BMC Nursing

RESEARCH

Open Access

How parenting-related characteristics influence parenting stress among nurses with young children in the Seoul metropolitan area, South Korea: a cross-sectional study

Minhwa Hwang[1], Nagyeong Lee[2] and Gunjeong Lee[2*]

Abstract

Background Balancing work and childcare are a major challenge for working mothers, especially nurses, who face irregular shifts and high job demands. These factors contribute to significant parenting stress, affecting both their well-being and career stability. Despite growing concerns, research on nurses' parenting stress and its influencing factors remains limited. This study examines the parenting status of nurses, their stress levels, and key contributing factors to inform policies that support work-life balance.

Methods This is a descriptive study conducted based on an evaluation of 142 nurses and all those who had a child under 5 years old. The data were collected from April 10 to June 4, 2023, and analyzed using SPSS v26.0 program.

Results The most common childcare arrangement is for parents to leave their children at a daycare facility(69.7%) while they are at work and then care for them at home after work. The highest reason for resigning related to childcare is 'difficulty in responding to sudden problems with children'(33.8%). The most desired welfare benefit among the subjects is flexible working hours(47.9%). The factors influencing parenting stress were the low employment period (β=-.17, $p=.030$), economic reason for working (β = .19, $p=.012$), and low spousal participation satisfaction in child rearing (β=-.26, p = .001).

Conclusion To decrease the nurses' parenting stress, it is necessary to increase the active participation of spouses in childrearing. In addition, it is important to expand childcare facilities at various times, provide welfare benefits in hospitals, and implement a family-friendly system.

Keywords Parenting stress, Child rearing, Caregivers, Spouses, Shift work schedule

*Correspondence:
Gunjeong Lee
gunjeong@ewha.ac.kr
[1]Department of Nursing, Ewha Womans University Mokdong Hospital, 1071, Anyangcheon-ro, Yangcheon- gu, Seoul, Korea
[2]College of Nursing, Ewha Womans University, 52 Ewhayeodae-gil, Seodaemun-gu, Seoul, Korea

© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.

Background

As of September 2022, women accounted for 55.1% of the total female population, and as more women enter the workforce, the economic activity of married women is increasing, driven by the rapidly growing demand for female labor and the increasing participation of married women in the workforce [1]. Married women accounted for 57.8% of all employed women as of 2022 [1]. Korean women exhibit a career phenomenon in which they take a career break after their 30s due to marriage and childbirth and tend to re-enter the labor market in their 40s [2, 3]. The most common reasons for career breaks among women are childcare (42.8%), marriage (26.3%), pregnancy and childbirth (22.7%), family care (4.6%), and education (3.6%), with the highest proportion of career breaks among women aged 30–39 years old (47.4%), pregnancy and childbirth (26.3%), and marriage (24.0%) [1].

In addition, a survey of employed mothers by the Korea Women's Development Institute found that more than 80% reported having problems raising children, confirming that women's employment and childcare are affected [4]. In a survey of married women with preschool-aged children, 42.8% reported that childcare burden was the most important factor that made it difficult for women to find employment [5]. While working mothers can fulfill their self-actualization needs and become financially independent through their jobs; they can also feel the pressure of juggling dual roles at home and at work [6]. Raising children is a major determinant of whether they stay in the workforce; it also serves as a source of parenting stress as they have to juggle work, household chores, and childcare responsibilities [7]. In addition, working mothers are more likely to experience parental burden and feel guilty about alternative caregiving than non-working mothers [4]. Notably, studies have shown that among working mothers, those in shift-based occupations report significantly higher levels of parenting stress than those with standard daytime jobs [8]. These findings suggest that occupational characteristics—such as irregular work hours—exacerbate parenting burdens, especially for women in shift-based healthcare roles [9]. Based on this evidence, nursing was selected as the target profession for this study.

Nursing is a highly female-dominated profession, with more than 90% of nurses working in healthcare organizations, according to the Korean Healthcare Workers' Union Survey [9]. In terms of age, 82.4% of nurses are in their 20s and 30s. Considering experience levels (1–5 years as novice, 6–10 years as intermediate, and 11 + years as experienced), 64.5% of nurses fall into the novice and intermediate categories; this distribution makes it difficult to retain experienced nurses. This is due to the high rate of career breaks among nurses, and many of the reasons for turnover among married nurses are related to childcare [9].

Nurses work with lives, have enormous responsibilities within a strict organization, and are required to be highly alert and attentive under heavy workloads [7]. In addition, the nature of the job requires irregular working hours and schedules, as well as working night shifts and rotating schedules. These occupational characteristics may add to the parenting stress of married nurses. Previous studies have shown that the irregular nature of nurses' work often includes three-shift rotations and weekend duties; this leads them to report significantly higher levels of parenting stress than the general population of married working women [10]. It has been reported that nurses have higher levels of parenting stress than working mothers in other occupations and that parenting stress and turnover intention are positively correlated [9]. Furthermore, parenting stress among married nurses has been shown to increase turnover intention [11]. Therefore, it is important to determine the extent of parenting stress among married nurses and to identify factors that influence parenting stress.

This study focuses specifically on nurses working in general hospitals who have at least one child under 5 years of age. Infants and toddlers under the age of 5 were selected because they lack the ability to directly express their thoughts or will and have developmentally higher needs for parental involvement, which has been shown to increase parenting stress compared to parents of school-aged children.

Therefore, this study aims to identify the parenting-related characteristics and parenting stress of nurses and to identify the factors that affect parenting stress. This study aims to provide basic data for developing parenting-related welfare policies; these policies should be appropriate to nurses' characteristics based on factors affecting parenting stress among married nurses. Thus, this study aims to: (1) identify general and parenting-specific characteristics and assess parenting stress; (2) examine differences in parenting stress based on the general characteristics and parenting-specific characteristics of the population; (3) determine the impact of general characteristics and parenting-related characteristics on parenting stress.

Methods

Study design

This is a descriptive survey study to identify nurses' parenting-related characteristics and their impact on parenting stress.

Study setting and participants

The participants of this study were nurses employed in general hospitals located in the Seoul metropolitan area,

South Korea, who fully understood the study's objectives and methods and voluntarily consented to participate. Infants and toddlers under the age of 5 were selected because they lack the ability to directly express their thoughts or will and have developmentally higher needs for parental involvement, which has been shown to increase parenting stress compared to parents of school-aged children [12, 13]. Parents of children with disabilities were excluded because they have been shown to experience higher levels of psychological, physical, social, and economic stress during parenting compared to parents of typically developing children [14].

The number of subjects required for the study was calculated using the G*power 3.1.9.7 program, and the minimum number of subjects required for multiple regression analysis with a significance level of 0.05, a power of 0.80, a medium effect size of 0.15, and 12 independent variables was 127. Considering the dropout rate of 20%, a total of 152 respondents were collected in this study, and the final sample of 142 respondents was used for the analysis, excluding 10 respondents with missing responses or unresponsive responses.

Measurement

General characteristics

The questionnaire on general and parenting-related characteristics consists of 29 questions. For general characteristics, we collected data on age, education, work experience, department, type of work, and reasons for working.

Parenting-related traits

Based on previous studies [15, 16] examining parenting stress among working mothers, parenting-related characteristics include family size, number of children, age of children, experience with maternity and paternity leave, primary caregiver of children while commuting to work, parenting style, satisfaction with spouse's involvement in childcare, impact of childcare on work life, intention to quit due to childcare issues, benefits offered by employers, and systems they believe are necessary to help them juggle childcare and work life, according to data collected on.

Parenting stress

As a tool for measuring nurses' parenting stress [17], we used a tool developed by Kim Ki-hyun and Kang Hee-kyung [18] to measure the parenting stress of working mothers in Korea, which was reorganized into a 4-point Likert scale by Kim Li-jin [19] to reflect the socio-cultural characteristics of Korea. The tool consists of 32 items, including 12 items on daily stressors of raising children, 12 items on burden and stressors of performing parental roles, and 8 items on guilt of raising others. Each item is scored on a 4-point Likert scale, with higher scores indicating higher parenting stress. The Cronbach's α value in Kim's [19] study was 0.93, and the Cronbach's α value in this study was 0.94.

Data collection methods

The data collection for this study was conducted by convenience sampling among nurses working in a senior general hospital and a general hospital from April 10 to June 4, 2023, after approval from the Institutional Review Board (IRB) of E University Hospital, where the researcher is affiliated. With the cooperation of the nursing department of the hospital where the researcher is affiliated, a recruitment notice was posted in the nurses' lounge. The recruitment notice included the URL of the questionnaire and a QR code to access the online questionnaire so that subjects who were willing to participate could administer the questionnaire. To recruit subjects online, we created a post with the recruitment notice on the bulletin board of a nurse community (Nursescape) where nurses share information. The subjects were allowed to participate voluntarily by reading the recruitment notice, and when they accessed the online link, they read the study description and consent form before starting the online survey and agreed to participate in the study.

Data analysis

The data collected in this study were analyzed using SPSS v26.0 program, and the specific statistical analysis methods are as follows.

The general characteristics and parenting-related characteristics of the participants were analyzed by frequency and percentage, mean and standard deviation. Parenting stress was analyzed by mean and standard deviation. Differences in parenting stress according to participants' general characteristics and parenting-related characteristics were analyzed using t-T est and One-way ANOVA, with post hoc tests using Scheffé's test. Multiple linear regression was used to analyze the influence factors on the subjects' parenting stress.

Ethical considerations

This study was approved by the Medical Ethics Committee of the Ewha Womans University Hospital (EUMC02303007003-HE002), a medical institution affiliated with the researcher, for the ethical protection of research subjects. The questionnaire form, Google form, included a statement regarding the protection of anonymity and that the collected data would be used only for research purposes. Personal information (phone number) was collected to provide a small reward as a thank you for participating in the survey, and the reward was provided as an online gift certificate within a week after

completing the questionnaire, and personal information was immediately destroyed. The online survey responses collected in this study are kept securely in a password-locked computer file known only to the researcher and are stored at for three years from the date of collection and then destroyed.

Results

General characteristics

There were 142 participants in the study, with an average age of 33.8 years. The highest level of education was a four-year nursing degree (58.5%), and the average work experience was 9.13 years, with 35.9% working for less than 5–10 years and 32.4% working for 10–15 years. The majority of nurses worked in wards (42.3%), outpatient (27.3%), intensive care (13.4%), specialty units (operating rooms, labor and delivery, emergency departments) (10.5%), and clinic nurse practitioners (7.0%). The majority of positions were held by registered nurses (91.5%). The most important reason for working was economic reasons (63.4%), followed by personal skills and abilities (25.3%), social participation (7.7%), and breaking the monotony of daily life (3.5%)(Table 1).

Table 1 General characteristics of participants and differences of parenting stress according to general characteristics (*N* = 142)

Variables	Categories	n	%	Parenting stress	
				M ± SD	t or F(*p*) Scheffé
Age (yr)	M ± SD	33.84 ± 3.59			0.08 (0.969)
	20–29	10	7.0	2.75 ± 0.46	
	30 ~ 34	79	55.6	2.71 ± 0.47	
	35 ~ 39	41	28.9	2.68 ± 0.50	
	≥ 40	12	8.5	2.67 ± 0.69	
Education level	3-year college	21	14.8	2.80 ± 0.39	1.80 (0.149)
	RN-BSN	15	10.6	2.87 ± 0.56	
	4-year university	83	58.5	2.70 ± 0.50	
	Graduate school	23	16.2	2.52 ± 0.50	
Total employment period (yr)	M ± SD	9.13 ± 4.60			
	< 5	25	17.6	2.86 ± 0.49	2.86 (0.039) c < a
	5–9	51	35.9	2.79 ± 0.45	
	10–14	46	32.4	2.55 ± 0.49	
	≥ 15	20	14.1	2.65 ± 0.58	
Current working unit	General ward	60	42.3	2.73 ± 0.42	0.37 (0.826)
	OPD	38	26.8	2.72 ± 0.54	
	ICU	19	13.4	2.74 ± 0.47	
	OR/DR/ER/ Others	15	10.5	2.62 ± 0.64	
	PA	10	7.0	2.56 ± 0.59	
Position	Nurse	130	91.5	2.71 ± 0.50	0.42 (0.674)
	Charge nurses	12	8.5	2.65 ± 0.46	
Shift work	Yes	86	60.6	2.66 ± 0.52	0.11 (0.732)
	No	56	39.4	2.73 ± 0.48	
Reason for working	Economic reasons	90	63.4	2.79 ± 0.48	2.66 (0.050)
	Personal abilities and skills	36	25.3	2.55 ± 0.52	
	Social participation	11	7.7	2.69 ± 0.46	
	Escape of monotonous daily life	5	3.5	2.40 ± 0.41	

Note. OPD: Outpatient department. ICU: Intensive care unit. OR: Operating room. DR: Delivery room. ER: Emergency room. PA: Physician assistant

Parenting-related traits

The number of children in the study was 73.2% with one child and 26.8% with two or more. Based on the age of the youngest child in the household, the average age of the children was 2.8 years old, followed by 22.5% at age 2, 21.1% at age 3, 16.9% at age 4, 16.9% at age 5, 16.2% at age 1, and 6.3% at age 0. The overwhelming majority of family members(85.9%) were married couples and children, and the primary caregiver of children while working was an institution(daycare/preschool) at 53.5%, followed by biological parents at 20.4%, spouse at 14.8%, parents-in-law at 7.0%, and childcare aid at 2.8%. The most common primary caregiver of children after work was themselves (81.7%). More than half of the respondents were satisfied with their spouse's involvement in childcare, with 14.1% very satisfied, 37.3% satisfied, and 26.8 satisfied. When asked about the impact of raising children on their work life, 62.7% of respondents answered, "severely disruptive" and 47.2% of respondents answered "'occasionally" when asked if they had ever considered resigning from their job due to childcare issues (Table 2).

Of those who have considered quitting their job due to childcare issues, the top reasons were difficulty responding to sudden problems with their child (33.8%), physical and mental exhaustion from juggling work and family life (28.9%), gaps in care while at work due to substitute care (26.1%), guilt over substitute care (9.2%), and difficulty participating in peer groups and lack of information sharing (2.1%). The most important thing respondents said they needed to help them balance work and family life was family-friendly systems and benefits provided by their workplace (52.8%), and the benefits they would like to see provided by their workplace were flexible work requests (priority for work choice) 47.9%, reduced working hours during parental leave 45.8%, childcare and education reimbursement 45.8%, flexible work arrangements 36.6%, provision and access to workplace childcare 35.9%, extended unpaid parental leave 30.3%, additional nursing staff 30.3%, and staggered commute 26.1% (Table 3).

In terms of the benefits provided by their workplaces for raising children, 93.7% of the respondents' workplaces provided maternity and paternity leave, 96.5% provided parental leave, 59.2% provided and used workplace childcare facilities, 47.9% provided childcare and education

Table 2 Parenting status of participants and differences of parenting stress according to parenting status ($N=142$)

Variables	Categories	*n*	%	Parenting stress	
				M ± SD	t or F(*p*) Scheffé
Parenting stress	M ± SD	2.70 ± 0.50			
	Daily stress due to raising children	2.93 ± 0.51			
	Burden and stress of fulfilling parental roles	2.60 ± 0.61			
	Guilt about raising others	2.52 ± 0.61			
Number of children	1	104	73.2	2.68 ± 0.47	-0.91 (0.362)
	≥ 2	38	26.8	2.77 ± 0.55	
Age of the children (yr) (the youngest child in the household)	0	9	6.3	2.46 ± 0.42	1.14 (0.341)
	1	23	16.2	2.73 ± 0.51	
	2	32	22.5	2.77 ± 0.45	
	3	30	21.1	2.75 ± 0.47	
	4	24	16.9	2.78 ± 0.58	
	5	24	16.9	2.55 ± 0.49	
Family composition	Parents & children	122	85.9	2.72 ± 0.47	2.34 (0.100)
	Parents & children & grandparents	19	13.4	2.64 ± 0.61	
	Self & children	1	0.7	1.68 ± 0.00	
Child rearing style	Drop off the child at daycare	99	69.7	2.71 ± 0.43	2.11 (0.082)
	Another caregiver come to care	17	12.0	2.79 ± 0.57	
	Live with another caregiver	13	9.2	2.86 ± 0.63	
	Leave the child at another caregiver's home	8	5.6	2.16 ± 0.50	
	Childcared for at another caregiver's home during weekdays	5	3.5	2.62 ± 0.65	
Primary caregiver of children while working	Institution (daycare/preschool)	76	53.5	2.69 ± 0.44	1.66 (0.147)
	Maternal grandparents	29	20.4	2.68 ± 0.52	
	Spouse	21	14.8	2.69 ± 0.59	
	Paternal grandparents	10	7.0	2.63 ± 0.55	
	Babysitter	4	2.8	3.39 ± 0.17	
	Other family/relatives	2	1.4	2.84 ± 0.92	
Primary caregiver for children after work	Self[a]	116	81.7	2.75 ± 0.47	2.50 (0.025) b, d < e*
	Spouse[b]	13	9.2	2.31 ± 0.51	
	Self/Spouse together[c]	4	2.8	2.73 ± 0.45	
	Maternal grandparents[d]	4	2.8	2.32 ± 0.42	
	Paternal grandparents[e]	3	2.1	3.02 ± 0.67	
	Institution (daycare/preschool)[f]	1	0.7	2.81 ± 0.00	
	Babysitter[g]	1	0.7	3.31 ± 0.00	
Spousal participation satisfaction in child rearing	Very satisfied[a]	20	14.1	2.97 ± 0.44	4.26 (0.003) e < a
	Generally satisfied[b]	53	37.3	2.92 ± 0.45	
	Neutral[c]	38	26.8	2.80 ± 0.54	
	Generally dissatisfied[d]	23	16.2	2.59 ± 0.43	
	Very dissatisfied[e]	8	5.6	2.47 ± 0.49	
Effects of child rearing on occupational life	Significant disruption[a]	89	62.7	2.82 ± 0.48	8.37 (< 0.001) b < a
	Some disruption[b]	37	26.1	2.45 ± 0.46	
	Little disruption[c]	16	11.3	2.63 ± 0.45	
	No disruption[d]	0	0		
Consideration of resignation due to child rearing	Consider seriously[a]	35	24.6	2.96 ± 0.38	11.48 (< 0.001) c < a*
	Consider frequently[b]	38	26.8	2.85 ± 0.45	
	Consider occasionally[c]	67	47.2	2.47 ± 0.47	
	Do not consider at all[d]	2	1.4	3.14 ± 0.81	

*Waller-Duncan

Table 3 Opinions on childcare, welfare benefits offered by the workplace (*N* = 142)

Variables	*n*	%
The primary reasons for considering resignation due to child rearing		
Difficulty in responding to sudden issues with the child	48	33.8
Mental and physical exhaustion from balancing work and family life	41	28.9
Gaps in childcare due to the absence of alternative caregivers	37	26.1
Feelings of guilt regarding relying on alternative caregivers	13	9.2
Lack of participation in peer-parenting groups and information sharing	3	2.1
What is needed for work-family life balance?		
Family-friendly policies and welfare benefits by the employer	75	52.8
Childcare facilities with various time options	33	23.2
Spousal involvement and support in household chores and childcare	24	16.9
Support from colleagues and supervisors in childcare	10	7.0
Desired welfare benefit (3 choices, multiple responses are allowed)		
Option to apply for flexible working hours (preference for shift work)	68	47.9
Shortened working hours for childcare	65	45.8
Support for childcare and education expenses	65	45.8
Flexible work hours system	52	36.6
Provision and utilization of workplace childcare facilities	51	35.9
Extension of unpaid parental leave	43	30.3
Additional recruitment of nursing staff	43	30.3
Staggered commuting hours	37	26.1

Table 4 Welfare benefits offered by the workplace for participants (*N* = 142)

Variables	Yes		No		Unknown	
	N	B	*N*	B	*N*	B
Welfare benefits offered by the workplace						
Maternity leave before and after childbirth	133	93.7	7	4.9	2	1.4
Parental leave	133	93.7	2	1.4	3	2.1
Support for childcare and education expenses	68	47.9	49	34.5	25	17.6
Workplace childcare facility	84	59.2	41	28.9	17	12.0
Shortened working hours for childcare	64	45.1	57	40.1	21	14.8
Flexible working hours system	36	25.4	75	52.8	31	21.8
Staggered commuting hours	20	14.1	81	57.0	41	28.9
Usage of welfare benefits offered by the workplace						
Maternity leave before and after childbirth (*N* = 133)	119	89.5	14	10.6		
Parental leave (*N* = 137)	110	80.3	27	19.7		
Support for childcare and education expenses (*N* = 68)	40	58.8	28	41.2		
Workplace childcare facility (*N* = 84)	23	27.4	61	72.6		
Shortened working hours for childcare (*N* = 64)	19	29.7	45	70.4		
Flexible working hours system (*N* = 36)	11	30.6	25	69.4		
Staggered commuting hours (*N* = 20)	11	55.0	9	45.0		

expenses, 45.1% reduced working hours during childcare, 25.4% flexible work arrangements, and 14.1% staggered commuting. Due to the shift-based nature of nurses' work, benefits related to working hours were less common. Of the benefits provided to the subjects at work, maternity leave was used by 89.5% and parental leave by 80.3%. Among the benefits offered, 72.6% of the participants did not use workplace childcare facilities, 70.4% did not use reduced working hours during the parental period, and 69.4% did not use flexible work arrangements (Table 4).

91.5% of the study population took maternity leave and 77.5% took paternity leave. 76.1% did not take their spouse's parental leave. Of the 83 participants who did not take their own parental leave or took less than six months, 38.6% did so because they did not want to change departments or types of work after their leave, 28.9% because their salary was reduced during their leave, 21.7% to maintain their current position, and 3.6% because they were not eligible for parental leave because they were irregular or ineligible. While 64.1% said they did not want to change their department or type of work after taking parental leave, in fact, 62% changed their

department or type of work after taking parental leave, 32.4% changed their department, 22.5% changed both their department and type of work, and 7.0% changed their type of work. Of those who changed their work department or work type after taking parental leave, 43.2% did so at their own request, while 56.8% did not want to change departments but did change (Table 5).

Parenting stress

In this study, parenting stress averaged 2.70 ± 0.50 out of 4. In terms of subcategories, daily stress due to raising children was the highest with an average of 2.93 ± 0.51, followed by, burden and stress of fulfilling parental roles with an average of 2.60 ± 0.61, and guilt about raising others with an average of 2.52 ± 0.61. Among the questions, the item "I've been sad that I couldn't go immediately when my child had a sudden problem while I was at work" had the highest parenting stress with a score of 3.32 ± 0.78.

Table 5 Utilization of parental leave and employment status among participants

Variables	*n*	%
Maternity leave		
Used	130	91.5
Not used	12	8.5
Parental leave		
Used	110	77.5
Not used	32	22.5
Spouse's parental leave		
Used	34	23.9
Not used	108	76.1
Reasons for not using parental leave and short-term (less than 6 months) usage (*n* = 83)		
To maintain position and status within the department	32	38.6
Income reduction concerns	24	28.9
Preservation of current position	18	21.7
Ineligibility due to temporary employment or insufficient qualifications	3	3.6
Desire to transfer to a preferred department during leave	2	2.4
Preparation for job transition to another hospital after resignation	2	2.4
Others	2	2.4
Desire for departmental and shifts changes after parental leave		
Desired	51	35.9
Not desired	91	64.1
Whether to change departments and shifts after parental leave		
No change	54	38.0
Change in department	46	32.4
Change in shift	10	7.0
Change in department and shift	32	22.5
Change in department or work schedule after parental leave (*n* = 88)		
Desired	38	43.2
Not desired	50	56.8

Differences in parenting stress by participants' general characteristics and parenting-specific characteristics

There was a significant difference in parenting stress by years of work experience (F = 2.86, $p = .039$). Those with less than 10–15 years of work experience reported less parenting stress than those with less than 5 years of work experience (Table 1). Parenting stress differed significantly by primary caregiver after work (F = 2.50, $p = .025$), with higher parenting stress when the primary caregiver after work was a parent-in-law than when the primary caregiver was a spouse or biological parent. There was a significant difference in parenting stress according to spousal involvement satisfaction (F = 4.26, $p = .003$), with those who were very dissatisfied with their spouse's involvement in parenting having higher parenting stress than those who were very satisfied. In addition, those who reported being very disrupted by the impact of raising children on their work life had higher parenting stress than those who reported being slightly disrupted (F = 8.37, $p < .001$), and those who often thought about resigning from their job due to raising children had higher parenting stress than those who sometimes thought about resigning (F = 11.48, $p < .001$) (Table 2).

Factors that contribute to parenting stress

Multiple linear regression was used to analyze the factors affecting parenting stress. The normality of the distribution of the variables was checked with the Shapiro-wilk test, and it was found to be normally distributed with a significance probability of 0.855. The variance inflation factor (VIF) of the independent variables was 1.016 ~ 1.088, which is less than 10, and the tolerance limit was 0.91 ~ 0.98, which is more than 0.10, confirming the absence of multicollinearity, and the statistic value of Durbin-Watson test was 1.94, which is close to 2, confirming the absence of autocorrelation.

As independent variables, general characteristics and parenting-related characteristics were set as independent variables, and multiple regression analysis was conducted with work experience, reasons for working life, primary caregiver after work, and satisfaction with spouse's participation in child care as independent variables in the analysis of differences in parenting stress, and reasons for working life, and primary caregiver after work were converted into dummy variables according to the results of the post-test and used.

The regression model was statistically significant (F = 6.37, $p = < 0.001$), and the explanatory power of parenting stress was 15.7%. The multiple regression analysis showed that the following factors influenced the participants' parenting stress: having low work experience

Table 6 Factors influencing intention of parenting stress ($N = 142$)

Variables	B	SE	β	t	*p*
(Constant)	3.08	0.18		16.34	< 0.001
Total employment period	− 0.01	0.00	− 0.17	-2.19	0.030
Reason for working					
Economic reasons	0.20	0.08	0.19	2.53	0.012
Others (ref.)					
Primary caregiver for children after work					
Self	0.09	0.10	0.07	0.93	0.351
Others (ref.)					
Spousal participation satisfaction in child rearing	− 0.12	0.03	− 0.26	-3.25	0.001
$R^2 = 0.18$, adj $R^2 = 0.15$, $F = 6.37$, $p < .001$					

(β=-0.17, $p = .030$), having economic reasons for working (β = 0.19, $p = .012$), and spousal participation satisfaction in child rearing (β=-0.26, $p = .001$) (Table 6).

Discussion

This study aims to identify the parenting practices of nurses, their parenting stress, and to identify factors that influence parenting stress.

The mean parenting stress of the subjects in this study was 2.70 ± 0.50 out of 4, which was similar to 2.67 and 2.67 in a previous study measuring the parenting stress of married nurses [11], and this figure was 2.19 in a study of general working mothers, which showed that the parenting stress of married nurses was higher than that of general working mothers [9, 20, 21]. Nurses work with a high level of tension and attention within a strict organization due to their work with lives [6], and these professional characteristics of nurses have been identified as factors that contribute to higher parenting stress than working mothers in other professions [9, 22].

In addition, among the benefits offered at work, 72.6% of nurses do not use workplace childcare facilities, which is because nurses work shifts that make it difficult for them to access childcare facilities during typical hours. Furthermore, 45.8% of nurses desired childcare and education expense support, while 35.9% wanted workplace childcare facilities to be provided and accessible. These findings indicate that nurses need accessible childcare facilities with extended operating hours and comprehensive childcare and education reimbursement support. Healthcare institutions should provide comprehensive childcare consultation services to help nurse-parents evaluate and select optimal care arrangements while developing 24-hour childcare facilities and enhanced subsidy programs that accommodate shift work demands.

In this study, among the items measuring parenting stress, 'I have been sad that I could not go immediately when my child had a sudden problem while working' was the highest with a score of 3.32 ± 0.78, and 'It is difficult to respond when a sudden problem occurs to my child' was also highly rated. This finding highlights a critical gap in current healthcare staffing models that fail to accommodate the emergency childcare needs of nurse-parents. Healthcare institutions must develop comprehensive emergency response protocols that include backup staffing systems and flexible leave policies to enable immediate family crisis response.

Unlike women in general employment, nurses work in shifts and have a fixed staffing structure, which means that there are no substitutes in case of problems during work and the remaining staff must cover the gap in work, which is a major factor in nurses' parenting stress. Supporting this finding, married nurses reported that working hours-related systems are either lacking or, when available, rarely utilized due to practical barriers, and they would most like to have the freedom to apply for work hours and reduced working hours during childcare. To address these challenges, hospitals require additional staffing and institutional support, including flexible working hours and adequate coverage systems. In addition, there should be greater use of substitutes and adequate compensation for nurses who take on additional duties so that they can balance work and family and use the benefits they are given. These systemic barriers require comprehensive workforce planning that includes adequate float pool staffing, cross-training programs, and the development of emergency childcare networks specifically designed for shift workers to significantly reduce this source of stress.

The finding that nurses with shorter employment periods experienced higher parenting stress requires targeted organizational interventions. Early-career nurses face the compound challenge of professional adaptation while managing parenting responsibilities, creating overwhelming stress levels that can lead to premature career existence [23]. Healthcare institutions should establish comprehensive mentorship programs specifically designed for nurse-parents that address both clinical competency development and work-life balance strategies, including practical training on time management and navigation of family-friendly workplace policies.

The association between working for economic reasons and higher parenting stress reflects broader healthcare workforce challenges requiring systemic solutions. Nurses with preschool-aged children who work primarily due to financial necessity experience role conflict between family desires and economic pressures, often resulting in acceptance of less favorable schedules and limited use of family benefits [24]. Healthcare organizations should implement progressive compensation structures, enhanced childcare subsidies, and emergency

financial assistance programs to reduce economic stress and enable family-centered work decisions.

As a factor affecting parenting stress in the study, those who were very dissatisfied with their spouse's participation in parenting reported higher parenting stress than those who were very satisfied. This is related to the fact that 81.7% of the participants in this study reported that they were the primary caregiver after work. This dual burden of work-related stress combined with primary childcare responsibilities after work creates overwhelming role demands that can significantly impact family functioning [25]. With the recent increase in dual-income families, husband's support in raising children has become more important [26], and previous studies [27, 28] have shown that higher father involvement in parenting reduces spousal parenting stress. However, in South Korea, the utilization of parental leave remains heavily skewed by gender. As of 2022, only 6.8% of eligible fathers took parental leave, compared to 70.0% of eligible mothers [29]. Although South Korea has established legal provisions to facilitate parental leave for both parents, numerous structural and cultural barriers persist, making it difficult for fathers to fully exercise this right. Key obstacles include workplace stigma, concerns about career progression and promotion disadvantages, and entrenched organizational norms that discourage men from taking parental leave [30]. These factors contribute to a work environment in which fathers are reluctant to take parental leave, thereby perpetuating the disproportionate childcare burden placed on mothers.

These findings underscore the critical role of spousal involvement in mitigating parenting stress. In order to increase satisfaction with a spouse's participation in childcare, workplace policies such as reduced working hours, flexible work arrangements, and paternity leave expansion must be effectively implemented. However, beyond mere policy enactment, it is imperative to foster an organizational culture that actively encourages and normalizes paternal leave. Given that the legal framework for parental leave is already in place, efforts should now focus on increasing actual utilization rates through stronger enforcement mechanisms and workplace incentives for paternal leave participation. By addressing these structural and cultural barriers, a more equitable distribution of childcare responsibilities between parents can be achieved, ultimately leading to reduced parenting stress and improved work-family balance. Healthcare organizations should take leadership in promoting equitable parenting partnerships by implementing enhanced paternity leave policies, creating organizational cultures that support paternal involvement, and providing targeted interventions that address both individual family dynamics and systemic workplace barriers.

These findings collectively demonstrate that reducing parenting stress among nurses requires comprehensive, multi-level interventions addressing individual, organizational, and systemic factors. Healthcare institutions that proactively implement these family-supportive strategies can expect improved nurse retention, enhanced job satisfaction, and ultimately better patient care outcomes through a more stable and less stressed nursing workforce.

Limitations

This study has several limitations. First, participants were recruited using convenience sampling from nurses working in tertiary and general hospitals in the Seoul metropolitan area, which may introduce selection bias and limit the representativeness of the sample. As a result, the findings may not be fully generalizable to all nurses or healthcare professionals working in different settings or regions. Second, the study relied on self-reported questionnaires for data collection, which may be subject to response bias. Participants' answers could have been influenced by social desirability bias or subjective perceptions, potentially leading to discrepancies between reported and actual experiences. Third, this study employed a cross-sectional design, which captures data at a single point in time and, therefore, cannot establish causal relationships between variables. While significant associations were identified, it is not possible to determine the directionality of these relationships. A longitudinal study design would be beneficial in future research to track changes over time and better establish causality between factors affecting parenting stress.

Conclusion

This study identified that work experience, reasons for working, and satisfaction with spouse's participation in child-rearing are factors that affect nurses' parenting stress among nurses with young children in the Seoul metropolitan area. Therefore, to reduce nurses' parenting stress, enhanced spousal involvement in child-rearing should be promoted, and workplaces should provide hospital benefits and family-friendly systems, such as expanding childcare facilities and flexible scheduling options. These findings may be associated with nursing workforce retention, as reducing parenting stress among nurses could be related to improved job satisfaction and decreased turnover.

Further research is needed to identify the childcare needs of nurses at the organizational level of each hospital, and to explore the expansion of the welfare system and the improvement of the system to address the challenges caused by shift work. In addition, it is necessary to evaluate the effectiveness of childcare-related welfare benefit systems after they are established. In this study,

the demand for welfare benefits at work was high, but the extent to which they were implemented was low. Therefore, we recommend future studies to examine the implementation status of family-friendly systems in various hospital organizations and identify the barriers if they are not implemented.

Abbreviations

RN-BSN	Registered nurse and bachelor of science in nursing
OPD	Outpatient department
ICU	Intensive care unit
OR	Operating room
DR	Delivery room
ER	Emergency room
PA	Physician assistant

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12912-025-03643-3.

Supplementary Material 1

Acknowledgements
The authors would like to thank the registered nurse who participated in the study for supporting data collection and completing all surveys.

Author contributions
MH and GL contributed to the study design. MH was responsible for data collection. MH and NL performed data analysis. MH, NL, and GL wrote the original draft of the manuscript. NL and GL contributed to writing, review, and editing. All authors reviewed and approved the final manuscript.

Funding
No funding was received for conducting this study.

Data availability
The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
This study was approved by the Medical Ethics Committee of the Ewha Womans University Hospital (EUMC02303007003-HE002). This study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Informed consent was obtained from all individual participants included in the study. Participants were provided with detailed information regarding the study's purpose, procedures, potential risks and benefits, and confidentiality measures.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

Received: 2 March 2025 / Accepted: 22 July 2025
Published online: 11 August 2025

References

1. Survey of healthcare workforce realities. Statistic Korea, Seoul. 2022. https://kosis.kr/common/meta_onedepth.jsp?vwcd=MT_OTITLE&listid=117_006. Accessed 9 Jun 2023.
2. Kim JY. Career interruptions for women and Re-entry into the labor market. Monthly Labor Rev. 2010; 65:36–50.
3. Lee H. Changes in the labor supply of married women due to marriage and childbirth. Mon Public Finance Forum. 2014;216(0):39–58.
4. A study on child-rearing support policies in accordance with employed women's occupation and employment type. Korean Women's Development Institute, Seoul. 2014. https://www.kwdi.re.kr/publications/reportView.do?p=96&idx=114670. Accessed 9 Jun 2023.
5. Regional Employment Survey, Statistic Korea S. 2023. https://www.k-stat.go.kr/metasvc/msba100/statsdcdta?statsConfmNo=101067&kosisYn=Y Accessed 9 Jun 2023.
6. Park HK, Moon HJ. A study on variables associated with female nurses' mothering stresses. Fam Environ Res. 2015;53(6):595–604. https://doi.org/10.6115/fer.2015.047.
7. Kim SH, Park JY. The relationship between personality and child rearing stress of employed mothers. J Korean Home Econ Assoc. 2012;50(8):41–52. https://doi.org/10.6115/khea.2012.50.8.041.
8. Park H. Sleep health, psychological distress, parenting stress, marital satisfaction of working mothers according to employment status and working pattern. J Korea Open Association Early Child Educ. 2014;19(6):423–41.
9. Kang SJ, Kim SY. The relationship among nurses' parenting stress and turnover intention. J Korean Acad Nurs Adm. 2011;17(4):508–15. https://doi.org/10.11111/jkana.2011.17.4.508
10. Kim YS, Kwon MK. Nurse's parenting stress. Korean Parent-Child Health J. 2010;13(2):86–94.
11. Nam IS, Kim SH. The effects of married nurses' parenting stress and job involvement on retention intention. J Korea Acad-Ind Coop Soc. 2017;18(6):155–64. https://doi.org/10.5762/KAIS.2017.18.6.155.
12. Park SR, No BR, Park HJ, Lee SH. The structural relationship among trajectories of mothers' parenting stress, children's temperament and internalizing problems: multiple group analysis according to employment status of mothers. Korean J Child Care Educ Policy. 2015;9(1):119–48.
13. Kim JE, Choi JR. Mediating and moderating effects of parenting stress on respect for child rights and child abuse in mothers with infants and young children. J Learner-Centered Curr Instr. 2020;20(11):521–38. https://doi.org/10.22251/jlcci.2020.20.11.521.
14. You Y, Lee Y. The model validation among parenting stress, quality of life and resilience of parents having children with disabilities. J Spec Child Educ. 2018;20(3):45–72. https://doi.org/10.21075/kacsn.2018.20.3.45.
15. Kim J. A study on factors the affecting the type of childcare for infant. Korea J Child Care Educ. 2014;0(86):239–58.
16. Lee K, Kim J. The relationship between parenting-related psychological factors and turnover intention of nurses with preschool children. J Korean Data Anal Soc. 2022;24(5):1907–20.
17. Abidin RR. Parenting stress index-short form. Charlottesville, VA: Pediatric Psychology; 1990.
18. Kim KH, Kang HK, Research. Development of the parenting stress scale. Hum Ecol Res. 1997;35(5):141–50.
19. Kim LJ, Yoon CH. An ecological study on working mother's parenting stress. J Korean Home Econ Assoc. 2000;38(12):47–58.
20. Kim KH. An ecological approach to analyzing variables in the parenting stress of working mothers. Korean J Hum Ecol. 2000;9(1):71–84.
21. Kim A. Mediating effects of social support on relation among parenting stress, work-mother role conflict and parental satisfaction perceived by employed mother with having infant child. J Korea Open Assoc Early Child Educ. 2017;22(5):209–31. https://doi.org/10.5762/KAIS.2019.20.1.259.
22. Survey on the reality of healthcare labor unions. Korean Health and Medical Workers' Union, Seoul. 2023. https://bogun.nodong.org/xe/khmwu_5_4/763769. Accessed 9 Jun 2023.
23. Kwon IG, Cho Y, Cho MS, Yi YH, Kim MS, Kim KS, et al. New graduate nurses' satisfaction with transition programs and experiences in role transition. J Korean Clin Nurs Res. 2019;25(3):237–50. https://doi.org/10.22650/JKCNR.2019.25.3.237.
24. Son S, Lee J. Intentions of employed mothers with young children to leave the labor force. J Families Better Life. 2014;32(3):157–77. https://doi.org/10.7466/JKHMA.2014.32.3.157.
25. Kim KM, Jun SY, Ju HJ, Lee YH, Woo KM. Structure equation modeling of job embeddedness in general hospital nurses. J Korean Acad Nurs Educ. 2022;28(2):204–17. https://doi.org/10.5977/jkasne.2022.28.2.204.
26. Kim EH, Lee EJ. Mediation and moderation effects of job embeddedness between nursing performance and turnover intention of nurses. J Korea

Acad-Ind Coop Soc. 2014;15(8):5042–52. https://doi.org/10.5762/KAIS.2014.15.8.5042.
27. Kim KH, Cho HS, Kim YH. Experiences in the family of origin with fathers and parenting stress of mothers: significance test of mediating effects by parenting participation of fathers. J Fam Better Life. 2015;33(6):35–49. https://doi.org/10.7466/JKHMA.2015.33.6.35.
28. Lee JH, Hwang JI. The effects of hospitals' family friendly management on married female nurses' retention intention: focused on the mediating effects of Work-Family interface. J Korean Acad Nurs. 2019;49(4):386–97. https://doi.org/10.4040/jkan.2019.49.4.386.
29. Survey of parental leave, Korea S. Seoul. 2022. https://kosis.kr/common/meta_onedepth.jsp?vwcd=MT_ZTITLE&listid=D_002. Accessed 9 Jun 2023.
30. Jeong YW. Exploration of policy improvement measures through the experience of Raising children of MZ-generation men: focusing on the experience of parental leave. Educational Theory Pract Infants Child. 2024;9(1):133–63. https://doi.org/10.20926/ETPIYC.2024.9.1.6.

Publisher's note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.