.47	.20		

3.5 The effect of critical thinking sub-factors on clinical decision making

Multiple regression analysis was conducted to analyze the effect of sub-factors of critical thinking propensity on clinical decision-making (Table 5). As a result of the analysis, the probability of significance was less than 0.05 in the analysis of variance, so the regression equation was meaningful. Among the sub-factors of critical thinking tendency, truth pursuit, confidence, fairness, and objectivity were found to have a 72.3% effect on clinical decision-making under the statistical significance level ($p<0.01$). In addition, the tolerance limit value was 0.1 or higher, so there was no problem with multicollinearity, and the Durbin-Watson value was 1.509, securing the independence of the residuals.

Table 5. The Effect of Critical Thinking Sub-Factors on Clinical Decision Making

Dependent Variable	Independent Variable.	Non-standardized coefficient		β	t	p	A tolerance limit
		B	SD				
Clinical decision making	Constant	.367	.117	-	3.14	.002**	
	Truth pursuit	.090	.028	.147	3.23	.001**	.698
	Prudence	-.021	.036	-.026	-.591	.555	.744
	Confidence	.241	.032	.307	7.426	.000**	.847
	Systematicity	.024	.026	.045	.941	.348	.637
	Fairness	.346	.030	.541	11.564	.000**	.734
	Sound reflection	.010	.022	.020	.447	.655	.703
	Objectivity	.154	.029	.255	5.222	.000**	.607
R ² =.723, Modified R ² =.713, F=71.226, Durbin-Watson=1.509							

*.p<0.05, **.p<0.01

4. CONCLUSION

The participants in this study were a total of 201 students enrolled in the 2nd to 4th grades of nursing, 68 male students and 133 female students. Participants showed more students who did not smoke than students who smoked, while the proportion of students who drank alcohol and those who did not. The participants' current health status was almost the same as that of normal to bad. The clinical practice subject liked community nursing the most, followed by child nursing, adult nursing, psychiatric nursing, and maternal nursing. The health status of the study participants was found to be correlated with clinical decision-making. In other words, it was found that healthy people had a positive relationship with clinical decision-making. In addition, clinical decision-making and critical thinking were also found to be correlated, so the validity of connecting and analyzing critical thinking and clinical decision-making set as the assumption of this study was established.

Male preferred community nursing, and female preferred child nursing, adult nursing, and maternal nursing at a similar level, indicating that male students were more interested in the community than nurses working in hospitals. When looking at the preferred subjects for each grade, it was found that second graders preferred psychiatric nursing the most, third graders preferred community nursing the most, and fourth graders preferred child nursing the most. Psychiatric nursing is not about nursing the body, but rather about the mind, and at the basic stage of nursing theory, nursing students were interested in community nursing as the grade went up, and in the higher grades, they were interested in subdivided major subjects. Smoking was found to have no effect on the preferred clinical practice subject, and those who drink alcohol preferred child nursing the most. People who exercise regularly prefer community nursing, and those who do not exercise regularly prefer psychiatric nursing, so students who do not like to move prefer psychiatric nursing, and students who do not like to exercise prefer community nursing. These results are comparable to the views on nursing behavior studied by J

Greenhalgh, et al. In other words, the approach to nursing behavior and nursing intervention is also different depending on age and gender [18]. They found that male nurses form less comfort and trust relationships for subjects than females do. There is a difference that this study was conducted on nursing students, not nurses. However, the commonality suggests that approaches should vary depending on gender and age.

Students who preferred community nursing were found to have high clinical decision-making, and students who preferred adult nursing were found to have high critical thinking. This result can be seen that the application of a program to cultivate critical thinking when guiding adult nursing practice can enable students to participate in practice more efficiently. Critical thinking emphasizes objectivity and systematicity rather than subjective experience and knowledge of events with intellectual passion, curiosity, prudence, confidence, systematicity, intellectual fairness, and objectivity[19]. Students participating in adult nursing practice need to provide thorough scientific evidence. In addition, students with high clinical decision-making prefer community nursing practice subjects, and when guiding community nursing practice, it is judged that applying a program that can cultivate clinical decision-making can induce efficient practice. In other words, more efficient practice of students is possible if they focus on the ability to make decisions at an appropriate time in various nursing phenomena occurring in the community.

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