Mediating Effects of Anger Expression in the Relationship of Work Stress with Burnout among Hospital Nurses Depending on Career Experience

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Abstract

Objectives: This study examined the mediating effects of anger expression in the relationship between work stress and burnout among nurses with more than or less than 3 years of career experience.

Methods: A cross-sectional study was conducted with 454 nurses working at three university hospitals in South Korea. Nurses completed a survey consisting of demographic questions, the Maslach Burnout Inventory, the Work Stress Scale, and the Korean version of the Anger Expression Inventory. A multiple-group mediation analysis was performed using structural equation modeling. Results: In total (N = 454), work stress directly affected burnout, and all anger expressions indirectly affected the relationship of work stress with burnout. Different mediating effects of anger expression style according to career experience were shown; anger-out and anger-in in nurses with less experience (n = 184) and only anger-in in those with more experience (*n* = 270) partially mediated the relationship of work stress with burnout.

Conclusions and Clinical Relevance: The indirect effect of anger-in style was higher than other anger expression styles in all nurses; suppression of anger caused by work stress can increase burnout. Anger-out played a functional role in the relationship of work stress with burnout among nurses who had less career experience. Therefore, to reduce burnout, creating a work environment with collaborative culture including authentic leadership and providing anger management programs will help to manage nurses' anger properly. For new nurses, promoting work and life balance, and creating a culturally empowering work environment to help them use anger-out expression constructively, are important to reduce burnout.

In recent years, the high work stress and turnover of nurses have become very common, which is worsening the nursing shortage worldwide (Wang, Lv, Qian, & Zhang, 2019). The emergence of new diseases such as Middle East respiratory syndrome (MERS) and corona virus disease (COVID-19), evaluation of the accreditations of medical institutions, and recent emergence of integrated nursing care service systems have increased nurses' work stress, leading to increased burnout and higher turnover rates (Fessell & Cherniss, 2020; Jalilian, Shouroki, Azmoon, Rostamabadi, & Choobineh, 2019).

Previous studies have found that intensity of the stressor exceeding the tolerance threshold could lead to high levels of burnout among nurses, which is directly related to reduced nursing quality and patient safety level (Farquharson et al., 2013; Van der Heijden, Brown Mahoney, & Xu, 2019). In particular, when new nurses are exposed to the new environment of clinical practice, they have to identify the needs of a patient and provide nursing accordingly. Lack of good working conditions, emergencies, and difficulties in interpersonal relationships can further increase existing work stress

among nurses, leading to a loss of interest or contraction in nursing work (Jalilian et al., 2019).

Burnout is a serious concern, not only because of its health consequences, but also because it may mean the tragic loss of a highly skilled nurse (Thomas, 2008). Burnout negatively affects the physical and mental health of nurses, which leads to negative attitudes toward nursing work (Choi et al., 2018). These negative attitudes impair the quality of medical services and consequently deteriorate patient satisfaction (Garrett, 2008; Thomas, 2008). Therefore, nursing units and departments, hospitals, and nursing organizations need to pay constant attention so that nursing leaders may create a more friendly collaborative culture (Cameron & Quinn, 2011) and conduct research on preventing nurse burnout.

Another aspect related to nurses' work stress is its relationship with the emotion of anger (Gelsema et al., 2006; Han & Kim, 2016; Lee et al., 2009; Yamaguchi, Kim, Oshio, & Akutsu, 2017). Anger is associated with burnout (Fitzgerald, Haythornthwaite, Suchday, & Ewart, 2003; La & Yun, 2019; Thomas, 2008; Szczygiel & Mikolajczak, 2018). Anger can be understood as the emotion or feelings that naturally occur when a person fails to fulfill his or her needs or experiences a threat from another person or outside.

Each individual expresses anger differently (Spielberger et al., 1985). There are three ways of expressing anger, namely, anger-in, which is not revealed; anger-out, which is expressed outwardly; and anger-control, which seeks different ways to calm anger while perceiving and supervising an angry state (Spielberger et al., 1985). Studies related to nursing have noted a relationship between types of anger expression and both physical and psychological health (Kim, Choi, & Yeom, 2019; Yamaguchi et al., 2017). The higher the tendency for anger suppression and anger expression, the lower the performance of the organization and the quality of nursing due to a decrease in the organization's commitment and job satisfaction (Lee et al., 2009). In addition, improper or irrational anger expression not only worsens the nursing work environment (Thomas, 2008; Shirey, 2007), but also increases interpersonal problems (Choi, Park, Park, Park, & Kim, 2017; Fitzgerald et al., 2003; Han, Won, Kim, & Lee, 2015).

Nursing has always been a stressful occupation, but not all nurses experience burnout (Thomas, 2008). Anger directed towards oneself more strongly correlates with burnout than anger directed outward toward others. Frequent job-related anger predisposes an individual to burnout (Thomas, 2008). In addition, all three types of anger regulation correlate with stress (Yamaguchi

et al., 2017). In particular, the risk for depression and burnout may increase if nurses have high levels of anger and use unhealthy anger management styles such as anger-in and anger-out (Thomas, 2008). In particular, anger regulation such as anger expression may differ in how individuals perceive their emotions, in most cases, urging other members within their culture to control their feelings through anger regulation (Yamaguchi et al., 2017). For example, nurses from East Asian cultures with higher levels of interdependence, such as Korea, are encouraged to control any thoughts and feelings towards individuals who may interfere with interpersonal harmony because they value conformity and cooperation, causing a lot of anger-in. Therefore, to prevent and reduce exhaustion of nurses, it is necessary to examine the relationship between types of anger expression and burnout.

To date, each direct relationship between stress, anger expression, and burnout is well known, but it was difficult to find studies that comprehensively dealt with the relationship between anger and burnout according to the three types of anger expression, which is as an emotional response to the nurse's work stress. Thus, the role of anger expression in the relationship between work stress and burnout has not been examined adequately so far. Thus, it is necessary to explore the role of anger expression as a mediator of the association of work stress with burnout. Additionally, since the different types of anger expression can be exhibited simultaneously, ambivalent emotions should be explored. Therefore, in this study, a conceptual framework was established, which is presented in Figure 1, assuming that the three anger expression styles mediate the relationship between work stress and burnout. This approach seems suitable to understand anger expression styles among nurses. In addition, nurses experience different types of work stress based on the demands of their work and depending on their career stage (Lee et al., 2009). Based on the level of competency in which work in nursing units can be independently and effectively performed and as awareness of work begins to expand, this study distinguished between two groups (≤3 years and >3 years of career experience) based on the study of Benner (1982).

The aim of the present study was to explore the role of anger expression as a mediator of the relationship of work stress with burnout among nurses, who were dichotomized based on career experience (≤3 or >3 years), through multiple mediation analysis. Specific aims were to identify the indirect, direct, and total influence of work stress on burnout, and to determine the relative magnitudes of specific mediating effects

(a)

(b)
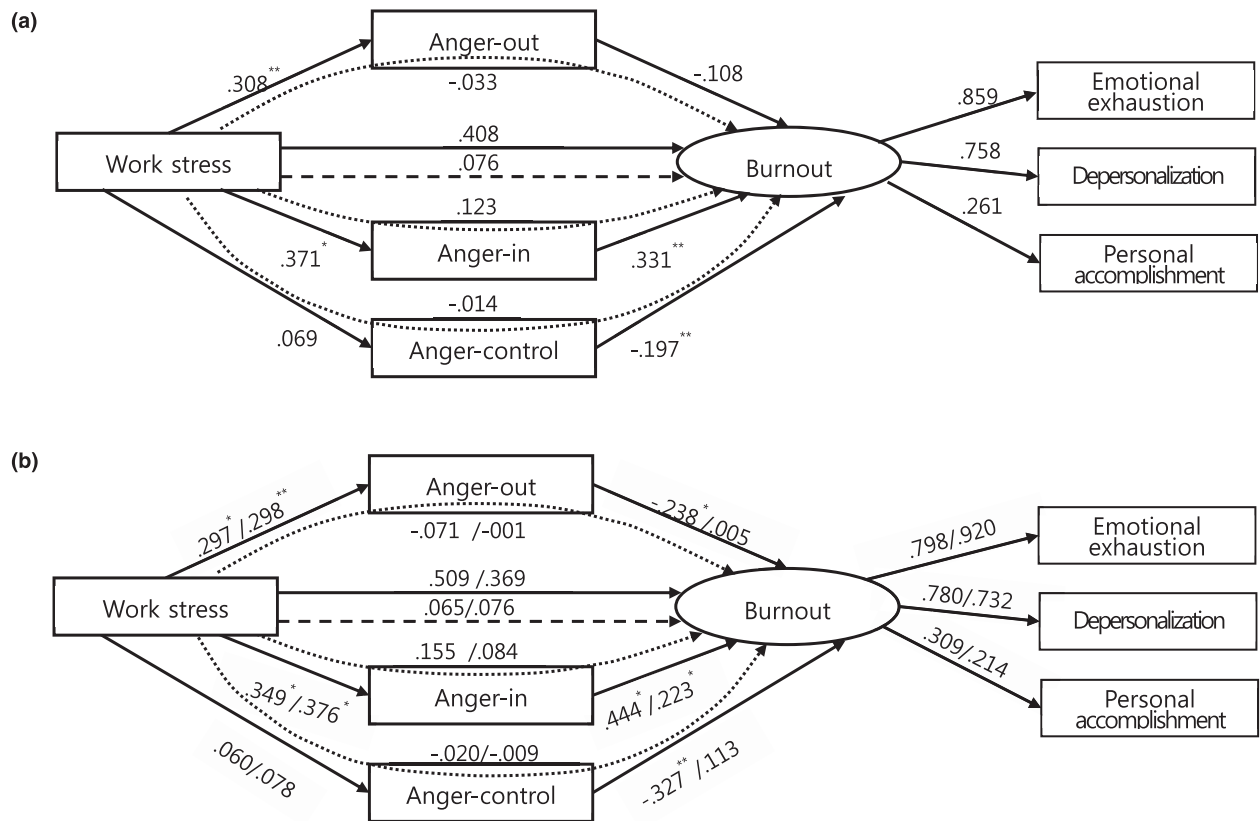
Note. (a) = Whole model; (b) = Model for the groups with ≤ 3 years / > 3 years of clinical career experience; *p<.05, **p<.01

⟶ Direct effect, ········▶ In direct effect, – – ➤ Total effect

Figure 1. Standardized direct and indirect coefficients of the entire model and the model with two subgroups.

of anger-in, anger-out, and anger-control in the whole-group model and in subgroup models defined according to career experience.

Methods

Design, Participants, and Data Collection

The participants in this cross-sectional, descriptive study were nurses employed at three tertiary hospitals in Seoul, Korea, who provided written consent to participate after understanding the study purpose. In total, 454 out of 463 surveys were used for the analysis; five surveys in which more than one third of each scale was incomplete were excluded, and another four surveys with missing data were excluded. The number of participants required for this study was equivalent to the number of samples for proper power in the path analysis and structural equation model, and at least 5 to 10 times per measurement parameter

was included (Bentler & Chou, 1987). Considering 16 individuals classified into two groups according to the nurses' clinical experience (≤3 years and >3 years) and considering a dropout rate of 10.0%, the optimal sample size ranged from 176 to 352.

The data collection period of this study was from January 25 to April 1, 2016. One of the authors visited the three university hospital nursing departments in Seoul, explained the purpose of research to the head of each nursing department, and obtained approval for data collection. In cooperation with each institution, nurses working at the hospital first provided written consent, and then completed a self-report questionnaire. For their participation, an inexpensive gift card was provided to the participants as a reward.

Instruments

Burnout Scale. Burnout was assessed using the Maslach Burnout Inventory (MBI), developed by Maslach

and Jackson (1981), which was translated into Korean by Choi and Chung (2003). The MBI comprises three subscales with 22 items, including 9 items on emotional exhaustion, 5 on depersonalization, and 8 on personal accomplishment. The Korean version of the MBI has shown good internal consistency reliability, with a Cronbach's alpha of 0.84, and good validity, with a three-factor model indicating it to be the best-fitting model (Choi & Chung, 2003). Each item is rated on a 5-point Likert scale, resulting in total scores ranging from 22 to 110. The total score is calculated by summing scores, with higher scores indicating greater burnout. Cronbach's alpha was 0.80 in this study.

Work Stress Scale. Work stress was quantified based on the self-report scale revised by Han (2007), which was originally developed by Kim and Gu (1984) as a way to measure the work stress that nurses experience. This scale comprises nine subscales and 43 items as follows: work overload (6 items), role conflict (4 items), insufficiency of technical skills and professional knowledge (5 items), interpersonal conflict with patients (4 items), interpersonal conflict with doctors (5 items), interpersonal problems (4 items), psychological impact due to clinical limitations (5 items), inappropriate treatment (5 items), and stress due to work schedule (5 item). It uses a 4-point Likert scale ranging from 1 ("*never*") to 4 ("*almost always*"). The scores are summed, and high overall scores correspond to high stress levels. This scale demonstrated a high level of internal reliability (Cronbach's alpha = 0.93) (Han, 2007) and satisfactory construct validity, with 66.3% of variance explained by a 15-factor structure (Kim & Gu, 1984). Cronbach's alpha was 0.94 in this study.

Anger Expression Styles Scale. The Anger Expression Inventory–Korean version (Hahn, Jeon, Lee, & Spielberger, 1997) from the State-Trait Anger Expression Inventory–Korean version (STAXI-K), developed by Spielberger et al. (1985), was used in the present study. The STAXI-K consists of three subscales of eight items each, namely, anger-in, anger-out, and anger-control, designed to measure how individuals react when they feel angry. Each item is measured on a 4-point scale, ranging from 1 ("*not at all*") to 4 ("*strongly agree*"). The scores on the 24 items were summed, resulting in total scores ranging from 24 to 96. Higher scores indicate higher anger expression tendencies. The high anger-in subscale scores indicate suppression of anger; high anger-out subscale scores indicate easy expression of anger; and high anger-control subscale scores indicate control of anger. The STAXI-K is a good, valid, and reliable measure (Hahn et al., 1997). In this study, Cronbach's alpha was

0.80 for anger-in, 0.82 for anger-out, and 0.79 for anger-control.

Ethical Approval

This study was approved by the Institutional Review Board of University Oriental Hospital before proceeding (KOMCIRB-151116-HR-047).

Statistical Analyses

All statistical analyses were conducted using SPSS Amos for Windows version 21.0 (IBM Corp., Armonk, NY, USA). A multiple-group mediation analysis was performed using structural equation modeling. The general characteristics of the participants were analyzed using descriptive statistics. Correlations between work stress, anger expression, and burnout were analyzed using Pearson's correlation coefficient. Goodness-of-fit testing was conducted using the hypothetical structural equation model. A multiple-group mediation analysis according to career experience was conducted to compare goodness of fit between the whole-group model and the multiple-group model. Goodness of fit was tested using the chi-square test (≤ 2 and $\leq 2/df$), the root mean square error of approximation (RMSEA), and the comparative fit index (CFI) (Byrne, 2010). In all models, the role of anger expression styles as a mediating variable was explored by quantifying the direct, indirect, and total effects of each variable on burnout.

Results

Participant Characteristics

The general characteristics of the study participants were as follows. Most were under 29 years old ($n = 261$, 57.5%) and were women ($n = 436$, 96.0%). In terms of marital status, most were single or other ($n = 345$, 76.0%). Most had a bachelor's degree ($n = 292$, 64.3%). Two-hundred and seventy nurses (59.5%) had 3 years or more of clinical experience. The majority of participating nurses worked three shifts ($n = 358$, 78.9%; Table 1).

Correlations of Work Stress, Anger Expression, and Burnout

For the group with ≤ 3 years of experience, work stress was positively related to burnout ($r = .44$, $p < .001$), anger-in ($r = .35$, $p < .001$), and anger-out ($r = .30$, $p < .001$). Anger-in was positively correlated with burnout ($r = .42$, $p < .001$), and anger-control was negatively

Table 1. Characteristics of Study Participants (N = 454)

Characteristics	Categories	n	%
Age in years (mean = 29.2)	20–29	261	57.5
	30–39	126	27.8
	≥40	67	14.8
Gender	Male	18	4.0
	Female	436	96.0
Marital status	Single or other[a]	345	76.0
	Married	109	24.0
Religion	Yes	228	50.2
	No	226	49.8
Education level	≤ College degree	86	18.9
	Bachelor's degree	292	64.3
	≥ Master's degree	76	16.7
Clinical career (years)	≤3 years	184	40.5
	>3 years	270	59.5
Work department	A medical ward	159	35.0
	A surgical ward	104	22.9
	Intensive care unit	80	17.6
	Emergency room	34	7.5
	Operating room	35	7.7
	Others	42	9.3
Shift pattern	Trifle shift	358	78.9
	Double shift	55	12.1
	Fixed	41	9.0

[a]Separation, divorce, separation by death.

correlated with burnout ($r = -.21$, $p < .001$). For the group with >3 years of experience, work stress was positively correlated with anger-in ($r = .38$, $p < .001$), burnout ($r = .35$, $p < .001$), and anger-out ($r = .30$, $p < .001$). Anger-out was positively correlated with anger-in ($r = .63$, $p < .001$) and burnout ($r = .24$, $p < .001$), and was negatively correlated with anger-control ($r = -.14$, $p < .001$). Anger-in was positively correlated with burnout ($r = .36$, $p < .001$), and anger control was

negatively correlated with burnout ($r = -.14$, $p < .05$; Table 2).

Goodness-of-Fit Testing of the Structural Equation Model

Goodness-of-fit testing showed the following results for the whole model: $\leq 2 = 59.82$ ($p < .001$), $X^2/df = 6.65$, RMSEA = .11, and CFI = .93. For the multiple-group model, the following results were found: $X^2 = 65.43$ ($p < .001$), $X^2/df = 3.65$, RMSEA = .08, and CFI = .94. The value of $\leq 2/df$ was never 3 or less; nonetheless, the multiple-group model demonstrated a higher level of goodness-of-fit (RMSEA < .08) than the whole model, and also showed a close fit with the data (CFI ≥ .90). Overall, the multiple-group model showed good support for the findings of the present study. When differences between the two groups (≤3 years vs. >3 years of career experience) were tested, the results for the unconstrained model were $X^2 = 65.43$, RMSEA = .08, and CFI = .94, while the constrained model showed the following results: $\chi^2 = 72.50$, $\Delta\chi^2/(\Delta df) = 7.07(7)$, RMSEA = .07, and CFI = .94. Due to the nonsignificant change in X^2 (7.07; $df = 7$, $p = .422$), it was concluded that the two groups were not significantly different.

Anger Expression as a Mediator of the Relationship of Work Stress With Burnout

Figure 1 and Table 3 present the results of the multiple mediation model. In the whole sample group, work stress had a positive effect on anger-out ($\beta = .308$, p = .005) and anger-in ($\beta = .371$, $p = .016$). Anger-in had a positive effect and anger-control had a negative effect on burnout, respectively ($\beta = -.331$, $p = .009$; $\beta = -.197$, $p = .007$). Work stress had a positive effect on burnout ($\beta = .408$, $p = .009$), and

Table 2. Correlations Between Variables (N = 454)

Variables	≤3 years of clinical experience (n = 184)					>3 years of clinical experience (n = 270)				
	WS	AO	AI	AC	BO	WS	AO	AI	AC	BO
WS	1					1				
AO	.30**	1				.30**	1			
AI	.35**	.55**	1			.38**	.63**	1		
AC	.06	−.24**	.02	1		.08	−.14**	.07	1	
BO	.44**	.18*	.42**	−.21**	1	.35**	.24**	.36**	−.14*	1
Mean	2.36	1.63	1.85	2.38	2.94	2.50	1.72	1.93	2.37	2.89
SD.	.44	.42	.46	.44	.49	.44	.44	.48	.43	.48

Note.
WS = work stress; AO = anger-out; AI = anger-in; AC = anger-control; BO = burnout; SD = standard deviation.
*p < .05; **p < .01

Table 3. Multiple-Mediation Estimates for the Mediating Effect of Anger Expression in the Mediation Models for the Entire Sample and for the Model With Two Groups Based on Career Experience

Model	Endogenous variable		Exogenous variable	Direct effect (p)	Indirect effect (CI$_{lower}$, CI$_{upper}$)			Total indirect effect	Total effect (p)	SMC
					Via AO	Via AI	Via AC			
Whole group (N = 454)	AO	←	WS	.308 (.005)	—	.000 (-)	.000 (-)	.000 (-)	.308 (.005)	.095
	AI	←	WS	.371 (.016)	.000 (-)	—	.000 (-)	.000 (-)	.371 (.016)	.138
	AC	←	WS	.069 (.118)	.000 (-)	.000 (-)	—	.000 (-)	.069 (.118)	.095
	BO	←	WS	.408 (.009)	−.033 (−.103, .001)	.123 (.111, .281)	−.014 (−.058, .002)	.076 (.007, .116)	.484 (.016)	.334
	BO	←	AO	−.108 (.071)	—	—	—	—	−.108 (.071)	—
	BO	←	AI	.331 (.009)	—	—	—	—	.331 (.0.09)	—
	BO	←	AC	−.197 (.007)	—	—	—	—	−.197 (.007)	—
≤3 years group (n = 184)	AO	←	WS	.297 (.013)	—	.000 (-)	.000 (-)	.000 (-)	.297 (.013)	.088
	AI	←	WS	.349 (.023)	.000 (-)	—	.000 (-)	.000 (-)	.349 (.023)	.122
	AC	←	WS	.060 (.429)	.000 (-)	.000 (-)	—	.000 (-)	.060 (.429)	.004
	BO	←	WS	.509 (.012)	−.071 (−.197, −.024)	.155 (.112, .386)	−.020 (−.126, .027)	.065 (−.034, .139)	.574 (.021)	.527
	BO	←	AO	−.238 (.011)	—	—	—	—	−.238 (.011)	—
	BO	←	AI	.444 (.012)	—	—	—	—	.444 (.012)	—
	BO	←	AC	−.327 (.010)	—	—	—	—	−.327 (.010)	—
>3 years group (n = 270)	AO	←	WS	.298 (.010)	—	.000 (-)	.000 (-)	.000 (-)	.298 (.010)	.089
	AI	←	WS	.376 (.020)	.000 (-)	—	.000 (-)	.000 (-)	.376 (.020)	.141
	AC	←	WS	.078 (.193)	.000 (-)	.000 (-)	—	.000 (-)	.078 (.193)	.006
	BO	←	WS	.369 (.005)	.001 (−.079, .077)	.084 (.020, .238)	−.009 (−.075, .003)	.076 (.008, .133)	.446 (.008)	.255
	BO	←	AO	.005 (.900)	—	—	—	—	.005 (.900)	—
	BO	←	AI	.223 (.045)	—	—	—	—	.223 (.045)	—
	BO	←	AC	−.113 (.063)	—	—	—	—	−.113 (.063)	—

Note. Standardized path coefficients were calculated and the significance level (*p* value) was verified by bootstrapping.
WS = work stress; AO = anger-out; AI = anger-in; AC = anger-control; BO = burnout; CI = confidence interval;
SMC = squared multiple correlation.

anger-in was found to have the largest mediating effect among anger expression styles (β = .123, 95% confidence interval = .011, .281).

In the group with career experience of ≤3 years, work stress had a positive effect on anger-out (β = .297, *p* = .013) and a negative effect on burnout (β = -.238, *p* = .011). Work stress had a positive effect on anger-in (β = .349, *p* = .023) and a positive effect on burnout (β = .444, *p* = .012). However, in the group with career experience of >3 years, work stress had a positive effect on anger-in (β = .376, *p* = .020) and a positive effect on burnout (β = .223, *p* = .045).

Discussion

This study aimed to examine the mediating effect of anger expression on the relationship of work stress with burnout among nurses and to explore associations of anger expression styles with the length of nurses' career experience. First, the mediation model revealed

that in all nurses, work stress was found to have a direct effect on burnout; higher burnout was found when work stress was higher. These findings are consistent with those of previous studies, confirming the relationship between work stress and burnout in nurses (Choi et al., 2017; Kim, Park, & Seo, 2019). Additionally, there was an indirect effect of anger expression between work stress and burnout in the whole nurse model; anger-in and anger-control had indirect effects on burnout. It was confirmed that the level of burnout was lower when anger-control was better in relation to work stress and burnout, and that the level of burnout was higher when anger was suppressed. Our findings imply that the degree of burnout caused by work stress may vary depending on the anger expression styles of nurses. Interestingly, the indirect effect of anger-in was four to eight times higher than other anger expression styles. To reduce burnout, it is necessary to focus on the anger-in expression style of nurses to help manage anger in a positive and constructive way.

The impacts of mismanaged anger in the healthcare field are detrimental to patients, staff, and the entire healthcare delivery system (Booth, 2010). Experiences of anger have been reported to be more frequent among nurses than among physicians and other healthcare professionals; furthermore, nurses were also found to show a stronger tendency to use inappropriate anger expression styles, such as unfiltered release and suppression (Lee et al., 2009). Owing to work characteristics, nurses frequently perceive it to be necessary to suppress their anger during interactions, with the goal of remaining pleasant (Kang & Park, 2015); this tendency for anger suppression may make it difficult for nurses to manage anger expression constructively, eventually leading to burnout (La & Yun, 2019). Previous studies have suggested that anger-in may be correlated with low levels of job satisfaction, commitment to the organization, and performance (La & Yun, 2019; Lee et al., 2009). Therefore, appropriately using nurses' anger expression and anger management are necessary to reduce their burnout.

In the nurses with ≤3 years of career experience, work stress directly affected burnout; furthermore, the higher the level of work stress, the higher the level of burnout. Additionally, nurse work stress was shown to indirectly affect burnout through anger expression. Only anger-out and anger-in showed indirect effects on burnout. Specifically, the higher the level of anger-out, the lower the level of burnout, and the higher the level of anger-in, the higher the level of burnout in the relationship between work stress and burnout. Therefore, in the group with ≤3 years of career experience, direct work stress adjustments, and anger-in and anger-out interventions, are required.

Thus, anger-in was shown to have an indirect effect in all groups, including the whole group. Although there is no clear criterion that distinguishes between functional anger and dysfunctional anger, it has been classified that anger-out or anger-in is dysfunctional, and anger-control is functional (Jang, Lee, & Kim, 2014). Thus, according to previous studies (Jang et al., 2014), anger-out is classified as a dysfunctional anger expression style, but it has been recommended that anger be expressed in a manner that is appropriate to ward and hospital culture without inappropriate or aggressive physical and linguistic expressions towards others. The findings also suggest that anger-out plays a functional role in the relationship between work stress and burnout, so finding an appropriate anger-out strategy will help reduce burnout in nurses with ≤3 years of career experience. It is particularly important for new nurses to promote work and life balance as well as to create culturally empowering work

environments (Boamah, Read, & Laschinger, 2017). These cultures make it difficult for new nurses to adapt to the conservative hospital culture, which focuses on the team rather than the personal environment. Therefore, it is important for new nurses to impart assertive communication skills to co-workers within the hospital culture. Additionally, making anger management liaison available in units is a possible solution.

Verifying the mediation model in nurses with >3 years of experience, such as that of the whole group, and ≤3 years of experience, work stress directly affected burnout, and higher work levels of stress correlate with higher levels of burnout. Unlike other groups, however, only anger-in showed an indirect effect on burnout. This result was similar to that of a previous study on the relationship between managers' leadership type and burnout in new graduate nurses, which showed that managers' authentic leadership, short-staffing, and work-life interference directly influenced burnout (Boamah et al., 2017). These findings imply that strategies for reducing anger-in expression and work stress, as well as for creating a comfortable work environment to encourage new nurses to verbally express their anger, are very important for mitigating burnout.

Contrarily, in the relationship between work stress and burnout, anger-control reduced burnout, but anger-control had no indirect effect in both groups (≤3 years and >3 years of experience). These results indicate that work stress, anger-in, and anger-out effects decreased the effects of anger-control in both groups. This suggests that the mechanism by which anger expression mediates the relationship between work stress and burnout may vary according to career. The experience of anger is composed of emotional, physiological, and cognitive factors, but many scholars consider cognitive factors to be the key to anger experience in anger development and are important in many anger theories (Spielberger et al., 1985). Anger-in, anger-out, and anger-control were correlated with irrational beliefs and anger rumination, and anger-in and anger-out were causative factors in a previous study of Korean nurses (Ham & You, 2018). Particularly with respect to work stress, anger rumination can increase anger-in. The present study is set in a context influenced by cultural norms in Korea, where nurses face the expectation of being extremely deferential and polite to patients, patients' family members, and colleagues. Due to these cultural norms, Korean nurses have a higher tendency toward anger-in compared to other countries (Ham & You, 2018). In addition, based on Korean cultural norms, which reflect paternalistic

Confucian expectations, women are supposed to be obedient and to show endurance and perseverance. Thus, Korean nurses, the majority being women, are expected to suppress their anger. Therefore, in order to reduce burnout among nurses, providing cognitive-behavioral intervention strategies including communication, self-expression, and emotional regulation training will be useful. To explain the emotional regulation training, this program is designed for individual nurses to reduce vulnerability to negative emotions by using mindfulness-based techniques such as mindfulness-based stress reduction and mindfulness self-compassion (Guendelman, Medeiros, & Rampes, 2017; Ham & You, 2018; Jalil & Dickens, 2018; Jang et al., 2014).

Limitations

This study has several limitations. First, it was only conducted at three tertiary hospitals in South Korea; thus, the findings might not be further generalizable to other countries. Second, this study analyzed differences only based on nurses' career experience via a multiple-mediation analysis. Therefore, additional characteristics (i.e., gender differential to anger expression) should be investigated to ascertain their effects in the mediation model between work stress, anger expression, and burnout. Additionally, the use of self-report questionnaires may have negatively impacted the reliability of responses. In the future, research using random sampling frames may be able to yield findings with improved external validity.

Conclusions

Our findings furnish valuable information to address meaningful issues regarding anger expression in the relationship of work stress with burnout among hospital nurses with more or less than 3 years of career experience. First, the indirect effect of anger-in style was four to eight times higher than other anger expression styles in all nurses, which showed that suppression of anger caused by work stress could increase burnout. Therefore, to reduce burnout, nurse managers need to create a comfortable hospital environment to encourage nurses to express their anger constructively, and provide an educational program about anger management that could help nurses recognize and manage their anger. Second, anger-out played a functional role in the relationship of work stress with burnout among nurses with <3 years of career experience. Therefore, creating a culturally empowering work environment and promoting work and life balance to help nurses use anger-out expression constructively is important to reduce burnout.

Acknowledgments

Clinical Resources

- American Psychological Association. Controlling anger before it controls you. https://www.apa.org/topics/anger/control
- NSW Nurses' Association. Stress management for nurses. https://www.health.nsw.gov.au/nursing/Publications/stress-mngt.pdf

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