

A Study on the Relationship Among Nurses' Practice Environment, Safety Attitude, and Occupational Wellbeing

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Abstract: *Objective:* To investigate the status quo of nursing practice environment, nurses' safety attitude, and occupational well-being, as well as to explore the relationship among the three, so as to provide reference for formulating and implementing corresponding measures. *Methods:* A cross-sectional survey was conducted from October 2021 to December 2021. A total of 1,939 nurses from five tertiary hospitals in a city were surveyed using the Nurses' Practice Environment Assessment Scale, Safety Attitudes Questionnaire, and Medical Workers' Occupational Wellbeing Scale. The data were analyzed using SPSS 22.0. *Results:* The total score of nurses' practice environment was 68.81 ± 27.79 points, which is at a relatively general level; the total score of nurses' safety attitude was 111.28 ± 14.38 points, which is at a moderate level; and the total score of occupational well-being was 62.43 ± 28.17 points, which is relatively high. There was a significant positive correlation between nurses' practice environment and their safety attitudes and occupational well-being ($p < 0.05$). *Conclusion:* Nurses are the main human resources in hospitals, and their practice environment is closely related to patient safety and their work enthusiasm. An unhealthy practice environment not only affects the quality of care, which leads to patient safety issues, but also their job satisfaction. Nurse managers are encouraged to implement targeted interventions in advance to improve nurses' practice environment, strengthen safety attitudes, and enhance the professional wellbeing of nurses.

Keywords: Nurses; Practice environment; Safety attitude; Occupational well-being; Questionnaire survey

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1. Introduction

Nurses are the main human resources in hospitals. When they work in an unsafe practice environment, it will not only affect the quality of care, which leads to patient safety issues, but also their own job satisfaction [1]. Some studies have pointed out that the improvement of practice environment can bring positive changes to nurses, enhance the autonomy and satisfaction of nurses, as well as reduce burnout and emotional exhaustion [2]. Literatures have confirmed that the practice environment of nurses is also one of the key factors affecting patient outcomes [3]. A healthy practice environment can improve the standardization, professionalism, and safety of clinical nursing work, as well as improve nursing quality and job satisfaction [4,5]. The purpose of this study was to investigate the status quo of nurses' practice environment, safety

attitude, and occupational wellbeing in tertiary hospitals in Baoding, as well as to explore the relationship among the three, so as to provide theoretical and practical basis for nurse managers to implement targeted interventions in advance.

2. Subjects and methods

2.1. Research subjects

From October 2021 to December 2021, 1,939 nurses from five tertiary hospitals in a city were recruited as research subjects via the convenience sampling method.

Inclusion criteria: (1) registered nurses; (2) working in nursing positions; (3) working time ≥ 1 year; (4) informed consent given.

Exclusion criteria: (1) history of mental illness; (2) nurses in training or interns; (3) nurses who studied abroad.

2.2. Methods

A cross-sectional survey was conducted from October 2021 to December 2021.

2.2.1. Survey tools

(1) General Information Questionnaire

The questions were self-designed, in which age, working years, night shift, professional title, position, highest education, department, establishment, and other information were included.

(2) Nurses' Practice Environment Assessment Scale

This scale was developed by the Nursing Research Center of the National Health and Family Planning Commission ^[6]. There is a total of 39 items, with six domains: participation of nurses in hospital affairs, quality nursing service foundation, nurse manager ability, leadership, and support, human and material resources, medical and nursing cooperation, as well as remuneration and social status. Each item is scored on a scale of 0 to 100, with 0 being very dissatisfied, and 100 being very satisfied. A higher score represents a better practice environment.

(3) The Chinese version of Safety Attitudes Questionnaire (C-SAQ)

The Chinese version of the Safety Attitudes Questionnaire ^[7] revised by Guo Xia was used, which included 6 domains: teamwork, management perception, safety climate, job satisfaction, working conditions, and stress perception. There is a total of 31 items, and the scale adopts the 5-point Likert scale. The higher the score, the more positive the safety attitude.

(4) Medical Worker's Occupational Wellbeing Scale

This scale was designed by Hu Dongmei from Dalian Medical University ^[8]. There is a total of 24 items, with 5 domains: physical and mental health, value/ability manifestation, social support, economic income, and working environment. Each item is scored using the 5-point Likert scale, in which the higher the score, the higher the occupational wellbeing.

2.2.2. Investigation method

Through "Questionnaire Star," the link to the questionnaire was sent to the nursing departments of five hospitals, respectively, and unified guidance language was used to ensure the questionnaires were filled up anonymously upon full understanding. After filling out the questionnaire, the results were directly sent back to the researcher. A total of 2,016 questionnaires were filled up in this study, of which 1,939 were valid, with an effective recovery rate of 96.18%.

2.2.3. Statistical analysis

SPSS 25.0 was used for statistical processing.

3. Results

3.1. General information about the nurses

The general information of the nurses is shown in **Table 1**.

Table 1. General information about the nurses

Items	Number of people (n)	Percentage (%)
Age (years)		
< 25	314	16.1
26-35	1,193	61.6
36-45	346	17.8
> 46	86	4.4
Working years (years)		
1	151	7.9
2-5	563	29.0
6-10	612	31.6
11-15	276	14.1
16-20	183	9.4
≥ 21	154	7.9
Night shift		
Have	1,513	78.0
None	426	22.0
Job title		
Nurse	435	22.4
Senior nurse	819	42.2
Nurse in charge	583	30.1
Deputy chief nurse and above	103	5.3
Duty		
Nurse	1,759	90.7
Head nurse or deputy head nurse	176	9.1
Deputy director of nursing department and above	4	0.2
Highest education		
Secondary technical school	7	0.4
College	414	21.4
Undergraduate	1,503	77.5
Postgraduate	15	0.8
Department		
Internal Medicine	614	31.7
Surgical	422	21.8
Obstetrics and Gynecology	195	10.1
Operating theatre	144	7.4
Pediatrics	132	6.8

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Items	Number of people (n)	Percentage (%)
ICU	92	4.7
Emergency Department	88	4.5
Outpatient Clinic	64	3.3
Disinfection Supply Center	57	2.9
Five Senses	26	1.3
Nursing Department	4	0.2
Authorized strength		
Career editor	545	28.1
Contract system	1,394	71.9

3.2. Nurses' practice environment

The nurses' practice environment score was 68.81 ± 27.79 points. The top five and bottom five items are shown in **Table 2**.

Table 2. Five items with the highest and lowest scores in terms of nurses' practice environment (n = 1,939) (points, $\bar{x} \pm s$)

Items	Scores
Five items with the highest scores	
There are standard rules and procedures to follow when working	84.34 ± 20.25
The hospital actively offers job training and continuing education programs	83.68 ± 19.89
The hospital has a training program for new nurses	83.42 ± 19.36
Nurses in the work team are competent in nursing	82.78 ± 20.65
The hospital management expects each nursing unit to offer high-quality care	79.98 ± 19.54
Five items with the lowest scores	
Nursing work can be recognized by the society	62.61 ± 26.52
Existing working hours and work intensity are appropriate	62.44 ± 25.64
Nurses' salaries are at an appropriate level in all sectors of society	60.63 ± 28.35
Nurses have the opportunity to participate in hospital management decisions	57.25 ± 30.21
Nurses have the opportunity to participate in the internal management of the hospital	59.10 ± 29.36

3.3. Nurses' safety attitude

The total score of nurses' safety attitude was 111.28 ± 14.38 points. The scores and ranking of each domain are shown in **Table 3**.

Table 3. Scores for each domain of nurses' safety attitude (points, $\bar{x} \pm s$)

Domain	Scores	Rank
Safety climate	24.95 ± 4.23	1
Teamwork climate	21.37 ± 4.03	2
Job satisfaction	17.82 ± 3.21	3
Working conditions	17.49 ± 2.97	4
Perceptions of management	15.08 ± 4.26	5
Stress recognition	14.57 ± 4.44	6

3.4. Nurses' occupational wellbeing

The total score of nurses' occupational wellbeing was 62.43 ± 28.17 points. The scores and ranking of each domain are shown in **Table 4**.

Table 4. Scores for each domain of nurses' occupational wellbeing (points, $\bar{x} \pm s$)

Domain	Scores	Rank
Physical and mental health	21.58 ± 4.87	1
Value / capability demonstration	19.03 ± 4.99	2
Social support	18.83 ± 2.98	3
Working environment	12.60 ± 3.45	4
Income	8.42 ± 3.49	5

3.5. Correlations among nurses' practice environment, safety attitude, and occupational wellbeing

The correlations among nurses' practice environment, safety attitude, and occupational wellbeing are shown in **Table 5**.

Table 5. Correlations among nurses' practice environment, safety attitude, and occupational wellbeing (r)

	Pearson correlation	Significance (two-sided)
Practice environment and safety attitude	0.626	0.000
Practice environment and occupational wellbeing	0.699	0.000
Occupational wellbeing and safety attitude	0.690	0.000

4. Discussion

4.1. Current status of nurses' practice environment

Nurses' practice environment is an environment that supports nursing staff in the care they provide; it is a system with adequate decision-making and control [9]. The total score of nurses' practice environment in tertiary hospitals in Baoding was 68.81 ± 27.79 points, which is lower than the national nurses' practice environment score in 2015 (74.77 ± 22.57 points), indicating that the overall evaluation of the practice environment is at a general level. This is consistent with the research conclusion about the practice environment of nurses in China in recent years [10]. Items with higher scores reflect the rapid development of nursing career in recent years, and nursing management has become more and more ideal in the construction of clinical nursing work system and process. Items with lower scores indicate that nurses feel that they rarely engage in hospital management and have low social status. Low social recognition, coupled with insufficient manpower, heavy workload, long and irregular working hours, as well as low income seriously affect their work enthusiasm, resulting in emotional exhaustion and a low sense of personal achievement.

4.2. Current status of nurses' safety attitude

Safety attitude refers to a work belief that is based on common beliefs and values, and thereby striving to minimize the possible harm to patients in the service process [11]. The safety attitude of nurses in this survey was at a moderate level, indicating that the safety attitude of nurses in tertiary hospitals in Baoding requires further improvement. Safety climate had the highest score in each dimension, which corresponds to the highest scoring item in the practice environment – "there are standard rules and procedures to follow when working." Nurses are guaranteed to work since they are bound by norms and legislation in their profession.

The low stress recognition score implies that the nurses' capacity to recognize and cope with stress has to be improved.

4.3. Current state of nurses' occupational wellbeing

Nurses' occupational wellbeing refers to the satisfaction of the needs of nurses, the realization of their potential and self-worth, as well as the continuous pleasant experience they gain when engaging in nursing work^[12]. In this survey, the occupational wellbeing of nurses was 62.43 ± 28.17 , and the mean value was 2.60, which is lower than that of other studies^[13]. The physical and mental health score was the highest, while the economic income score was the lowest. Most of the nurses in the survey group aged 35 years old and below, accounting for 77.7%. They are in the golden age with full of vigor. Correspondingly, the working years of 10 years and below accounted for 68.5%. At the same time, contract nurses accounted for 71.9%, and there were differences in welfare benefits and career establishment.

4.4. Relationship among nurses' practice environment, safety attitude, and occupational wellbeing

Nurses are prone to burnout, depression, poor health, low work efficiency, and high turnover rate when they are in an overloaded, high-stress, and high-risk environment over a long period of time^[14,15]. A poor practice environment can also lead to medication errors, ineffective care delivery, conflict and stress among medical staff, and many more problems^[16]. There is growing evidence that the practice environment of nurses is closely related to patient safety and their own work motivation^[17]. A study in Taiwan concluded that the top 10 pain indicators for nurses are manpower shortage, limited professional development, administrative problems, heavy workload, unequal status of medical care, autocratic stratification of the medical system management, insufficient pre-employment education, unable to take sick leaves, unequal responsibilities, and risk of medical disputes. A foreign study that included 2,200 nursing staff in 11 countries found that nearly half of the nursing staff are burnout and dissatisfied with their work, due to heavy workload, low salary and benefits, as well as the lack of identity. A healthy practice environment can reduce work stress, improve job satisfaction and perceptions of safety attitude, as well as improve career wellbeing. The premise of building a healthy practice environment is to gauge the current state of the practice environment and to clarify the needs of nurses in this aspect. The connotation of a healthy practice environment for nurses can be summarized as follows: having the opportunity to participate in hospital management affairs, autonomy in work, organizational support, reasonable manpower, and material resources, reliable leadership and management, harmonious relationship between doctors and nurses, reasonable remuneration, and social status. All of these are conducive to professional and personal development^[18]. An issue that every nurse manager should actively explore is how to create a good practice environment for nurses, form a solid nursing team, stimulate the enthusiasm of nurses, fully utilize their talents, and ensure the safety of nursing.

Disclosure statement

The authors declare no conflict of interest.

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