

Effects of Clinical Practice Education Environment on the Clinical Performance of Clinical Practices of Nursing Students

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Abstract: The objective of this study is to establish the basic data for effective clinical practice guidance by researching the clinical practice education environment of nursing students and also understanding its correlation with the clinical performance of clinical practices. The subjects are third-year and fourth-year nursing students who completed the clinical practice for six weeks or more. Using the SPSS 21.0 Program for the data analysis, the t-tests and one-way ANOVA, multiple regression analysis were conducted. In the results of this study, regarding the results of analyzing differences of clinical practice education environment and clinical performance of clinical practices according to the general characteristics of subjects, the clinical practice education environment was significant in gender($p=.007$), religion type($p=.004$), and satisfaction of nursing major($p<.001$), and the clinical performance of clinical practices was significant in grade($p=.005$), clinical practice period($p=.003$), and major choice type($p=.016$). In the results of conducting the multiple regression analysis to understand the effects on the clinical performance of clinical practices of subjects, the clinical practice period($\beta=.213$, $p<.001$) and clinical practice education environment($\beta=.219$, $p=.010$) were the factors having significant effects on it, and the explanatory power was 26.3%. Thus, it would be necessary to develop an effective intervention program to enhance the practice environment for efficient clinical practice of nursing students.

Keywords: *Nursing Student, Clinical Practice Guidance, Clinical Practice Education Environment, Clinical Performance of Clinical Practices*

1. Introduction

Today, the healthcare environment is seeking nurses that could competently perform their works, so the importance of theoretical education and clinical practice is emphasized in nursing education. Clinical practice is a learning process of applying the learned contents to nursing settings and developing the potential and creativity of nursing students[1]. It changes nursing students to professional nurses who could fully show their roles[2].

In nursing education, the clinical performance of clinical practices which is integrated and composed of learned knowledge, technique, attitude, self-cognition, and motivation, means that the students experience and change through the curriculum as the final product of curriculum expected by educators[3]. The ultimate goal of clinical performance of clinical practices is to provide the optimum nursing to subjects in need of care, which is to perform the proper clinical nursing or the act to integrate self-cognition, motivation, emotional influence, and technique and knowledge related to the clinical performance of clinical practices[4]. The core of nursing is to complete the clinical performance of clinical practices[5].

Recently, there is more and more interest in increasing the quality of clinical practice, and the clinical practice education environment grabs attention as an important factor that could decide it[6]. The clinical practice education environment has the biggest effects on the acquisition of nursing techniques

and knowledge of nursing students, and also plays important roles to have the preparation for practice, systematic technique, and confidence in role performance[7]. Research [6] also reported the necessity to continuously develop strategies for the improvement of clinical practice education environment as the clinical performance of clinical practices was highly shown when the clinical practice education environment was more positively perceived.

Thus, this study aims to provide the basic data for the desirable guidance of clinical practice education by researching the effects of clinical practice education environment on the clinical performance of clinical practices of nursing students, understanding the clinical practice education environment perceived by nursing students, and establishing the improvement measures.

2. Methods

2.1. Research Design

This is a descriptive study for understanding the effects of the clinical practice education environment on the clinical performance of clinical practices of nursing students.

2.2. Participants and Data Collection

Through the convenience sampling method, this study selected the third-year and fourth-year students who completed the clinical practice for six weeks or more of nursing students of a university in K buk-do and a university in C nam-do from December 1st to December 20th, 2019. In the results of using the G power 3.1 software[8] to calculate the proper number of samples, when it was set up as significance level(α).05, power($1-\beta$).95, effect size(r).15(medium), and 15 predictive variables, the minimum sample size necessary for the multiple regression analysis was calculated as 199. Considering the drop-out rate(10%) of this study, a total of 219 subjects were selected. After distributing and collecting 240 questionnaires through convenience sampling, this study selected a total of 227 subjects(94.6%) by excluding 13 questionnaires(5.4%) with insufficient responses from the collected questionnaires.

2.3. Research Tools

2.3.1. Clinical Practice Education Environment

This study used the clinical learning environment scale, developed by Dunn & Burnett[9], and then modified/complemented by Han, Ji-Yeong[10]. It is composed of 19 items of five sub-areas. The sub-areas are composed of three items for “relationship between staffs and students”, three items for “ward atmosphere”, five items for “performance of nursing manager”, four items for “relationship with patients”, and four items for “student satisfaction”. The “relationship between staff and students” of the sub-areas is composed of items like if the students could ask questions as many as they want, and if they regard themselves as members of the nursing team. The area “ward atmosphere” is composed of negative questions about the organizational culture of the practice ward like if it is conventional, and if the nursing students are desired to be adaptive unconditionally. The area “nursing manager’s responsibility” includes the contents like how many hours the head nurse spent on the education of nursing students. The area “student satisfaction” includes the contents like if the practice was interesting if the ward was the environment suitable for practice and learning, and if they wanted to become a nurse more through practice. The area “relationship with patients” is composed of the contents like if the work of the ward is focused on patients, and if the ward provides individual nursing to patients. It is based on the 5-point Likert Scale such as one point for ‘Not at all’ to five points for ‘Very much likely.’. A higher score means

a positive perception. Total three negative items(item No. 5, 7, 9) went through the reversed conversion. In the research by Han, Ji-Yeong[10], Cronbach's alpha was .84, and in this study, it was .88.

2.3.2. Clinical Performance of Clinical Practice

The clinical performance of clinical practices means an ability to competently perform the proper knowledge, judgment, and techniques required in clinical settings[3]. This study used the Six-dimension scale developed by Schwirian[11], which was modified/complemented by Choi, Mi-Sook[12]. It has a total of 45 items. A higher score means a higher clinical performance of clinical practices. In the research by Choi, Mi-Sook[12], Cronbach's alpha was .92, and in this study, Cronbach's alpha was .97.

2.4. Data Analysis

The collected data was analyzed by using the SPSS 21.0 program. The general characteristics, clinical practice education environment, and clinical performance of clinical practices of nursing students were analyzed through the frequency, percentage, mean, and standard deviation. The differences of clinical practice education environment and clinical performance of clinical practices according to the general characteristics of nursing students were analyzed through the t-test, ANOVA, and Scheffe. To understand the correlation between clinical practice education environment and clinical performance of clinical practices of nursing students, the Pearson Correlation Coefficient was performed. To verify the effects on the clinical performance of clinical practices of nursing students, the Stepwise Multiple Regression was conducted.

3. Results

3.1. Differences of Clinical Practice Education Environment and Clinical Performance of Clinical Practices According to the General Characteristics of Subjects

The differences of clinical practice education environment and clinical performance of clinical practices according to the general characteristics of subjects are as follows[Table 1]. In the general characteristics, the male was 22.5% while the female was 77.5%. Regarding the academic record, the grade in 3.0-3.9 was the most(80.6%). In the satisfaction of nursing major, the response 'satisfied' was 45.4%, which was followed by moderate(40.5%)'. The clinical practice period of the regular course was shown as '7-12 weeks(28.9%)', '6 weeks(26.9%)', and '13-18 weeks(12.8%)' in order. Regarding the difficulty in an interpersonal relationship during clinical practice, the difficulty with the nurse' was 51.1%, which was followed by difficulty with college colleagues (15.4%)'. In the results of analyzing differences of clinical practice education environment and clinical performance of clinical practices according to the general characteristics of subjects, the clinical practice education environment was significant in gender(p=.007), religion type(p=.004), and satisfaction of nursing major(p=<.001) while the clinical performance of clinical practices was significant in grade(p=.005), clinical practice period(p=.003), and major choice type(p=.016).

Table 1. Clinical Practice Education Environment and Clinical Performance of Clinical Practices According to the General Characteristics of Subjects(N=227)

Characteristics	Categories	N(%)	Clinical Practice Education Environment		Clinical Performance of Clinical Practices	
			mean±sd	t or F (p)	mean±sd	t or F (p)

Gender	Male	51(22.5)	3.42±0.60	2.742(.007)	3.63±0.62	1.005(.316)
	Female	176(77.5)	3.17±0.56		3.55±0.49	
Grade	3rd	116(51.1)	3.28±0.59	1.412(.159)	3.47±0.54	-2.820(.005)
	4th	111(48.9)	3.17±0.57		3.67±0.48	
Age	22-24	167(73.6)	3.20±0.50	1.179(.319)	3.55±0.51	0.910(.437)
	25-27	46(20.3)	3.21±0.80		3.62±0.57	
	28-30	5(2.2)	3.30±0.68		3.37±0.28	
	over 31	9(4.0)	3.57±0.52		3.78±0.68	
Subjective health status	None healthy	17(7.5)	2.93±0.70	2.698(.070)	3.68±0.64	0.466(.628)
	Moderate	84(37.0)	3.29±0.56		3.54±0.51	
	Healthy	126(55.5)	3.22±0.57		3.57±0.52	
Residence type	Own family house	95(41.9)	3.28±0.53	4.579(.004)	3.58±0.49	1.119(.342)
	Relative's house	1(0.4)	4.15±0.00		4.42±0.00	
	Self living or boarding house	97(42.7)	3.26±0.63		3.53±0.55	
	dormitory	34(15.0)	2.92±0.46		3.60±0.54	
Academic record	Under 2.0	0	0	0.499(.608)	0	1.797(.168)
	2.0~2.9	19(8.4)	3.11±0.59		3.71±0.45	
	3.0~3.9	183(80.6)	3.23±0.58		3.53±0.53	
	Over 4.0	25(11.0)	3.29±0.59		3.70±0.48	
Satisfaction of Nursing major	Very Dissatisfied	3(1.3)	2.63±0.0	7.514(.000)	3.06±0.00	3.126(.016)
	Dissatisfied	8(3.5)	3.25±0.65		3.36±0.44	
	Moderate	92(40.5)	3.01±0.62		3.49±0.59	
	Satisfied	103(45.4)	3.38±0.50		3.61±0.45	
	Very Satisfied	21(9.3)	3.48±0.41		3.84±0.47	
Clinical practice period	6weeks	0	0	3.475(.033)	0	6.028(.003)
	7-12weeks	77(33.9)	3.19±0.55		3.40±0.49	
	13-18weeks	39(17.2)	3.44±0.63		3.61±0.62	
	19-24weeks	0	3.17±0.57		3.67±0.48	
	over 25weeks	111(48.9)				
Major Choice Motivation	Higher percentage of employment	90(39.6)	3.08±0.61	2.136(.062)	3.48±0.55	2.852(.016)
	Valuable job	51(22.5)	3.39±0.56		3.75±0.55	
	Fit of aptitude	44(19.4)	3.30±0.56		3.67±0.41	
	Stable job	21(9.3)	3.25±0.56		3.48±0.39	
	School record	2(0.9)	3.31±0.44		3.53±0.43	

	Others' recommendation	19(8.4)	3.20±0.47		3.37±0.57	
The number of guidance from clinical practice professor(/week)	6weks	61(26.9)	3.21±0.61	1.507(.201)	3.63±0.54	1.071(.372)
	7-12weks	111(28.9)	3.17±0.58		3.57±0.55	
	13-18weks	29(12.8)	3.34±0.60		3.39±0.45	
	19-24weks	5(2.2)	3.72±0.48		3.62±0.68	
	over25weeks	21(9.3)	3.27±0.43		3.63±0.40	
Difficulty in interpersonal relationship during clinical practice	with part manager	22(9.7)	3.05±0.61	1.205(.305)	3.34±0.55	1.031(.406)
	with general nurse	116(51.1)	3.21±0.58		3.57±0.55	
	with other medical fields	11(4.8)	3.38±0.47		3.60±0.46	
	with patients	22(9.7)	3.31±0.44		3.64±0.45	
	with carers	16(7.0)	3.49±0.60		3.72±0.60	
	with college colleague	35(15.4)	3.15±0.62		3.54±0.46	
	with academic advisor	5(2.2)	3.21±0.83		3.69±0.44	

3.2. The Degree of Clinical Practice Education Environment and Clinical Performance of Clinical Practices of Subjects

The degree of clinical practice education environment and clinical performance of clinical practices of subjects is as follows Table 2. The mean and standard deviation of clinical practice education environment and clinical performance of clinical practices were 3.22±0.58 and 3.57±0.52 respectively.

Table 2. The Degree of Clinical Practice Education Environment and Clinical Performance of Clinical Practices of Subjects(N=227)

Variables	mean±sd	Max	Min
Clinical Practice Education Environment	3.22±0.58	5.00	1.74
Clinical Performance of Clinical Practices	3.57±0.52	5.00	2.36

3.3. Factors Having Effects on the Clinical Performance of Clinical Practices of Subjects

In the results of conducting the hierarchical multiple regression analysis as an analysis method to control the order of inputting a series of independent variables to understand the effects on the clinical performance of clinical practices of subjects, the clinical practice period($\beta=.213$, $p<.001$) and clinical practice education environment($\beta=.219$, $p=.010$) were the significant factors having effects on it, and the explanatory power was 26.3% [Table 3].

Table 3. Factors Having Effects on the Clinical Performance of Clinical Practices of Subjects(N=227)

Variables	Categories	B	β	t(p)	R	Adjusted R2	F(p)
Clinical Performance of Clinical Practices	Constant	1.553		4.004(.000)	.535	.263	12.524 (.000)
	Gender	-.001	-.001	-0.010(.992)			
	Satisfaction of Nursing major	-.001	-.001	-0.013(.990)			
	Clinical practice period	.082	.213	3.603(.000)			
	Major Choice Motivation	-.018	-.051	-0.876(.382)			
	Clinical Practice Education Environment	.198	.219	2.585(.010)			

4. Conclusion and Suggestions

This study aims to provide the basic data for the desirable guidance of clinical practice education by researching the effects of clinical practice education environment on the clinical performance of clinical practices of nursing students, understanding the clinical practice education environment perceived by nursing students, and establishing the improvement measures. In the results of conducting the multiple regression analysis to understand the effects on the clinical performance of clinical practices of subjects, the clinical practice period and clinical practice education environment were the factors having significant effects on it.

To enhance the clinical performance of clinical practices of nursing students, it would be necessary to improve the clinical practice education environment and also to establish a high quality nursing education environment as the priority. And the efficient environment improvement program should be settled down as well. For this, the nursing university institutions should put efforts to understand the clinical practice education institutions first, and the practice medical institutions and practice wards need to be changed as well. Moreover, the managers of practice settings need to put efforts and attention into the improvement of the clinical practice education environment. Also, by researching the influence factors for strengthening the clinical performance of clinical practices, more effective clinical practice education could be performed.

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