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Work Stressor and Turnover Intentions Among Chinese Obstetrical Nurses

Han Li*, Jerry A. Abriam

Institute of Health Sciences and Nursing, Far Eastern University, Nicanor Reyes Street, Sampaloc, Manila 1015, Philippines

Corresponding author: Han Li, 929390962@qq.com

Abstract: This study focuses on the relationship between job stress and intention to leave among obstetric (OB) nurses in the context of China's birth policy adjustment, and provides a scientific basis for policymakers and healthcare administrators. This study used a non-experimental descriptive correlation design with a purposive sampling of 230 OB nurses from three tertiary hospitals in Jinan, Shandong Province. Participants were surveyed using three questionnaires and descriptive analysis; ANOVA and correlation analyses were used to analyze the relationship between participants' stressor levels and turnover intention. Pearson's correlation coefficient analysis showed that there was a positive correlation between nurses' work stressors and turnover intention, with a correlation coefficient of $r = 0.53$, a moderate positive correlation ($P < 0.001$). Based on the survey data from three tertiary hospitals in Shandong Province, the obstetric nurses group has a medium level of work stressors, but a high turnover intention, highlighting the professional identity crisis.

Keywords: Work stressor; Turnover intentions; Obstetric nurses

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1. Introduction

Over the past few years, China's healthcare industry, particularly in the field of obstetrics, has undergone significant growth and transformation. With the adjustment of China's population policies, including the universal two-child policy and the more recent three-child policy, the demand for obstetric services has experienced explosive growth [1]. The implementation of these policies has not only brought about a baby boom but has also significantly increased the proportion of high-risk pregnant women, leading to a continuous rise in the incidence of maternal and neonatal complications and adverse pregnancy outcomes [2]. In the face of this new situation, obstetric nursing work is confronted with unprecedented challenges.

In this wave of changes in fertility policies, obstetric nurses have become the most direct "pressure bearers." They not only have to cope with the increasing workload of nursing care but also bear the significant responsibility of

ensuring the safety of mothers and infants [3]. Data shows that with the continuous rise in the birth rates of second and third children, the workload of obstetric nurses has grown exponentially [4]. However, in stark contrast to the surge in workload, the number of medical staff has not been correspondingly supplemented, leading to a continuous increase in workload per capita [3]. This dilemma of "fewer people and more tasks" keeps obstetric nurses under prolonged high pressure, requiring them not only to complete heavy nursing tasks but also to remain highly vigilant to respond to potential emergencies [3]. The impact of this high-pressure work environment is multifaceted.

Firstly, obstetric nurses face both physiological and psychological pressures. Long hours of irregular schedules, high-intensity work rhythms, and the high responsibility for the safety of mothers and infants make them prone to emotional exhaustion and job burnout. Secondly, the disproportionate compensation compared to the work stressor further exacerbates dissatisfaction among the nursing staff [5]. International research also confirms this phenomenon; Edmonds (2023) found in the study of nurses that job dissatisfaction is highly correlated with turnover intentions, with understaffing and emotional exhaustion being the main reasons for leaving [6].

In China, this phenomenon is particularly prominent. A survey of nurses in tertiary public hospitals showed that the proportion of turnover intentions among obstetric nurses is significantly higher than in other departments [7]. This high turnover intentions not only stems from work stressor but is also closely related to limited career development space and low social recognition [8]. It is noteworthy that the departure of obstetric nurses not only leads to the loss of human resources but may also affect the quality and safety of the entire obstetric medical service [9]. Faced with this severe situation, it is particularly important to delve into the specific work stressors faced by obstetric nurses and their impact on turnover intentions [10].

This study aims to systematically analyze and identify key factors affecting the occupational stability of obstetric nurses, providing scientific evidence for policymakers and healthcare administrators. By formulating effective intervention measures to improve job satisfaction and retention rates among obstetric nurses not only concerns the career development of the nursing group but is also an important measure to ensure the safety of mothers and infants and maintain the stability of the medical system.

This study fills the gap in research on the relationship between work stressors and turnover intentions, providing a new perspective for improving the occupational health status of obstetric nurses. Future research needs to further explore precise and effective intervention strategies to reduce work stressor among obstetric nurses, lower turnover rates, and ensure the stability and development of this critical team in China's medical system. Only by establishing a comprehensive occupational support system can obstetric nurses protect their career ideals and life values while guarding new lives.

2. Materials and methods

This study utilized a non-experimental descriptive correlational research design to examine the work status of obstetric nurses and their turnover intentions. The purpose of the study was to collect authentic real-world data without any intervention or manipulation of the participants, ensuring that the results reflect the true characteristics of the nurses. In this study, the researcher would like to determine the relationship between work stress and the turnover intention of obstetric nurses.

2.1. Population and sample

This study, based on in-depth knowledge of the working environment of obstetric nurses in three hospitals, used

purposive sampling to select samples according to the study's purpose and research questions. Samples were chosen from the obstetrics wards of these three representative hospitals, considering personal characteristics of nurses like age, work experience, and their roles in the wards. Thorough communication with hospital administrators was done before sampling and nurses were fully informed. While purposive sampling ensures sample diversity and representativeness, it may cause data bias due to subjective judgment, potential omission of variables and groups, and insufficient sample size. The calculated sample size was 230 when the number of nurses in all obstetrics departments of the three hospitals was 570, with a 5% margin of error, 95% confidence level, and 50% response distribution.

2.2. Research instrument

2.2.1. Demographic profile questionnaire

This questionnaire focused on collecting essential background information of nurses, such as age, nursing rank, work experience, and education level. It aimed to comprehensively understand the current situation of obstetric nurses in China, laying a data foundation for further research.

2.2.2. Chinese Nurse Work Stressors Scale (CNWSS)

Based on Grey-Toft *et al.* scales and adapted to the Chinese nursing context with input from international and Chinese experts, this 35-item scale has five dimensions [11]. It uses a 1–4 Likert scale, with scores from 35–140 divided into mild, moderate, and severe stress levels. The high reliability (Cronbach's alpha 0.972) and excellent content validity prove its effectiveness in assessing nurse work stress.

2.2.3. Turnover Intention Scale

Translated and revised by Lee from Taiwan, this scale has six questions across three dimensions [12]. It assesses an individual's intention to leave work, with an internal consistency coefficient of 0.83. Scored from 4–1, the overall mean indicates turnover intention levels, serving as a reference for research and human resource management.

2.3. Data analysis

The data collected was systematically recorded and analyzed using SPSS statistical methods. To ensure data security, all information was stored on a computer with strict confidentiality measures and used exclusively for this study.

(1) Descriptive analysis: frequency counts, composition ratios (%) for categorical variables, mean scores (Mean ± SD) for data with normal distribution to show concentration trend and standard deviation (sd) to measure data dispersion.

(2) Analysis of variance (ANOVA): To explore significant differences between groups in terms of stressors and intention to leave, along with t-tests for in-depth comparisons.

(3) Correlation analysis: Pearson correlation coefficient (r) analysis to assess the strength and direction of the linear relationship between job stressors and intention to leave.

3. Results

Table 1 shows that 230 obstetric nurses showed that the age distribution was concentrated in the 31–40 age range

(50.00%), with a standard deviation of 5.61. Most nurses (97.40%) had college or undergraduate degrees. Among professional titles, around 53.48% held primary titles and 45.65% held medium-grade titles. Work experience was balanced among 2–5 years (22.6%), 5–10 years (39.6%), and ≥10 years (37.8%). Among them, around 61.74% were married. Regarding employment form, 70.43% were contract nurses, 25.22% were regular staff, and 4.35% were agency - employed. These factors, such as age, education, title, experience, marital status, and employment form, all impact nurses' work, like job stress and turnover intentions.

Table 1. General demographic information of 230 obstetrical nurses (n = 230)

Profiles	Frequency (n)	Percentage (%)
Age group		
22–30 years old	98	42.60
31–40 years old	115	50.00
41–45 years old	17	7.40
Educational background		
College/Undergraduate	224	97.40
Postgraduate	6	2.60
Professional title		
Primary	123	53.48
Medium-grade	105	45.65
Supervisor nurse	2	0.87
Years of work		
2 ≤ years of work < 5	52	22.61
5 ≤ years of work < 10	91	39.57
years of work ≥ 10	87	37.82
Marital status		
Married	142	61.74
Unmarried	82	35.65
Divorced	6	2.61
Employment mode		
Regular staff	58	25.22
Personnel Agency	10	4.35
Contract	162	70.43
Total	230	100

Table 2 shows that obstetric nurses' perceived stress dimensions shows their total work stress score is 68.10 ± 19.41, indicating mild stress. The "patient care" dimension scored highest (21.74 ± 6.82), followed by others, with "working environment and equipment" scoring lowest (5.30 ± 2.22). The overall stress aligns with previous studies on high-risk department nurses. High stress in patient care reflects nurses' responsibility for maternal and infant safety, while moderate time and workload stress implies room for resource optimization. The low work

environment stress validates the positive effect of facility improvements. Differences in stress from the nursing profession and management compared to other studies offer new research directions. These analyses can help formulate intervention strategies to reduce nurses' stress, improving workforce stability and service quality.

Table 2. The level of work stressor of the respondents

Dimensions	Scores	Interpretation
Nursing profession and work aspects	15.27 ± 4.76	Mild
Time allocation and workload	11.01 ± 3.83	Mild
Working environment and equipment	5.30 ± 2.22	Low
Patient care	21.74 ± 6.82	Low
Management and interpersonal relationships	14.78 ± 5.77	Low
Total score of work stressors	68.10 ± 19.41	Mild level

Table 3 shows that obstetric nurses' total perceived Work Stressor score was 68.10 ± 19.41, indicating mild stress. The "patient pare" dimension scored highest (21.74 ± 6.82), showing their heavy responsibility for maternal and neonatal care, while "working environment and equipment" scored lowest (5.30 ± 2.22) due to good hospital facilities. Other dimensions like "nursing profession and work aspects" (15.27 ± 4.76), "time allocation and workload" (11.01 ± 3.83), and "management and interpersonal relationships" (14.78 ± 5.77) were at mild to moderate stress levels. The high "patient care" score reflects the high-risk nature of the job, the moderate "time allocation and workload" score indicates work-life balance challenges, and the "management and interpersonal relationships" score shows communication improvement potential. These results align with previous research on the high-stress nature of obstetric nursing, workload-related stress, and the stress-reducing role of the work environment but there are differences in management-related stress findings.

Table 3. The level of the turnover intention

Obstetric nurses' turnover intention score (points, n = 230, Mean ± SD)			
Dimension		**Average score for each entry**	**Interpretation**
Turnover intention leave I	Quit your job Find another job of the same nature	3.27 ± 0.77	High
Turnover intention leave II	Looking for a different job Possibility of finding a suitable position	3.43 ± 0.77	High
Turnover intention leave III	What is the likelihood of getting a job Whether you will quit your job	3.32 ± 0.76	High
Total score		3.34 ± 0.70	High

Table 4 shows that the impact of various factors on the turnover intentions of obstetric nurses. No significant differences were found in turnover intentions among different age groups (P = 0.65) and professional titles (P = 0.12), contrary to some previous studies. However, significant differences were identified based on years of work experience (P = 0.04), with 6–10 years of experience nurses having the highest turnover intentions. There was

no significant difference between undergraduate and postgraduate nurses ($P = 0.12$), though postgraduate nurses had a slightly higher score. Marital status ($P < 0.05$) and employment form ($P = 0.03$) also significantly affected turnover intentions. Married nurses and contractual nurses showed higher turnover intentions, likely due to work-family conflict and job insecurity respectively. These results, consistent with some prior research, suggest that work experience, marital status, and employment form are important factors in turnover intentions, while age and professional title may not be as significant in this study.

Table 4. Comparison of differences in turnover intention of OB nurses with different demographic characteristics

	Grouping variables	Frequency (n)	Percentage (%)	*P*-value	Interpretation	Decision H01
Age	22–30 years old	98	42.60	0.65	No significant	Failure to Reject H01
	31–40 years old	115	50.00			
	41–45 years old	17	7.40			
Professional title	Primary	123	53.48	0.12	No significant	Failure to Reject H01
	Medium-grade	105	45.65			
	Supervisor nurse	2	0.87			
Years of work	2 ≤ years of work < 5	52	22.61	0.04*	Significant	Reject H01
	5 ≤ years of work < 10	91	39.57			
	years of work ≥ 10	87	37.82			
Educational background	College/Undergraduate	224	97.40	0.12	No significant	Failure to Reject H01
	Postgraduate	6	2.60			
Marital status	Married	142	61.74	0.01*	Significant	Reject H01
	Unmarried	82	35.65			
	Divorced	6	2.61			
Employment Mode	Regular staff	58	25.22	0.03*	Significant	Reject H01
	Personnel Agency	10	4.35			
	Contract	162	70.43			

Note: The correlation is significant at the 0.05 level (double tailed), and the correlation is significant at the 0.01 level (double tailed).

Table 5 found a positive correlation ($r = 0.53$, $P < 0.05$) between obstetric nurses' perceived stress and turnover intention total score, consistent with previous research indicating job stress as a key factor in nurses' leaving intentions. The nurses' perceived stress was mild, yet their intention to leave was high. Although age, title, and education level showed no significant impact on turnover intention, years of employment, marital status, and employment form did. Even mild stress levels may trigger the intention to leave and there could be other unassessed factors like career development, compensation, and work environment affecting it. This emphasizes the need for a comprehensive approach to reducing turnover by considering multiple factors beyond just stress when formulating employee retention strategies.

Table 5. The relationship between work stressor and turnover intention

Variables	Mean ± SD	Pearson correlation coefficient (*r*)	Relationship	*P*-value	Interpretation	Decision H02
Work stressor	68.10 ± 19.41	0.53	Moderate positive correlation	$P < 0.05$	Significant	Reject H02
Turnover intention	3.34 ± 0.70					

Note: The correlation is significant at the 0.05 level (double tailed), and the correlation is significant at the 0.01 level (double tailed). *Significance level at 0.05 using Pearson correlation coefficient (r)

4. Discussion

The study on 230 obstetric nurses showed a relatively young age distribution, with most in the 31–40 age range. High proportions held college or undergraduate degrees, had primary or medium-grade professional titles. Work experience was well-distributed. Marital status was mainly married and contract employment was dominant. These characteristics align with the literature, indicating the nature of the obstetric nursing workforce. However, they may also influence work-related aspects such as stress and turnover intentions.

The total work stress score of obstetric nurses was in the mild range (68.10 ± 19.41). The "patient care" dimension had the highest score, highlighting the high-risk nature of the job, while "working environment and equipment" had the lowest, likely due to good hospital infrastructure. Moderate scores in other dimensions suggest areas like time management and interpersonal relationships need improvement. This is consistent with some previous research [13,14], but also shows differences in stress contributions from professional and management factors, providing new research directions.

The mild stress level overall, along with the distribution of stress scores across dimensions, is in line with some prior studies on high-risk department nurses. The high score in "patient care" and low score in "working environment and equipment" support previous findings. However, the "management and interpersonal relationships" score shows differences compared to some studies, possibly due to institutional differences, emphasizing the complexity of stress factors.

Age and professional title did not significantly affect turnover intentions, contrary to some previous research. However, work experience, marital status, and employment form did. Nurses with 6–10 years of experience had the highest turnover intentions, married nurses faced work-family conflict leading to higher turnover, and contractual nurses had high turnover due to job insecurity. These findings suggest that various factors play different roles in turnover intentions, and more research considering different contexts is needed.

Perceived stress was positively correlated with turnover intention ($r = 0.53$, $p < 0.05$), consistent with previous studies indicating job stress as a key factor in nurses' leaving intentions. Despite the mild overall stress level, the high intention to leave implies that other unassessed factors may also contribute. This highlights the need for a comprehensive approach to reducing turnover, considering both stress and other factors like career development and work-life balance.

5. Conclusion

This study found that social factors are challenging the professional identity of obstetric nurses, with job stressors significantly influencing the intention to leave. A survey conducted among obstetric nurses in three tertiary hospitals in Shandong revealed moderate levels of job stress and high turnover intentions. The study also found that factors such as education, employment type, years of experience, and marital status all influenced the nurses' job stress and turnover intentions. Enhancing the positive psychological level of nurses is the key and hospitals

should strengthen relevant psychological training and vocational education to reduce the intention to leave and enhance the sense of professional belonging.

Disclosure statement

The authors declare no conflict of interest.

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