

Assessing educational needs in the development of a simulation-based convergence training program on mental health nursing

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시뮬레이션 융합 프로그램 개발을 위한 정신건강간호 교육요구도 조사

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Abstract This study was to identify the educational needs for mental health nursing among undergraduate nursing students, prioritizing the areas where require extensive convergence learning via simulation. One hundred and forty students completed the survey where data accrued from between March-May 2020. The educational needs for mental health nursing and nursing care schizophrenia patients were assessed using a self-reporting questionnaire, which included 19 and 15 items, respectively. Additional three essay questions were used to obtain information regarding previous simulation education experience. Higher educational needs in nursing care for schizophrenia were identified and the highest-priority need is communication skills. Factors, including realistic experience with standardized patients, teamwork, and feedback from the lecturers, affect positive experiences in mental health nursing simulation. The findings suggest that educational programs to improve communication skills are necessary for better mental health nursing competency. Well-designed and convergence based simulation programs providing real-like clinical experience would ensure optimal learning outcomes.

Key Words : Simulation, Mental health nursing, Educational need, Undergraduate nursing, Convergence education

요 약 본 연구는 간호대학생들의 정신건강간호에 대한 교육요구도를 알아보고, 특별히 시뮬레이션으로 융합 교육이 필요한 영역에 대한 우선순위를 확인하고자 진행되었다. 140명의 간호대학생들에게 설문지를 통한 조사가 2020년 3월~5월 사이에 이루어 졌다. 정신건강간호학에 대한 교육요구도와 조현병 환자간호에 대한 교육요구도는 각각 19문항과 15문항의 자가응답설문을 통해 이루어졌다. 추가적으로 3개의 서술형 질문을 통해 이전 시뮬레이션 경험에 대한 조사가 이루어 졌다. 조현병환자 간호에 대해 높은 교육요구도가 확인되었으며, 의사소통능력에 대한 교육요구도가 정신건강간호학과 조현병 환자간호 모두에서 가장 높게 나타났다. 표준화환자, 팀워크, 교수자로부터 피드백이 정신건강간호학 시뮬레이션 교육의 긍정적 경험을 이끌어낸 것으로 확인되었다. 본 연구결과, 의사소통기술 향상을 위한 간호교육이 가장 우선시 할 필요가 있다. 잘 설계되고 실제와 같은 임상경험을 제공할 수 있는 시뮬레이션을 통한 융합교육이 최상의 학습성과를 만들어낼 것이다.

주제어 : 시뮬레이션, 정신건강간호, 교육요구도, 간호대학생, 융합교육

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1. Introduction

Mental health is recognized as a global issue; the World Health Organization (WHO) reported an increase in mental disorders and insufficient quality care[1]. Schizophrenia affects 20 million people worldwide, which causes significant disability affecting educational and occupational performance[2]. The adverse consequences of disease are related to quality of care (i.e., negative attitude and discriminatory behaviors of nurses)[3]. The evidence clearly supports the

effectiveness of a well-designed educational program involving knowledge acquisition and therapeutic interaction with individuals with schizophrenia and other mental disorders[4,5].

Mental health nursing education aims to produce professional nurses who provide safe and quality nursing care via curriculum-balanced theory-based lectures and clinical practice. Current nursing education aims to generalize undergraduate education while raising concerns due to decreased and fragmented mental health components in nursing curriculum[6]. At present, the technology development increased the complexity in nursing care where the severity and complexity of patients' disease have never been higher[7]. Nursing students have a growing need for nursing curriculum to offer more opportunity for students to experience diverse patient cases. However, most clinical placement is limited to observation due to safety issues of both patients and students.

Clinical practice for psychiatric nursing education is more problematic so that student anxiety and disease complexity prevent students' individualized approach to patients. Previous studies reported that undergraduate nursing students have a stigmatized attitude toward mentally ill patients, which keeps students from learning[8]. As a matter of fact, students experience high levels of stress and feelings of fear occur when facing patients appearing to

have problematic behavior.

Simulation is regarded as an effective educational approach that can provide clinical experience for undergraduate nursing students; the quality of clinical experience with a well-designed simulation is key to learning[9]. Simulation programs are used in nursing education to construct clinical environments for students to improve their problem-solving abilities, critical thinking, and nursing skills. Previously, a number of strategies have been continuously developed for mental health nursing simulation such as role playing, use of high-fidelity simulators, or standardized patients and virtual reality (VR)[10]. The effectiveness of the simulation program proves that simulation programs pose high potential for improving knowledge and nursing competency as well as reducing anxiety toward treating patients.

At present, technology development and teaching methods enable instructors to create various educational approaches to meet nursing students' needs. For example, VR allows the realization of diverse clinical situations[11]. Along with reinforcing clinical placement of nursing curriculum, simulation aims to train nurses and nursing students for better adaptation in their clinical practice. Therefore, thorough research on both nursing students and nurses working in mental health units enables educators to create an adequate program that benefits the majority of students.

A comprehensive needs assessment ensures the effectiveness of a program to improve knowledge and skill[12,13]. In the first phase of a program's development, conducting a needs assessment for the potential audience and relevance of a program may provide the essential elements for educational content to lead active participant engagement. Thus, a thorough investigation is essential prior to developing an educational program. An educational program's effectiveness can be maximized when identifying

the area for additional education. In this study, we conducted an educational needs assessment of nursing students in regards to mental health nursing care that provides the fundamental information for future educational program development in mental health nursing.

2. Method

We used a mixed-method design in this study, including a quantitative self-reporting questionnaire and essay questions to identify educational needs and students' previous experience and perception of psychiatric nursing simulation.

2.1 Sample

We used convenience sampling to recruit 140 participants from four different nursing schools in Korea. The inclusion criteria were nursing students who completed clinical placement in psychiatric wards during the school's nursing curriculum, in their 3rd and 4th year. The purpose and process of study was explained and all the participants were agreed to participate and signed on informed consent.

2.2 Instrument

2.2.1 Educational needs of mental health nursing

The educational needs assessment tool for mental health nursing was a 19-item self-reporting questionnaire, which developed from previous research[14-15]. The questionnaire was given to participants to investigate the educational needs among nurses who work for psychiatric wards for adolescent patients with psychiatric illness. We used a 4-point Likert scale, from 1 (not at all) to 4 (very much needed), where the higher score indicates greater educational need. The Cronbach's alpha was .926

in this study.

2.2.2 Educational needs of mental health nursing for schizophrenia disorder

The educational needs tool to assess mental health nursing for patients with schizophrenia disorder was developed based on learning objectives established by the Korean Academy of Psychiatric and Mental Health Nursing[16]. Of 303 learning objectives, 15 items were selected under the schizophrenia section, which were achievable via simulation education[17]. A 4-point Likert scale (1=not at all; 4=very much needed) consisting of four domains, therapeutic communication (3 items), mental health assessment (3 items), nursing practice for schizophrenia disease-related symptoms (6 items), and medication (3 items) was used and the higher score indicates the greater educational need. The Cronbach's alpha was .924 in this study.

2.2.3 Essay questions

Three essay questions asked 1) What are the most difficult cases observed in a psychiatric ward? 2) Do you have experience with mental health nursing education? And was the experience effective? 3) What kinds of competency do you want to develop via mental health nursing simulation?

2.3 Statistical analysis

We used SPSS (version 25) to conduct statistical data analysis. We used descriptive statistics to describe the study participants' demographical characteristics and their educational needs of mental health nursing and educational needs of mental health nursing for schizophrenia disorder. Chi-square tests were used to examine how learning satisfaction in clinical placement of mental health nursing, communication competency, and academic

ability associate with the degree of educational need. Statistical significance was determined at $p < .05$.

2.4 Ethical consideration

This study was conducted after obtaining ethical approval from one university in Korea (IRB no. MNUIRB-20190722-SB-005-01). Participation in the survey was voluntary and the study details were explained to all participants who then provided informed consent via signature.

3. Results

3.1 General characteristics of study participants

The study participants' mean age totaled 26.01 ± 5.89 and the majority were female (76.4%). Only two respondents (1.5%) reported high levels of satisfaction on mental health nursing curriculum and 93.6% had moderate-to-low communication competency (see Table 1).

3.2 Educational needs in mental health nursing and nursing care for patients with schizophrenia.

The mean score of educational needs on mental health nursing was 3.62 ± 0.35 out of 5 (see Table 2). Of the six subscales, therapeutic communication (3.71 ± 0.42) has the highest educational need, followed by reducing stigma (3.66 ± 0.45), and nursing care in general (3.61 ± 0.37). The mean score of educational need for nursing care for schizophrenia was 3.74 ± 0.33 (see Table 3). The highest educational needs were on the subscales of therapeutic communications (3.77 ± 0.37) and nursing skills for symptomatic problems (3.77 ± 0.37), followed by medication management (3.73 ± 0.37) and mental health assessment (3.65 ± 0.43).

3.3 Essay question

3.3.1 Clinical cases difficult to experience

One out of ten students ($n=22$) reported that schizophrenia is the rarest case they experience during their clinical placement, followed by dissociative disorders ($n=10$) and depression ($n=6$).

Table 1. General characteristic of study participants
($n=140$)

Categories		N(%) or M \pm SD
Age		26.01 ± 5.89
Gender	Male	33 (23.6)
	Female	107 (76.4)
Academic grade	Good	20(14.7)
	Fair	99(70.2)
	Poor	17(12.1)
Level of satisfaction on mental health nursing curriculum	High	2(1.5)
	Moderate	58(42.3)
	Low	77(56.2)
Communication competency	High	9(6.4)
	Moderate	102(73.9)
	Low	27(19.6)

3.3.2 Previous experience of simulation

Approximately 54.5% of participants had previous simulation experience and all reported positive perceptions of their experience ($n=66$). The factors affecting perceived benefits of simulation were interactions with standardized patients ($n=26$), feedback from faculties ($n=11$), and teamwork ($n=4$). Some recommendations involve lack of time and space for sufficient training ($n=22$) and low levels of realism compared to their expectation.

3.3.3 Nursing competency via simulation

Students reported that communication is the most crucial skill to learn; 68.0% of participants are required to learn communication skills within simulation education ($n=83$), followed by nursing intervention ($n=29$), and nursing diagnosis ($n=10$).

Table 2. Educational needs score on mental health nursing

(n=140)

Categories	No	Items	M	SD
Nursing care	1	Knowledge (Pathophysiology of mental illness)	3.65	0.50
	2	Knowledge (Mental health nursing)	3.75	0.43
	3	Nursing goal setting	3.55	0.54
	4	Patient-centered nursing care	3.69	0.50
	5	Nursing care for multiple disorders	3.72	0.49
		Subscale total	3.61	0.37
Intervention technique	6	Promoting patients' self-confidence	3.61	0.52
	7	Relaxation and stress management care technique	3.70	0.48
	8	Promoting patients to establish relationships with others	3.66	0.51
	9	Techniques to engage patients in group activities	3.62	0.50
	10	Promoting patients' positive thinking	3.63	0.57
		Subscale total	3.64	0.38
Therapeutic communication	11	Proper response to patient psychology	3.68	0.48
	12	Communication skill	3.73	0.46
		Subscale total	3.71	0.42
Team work	13	Improving teamwork	3.52	0.56
	14	Working staff of other department/specialty	3.54	0.60
	15	Learning and applying skills of other staff	3.43	0.65
		Subscale total	3.50	0.50
Social resources	16	Related law	3.36	0.67
	17	Social resources available	3.55	0.57
		Subscale total	3.46	0.53
Reducing stigma	18	Improving confidence (overcoming fear)	3.57	0.55
	19	Controlling negative feelings	3.74	0.50
		Subscale total	3.66	0.45
Total			3.62	0.35

Table 3. Educational needs on nursing care for patients with schizophrenia

(n=140)

Categories	No	Items	M	SD
Therapeutic communications	1	Establishing rapport & sympathizing with patients	3.76	0.45
	2	Establishing a therapeutic relationship	3.78	0.45
	3	Diverse techniques for therapeutic communication (attention, reflection, clarification, ect.)	3.78	0.42
		Subscale total	3.77	0.37
Mental health assessment	4	Personal history assessment	3.65	0.51
	5	Mental health assessment	3.70	0.48
	6	Psychosocial assessment	3.61	0.55
		Subscale total	3.65	0.43
Nursing skills for symptomatic problems	7	Pathophysiology, cause, behavioral characteristics of schizophrenia	3.72	0.53
	8	Assessing of symptomatic problem (e.g., command hallucination, delusion, violence)	3.79	0.42
	9	Hallucination (e.g. producing realism)	3.77	0.46
	10	Safety (e.g. discarding risky objects, safety agreement)	3.80	0.45
	11	Delusion (e.g. focusing on fundamental methods, avoiding triggers)	3.74	0.50
	12	Violence (e.g. reducing stimulation, sympathizing patients feeling)	3.79	0.44
		Subscale total	3.77	0.37
Medication management	13	Effect and side effect of medication	3.78	0.42
	14	Explaining necessity, effect and side effect	3.75	0.45
	15	Finding out the reason for medication refusal	3.67	0.54
		Subscale total	3.73	0.37
Total			3.74	0.33

4. Discussion

In this study, we conducted a needs assessment of mental health nursing in general and a needs assessment for caring of patients with schizophrenia from the perspective of undergraduate nursing students.

The findings of this study identified several educational areas that simulation education can assist undergraduate nursing students with, including improving competency nursing care for patients with mental disorders such as schizophrenia.

The quantitative survey identified that educational needs on nursing care for patients with schizophrenia is higher than mental health nursing educational needs in general. Data from national health statistics state patients with schizophrenia comprise 55.6% of hospital administrations[18]. However, due to the complexity of the disease, patients often have multiple symptoms and problematic behaviors, leading to students being reluctant to use nursing care and therapeutic communication techniques. Yet knowing that adequate and timely nursing interventions are the keys to successful treatment, diverse programs that enable students to experience diverse cases must be ensured. Interestingly, we identified a high interest toward methods that reduce stigma, which indicates students' awareness of the negative influences of stigma on nursing care. A number of previous studies identified the effectiveness of simulation on overcoming stigma on psychiatric disorders among nursing students[19,20]. The findings indicate the importance of a well-designed educational program that provides an authentic experience where simulation exposures address student attitude toward psychiatric symptoms, assuring better nursing competency on mental health nursing care.

In mental health nursing, students reported the greatest educational need is by far therapeutic

communication skills, which is in line with the majority of students reporting moderate-to-low levels of competency in communication. In most nursing schools, current education for first- and second-year nursing students focuses on theoretical knowledge, so much so that the practice of knowledge development for communication is often neglected. As a matter of fact, many nursing students report their lack of communication skills and related stress during clinical placements[21]. Third-year students are often placed in clinical settings without adequate preparation processes for patient communication, in particular, for patients with mental disorders. This unreadiness may lead to a lack of confidence in one-to-one patient interaction.

The expectation that educational needs could be met when simulations provide real-like clinical experience and adequate feedback from faculties was high. Educational environments enabling students to actively engage in learning produce positive simulation experiences, as the responses show. Given simulation education limitations (for example, time and cost for SP (standardized patients) training or high-fidelity simulators), simulation is not yet well-incorporated in nursing education[22]. Nevertheless, considering the potential benefits of simulation, continuous efforts of nursing faculties promise quality nursing education.

Recently, there has been a great advancement in computer science that further consideration of using new technology in mental health nursing could result in beneficial outcomes in nursing education. VR, for example, has been recognized as educational method that constructs realistic simulation. VR's unique features enable faculty to provide risk-free learning environments[23]. This educational tool provides a great advantage for training health professionals in that it considers both patient and student safety.

5. Conclusion

Mental health nursing is necessary and valuable for nursing curriculum. This study identified high educational needs in terms of communication. Faculty members must not only teach nursing skills but methods to reduce stigma on patients with mental disorders as well, to ensure optimal learning outcomes. The findings of this study can be used to plan overall nursing curriculum and inform faculty about the importance of adequate simulation education for mental health nursing competency in undergraduate nursing education.

REFERENCES

- [1] World Health Organization. (2019). *Mental Disorders Fact Sheet*. Geneva: World Health Organization. <https://www.who.int/en/news-room/fact-sheets/detail/mental-disorders>
- [2] World Health Organization. (2019). *Schizophrenia Fact Sheet*. Geneva: World Health Organization. <https://www.who.int/en/news-room/fact-sheets/detail/schizophrenia>
- [3] P. Corrigan. (2004). How stigma interferes with mental health care. *American psychologist*, 59(7), 614. DOI: 10.1037/0003-066X.59.7.614
- [4] J. A. Giandinoto, J. Stephenson & K. L. Edward. (2018). General hospital health professionals' attitudes and perceived dangerousness towards patients with comorbid mental and physical health conditions: Systematic review and meta-analysis. *International journal of mental health nursing*, 27(3), 942-955. DOI : 10.1111/inm.12433
- [5] S. K. Kim, M. R. Eom & O. N. Kim. (2019). Convergence Study of Nursing Simulation Training for Patient with Schizophrenia: A Systematic Review. *Journal of Industrial Convergence*, 17(2), 45-52. DOI : 10.22678/JIC.2019.17.2.045
- [6] B. Happell. (2011). Undergraduate mental health nursing education: Time to shut up? *International Journal of Mental Health Nursing*, 20, 231. DOI: 10.1111/j.1447-0349.2011.00763.x
- [7] S. C. I. Chen. (2018). Technological health intervention in population aging to assist people to work smarter not harder: Qualitative study. *Journal of medical Internet research*, 20(1), e3. DOI : 10.2196/jmir.8977
- [8] L. Hunter, T. Weber, M. Shattel & B. Harris. (2015). Nursing student's attitudes about psychiatric mental health nursing. *Mental Health Nursing*, 36, 29-34. DOI : 10.3109/01612840.2014.935901
- [9] D. Spence, H. Garrick & M. McKay. (2012). Re building the foundations major renovations to the mental health component of an undergraduate nursing curriculum. *International Journal of Mental Health Nursing*, 21, 409-418. DOI : 10.1111/j.1447-0349.2011.00806.x
- [10] D. M. Leidl, L. Ritchie & N. Moslemi. (2020). Blended learning in undergraduate nursing education-A scoping review. *Nurse Education Today*, 86, 104318. DOI :10.1016/j.nedt.2019.104318
- [11] J. C. Servotte, M. Goosse, S. H. Campbell, N. Dardenne, B. Pilote, I. L. Simoneau & A. Ghuyssen. (2020). Virtual Reality Experience: Immersion, Sense of Presence, and Cybersickness. *Clinical Simulation in Nursing*, 38, 35-43. DOI : 10.1016/j.ecns.2019.09.006
- [12] N. J. Scully. (2011). The theory-practice gap and skill acquisition: An issue for nursing education. *Collegian*, 18(2), 93-98. DOI : 10.1016/j.colegn.2010.04.002
- [13] A. E. Nielsen, J. Noone, H. Voss & L. R. Mathews. (2013). Preparing nursing students for the future: An innovative approach to clinical education. *Nurse education in practice*, 13(4), 301-309. DOI : 10.1016/j.nepr.2013.03.015
- [14] M. Inoue, L. Del Fabbro & M. Mitchell. (2012). Assessing the educational needs of mental health nurses working in an adolescent inpatient psychiatric ward in Japan. *Journal of Child and Adolescent Psychiatric Nursing*, 25(3), 124-129. DOI : 10.1111/j.1744-6171.2012.00335.x
- [15] H. J. An, Y. Bae & M. S. Cho. (2020). Demands for Mental Health Nursing Education and Works of Nurses at Private Psychiatric Hospital: A Mixed Methods Research. *Journal of Korean Academy of psychiatric and Mental Health Nursing*, 28(4), 298-308. DOI : 10.12934/jkpmhn.2019.28.4.298
- [16] Korean Society of Nursing Science. (2019). Study Objectives for undergraduate nursing curricular by subjects.
- [17] D. H. Seo. (2017). *The Effect and Development of Simulation Learning Module Based on Schizophrenic Patient Care for Nursing Students*. Doctoral Dissertation, Chonnam National University: Korea.
- [18] C. Lee. (2018) National Mental Health Statistics Pilot study. *National Center for Mental Health [Internet]*.
- [19] I. Benjenk, P. Buchongo, A. Amaize, G. S. Martinez & J. Chen. (2019). Overcoming the dual stigma of mental illness and aging: preparing new nurses to care for the mental health needs of older adults. *The American Journal of Geriatric Psychiatry*, 27(7), 664-674. DOI : 10.1016/j.jagp.2018.12.028
- [20] F. S. İnan, N. Günüşen, Z. C. Duman & M. Y. Ertem.

- (2019). The Impact of Mental Health Nursing Module, Clinical Practice and an Anti-Stigma Program on Nursing Students' Attitudes toward Mental Illness: A Quasi-Experimental Study. *Journal of Professional Nursing*, 35(3), 201-208.
DOI : 10.1016/j.profnurs.2018.10.001
- [21] S. Y. Yang. (2016). The effect of self-esteem and communication competence on clinical practice stress of the nursing students. *The Journal of the Korea Contents Association*, 16(9), 286-296.
DOI : 10.5392/JKCA.2016.16.09.286.
- [22] M. Anderson, S. H. Campbell, C. Nye, D. Diaz & T. Boyd. (2019). Simulation in Advanced Practice Education: Let's Dialogue!!. *Clinical Simulation in Nursing*, 26, 81-85. DOI : 10.1016/j.ecns.2018.10.011
- [23] W. H. Wan & A. H. Y. Lam (2019). The Effectiveness of Virtual Reality-Based Simulation in Health Professions Education Relating to Mental Illness: A Literature Review. *Health*, 11(6), 646-660.
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