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What do Nurses in Small-and Medium-Sized Hospitals Want to Learn?

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Abstract The purpose of this study was to assess the educational needs of nurses in small- and medium-sized hospitals to develop an educational program. The participants were 243 nurses in three small- and medium-sized hospitals. The educational needs were measured using Borich's needs assessment method based on the required competence level and the present competence level. The present competence level was significantly lower than the required competence level in all areas. The educational needs were ranked from highest to lowest as "action and reaction of drugs", "acid-base balance", and "medication". The educational needs were significantly different according to turnover intention. We recognize that nurses in small- and medium-sized hospitals have low self-competence and want to learn direct patient care regarding patients' safety. Nursing educators and administrators should consider their needs when they prepare educational programs for nurses in small- and medium-sized hospitals.

Keywords Educational Needs, Nurse, Small-and Medium-Sized Hospital

1. Introduction

The quality of care by nurses rests on the foundation of education, training and support available to them to maintain their skills[1]. Education of nurses is an important issue regarding the quality of nursing service because nursing is a practice-based profession. Learning is a continuous process in which new experiences are integrated into those previously acquired[2]. Continuous learning is important to nurses because the medical environment, which includes technology, knowledge, and patients' needs, changes rapidly. Work-based learning is no longer a new concept in nursing education. Large hospitals already have various education programs for nurses. Sometimes administrators in large hospitals provide professional education programs outside of the hospital when they cannot provide special programs for nurses. Through these nurse-education programs in and out of the hospital, nurses in large hospitals can improve their knowledge and attitude related to practice, which increases their job satisfaction. However, small- and medium-sized hospitals have a different environment than large hospitals.

These nurses suffer from excessive workload and higher turnover than nurses in large hospitals[3]. Their turnover rate is over twenty percent, which is approximately 2-3 times higher than that of large hospitals[4]. High turnover is linked to low quality of nursing services[5], and the financial loss of training newly employed nurses increases the burden on the hospital[6]. The low quality of nursing services leads to decreasing the retention rate of patients. This situation in turn causes increased turnover, creating a vicious circle. However, many administrators in small- and medium-sized hospitals think that nurse education is unimportant because of the economic burden or lack of cognition. They may even think that nurses can leave the hospital because of the educational burden. Nurses are a group with high educational needs. The turnover intention of nurses with appropriate educational opportunities is low[7]. Educational support for nurses in small- and medium-sized hospitals could be a key mechanism to decrease turnover and improve the quality of service in small- and medium-sized hospitals[8]. It also affects the quality of the whole nursing service because 76.6% of all hospitals in Korea are small- and medium-sized hospital with less than 300 beds. Nurses in small- and medium-sized hospitals make up 46.7% of all working nurses in Korea[9]. Therefore, the problem of the education of nurses in small- and medium-sized hospitals is an important issue that cannot be ignored anymore.

With that being said, education for clinical nurses is not a new issue. Clinical nurses have to take eight hours of refresher training every year by medical law in Korea[10]. The Korean nurse association and many education centers provide a practical educational program for clinical nurses both on- and off-line. However, the programs mostly focus on nurses at large hospitals or are not suitable for nurses at small- and medium-sized hospitals[11]. Previous studies

related to nurse education also reported that nurses in small- and medium-sized hospitals have a lack of educational opportunities[12], lower self-efficacy than nurses at large hospitals[12], lack of educational support for the hospital[13], and a lack of an educational program tailored for them[14]. We think that nurses in small- and medium-sized hospitals may have different educational needs because of their educational foundation, the severity of patients' conditions, and the hospital environment. It is necessary to develop a tailored education program for nurses in small- and medium-sized hospitals because existing education programs focus on nurses in large hospitals. However, few studies have been conducted to assess the educational needs of and to develop an education program for nurses in small- and medium-sized hospitals in Korea.

Educational needs assessment is an initial and important step to developing tailored education programs[2]. It is a systematic process to determine and address gaps between the current and desired conditions. It is also used to identify nursing skills or knowledge deficits to provide nurses with education that enables them to provide safe and effective patient care. This study is the first step in identifying educational needs and developing a tailored education program for nurses in small- and medium-sized hospitals.

2. Materials and Methods

2.1. Subjects and Data Collection

This is a descriptive quantitative study. We selected three hospitals with less than 300 beds near Seoul in Korea by the convenience sampling method. The three hundred registered nurses (RN) initially participated in this study. Informed consent was obtained from all participants, and they were informed of the purpose of the study, the rights of participants, and confidentiality before starting this study. The questionnaires were provided to participants by the nurse manager. The self-reported questionnaires were placed in sealed envelopes and collected by researchers between July and August 2013. Inappropriate data, including missing and irrelevant responses, were excluded. We obtained a total of 243 usable data.

2.2. Instruments

The questions related to general characteristics were developed by the authors and examined gender, age, educational status, marital status, job position, working field, working career, and turnover intention.

We used two questions to assess educational needs. One was a question about 'required competence level for nurses'. The other question was about the 'present level of one's own competence'. Both questions included 33 education areas. The following education areas were developed by the author and two nursing experts based on a previous study[15]: knowledge related to nursing process, communication skills, leadership, diagnostic examination and treatment, fluid therapy, acid-base balance, action and reaction of drugs, knowledge about blood tests, nutrition nursing, vital signs, medications (including oral, subcutaneous, intramuscular, intravenous), transfusion, gavage feeding, urinary catheterization, enema, pre- and postoperative care, isolation and protection equipment, oxygen saturation, electrocardiogram, oxygen supply, suction, tracheostomy care, CPR and defibrillator, tube management, wound care management, infection control, pre- and postexamination care, pain care, fall care, mental health care, physical assessment, narcotic drug management, and unconscious patient care. Each response to the 'required competence level for nurses' consisted of a 5-point Likert scale (1=never need and 5=always need). Each item of 'present level of one's own competence' consisted of a 5-point Likert scale (1=do not know and 5= know very well). The Cronbach's alpha for the required competence level was 0.976 and that for the present competence level was 0.981.

Through the above questions, we calculated the educational needs by Borich's Needs Assessment Model[16].

Borich's Model=$\{\Sigma(RCL-PCL)\} \times MCL / n$

RCL: Required Competence Level
PCL: Present Competence Level
MCL: Mean of required competence level of each item
n: total cases

2.3. Data Analysis

In total, 243 surveys were analyzed by the SPSS 21.0 program. Descriptive statistics were used to describe the mean, standard deviation, and percentage for subject characteristics. The required competence level and the present competence level were compared by paired sample t-test. The educational need was ranked by the mean and standard deviation. The difference of educational need according to independent variables was analyzed by t-test or ANOVA.

3. Results

The average age of the subjects was 32.9 years old, and 96.7% were female. Approximately half (47.3%) were married subjects. Few had master's degrees (3.3%). The percentage of staff nurses was 87.2%, and the average working period was approximately 9 years 5 months. The nurses having high turnover intention were approximately half (47.3%) of subjects (table 1).

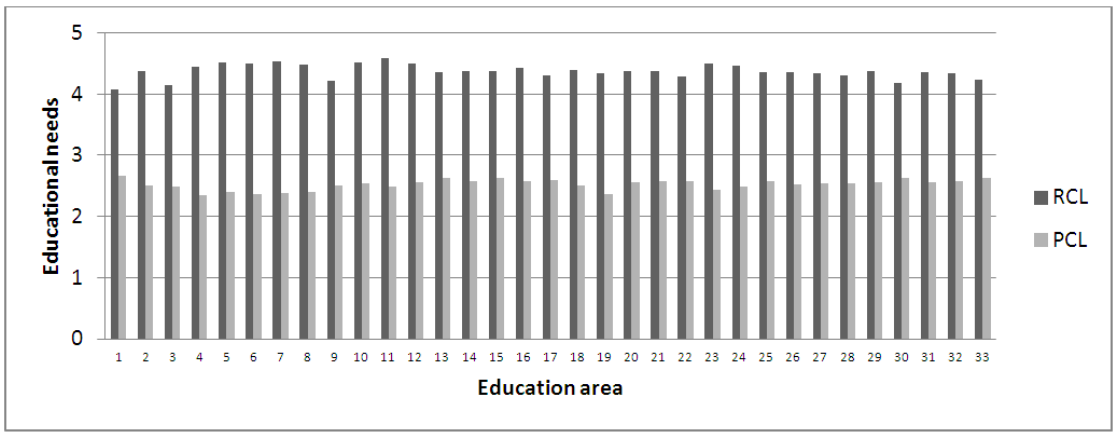
The present competence level was significantly lower than the required competence level in all education areas. The mean of the present competence level was also significantly lower than that of the required competence level (t=31.496, p=0.000). The nurses ranked the primary

areas of required competency as “Medication” (4.58±0.66), “Action and reaction of drugs” (4.53±0.55), and “Fluid therapy” (4.51±0.58). In contrast, they ranked their major present competence level as “Knowledge about the nursing process” (2.67±0.64), “Dementia care” (2.66±0.90), and “Gavage feeding” (2.63±0.96) (figure 1).

Table 1. General characteristics of subjects

n=243

Variables		n	%
Gender	Female	235	96.7
	Male	8	3.3
Age (years)	Under 30	114	46.9
	30-40	82	33.7
	Over 40	47	19.3
Education	Under university	235	96.7
	Over master’s degree	8	3.3
Marital status	Unmarried	128	52.7
	Married	115	47.3
Position	Staff	212	87.2
	Manager	31	12.8
Working field	OPD	10	4.1
	Ward	174	71.6
	Special part in 3 shifts	48	19.8
	Special part in regular	11	4.5
Career (years)	Under 5	90	37.0
	5-10	70	28.8
	Over 10	83	34.2
Turnover intention	Low	128	52.7
	High	115	47.3



1-knowledge of the nursing process; 2-communication skill; 3-leadership; 4-diagnostic examination and treatment; 5-fluid therapy; 6-acid-base balance; 7-action and reaction of drugs; 8-knowledge about blood test; 9-nutrition nursing; 10-vital sign; 11-medication such as oral, subcutaneous, intramuscular, intravenous et al; 12-transfusion; 13-gavage feeding; 14-urinary catheterization; 15-enema; 16-pre and postoperative care; 17-isolation and protection equipment; 18-oxygen saturation; 19-electrocardiogram; 20-oxygen supply; 21-suction; 22-tracheostomy care; 23-CPR and defibrillator; 24-tube management; 25-wound care management; 26-infection control; 27-pre and post-examination care; 28-pain care; 29-fall care; 30-mental health care; 31-physical assessment; 32-narcotic drug management; 33-unconscious patient care

Figure 1. Compare between Required Competence Level(RCL) and Present Competence Level(PCL) of nurses in small and medium sized hospitals

The educational needs were calculated based on the gap between the required competence level and the present competence level and were ranked from highest to lowest as “Action and reaction of drugs” (9.75±4.53), “Acid-base balance” (9.54±4.55), and “Medication” (9.53±5.51) (table 2).

Table 2. Educational needs of nurses in small- and medium-sized hospitals

Variables	Educational needs	
	Rank	M±SD
1.Knowlege of the nursing process	33	5.72±4.21
2.Communication skill	13	8.24±4.41
3.Leadership	30	6.84±4.47
4.Diagnostic examination and treatment	5	9.30±4.80
5.Fluid therapy	4	9.51±4.76
6.Acid-base balance	2	9.54±4.55
7.Action and reaction of drugs	1	9.75±4.53
8.Knowledge about blood test	6	9.25±4.61
9.Nutrition nursing	29	7.17±4.48
10.Vital sign	8	8.87±5.78
11.Medication (oral, SC, IM, IV etc.)	3	9.53±5.51
12.Transfusion	10	8.70±5.66
13.Gavage feeding	26	7.55±5.82
14.Urinary catheterization	20	7.80±5.56
15.Enema	25	7.62±5.63
16.Pre- and postoperative care	14	8.24±5.38
17.Isolation and protection equipment	27	7.33±5.21
18.Oxygen saturation	12	8.25±5.21
19.Electrocardiogram	11	8.51±5.51
20.Oxygen supply	16	7.97±5.27
21.Suction	19	7.85±5.59
22.Tracheostomy care	28	7.33±5.87
23.CPR and defibrillator	7	9.20±5.53
24.Tube management	9	8.85±5.30
25.Wound care management	22	7.77±5.26
26.Infection control	15	8.04±4.87
27.Pre- and post-examination care	21	7.78±5.03
28.Pain care	23	7.67±5.11
29.Fall care	17	7.92±5.16
30.Mental health care	32	6.49±4.99
31.Physical assessment	18	7.86±4.86
32.Narcotic drug management	24	7.66±5.20
33.Unconscious patient care	31	6.78±5.80
Mean of all		8.08±4.07

The educational need was only significantly different according to turnover intention (t=2.226, p=0.027). The other independent variables such as gender, age, education, marital status, position, working field, and career did not have any statistically significant difference (table 3).

Table 3. Differences of educational needs by general characteristics

Variables		Mean ± SD	F/t	*p*
Gender	Female	8.13 ± 4.10	0.945	0.346
	Male	6.74 ± 2.86		
Age (years)	Under 30	8.26 ± 4.21	0.267	0.766
	30-40	7.83 ± 3.63		
	Over 40	8.08 ± 4.51		
Education	Under university	8.10 ± 4.03	0.414	0.679
	Over master's degree	7.50 ± 5.53		
Marital status	Unmarried	8.03 ± 4.11	0.210	0.834
	Married	8.14 ± 4.04		
Position	Staff	7.93 ± 3.96	1.573	0.117
	Manager	9.16 ± 4.70		
Working field	OPD	7.29 ± 3.01	0.757	0.519
	Ward	7.55 ± 3.25		
	Special part in 3 shifts	8.33 ± 4.27		
	Special part in regular	7.25 ± 4.90		
Career (years)	Under 5	7.93 ± 3.84	0.343	0.710
	5-10	8.42 ± 4.41		
	Over 10	7.97 ± 4.05		
Turnover intention	Low	8.63 ± 4.18	2.226*	0.027
	High	7.47 ± 3.88		

Based on table 3, we compared the educational needs of each education area according to turnover intention. The educational needs of 11 education area such as knowledge of the nursing process (t=2.050, p=0.041), knowledge about blood test (t=2.010, p=0.046), nutrition nursing (t=2.303, p=0.022), transfusion (t=2.523, p=0.012), gavage feeding (t=2.854, p=0.005), urinary catheterization (t=2.590, p=0.010), pre- and post-operative care (t=2.338, p=0.020), isolation and protection equipment (t=2.458, p=0.015), pain care (t=2.123, p=0.035), mental health care (t=2.486, p=0.014) and physical assessment (t=2.005, p=0.046) were significantly different (table 4).

4. Discussion

A major problem of small- and medium-sized hospitals is a lack of educational opportunities as well as a nursing shortage and high turnover. A lack of education opportunities is one of the reasons that nurses decide to leave the hospital[17, 18]. We think that providing educational opportunities is a good approach to reduce turnover rates through improving self-competence and job satisfaction in nurses in small- and medium-sized hospitals. Learning in the workplace is no longer a new concept in nursing education, and many hospital education programs have already been developed for nurses. However, most education programs do not focus on small- and medium-sized hospital nurses[11]. We need to develop the education programs focused on small- and medium-sized hospital nurses. The first step of program development is to identify the educational needs of nurses in small- and medium-sized hospitals because we can identify the gaps between current and desired competence and decide the priority of education[2]. It is the basis for work-based learning. Work-based learning is one of the methods that can narrow the gap of theoretical and experimental knowledge. The enhancement of nursing competence can be facilitated through work-based learning[19]. It requires that the

participants have a high degree of autonomy. Therefore, we have to know their educational needs for successful education results. This study was the first step to develop work-based education programs for nurses in small- and medium-sized hospitals.

Table 4. Comparison of educational needs according turnover intention

Var*	Low intention		High intention		t	*p*
	Rank	Mean	Rank	Mean		
1	33	6.24	33	5.14	2.050	0.041
2	13	8.73	13	7.70	1.830	0.069
3	31	7.32	30	6.31	1.768	0.078
4	7	9.54	3	9.03	0.818	0.414
5	3	9.96	5	9.01	1.559	0.120
6	4	9.88	2	9.17	1.226	0.221
7	1	10.12	1	9.34	1.355	0.177
8	5	9.81	7	8.63	2.010	0.046
9	29	7.79	27	6.49	2.303	0.022
10	8	9.51	9	8.16	1.834	0.068
11	2	9.97	4	9.03	1.333	0.184
12	6	9.56	12	7.74	2.523	0.012
13	16	8.55	29	6.44	2.854	0.005
14	14	8.66	25	6.83	2.590	0.010
15	27	8.08	22	7.10	1.364	0.174
16	11	9.00	15	7.40	2.338	0.020
17	26	8.11	28	6.48	2.458	0.015
18	15	8.60	11	7.86	1.112	0.267
19	12	8.91	10	8.07	1.188	0.236
20	18	8.51	16	7.38	1.675	0.095
21	21	8.32	17	7.33	1.388	0.166
22	28	7.93	26	6.67	1.683	0.094
23	9	9.40	6	8.98	0.591	0.555
24	10	9.20	8	8.46	1.093	0.276
25	25	8.21	19	7.28	1.380	0.169
26	17	8.55	14	7.47	1.734	0.084
27	23	8.27	20	7.24	1.593	0.112
28	22	8.32	24	6.94	2.123	0.035
29	19	8.49	18	7.29	1.823	0.070
30	32	7.24	32	5.66	2.486	0.014
31	20	8.44	21	7.20	2.005	0.046
32	24	8.27	23	6.98	1.943	0.053
33	30	7.46	31	6.03	1.936	0.054
Mean of all		8.63		7.47	2.226	0.027

*: 1-knowledge of the nursing process; 2-communication skill; 3-leadership; 4-diagnostic examination and treatment; 5-fluid therapy; 6-acid-base balance; 7-action and reaction of drugs; 8-knowledge about blood test; 9-nutrition nursing; 10-vital sign; 11-medication such as oral, subcutaneous, intramuscular, intravenous et al; 12-transfusion; 13-gavage feeding; 14-urinary catheterization; 15-enema; 16-pre and postoperative care; 17-isolation and protection equipment; 18-oxygen saturation; 19-electrocardiogram; 20-oxygen supply; 21-suction; 22-tracheostomy care; 23-CPR and defibrillator; 24-tube management; 25-wound care management; 26-infection control; 27-pre and post-examination care; 28-pain care; 29-fall care; 30-mental health care; 31-physical assessment; 32-narcotic drug management; 33-unconscious patient care

This study found that nurses in small- and medium-sized hospitals felt that they have a lower competence level than the required competence level in given all areas. The difference between the expected and present competencies was statistically significant. They reported that major required competence areas in nursing were “Medication”, “Action and reaction of drugs”, and “Fluid therapy”. However, their present competence level in those areas was very low. The lowest present competence level was “Diagnostic examination and treatment”. These results clearly show that nurses in small- and medium-sized hospitals have a low self-competence level. Similar results have been reported[12, 13]; many nurses in small- and medium-sized hospitals feel that they have less knowledge and self-efficacy than nurses in large hospitals. They want to obtain practical competence like the nurses at large hospitals, but they have few social resources [13]. Administrators in small- and medium-sized hospitals have a few concerns regarding the active educational support of nurses. They are interested in their official difficulties and the economic burden created by nurse turnover. However, they should recognize that nurse education is a key to solving the problem of nurse turnover or quality of care in small- and medium-sized hospitals as described in previous studies[8, 20]. Nurses have high educational needs. Appropriate educational support can reduce turnover intention. Educational needs have a positive correlation with job satisfaction[8, 21].

The purpose of this study was to identify the educational needs of nurses in small- and medium-sized hospitals. We found that they want to learn direct patient care areas regarding their current work rather than indirect care area such as nursing process or leadership. They have higher educational needs regarding direct patient safety and patient care. Our results were different from an Australian study[1] in which they reported a range of important educational areas that were non-clinical in nature and related to the organization of information and communication strategies such as communication skills and confidentiality/privacy. We think that this difference is because the Australian study did not consider the hospital size. However, our results are similar to those in a Korean study based on small- and medium-sized hospitals[11]. They reported that nurses in small- and medium-sized hospitals want to learn about education areas regarding direct patient care such as emergency care, CPR, and medication therapy. Therefore, we suggest that nursing educators and administrators should consider basic nursing competence and educational needs when they start practical education for nurses in small- and medium-sized hospitals. They also should focus on direct patient care area when they choose education areas for nurses in small- and medium-sized hospitals. In conclusion, we recommend that hospital administrators have to set up the regular nurse education course based on the educational needs of clinical nurses. If they have difficulty making their own nurse education course, they are also able to co-operate with other hospitals.

This study was a basic study to develop a tailored education program for nurses in small- and medium-sized hospitals.

Although this study was intended to examine the educational needs of nurses in small- and medium-sized hospitals, we should be prudent when attempting to generalize these results because this study used the convenience sampling method and was not a complete enumeration survey. We need to further examine this observation and identify the underlying reason. We also suggest further study to identify the difference in educational needs between nurses at large hospitals and small- and medium-sized hospital. We hope to use these results to determine educational priorities and to develop an education program for nurses in small- and medium-sized hospitals.

5. Conclusions

The education of nurses in small- and medium-sized hospitals is an important issue regarding the quality of nursing service and patient safety because such nurses make up nearly fifty percent of Korean nurses. However, few educational programs have been developed for them. This study was conducted to assess the educational needs of nurses in small- and medium-sized hospitals to develop an educational program for them. We found that nurses in small- and medium-sized hospitals felt that they had a low competence level and were interested in education areas regarding direct patient care. We also found that educational needs have a positive correlation with job satisfaction. Therefore, we suggest that nursing educators and administrators should attempt to improve the self-competence of nurses in small- and medium-sized hospitals and consider direct patient care areas when they select education areas for nurses in small- and medium-sized hospitals.

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