

The Association between Physical Violence Experience and Post-Traumatic Stress Disorder in Emergency Department Nurses: The Moderating Role of Isolation

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Abstract

The present study aimed to investigate the moderating role of isolation in the relationship between physical violence experience and post-traumatic stress disorder in emergency department nurses. Physical violence experience, post-traumatic stress disorder, and isolation of self-compassion were measured using a structured questionnaire among 96 nurses in the emergency departments located in D and G cities in South Korea from June to July of 2017. The collected data were analyzed using IBM SPSS Statistics 20.0 and SPSS PROCESS Macro. The results showed that isolation was significantly and positively correlated with post-traumatic stress disorder. The explanatory power for post-traumatic stress disorder in emergency department nurses increased when the interaction between isolation and physical violence experience was entered. The high-isolation group showed a higher increase in post-traumatic stress disorder than the low-isolation group. Isolation was found to be the moderator that increased the negative influence of physical violence experience on post-traumatic stress disorder. The findings suggest that consideration should be given to the fact that the effect of physical violence experience on post-traumatic stress disorder varies depending on the level of isolation of emergency department nurses when developing intervention programs for post-traumatic stress disorder in emergency department nurses.

Keywords: Emergency department nurse, Physical violence experience, Post-traumatic stress disorder, Self-compassion, Isolation

1. Introduction

1.1. The need for research

The physical violence experience rate among domestic emergency department nurses is 46%, while a rate of 52% has been reported abroad [1]. This is twice the physical violence experience rate of nurses working in intensive care units or post-anesthetic recovery units [2].

Emergency department nurses not only are injured by physical violence but also seriously suffer from emotional aftereffects such as depression, anxiety, or fear [3]. The negative emotion due to physical violence experience and fear of contact with patients among emergency department nurses leads to avoidance efforts in response to trauma-related signals, which causes post-traumatic stress disorder [4][5]. Post-traumatic stress disorder reduces the

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quality of life of emergency department nurses in terms of personal health and life in general [6]. The decrease in thinking and concentration of emergency department nurses experiencing post-traumatic stress disorder and the reduction in communication and emotional support for patients negatively influence patient nursing [7].

Post-traumatic stress disorder, however, does not occur in all emergency department nurses who have experienced physical violence [8]. The expression of post-traumatic stress disorder depends on personal internal resources that can offset the effect of traumatic events and effective coping methods using one's ability. Individuals can recover from the experience of shocking traumatic events, and this ability works as a factor that can control rumination and post-traumatic stress disorder [9][10].

Isolation is one of the attributes of self-compassion and a selfish way of thinking about adversity. It indicates the characteristic of thinking and behaving from one's perspective, need, and position by perceiving the outside centered on oneself. Recently, self-compassion is drawing attention as a protective psychological variable in mental health research [11][12][13][14]. Isolation causes self-centered uniform thinking due to the absence of the ability to turn attention to other aspects [11]. As a result, isolation works as a predictor of rumination and burnout and is positively related to the avoidance symptoms of post-traumatic stress disorder [15].

While many studies have reported that the physical violence experienced by emergency department nurses and medical technicians affects post-traumatic stress disorder, no research has investigated the moderating effect of isolation. Accordingly, the present study intended to determine the applicability and moderating effect of isolation in the relationship between physical violence experience and post-traumatic stress disorder in emergency department nurses. In addition, the results will be provided as primary data for the development of intervention programs for post-traumatic stress disorder of emergency department nurses who are experiencing physical violence.

2. Research method

2.1. Research design

The present study used a descriptive survey to determine the relationships among physical violence experience, post-traumatic stress disorder, and isolation in emergency department nurses and the moderating effect of isolation.

2.2. Participants and data collection

Participants were 96 emergency department nurses working at seven different secondary and tertiary care hospitals in D and G cities. The selection criteria were working for at least one year in the emergency department, understanding the purpose of the present study, and agreeing to participate. Questionnaires were distributed after obtaining cooperation from seven hospitals from June to July 2017, and 107 responses were collected. Among the collected questionnaires, 96 were used in the analysis, with 11 responses excluded due to insincerity.

2.3. Research instruments

Physical violence experience. To measure physical violence experience, the physical violence type and frequency portion of the violence experience scale developed by Yun Jong-

suk [16] were used after modification and supplementation. It is composed of eight items that measure the frequency of experience depending on the types of physical violence.

Post-traumatic stress disorder. The PTSD Checklist for DSM-5 developed by Weathers et al. [17] and translated into Korean by Sim So-Yeon [18] was used. The instrument comprises 20 items of re-experience, avoidance, negative changes in cognition and mood, and hyperarousal.

Isolation. Isolation was measured using four items of isolation among 26 items in six sub-factors of self-kindness, universal humanity, mindfulness, self-judgment, isolation, and over-identification of the Self-Compassion Scale developed by Neff [12] and translated into Korean by Kim Gyeong-Ui et al. [19].

2.4. Ethical considerations

The data collection for the present study was conducted after approval was received from the IRB of the institution with which the investigators are affiliated (IRB 2017-0050).

2.5. Data analysis

The collected data were analyzed using IBM SPSS Statistics 20.0 and SPSS PROCESS Macro.

3. Results

3.1. Averages and standard deviations of physical violence experience, isolation, and post-traumatic stress disorder and correlations among them

Participants' average scores of physical violence experience, isolation, and post-traumatic stress disorder were 5.27 (± 7.24), 8.50 (± 3.27), and 25.85 (± 17.06), respectively.

Physical violence experience showed no significant correlations between isolation and post-traumatic stress disorder, but isolation showed a significant positive correlation with post-traumatic stress disorder (Spearman's Rho = .397, $p < .001$).

Table 1. Means, standard deviations, and correlations for the study variables (N = 96)

Variables	Physical Violence Experience	Isolation	PTSD
	r(p)		
Physical Violence Experience	1	-	-
Isolation	.076 (.461)	1	-
PTSD	.187 (.068)	.397 (<.001)	1
M	5.27	8.50	25.85
SD	7.24	3.27	17.06

3.2. The moderating effect of isolation

Physical violence experience was found to significantly influence post-traumatic stress disorder by interacting with isolation. That is, the explanatory power of post-traumatic stress disorder was 24.9%, which was a 5% increase, as a result of entering the interaction between physical violence experience and isolation ($F = 10.185$, $p < .001$).

Table 2. Moderating effect of isolation (N = 96)

	Variables	B	β	t	p	R ²	Adj.R ²	F(p)
1	(Constant)	25.849		16.413	<.001	.199	.182	11.578
	Physical Violence Experience	.426	.181	1.945	<.001	-	-	(<.001)
	Isolation	2.175	.416	4.483	<.001			
2	(Constant)	26.023		16.954	<.001	.249	.225	10.185
	Physical Violence Experience	.642	.272	2.786	.005	-	-	(<.001)
	Isolation	2.056	.394	4.332	<.001	-	-	-
	Physical Violence Experience	.168	.243	2.474	.015	-	-	-

3.3. Significance test of simple regression line according to the conditional effect of isolation

To determine the value of the mediating variable measured as a continuous variable in which a moderating effect was found, the simple regression line, which was the effect of physical violence experience on post-traumatic stress disorder, was tested when the moderating variable took a specific value (mean value and mean \pm 1 SD). The results showed that the effect of physical violence experience on post-traumatic stress disorder at particular values of isolation were all statistically significant. In the case of "low" isolation, the score of post-traumatic stress disorder significantly increased from 23.75 to 29.93 when the level of physical violence experience increased, but the change was small ($t = 2.55$, $p = .012$); in the case of "high" isolation, however, the change was significant ($t = 3.127$, $p = .002$) with the score of post-traumatic stress disorder significantly increased from 32.14 to 47.54. That is, the "high" isolation group showed a more significant increase in post-traumatic stress disorder than the "low" isolation group.

Table 3. Simple slope test of isolation according to conditional effect (N = 96)

Isolation	b	SE	t	p	LLCI	ULCI
-1SD	.561	.220	2.550	.012	.124	.998
M	1.065	.335	3.180	.002	.400	1.730
+1SD	1.400	.448	3.127	.002	.511	2.290

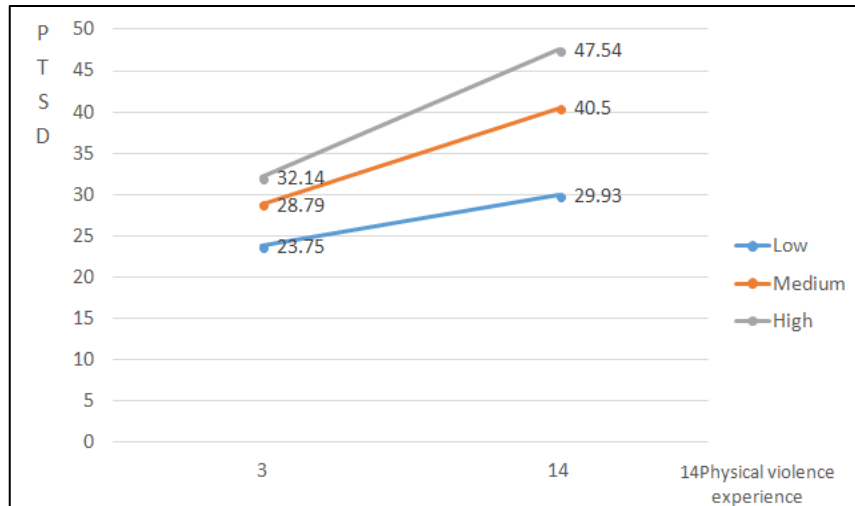


Figure 1. Interaction of physical violence experience with isolation on PTSD

4. Discussion

The present study investigated the moderating effect of isolation in the relationship between physical violence experience and post-traumatic stress disorder in 96 emergency department nurses. The results showed that the impact of physical violence experience on post-traumatic stress disorder varied depending on the level of isolation. Isolation was found to be the moderator that increased the negative influence of physical violence experience on post-traumatic stress disorder.

The high-isolation group showed a higher increase in post-traumatic stress disorder than the low-isolation group. The effect of isolation was confirmed in that post-traumatic stress disorder in emergency department nurses due to physical violence experience increased when the level of isolation was high. Therefore, the significance of the present study lies in providing an understanding of the necessity to consider that the physical violence experience of emergency department nurses is not unconditionally expressed as a post-traumatic disorder but, somewhat, varies depending on the level of isolation of emergency department nurses.

5. Conclusion

The results of the present study confirmed the moderating role of isolation in the relationship between physical violence experience and post-traumatic stress disorder. The results of the present study suggest that consideration should be given to the fact that the effect of physical violence experience on post-traumatic stress disorder varies depending on the level of isolation of emergency department nurses when developing intervention programs for post-traumatic stress disorder in emergency department nurses.

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