

Effects of a mental health nursing simulation for general ward nurses: A pilot study

Min-Yeong Lee¹ | Yun-Jung Choi² 

¹Department of Nursing, Yeoungnam University College, Daegu, South Korea

²Red Cross College of Nursing, Chung-Ang University, Seoul, South Korea

Correspondence

Yun-Jung Choi, Red Cross College of Nursing, Chung-Ang University, Address. 84 Heukseok-ro, Dongjak-gu, Seoul 06974, South Korea.
Email: yunjungchoi@cau.ac.kr

Abstract

This study aimed to develop a mental health nursing simulation education programme for non-psychiatric nurses and verify its effects on mental health care competence, burden, and anxiety. To verify the effects of the simulation, we applied a non-equivalent control group pre-posttest research design. We developed a mental health nursing simulation using a standardized patient who presented moderate levels of anxiety and depressive mood during chemotherapy after mastectomy. The participants were nurses working at non-psychiatric wards of a general hospital in Seoul, Korea. Participants' mental health care competency scores increased by 80% in the experimental group and 15% in the control group from pre-test to posttest. Burden scores decreased by 42% in the experimental group and 4% in the control group from pre-test to posttest, and anxiety scores decreased by 77% in the experimental group and 24% in the control group. This study demonstrated the nursing simulation education programme's effectiveness as a complementary tool to improve mental health nursing care for non-psychiatric nurses.

KEYWORDS

anxiety, burden, competence, mental health nursing, non-psychiatric setting, simulation-based education, standardized patients

1 | INTRODUCTION

As the number of psychiatric patients with physical problems increases, the trend in patients' hospitalization with mental health problems is expanding even in non-psychiatric wards. Psychiatric clients exhibit metabolic syndrome, including obesity, cardiovascular disease and diabetes, three times more often than the general population (Giandinoto et al., 2018). Several studies have reported that many psychiatric patients have one or more physical disorders (Ahn, 2013; Carney, 2006; Jones et al., 2004). In general, patients with mental disorder do not adequately voice their physical symptoms and tend to visit the hospital late when the disease has already

progressed, so treatment in the general ward is often delayed (Zolnieriek & Clingerman, 2012). They are often admitted to the general ward after accidents or self-harm due to depression and suicide attempts because of hallucinations or delusions (Wu et al., 2017).

Most of the general ward nurses reported having cared for a client with mental health disorder at least once, and half of the nurses had cared for clients with mental health problems at least 5 times (Ahn, 2013). When caring for clients with mental health problems admitted to a general ward, nurses experience both physical and cognitive-behavioural burdens. General ward nurses' attitudes towards individuals with mental health problems may increase the stress of nursing such clients (Joung et al., 2017).

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In particular, when nurses in a general ward must take responsibility for patients' psychiatric safety without proper preparation, this increases these nurses' stress and anxiety in caring for clients with mental health problems (Park, 2005). In previous studies targeting nurses in general wards, nurses have often neglected clients with mental health problems with prejudice and fears about mental disorder, perceiving care of clients with mental health problems as negative (Wu et al., 2017). These negative attitudes towards clients with mental health problems tend to be related to professional knowledge regarding mental disorder, poor nursing competency and low self-confidence due to lack of skills (Giandinoto et al., 2018).

Recently, as a part of nursing education methods, simulation education has been gradually increasing. Simulation education refers to learning about client issues or evaluating clinical performance ability in an environment similar to a clinical setting using standardized patients (SPs) or simulators (Kang & Choi, 2021; Kim & Choi, 2022). Simulation education using SPs, individuals trained to act like actual patients, has the advantage of providing immediate feedback according to the flow of interaction.

Moreover, there is an effect in improving nurses' ability to resolve patients' health problems by reproducing the clinical situation in a safe environment that does not put the patient or others at risk (Park & Choi, 2022). Several studies have been conducted on the development of therapeutic communication learning for psychiatric nurses or international nurses using standardized patients (Kang & Choi, 2021; Kim & Choi, 2022). However, there are few nursing simulations in the care of clients with mental health problems for general ward nurses. Therefore, this study aimed to develop and apply a mental health nursing simulation for general ward nurses using SPs to improve mental health nursing competence and reduce the associated burdens and anxiety of caring for clients.

2 | METHODS

2.1 | Research design

This study used a non-equivalent control group pre-posttest design to evaluate the efficacy of the nursing simulation (Table 1).

2.2 | Participants

Participants were non-psychiatric-unit nurses of a general hospital in Seoul, Korea. They were recruited via advertisements on social network services. The inclusion criteria were nurses working in

TABLE 1 Research design: Non-equivalent control group pre-posttest design

Group	Pre-test	Intervention	Posttest
Experimental	e1	X	e2
Control	c1	-	c2

general wards who understood the study's purpose and voluntarily consented to participate. Nurses working in psychiatric units or who were experienced in nursing care in mental health settings were excluded. We calculated the target sample size using G-power 3.1.2 (non-parametric Wilcoxon Signed-rank test, significance level 0.05, power 0.80, effect size 0.50). The minimum number was calculated as 18, and 20 total participants were selected assuming a 10% drop-out rate. Participants were matched by their general characteristics and then randomly assigned to either the experimental ($n = 10$) or control group ($n = 10$).

2.3 | The intervention programme

The intervention programme was developed and implemented by the researcher, who has expertise in mental health nursing simulation-based education. The experimental group was presented with a lecture on mental health care, followed by a nursing simulation using a female SP who presented moderate levels of anxiety and depressive mood during chemotherapy after mastectomy. In contrast, the control group only was presented with the lecture on mental health care (Table 2).

2.4 | Instruments

2.4.1 | Mental health care competency

To evaluate nurses' mental health care competency, we used the Behaviour Health Care Competency (BHCC) scale, which was initially developed by Rutledge et al. (2012) and translated into Korean by Han and Woo (2016). In the current study, we revised this measure and received a professional review by experienced mental health nurses and nursing educators. It includes 15 items, with each rated on a

TABLE 2 The mental health nursing simulation

Type	Phase	Contents	Time
1:1 Simulation using SP	Pre-briefing	Orientation and case presentation	20 min
	Simulation running	1. Establish a therapeutic relationship with the client. 2. Assess physical symptoms related to anxiety and depressive mood. 3. Provide initial nursing care to relieve anxiety and/or depressive mood.	10 min
	Debriefing	The GAS (Gather – Analyse – Summarize) method	60 min

4-point Likert scale ranging from 1 ("not at all") to 4 ("very much so"), with higher scores indicating greater mental health care competency. Cronbach's α was 0.85 in Han and Woo (2016) and 0.88 in this study.

2.4.2 | Mental health care burden

We used the Mental Health Care Burden scale developed by Jang (2016) to evaluate general nurses' experiences of the burden of caring for clients with mental health issues. It includes 20 items, with each rated on a 5-point Likert scale ranging from 1 ("not at all") to 5 ("very much so"), with higher scores indicating a greater mental health care burden. Cronbach's α was 0.84 in Jang (2016) and 0.85 in this study.

2.4.3 | Mental health care anxiety

We used a visual analog scale (VAS) to assess participants' subjective anxiety in caring for clients with mental health issues. Participants were asked to indicate their anxiety level from 1 (not anxious) on the far left to 10 (very anxious) on the far right of the horizontal line marked at regular intervals. Higher scores indicate greater mental health care anxiety.

2.5 | Data collection

The control group nurses first completed the pre-test and then were presented with a lecture for 60min. The posttest for the control group occurred 1 week after the pre-test. The nurses in the experimental group gathered separately from the control group to complete the pre-test and then were presented with the same lecture as that presented to the control group. The nursing simulation for the experimental group occurred 1 week later, followed by a posttest directly after the simulation.

2.6 | Data analysis

We analysed the data using SPSS Version 21.0. We computed descriptive statistics to assess the two groups' general characteristics, and we employed chi-square tests and *t*-tests to test homogeneity between groups. We analysed differences between the experimental group and the control group using a non-parametric Wilcoxon signed-rank test.

2.7 | Ethical considerations

This study was conducted after receiving approval from the Institutional Review Board of Chung-Ang University (a placeholder to ensure blind review) in Seoul, Korea. The purpose and method of this study were explained to the participants, after which they read and signed the consent form. They were also informed that

withdrawal from the study at any time was possible with no negative consequences. The participants' personal data were encrypted to be stored and will be kept confidential and destroyed after the research is completed.

3 | RESULTS

There was no dropout from either group in the study. The groups' general characteristics were deemed homogeneous after analysis (Table 3). The mean age of each group was 28.6 years. There were no statistically significant differences in gender, education level, total work tenure, psychiatric patient care experience and simulated education experience between the two groups.

There were significant differences in mental health care competency, burden, and anxiety between the experimental and control group (Table 4). Average competency scores increased by 80% in the experimental group and 15% in the control group from pre-test to posttest ($F = -6.633, p < 0.001$). Average burden scores decreased by 42% in the experimental group and 4% in the control group from pre-test to posttest ($F = -8.554, p < 0.001$). Average anxiety scores decreased by 77% in the experimental group while 24% in the control group from pre-test to posttest ($F = -6.775, p < 0.001$).

4 | DISCUSSION

This study aimed to develop a mental health nursing simulation for nurses in non-psychiatric settings and evaluate its effects on the nurses' mental health care competency, burden, and anxiety. The findings suggest that this simulation effectively increases nurses' mental health care competency. Moreover, it appears to decrease nurses' mental health care burden and anxiety.

General ward nurses face a heavy burden of caring for patients who exhibit anxiety and are depressed mood (Giandinoto et al., 2018). The nursing simulation developed in this study addressed this issue. Through the simulation, non-psychiatric nurses apply therapeutic communications with the SP, thereby improving mental health nursing competency. This result is congruent with studies showing that nurses in the endoscopy room improved their confidence in their nursing performance after participating in a simulation nursing education programme using standardized patients (Park, 2015) and health assessment practice education using standardized patients. In addition, there was a significant difference in nursing performance scores in the experimental group receiving health evaluation education using standardized patients compared to the control group receiving conventional practical education in health evaluation using standardized patients (Choi et al., 2013), aligning with this study's results. Therefore, if simulation-based education similar to clinical practice is provided to nurses lacking in relationship formation and communication skills with psychiatric patients, it will be helpful to improve nursing performance confidence by forming a therapeutic relationship with clients with mental health disorders.

TABLE 3 General characteristics of the participants

Category	Experimental group (<i>n</i> = 10)	Control group (<i>n</i> = 10)	χ^2 / t	<i>p</i>
	M ± SD or frequency (%)	M ± SD or frequency (%)		
Age (year)	28.60 ± 1.83	28.60 ± 2.67	0.00	1.000
Gender				
Female	9 (90)	7 (70)	1.25	0.582
Male	1 (10)	3 (30)		
Education				
Associate	1 (10)	4 (40)	6.08	0.107
Bachelor	6 (60)	6 (60)		
RN-BSN	1 (10)	0 (0)		
Master	2 (20)	0 (0)		
Total working career (months)	66.9 ± 15.45	51.2 ± 17.83	2.10	0.050
Psychiatric patient care experience				
Yes	9 (90)	9 (90)	0.00	1.000
No	1 (10)	1 (10)		
Simulated education experience				
Yes	2 (20)	0 (0)	2.22	0.474
No	8 (80)	10 (100)		

TABLE 4 Effects of the mental health nursing simulation

Variables	Group	Pre-test (M ± SD)	Posttest (M ± SD)	<i>F</i>	<i>p</i>
Mental Health Care Competency	Experimental group (<i>n</i> = 10)	1.85 ± 0.22	3.34 ± 0.36	-6.633	<0.001***
	Control group (<i>n</i> = 10)	1.89 ± 0.38	2.18 ± 0.25		
Mental Health Care Burden	Experimental group (<i>n</i> = 10)	4.29 ± 0.25	2.49 ± 0.47	8.554	<0.001***
	Control group (<i>n</i> = 10)	3.91 ± 0.42	3.77 ± 0.35		
Mental Health Care Anxiety	Experimental group (<i>n</i> = 10)	8.80 ± 0.92	2.00 ± 1.16	6.775	<0.001***
	Control group (<i>n</i> = 10)	8.50 ± 1.35	6.50 ± 0.85		

*** *p* < 0.001.

Non-psychiatric nurses are insufficiently prepared to care for clients with mental health disorders, and there are few opportunities for education related to mental health nursing in clinical practice, imposing heavy burdens on these nurses (Joung et al., 2017). In this study, the simulation was also effective in reducing mental health care burden and anxiety for the nurses. The current results seem similar to those of studies showing that mental nursing simulation education reduced anxiety and stress in nursing students (Han et al., 2015; Oh & Han, 2011). Therefore, nursing simulation using SPs with mental health problems can be effective in reducing anxiety and burden among nurses caring for clients presenting with mental health symptoms.

This study is meaningful in that it developed a mental health nursing simulation using SPs for non-psychiatric nurses and verified its effectiveness, which has rarely been attempted. The mental health nursing simulation for non-psychiatric nurses can be used as a continuing education programme to improve nursing competence and to decrease these nurses' burden and anxiety. Moreover, this study provides practical resources in developing mental health nursing education programmes for non-psychiatric nurses. It can also be used as a basis for various nursing simulation programmes in the future.

The limitations of the study include the small size of the sample drawn from a general hospital, which necessitates careful interpretation of the results. Thus, more studies with larger samples of

participants in many hospitals are recommended. In addition, data collection occurred immediately after the simulation, so future studies should collect data after the nurses have subsequently cared for patients with mental health conditions. Furthermore, we examined the simulation's efficacy only in terms of mental health care competency, burden and anxiety, which necessitates further research evaluating various effects in multidimensional mental health care scenarios and SPs for general setting nurses.

5 | CONCLUSION

This study developed a nursing simulation for nurses in non-psychiatric settings to provide mental health care for a client presenting anxiety and depressive mood. The efficacy of the simulation was examined through a quasi-experimental study. The intervention reduced nurses' mental health care anxiety and burden while improving the mental health care competency. These findings are meaningful considering the lack of mental health nursing simulations for those in general ward settings. This study proposes a complementary method that could aid non-psychiatric nurses in providing mental health care for clients in general nursing settings.

AUTHOR CONTRIBUTIONS

ML conducted the programme, collected data and analysed the data. YC designed the study, supervised the study process and revised the manuscript.

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None declared.

CONFLICT OF INTEREST

There is no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

This study was conducted after receiving approval from the Institutional Review Board of Chung-Ang University (a placeholder to ensure blind review) in Seoul, Korea.

ORCID

Yun-Jung Choi  <https://orcid.org/0000-0002-0160-8902>

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