

# **Predictors of Male Nurses' Intention to Stay in Emergency Department and Intensive Care Unit: A Cross-sectional Study**

*Xiaochen Lyu, Thitinut Akkadechanunt,\* Pratum Soivong, Phanida Juntasopeepun*

**Abstract:** The male nurse plays a vital role in clinical nursing, especially in the emergency department and intensive care unit; however, the turnover rate of nurses working in these areas is higher than other units, adding to nursing shortages. Thus, male nurses' intention to stay in the emergency department and intensive care unit is crucial for hospitals and health systems. The objective of this cross-sectional study was to identify the predicting factors of intention to stay among 240 male nurses in the emergency department and intensive care unit of five hospitals in China. The research instruments used to obtain the data were the Demographic Data Profile, McCain's Intention to Stay Scale, the Leadership Practices Inventory, the Career Growth of Nurse Scale, the Group Cohesion Scale, the Three-Component Model Employee Commitment Survey, and the McCloskey/Mueller Satisfaction Scale. Data were analyzed using descriptive statistics, Pearson's correlation, and multiple regression analysis.

The results indicated that the intention to stay of male nurses in the emergency department and intensive care unit was at a moderate level. Career growth was the strongest predictor followed by job satisfaction and transformational leadership, and these three predictors could predict intention to stay, accounting for 54.3% of the variance. Nurse administrators can use the results to develop appropriate strategies to retain male nurses in the emergency department and intensive care unit including supporting their career growth, improving job satisfaction, and promoting transformational leadership among male nurses.

***Pacific Rim Int J Nurs Res 2022; 26(3) 404-416***

**Keywords:** Career growth, Emergency department, Intensive care unit, Intention to stay, Job satisfaction, Male nurses, Transformational leadership

Received 24 December 2021; Revised 3 January 2022; Accepted 2 March 2022

## **Introduction**

The nursing shortage is a prominent issue globally. With public health emergencies, especially the COVID-19 pandemic in worldwide recently, the nursing shortage has been further exacerbated, particularly in the emergency department (ED) and intensive care unit (ICU). Ferrer reported an increase

*Xiaochen Lyu, RN, PhD (Candidate), Faculty of Nursing, Chiang Mai University, Thailand. E-mail: xiaochen\_lyu@cmu.ac.th*

*Correspondence to: Thitinut Akkadechanunt,\* RN, PhD, Assistant Professor, Faculty of Nursing, Chiang Mai University, Thailand. E-mail: thitinut.a@cmu.ac.th*

*Pratum Soivong, RN, PhD, Associate Professor, Faculty of Nursing, Chiang Mai University, Thailand. E-mail: pratum.soivong@cmu.ac.th*  
*Phanida Juntasopeepun, RN, PhD, Assistant Professor, Faculty of Nursing, Chiang Mai University, Thailand. E-mail: phanida.j@cmu.ac.th*

of up to 300% in the number of critical care patients in Spanish hospitals of the COVID-19 pandemic, which led to a severe imbalance of nursing service

provision and service demand.<sup>1</sup> However, the shortage of emergency nurses globally has been an ongoing issue before the COVID-19 pandemic. The voluntary turnover rate of nurses working in ED and ICU was 20% and 18.7% of the United States, higher than other departments.<sup>2</sup> A Chinese study has also reported a high turnover intention of ED nurses (40.61%).<sup>3</sup> In addition, according to Xu, Zeng, and Wu's study, the turnover intention of ICU nurses was 27.7% in 23 countries.<sup>4</sup>

Since nurses provide most of the patient care in various environments, a shortage of nurses will directly affect the quality of nursing care.<sup>1</sup> Although nursing is a female-dominated profession, male nurses have the benefit of physical strength in ED and ICU, for instance, moving unconscious patients and operating heavy medical equipment.<sup>5,6</sup> Due to the excellent performance of male nurses in clinical nursing care, some patients prefer to be cared for by male nurses in ED and ICU.<sup>6</sup> Meanwhile, male nurses are often seen as their personalities not matching the nursing profession by patients and their female peers.<sup>7</sup> Although nursing is not a male-dominated profession, it is necessary to ensure that steps are taken to increase equality and equity in nursing for male nurses. Assessing the critical nursing shortage may not always involve increasing the number of graduates or recruiting more nurses into the nursing profession. Instead, considerations must reduce staff nurse turnover rates through improved retention. Thus, the retention and recruitment of male nurses in ED and ICU have important implications for hospitals and health systems to overcome the nursing shortage.

## **Literature Review and Conceptual Framework**

In China, ED and ICU play a vital role in hospitals because both areas need to provide acute medical care for patients when confronted with life-or-death situations. As the front of the hospital, ED nurses need

to deal with large volumes of undifferentiated patients and provide intensive care and monitoring to those who are critically ill. Although male nurses are not the majority group in nursing, they are essential for ED and ICU units and healthcare. According to Zhang and Tu's study, male nurses have strong adaptability and an ability to face pressure when dealing with a public health emergency in China.<sup>7</sup> In addition, they were very pleased to undertake heavy physical work in the clinical setting because male nurses are considered physically stronger and more energetic than female nurses.<sup>5,6</sup> Thus, the above characteristics of male nurses coincide with the needs of ED and ICU in the Chinese setting.

Many previous studies report that male nurses could provide better nursing care for patients in ED and ICU. In South Korea, male nurses are reported to more easily handled complex machinery and apparatus in ICU compared to female nurses.<sup>8</sup> In Ethiopia, females were 72.70% times more likely to report medication errors than male nurses including ED and ICU,<sup>9</sup> but the reasons for this are unclear.

Although the literature indicates that male nurses are very important for ED and ICU, there has been no literature focusing on intention to stay (ITS) among male nurses working in ED and ICU. Intention to stay is described as the employee's perception of the likelihood to stay in their current employment.<sup>10</sup> In this study, it was defined as the probability of remaining at present work as perceived by male nurses working in ED and ICU. However, only a few studies have focused on male nurses' ITS. Based on empirical research studies, several factors influenced male nurses' ITS.<sup>11</sup> These prominent factors included social support, resilience, and nursing professional commitment. Kim and Moon conducted survey-based studies examining ITS of male nurses and found that individual factors (being single); organizational factors (organizational commitment, job satisfaction, job stress); and social factors (hospital location in medium-categorized cities and kinship responsibility) were influencing factors.<sup>12</sup> Most of the

existing literature regarding ITS focuses on novice male nurses working in generalized practice areas, and research results were inconsistent. Research focusing on ITS and factors related to only male nurses working in ED and ICU has not been found.

Based on a theoretical model of clinical nurses' ITS, developed by Cowden and Cummings,<sup>13</sup> manager characteristics, organizational characteristics, work characteristics, and nurse characteristics are four sets of factors directly affecting ITS. In addition, nurses' cognitive and affective responses to their work environment play a mediating factor of ITS. Further investigation of the impact of both cognitive and affective responses on personal work will highlight the cultural differences in a Chinese organization. The idea behind Cowden and Cumming's model is to allow the combination of literature and practice regarding ITS. This model can provide a comprehensive understanding of ITS and has thus been widely used as the theoretical foundation in many studies including those in Jordan and China.<sup>14,15</sup>

Regarding manager characteristics, transformational leadership has become a predominant leadership style across disciplines, including nursing. Transformational leadership is defined as a collection of practices and behaviors which motivate followers to perform better.<sup>16</sup> Transformational leadership has a positive relationship with climate, empowerment, organizational commitment, and ITS, but a negative relationship with intention to leave.<sup>17,18</sup>

Regarding organizational characteristics, organizations need to provide nurses with career development opportunities and allow them to pursue these opportunities so that employee-led organizational improvements can occur.<sup>13,19</sup> Career growth captures the results of a person's efforts by defining it as a person's perception of opportunities for development and advancement within the organization.<sup>20</sup> Career growth has a positive relationship with ITS in previous studies.<sup>19</sup>

Concerning work characteristics, workgroup cohesion is an essential factor affecting ITS and is

defined in terms of how integrated a nursing staff member feels as part of the organization and collegial environment.<sup>21</sup> Workgroup cohesion, an organizational phenomenon, leads nursing staff members to perceive that they are part of their organization, which increases their desire to stay at work. In our literature review, workgroup cohesion was found to have a relationship with nurses' ITS in their job.<sup>22</sup>

Regarding nurse characteristics, vital factors include years of experience, professional position, monthly income, and education level.<sup>13</sup> These individual characteristics also play an essential role in influencing ITS. A systematic review indicated that those with many years of experience, a higher monthly income, and higher positions, such as in nursing management, tend to stay in an organization.<sup>13</sup>

According to Meyer et al., organizational commitment is defined as a psychological state, a cognitive and affective response, which helps retain employees in the organization and is accompanied by a desire, a need, or an obligation that reflects the level of a person's recognition and participation in the employee's organization.<sup>23</sup> Organizational commitment is treated as a stabilizer used to reinforce behavioral intentions and is significantly correlated with ITS.<sup>13</sup> Job satisfaction refers to nurses' degree of positive affective orientation toward their employment.<sup>24</sup> Nurses with higher job satisfaction are less likely to leave. Therefore, they express higher ITS and are more committed to organizational goals.<sup>15,25</sup>

Throughout a review of studies that used the theoretical model of clinical nurses' ITS, the participants included male and female nurses in all clinical settings. The number of male nurses is high in ED and ICU of Chinese hospitals, so the factors within the theory of clinical nurses need to be explored to understand the ITS of the male-dominant culture of China. Therefore, the selected study variables were transformational leadership, career growth, workgroup cohesion, years of experience, organizational commitment, and job satisfaction. Nursing administrators can use the findings

to develop policies and cultivate strategies to retain male nurses in ED and ICU. In addition, the results can inform future nursing research of male nurses working in both ED and ICU.

## Study Aim

This study aimed to identify whether years of experience, transformational leadership, career growth, workgroup cohesion, organizational commitment, and job satisfaction can predict intention to stay among Chinese male nurses working in ED and ICU.

## Methods

**Study design:** A descriptive, predictive study is reported here using the STROBE cross-sectional guidelines.

**Sampling:** The sample size of this study was determined by the rule of thumb, 40 cases for one predictor.<sup>25</sup> There were six potential predictors; thus, the anticipated sample size was 240 participants. Most male nurses work in the ED and ICU of university hospitals in China. Therefore, five university hospitals in Anhui province were purposively selected. All five hospitals have the same healthcare system classification by the Chinese Ministry of Health. The inclusion criteria of the participants were registered male nurses who had been working for at least one year in ED and ICU. The exclusion criteria were male nurse administrators and male nurses not working due to sick, study, or vacation leave during the data collection period. The number of participants from ED and ICU was calculated based on the proportion of male nurses in each hospital, and participants were drawn through simple random sampling from the nurses' name list. Finally, we recruited 50, 56, 54, 42, and 38 male nurses in the five target hospitals, respectively.

**Ethical considerations:** The proposal of this study was approved by the Research Ethics Committee, Faculty of Nursing, Chiang Mai University, Thailand (research ID: 067/2020, study code: 2020-EXP058),

and permission was also obtained from all of the hospitals for data collection. Provision of informed consent and research questionnaires to potential participants with details explaining the study was made as soon as possible. The participants were assured of confidentiality and their right to refuse to participate or withdraw independently at any time without penalty.

**Instruments:** Use of the research instruments for data collection was permitted by original authors and translators:

1. The researchers developed the *Demographic Data Profile*, which sought information on age, marital status, educational level, years of experience, monthly income, professional position, and working unit.

2. *McCain's Intention to Stay Scale (MISS)*, developed by McCloskey and McCain,<sup>10</sup> consists of five items (e.g., I plan to work at my present job for as long as possible) and uses a 5-point Likert scale with response anchors from "1 = strongly disagree" to "5 = strongly agree." The convergent construct validity of ITS was tested with McCain's Behavioral Commitment Scale, which indicates good validity (McCloskey, 1990).<sup>27</sup> The overall Cronbach's alpha coefficient was .90 (McCloskey, 1990),<sup>27</sup> indicating good internal consistency reliability. The possible score of the 5 item scales ranges from 5 to 25. A higher score indicates a higher ITS. The score for ITS is divided into three categories based on the interval of the mean score: low level (5 - 11.65), moderate level (11.66 - 18.30), and high level (18.31 - 25.00). In this study, the overall Cronbach's alpha coefficient was .82. This instrument was translated into Chinese by the primary investigator (PI) and two bilingual experts (Chinese and English) using the technique of back translation as suggested by the World Health Organization guidelines on back-translation.<sup>28</sup>

3. *The Chinese version of the Leadership Practices Inventory (LPI) (LPI-observer)* was translated into Chinese by Chen and Baron<sup>29</sup> from the LPI-observer.<sup>16</sup> The LPI uses a 5-point Likert scale ("1 = rarely or very seldom" to "5 = very frequently or almost always") with five dimensions (30 items): modeling the way

(e.g., "Your leader makes certain that the projects he or she leads are broken down into manageable steps"), inspiring a shared vision (e.g., "Your leader is contagiously excited and enthusiastic about the future possibility"), challenging the process (e.g., "Your leader looks for innovative ways we can improve what we do in this organization"), enabling others to act (e.g., "Your leader creates an atmosphere of mutual trust in the projects he or she leads"), and encouraging the heart (e.g., "Your leader finds ways to celebrate accomplishments"). The possible score of this scale ranges from 30 to 150, and a higher score indicates higher transformational leadership. The content validity index (CVI) of the LPI-observer was .96.<sup>29</sup> In this study, Cronbach's alpha coefficient was .94, indicating good internal consistency reliability.

4. *The Chinese version of the Career Growth of Nurses Scale (CGNS)* was developed by Liu et al. in 2015.<sup>30</sup> The CGNS has three sub-dimensions (15 items): career goal (e.g., "Current job lays a foundation for my career objective"), career capacity (e.g., "Current job facilitates me to learn new work-related knowledge"), and career opportunity (e.g., "In the current work unit, my position is likely to move up"). It uses a 5-point Likert scale with response anchors from "1 = strongly disagree" to "5 = strongly agree." The possible score of this scale ranges from 15 to 75. A higher score indicates a higher career growth perceived by nursing staff. The CVI of the Chinese CGNS was .95.<sup>30</sup> In this study, Cronbach's alpha coefficient was .90, indicating good internal consistency reliability.

5. *The Group Cohesion Scale (GCS)*, developed by Hinshaw et al., was utilized to measure workgroup cohesion.<sup>21</sup> It has six items (e.g., "I believe the efficiency of this group is...") and uses a 7-point Likert scale ranging from 1 (dislike it very much) to 7 (like it very much). The possible score of this scale ranges from 6 to 42. A higher score indicates a higher workgroup cohesion perceived by nursing staff. Confirmatory factor analysis was applied to indicate good construct validity.<sup>21</sup> In this study, Cronbach's alpha coefficient was .93, indicating good internal consistency reliability. The Group Cohesion Scale was translated into Chinese

by the PI and two bilingual experts (Chinese and English) using the technique of back translation as suggested by World Health Organization guidelines.<sup>28</sup>

6. *The Chinese version of the Three-Component Model (TCM) Employee Commitment Survey*, developed by Meyer, Allen, and Smith.<sup>23</sup> The Chinese version of the TCM, translated by Chen, was used in this study.<sup>31</sup> This survey consists of 18 items has three subscales: affective commitment scale (ACS) (e.g., "This organization has a great deal of personal meaning for me"); continuance commitment scale (CCS) (e.g., "Right now, staying with my organization is a matter of necessity as much as desire"); and a normative commitment scale (NCS) (e.g., "This organization deserves my loyalty"). Each item is rated with a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. The possible score of this scale ranges from 18 to 126. A higher score indicates a higher organizational commitment of nursing staff. Exploratory factor analysis was applied to indicate good construct validity. The results demonstrated that these factors explained 33.28% (ACS), 16.51% (CCS), and 9.42% (NCS) of the variation of the construct.<sup>23</sup> The Cronbach's alpha coefficients of the subscales were .82 (ACS), .76 (CCS), and .75 (NCS).<sup>23</sup> In this study, Cronbach's alpha coefficient of the TCM Employee Commitment Survey was .93, indicating good internal consistency reliability.

7. *The Chinese version of the McCloskey/Mueller Satisfaction Scale (MMSS)*, developed by Mueller and McCloskey,<sup>24</sup> evaluates job satisfaction. The Chinese version of MMSS, translated by Zheng in 2009,<sup>32</sup> was used in this study. The MMSS contains 31 items which are categorized into eight subscales: extrinsic rewards (e.g., "Vacation"), scheduling (e.g. "Weekends off per month"), family and work balance (e.g. "Maternity leave time"), co-workers (e.g., "Your physicians work with you"), interaction opportunities (e.g., "Opportunities for social contact with your colleagues after work"), profession opportunities (e.g., "Opportunities to participate in nursing research"), praise and recognition (e.g., "Your immediate supervisor"), and control and responsibility (e.g., "Control over what

goes on in your work setting"). A 5-point Likert scale ranging from "1 = very dissatisfied" to "5 = very satisfied" was used to assess each item. The possible score of this scale ranges from 31 to 155. A higher score indicates a higher job satisfaction as perceived by nursing staff. The original authors confirmed the construct validity by confirmatory factor analysis and exploratory factor analysis.<sup>24</sup> In this study, Cronbach's alpha coefficient was .87, indicating good internal consistency reliability.

**Data collection:** Data were collected from June to August 2020. Firstly, the PI made an appointment and explained the purpose and benefits of this research to the nursing directors of five university hospitals. After getting permission for data collection, the PI obtained the name lists of male nurses in ED and ICU from the five hospitals, coded the list with numbers instead of names, and randomly selected the participants. The secretary of the nursing department was invited to be the research coordinator who distributed the questionnaires, collected completed questionnaires, and returned them to the PI. The PI introduced the whole data collection process before engaging with the five coordinators. The PI prepared 240 packages, including a cover letter, a consent form, questionnaires, and an envelope for returning the forms, and the coordinator distributed these packages to all participants. The participants were requested to complete the questionnaires and return the packages to the designed box in each hospital. The research coordinators were responsible for collecting the questionnaire packages and returning them to the PI, and all questionnaires were checked for completeness before data analysis.

**Table 1.** Characteristics of the participants (n = 214)

Demographic Characteristics	Frequency (n)	Percentage (%)
Age (years) (Mean = 25.54 years, SD = 2.22 years, Range 23–34)		
< 25	75	35.00
26–30	70	32.70
31–35	69	32.30
Marital status		
Single	104	48.60
Been married	110	51.40
Educational level		
Associate degree	33	15.40
Bachelor's degree	181	84.60

**Data analysis:** Data were analyzed by SPSS 25.0 software. The significance level of alpha was set at .05. The descriptive statistics of frequency, percentage, and mean were used to analyze the participants' demographic data. The relationship between selected variables and ITS was performed using Pearson's correlation coefficient. All the assumptions of multivariate were met; the multiple regression analysis was applied to determine the predictive abilities of the independent variables on ITS among male nurses in ED and ICU.

## Results

Of the 240 questionnaires distributed, 214 nurses (89.17 %) returned completed questionnaires. The characteristics of the participants are presented in **Table 1**. Most participants were young, and 35.00% were below 25 years old; 48.60% of participants were single, and 84.60% held a bachelor's degree in nursing. Approximately half of the participants (54.70%) had 1–5 years of experience working as nurses, and 52.80% of participants were junior nurses (Registered nurse: a person who has passed the Nurse Licensing Examination and is registered with a medical institution. Junior nurses: registered nurses who have been working in one medical institution for at least one year and passed the national qualification examination are awarded the title of junior nurses). More than half of the participants (61.70%) had incomes higher than 7000 RMB (1,100 USD) per month.

**Table 1** Characteristics of the participants (n = 214) (Cont.)

Demographic Characteristics	Frequency (n)	Percentage (%)
Year of experience (years) (Mean = 2.75, SD = 1.88, Range 1-13)		
1-5	117	54.70
6-10	70	32.70
11-15	27	12.60
Professional position		
Registered nurse	67	31.30
Junior nurse	113	52.80
Nurse-in-charge	34	15.90
Monthly income (RMB)		
≤ 5000 (790 USD)	25	11.70
5001-6000 (790-950 USD)	23	10.70
6001-7000 (950-1100 USD)	34	15.9
≥ 7001 (1100 USD)	132	61.70

The results showed that male nurses working in ED or ICU perceived a moderate level of ITS with a mean score of  $17.29 \pm 3.26$ . The descriptions of all variables are shown in **Table 2**. A correlation matrix between the study variables and ITS is shown in **Table 3**. Stepwise multiple regression was employed to

determine the prediction of ITS. Career growth ( $\beta = .40$ ,  $p < .01$ ) was found as the strongest predictor followed by job satisfaction ( $\beta = .27$ ,  $p < .01$ ), and transformational leadership ( $\beta = .21$ ,  $p < .01$ ). The three variables could jointly explain 54.3% in the variance in ITS among male nurses working in ED and ICU (**Table 4**).

**Table 2** Description of study variables (n = 214)

Variables	Possible Range	Actual Range	M	SD	Level
Years of experience	-	1-15	5.60	3.87	-
Transformational leadership	30-150	52-150	100.79	18.19	Moderate
Career growth	15-75	20-75	51.66	8.97	Moderate
Workgroup cohesion	6-42	6-42	27.90	6.82	Moderate
Organizational commitment	18-126	52-126	83.04	12.03	Moderate
Job satisfaction	31-155	33-155	99.96	20.73	Moderate
Intention to stay	5-25	6-25	17.29	3.26	Moderate

**Table 3** Correlation matrix of the study variables (n = 214)

Variables	1	2	3	4	5	6	7
1. Years of experience	1.00						
2. Transformational leadership	.28**	1.00					
3. Career growth	.15*	.52**	1.00				
4. Work group cohesion	.23**	.45**	.50**	1.00			
5. Organizational commitment	.06	.38**	.57**	.33**	1.00		
6. Job satisfaction	.09	.47*	.61**	.38**	.56**	1.00	
7. Intention to stay	.22**	.54**	.67**	.45**	.53**	.61**	1.00

\* p < .05, \*\* p < .01.

**Table 4** Stepwise multiple regression analysis for variables predicting intention to stay (n = 214)

Model	B	SE	$\beta$	R <sup>2</sup>	R <sup>2</sup> Change	SEE	F Change
Career growth	.14	.02	.40**	.543	.537	2.22	83.32
Job satisfaction	.04	.01	.27**				
Transformational leadership	.04	.01	.21**				

\* p < .05, \*\* p < .01.

## Discussion

The findings revealed that the ITS scores were at a moderate level among Chinese male nurses working in ED and ICU, indicating that they might not plan to leave or stay in the nursing profession. A possible explanation might be due to the male nurses' age and marital status. The majority of the participants were young (67.7% less than 30 years old) and unclear about the development of their career path in the primary phase of the career.<sup>33</sup> On the contrary, the older male nurses had experienced the most critical periods of their careers and had a clear career goal in the nursing profession. In addition, the marital status might be used to explain the moderate level of ITS as well. Approximately half (48.60%) of the male nurses were single in this study. Compared to married male nurses, it would be easier for them to change jobs according to their willingness, and they do not need to consider their wives and children.<sup>3</sup> However, married male nurses have the responsibilities and obligations of raising their families, which leads to a preference for stability.

The supply–demand imbalance in ED and ICU is not a new phenomenon in China. According to Guo et al., medical staff, including registered nurses, work more than 60 hours per week.<sup>34</sup> In addition, overtime has become the norm of ED and ICU nurses in China, and almost all of this overtime does not involve compensation.<sup>3,35</sup> Meanwhile, they also need to face higher patient mortality, more emergencies, and a higher workload in ED and ICU.<sup>35</sup> Therefore, male nurses in ED and ICU were uncertain whether to stay or leave their current job in this study.

Except for the demographic factors, another reason for the moderate level of male nurses' ITS can be explained by the characteristics of the nursing profession, which is not a preferred major choice for male students in China.<sup>7,36</sup> Male students in high school might not select nursing as the choice after the medical profession which the number of medical students is limited. Therefore, most male nurses choose to work in ED and ICU. Once entering the nursing profession, they often experience criticism and great pressure for being a male nurse from peers, patients, and other healthcare workers in clinical practice.<sup>15</sup> Eventually, this may lead to male nurses reconsidering whether to stay or leave their current job.

The moderate level of ITS as perceived by male nurses in ED and ICU is congruent with a previous study that included male and female nurses.<sup>15</sup> A probable explanation is that the contradiction between patient expectations and the low social status of registered nurses is becoming a central problem in the Chinese medical environment.<sup>37</sup> Social status and professional recognition for the nursing profession have been relatively low in Chinese culture since ancient times. However, as patients increasingly expect a higher level of medical services from nurses, the apparent contrast between these expectations and reality could easily lead to the resignation of registered nurses.

As for the factors predicting ITS, career growth (organizational characteristics), job satisfaction (affective responses), and transformational leadership (manager characteristics) were associated with ITS. Predictive analysis revealed that career growth was the strongest predictor of ITS. Career growth includes

career goals, career capacity, and career opportunities. A probable explanation is that the career goals of male nurses working in ED and ICU are highly related to their current jobs; that is, their current jobs are very valuable for individuals to achieve their career goals.<sup>17</sup> Therefore, they are more willing to stay in their current job. On the contrary, if they leave their current job, the cost will increase because it is difficult to find a job that can promote employees' career growth. In addition, male nurses take on more responsibilities in ED and ICU because they believe the challenging work gains respect from others and acquires more career capacities as well.<sup>38</sup> Meanwhile, tertiary hospitals provide more career opportunities for male nurses than female nurses in China.<sup>39</sup> Thus, they might be more satisfied with their jobs and desire to stay in their current job.

Job satisfaction was another predictor for ITS. This finding is similar to previous studies, which indicated that male nurses working in ED and ICU feel higher job satisfaction and are more likely to stay in their current job.<sup>15,34</sup> As males, they efficiently deal with various issues in specialty units,<sup>12</sup> for instance, nightshifts, heavy workloads, and operating large, sophisticated medical equipment in ED and ICU. In China, male nurses prefer working in ED and ICU so this homogeneity can help them cooperate well with other male nurses.<sup>7</sup> Thus, they can acquire more job satisfaction and more willingness to remain in the current job.

Another probable explanation is that male nurses working in the ED and ICU have a relatively high and steady monthly income, which is also higher than other occupations in China. Indeed 61.7% of male nurses had a monthly income of more than 7000 RMB (1,100 USD) in this study (**Table 1**). This finding is similar to a previous study conducted by Wubetie, Taye, and Girma, which reported that nurses whose monthly income was less than 3145 Ethiopian Birr were six times more likely to have the intention to leave the ED.<sup>40</sup> Meanwhile, in Chinese traditional culture, the male is considered the breadwinner and the main supporter for their families<sup>41</sup> and as nursing provides a good

salary related to their social status, male nurses are satisfied with their jobs, which enhances ITS.

As for the last significant predictor of ITS in this study, transformational leadership positively predicted ITS. This finding is consistent with previous studies, which indicate improved ITS for specialty nurses when there is a nurse manager or head nurse with transformational leadership.<sup>14,24</sup> The probable explanation is that nurse managers or head nurses in these specialty units (ED and ICU) spend more time and have more patience in teaching nurse staff, focusing on the specialty characteristics to develop their strengths.<sup>42</sup> Meanwhile, they also empower nursing staff, encourage teamwork, and try to reduce their job burnout.<sup>43</sup> Thus, in this study, transformational leadership might enhance these male nurses' sense that they belong to the organization, thereby encouraging them to express more willingness to stay in their current job.

## **Limitations**

This study is the first research to investigate the predictors of ITS among male nurses working in the ED or ICU in a Chinese context. There are some limitations as follows. First, the data were obtained in only five university hospitals in one province. Therefore, the findings of this study may limit generalizability for other departments, other level hospitals, and other locations. Second, self-reporting measurement has limitations in describing this phenomenon; different instruments and other research methods (qualitative or mixed-method) need to be considered to reduce potential bias in the future. Finally, more predictors need to be observed because only 54.3% of the variance in ITS was able to be explained.

## **Conclusions and Implications for Nursing Management**

This study confirmed that career growth, job satisfaction, and transformational leadership affected ITS among ED and ICU male nurses in China. Career

growth was the strongest predictor, followed by job satisfaction and transformational leadership, which could together predict intention to stay, accounting for 54.3% of the variance. It is suggested that nursing organizations should encourage ED and ICU male nurses to improve their career plans and develop clear career goals, especially in the primary phase of their career. For instance, the nursing organization could provide a career planning course to novice male nurses, inviting male nurse role models to share experiences with juniors. In addition, nursing administrators could consider enhancing the job satisfaction of male nurses in ED and ICU and develop strategies that may improve ITS among male nurses in ED and ICU. For instance, supporting male nurses' work-family balance, providing opportunities for part-time work, and proper scheduling of shifts at day-night may improve male nurses' ITS in their current job. Furthermore, nursing administrators should improve leadership capacity, mainly applying transformational leadership to provide career opportunities for ED and ICU male nurses similar to female nurses, increasing their ITS.

### Acknowledgments

The authors would like to express our gratitude to all hospital administrators for supporting the data collection process and also thank all participants in this study.

### References

1. Ferrer, R. COVID-19 Pandemic: the greatest challenge in the history of critical care. *Med Intensiva*. 2020; 44(6): 323–4. doi:10.1016/j.medine.2020.04.005.
2. NSI Nursing Solutions, Inc. 2021 [cited 2021 February 12]. Available from: [https://www.nsinursinsolutions.com/Documents/Library/NSI\\_National\\_gHealth\\_Care\\_Retention\\_Report.pdf](https://www.nsinursinsolutions.com/Documents/Library/NSI_National_gHealth_Care_Retention_Report.pdf)
3. Ma Y, Chen F, Xing D, Meng Q, & Zhang Y. Study on the associated factors of turnover intention among emergency nurses in China and the relationship between major factors. *Int Emerg Nurs*. 2022;60:101–6. doi:10.1016/j.ienj.2021101106.
4. Xu G, Zeng X, Wu X. Global prevalence of turnover intention among intensive care nurses: a meta-analysis. *Nurs Crit Care*. 2021; 27(1):1–8. doi:10.1111/nicc.12679.
5. Budu HI, Abalo EM, Bam VB, Agyemang DO, Noi S, Budu FA, Peprah P. “I prefer a male nurse to a female nurse”: patients’ preference for, and satisfaction with nursing care provided by male nurses at the Komfo Anokye teaching hospital. *BMC Nurs*. 2019;18(1):1–9. doi:10.1186/s12912-019-0369-4.
6. Mao A, Wang J, Zhang Y, Cheong PL, Van IK, Tam HL. Male nurses’ dealing with tensions and conflicts with patients and physicians: a theoretically framed analysis. *J Multidiscip Healthc*. 2020;13:1035–45. doi:10.2147/jmdh.s270113.
7. Zhang H, Tu J. The working experiences of male nurses in China: implications for male nurse recruitment and retention. *J Nurs Manag*. 2020;28(2):441–9. doi:10.1111/jonm.12950.
8. Kim S, Wang J. The role of job demands–resources (JDR) between service workers’ emotional labor and burnout: new directions for labor policy at local government. *Int J Environ Res Public Health*. 2018;15(12):2894. doi:10.3390/ijerph15122894.
9. Jember A, Hailu M, Messele A, Demeke T, & Hassen M. Proportion of medication error reporting and associated factors among nurses: a cross sectional study. *BMC Nurs*. 2018;17(1):1–8. doi:10.1186/s12912-018-0280-4.
10. McCloskey JC, & McCain BE. Satisfaction, commitment and professionalism of newly employed nurses. *J Nurs Sch*. 1987;19(1):20–4. doi:10.1111/j.1547-5069.1987.tb00581.x.
11. Yu H, Huang C, Chin Y, Shen Y, Chiang Y, Chang C, & Lou J. The mediating effects of nursing professional commitment on the relationship between social support, resilience, and intention to stay among newly graduated male nurses: a cross-sectional questionnaire survey. *Int J Environ Res Public Health*. 2021;18(14):7546. doi:10.3390/ijerph18147546.
12. Kim SO, & Moon SH. Factors influencing turnover intention among male nurses in Korea. *Int J Environ Res Public Health*. 2021;18(18):9862. doi:10.3390/ijerph18189862.

13. Cowden TL, & Cummings GG. Nursing theory and concept development: a theoretical model of clinical nurses' intentions to stay in their current positions. *J Adv Nurs.* 2012;68(7):1646-57. doi:10.1111/j.1365-2648.2011.05927.x.
14. AbuAlRub RF, & Nasrallah MA. Leadership behaviours, organizational culture and intention to stay amongst Jordanian nurses. *Int Nurs Rev.* 2017;64(4):520-7. doi:10.1111/inr.12368.
15. Li X, Zhang Y, Yan D, Wen F, Zhang Y. Nurses' intention to stay: the impact of perceived organizational support, job control and job satisfaction. *J Adv Nurs.* 2020;76(5): 1141-50. doi:10.1111/jan.14305.
16. Kouzes JM, Posner BZ. *The leadership challenges* (3rd ed.). Jossey-Bass;2002.
17. Wu X, Hayter M, Lee AJ, Yuan Y, Li S, Bi Y, Zhang L, Cao C, Gong W, Zhang Y. Positive spiritual climate supports transformational leadership as means to reduce nursing burnout and intent to leave. *J Nurs Manag.* 2020; 28(4):804-13. doi:10.1111/jonm.12994.
18. Xie Y, Gu D, Liang C, Zhao S, Ma Y. How transformational leadership and clan culture influence nursing staff's willingness to stay. *J Nurs Manag.* 2020;28(7):1515-24. doi:10.1111/jonm.13092.
19. Yang Y, Liu YH, Liu JY, Zhang HF. The impact of work support and organizational career growth on nurse turnover intention in China. *Int J Nurs Sci.* 2015;2(2): 134-9. doi:10.1016/j.ijnss.2015.04.006.
20. Jans NA. Organizational commitment, career factors and career/life stage. *J Organ Behav.* 1989;10(3):247-66. doi:10.1002/job.4030 100305.
21. Hinshaw AS, Atwood JR, Gerber RM, Erickson JR. Testing a theoretical model for job satisfaction and anticipated turnover of nursing staff. *Nurs Res.* 1985;34(6):384. doi:10.1097/00006199-198511000-00028.
22. Bontrager S, Hart PL, Mareno N. The role of preceptorship and group cohesion on newly licensed registered nurses' satisfaction and intention to stay. *J Contin Educ Nurs.* 2016;47(3):132-9. doi:10.3928 /00220124-2016 0218-09.
23. Meyer JP, Allen NJ, Smith CA. Commitment to organizations and occupations: extension and test of a three-component conceptualization. *J Appl Psychol.* 1993;78(4):538. doi:10.1037/0021-9010.78.4.538.
24. Mueller CW, McCloskey JC. Nurses' job satisfaction: a proposed measure. *Nurs Res.* 1990;39(2):113-7. doi:10.1097/00006199-199003000-00014.
25. Suliman M, Aljezawi M. Nurses' work environment: indicators of satisfaction. *J Nurs Manag.* 2018;26(5): 525-30. doi:10.1111/jonm.12577.
26. Polit DF, Beck CT. *Nursing research: generating and assessing evidence for nursing practice*. Lippincott Williams & Wilkins; 2017.
27. McCloskey JC. Two requirements for job contentment: autonomy and social integration. *J Nurs Sch.* 1990; 22(3):140-3. doi:10.1111/j.1547-5069.1990.tb0 0196.x.
28. World Health Organization. Process of translation and adaptation of instruments. 2018 [cited 2020 February 25]. Available from: [https://www.who.int/substance\\_abuse/research\\_tools/translation/en/](https://www.who.int/substance_abuse/research_tools/translation/en/)
29. Chen HC, Baron M. Psychometric properties of the Chinese leadership practices inventory. *Int J Nurs Educ Scholarsh.* 2007;4(1):23-37. doi:10.2202/1548-923 x.1421.
30. Liu J, Yang J, Liu Y, Yang Y, Zhang H. The use of Career Growth Scale in Chinese nurses: validity and reliability. *Int J Nurs Sci.* 2015;2(1):80-5. doi:10.1016/j.ijnss.2015.01.010.
31. Chen YC. Work empowerment and organizational commitment among nurses in tertiary hospitals, Yunnan Province, The People's Republic of China [Unpublished master's thesis]. Chiang Mai University, Thailand; 2011.
32. Zheng XJ. Nurse job satisfaction and its influencing factors in 3-A-grade general hospitals in Beijing [Unpublished master's thesis]. Peking Union Medical College, China; 2009 (in Chinese).
33. Wang L, Tao H, Ellenbecker CH, Liu X. Job satisfaction, occupational commitment and intent to stay among Chinese nurses: a cross-sectional questionnaire survey. *J Adv Nurs.* 2012;68(3):539-49. doi:10.1111/j.1365-2648.2011.05755.x.
34. Guo Y, Hu S, Liang F. The prevalence and stressors of job burnout among medical staff in Liaoning, China: a cross-section study. *BMC Public Health.* 2021;21(1): 1-11. doi:10.1186/s12889-021-10535-z.

35. Hu Z, Wang H, Xie J, Zhang J, Li H, Liu S, Li Q, Yang Y, Huang Y. Burnout in ICU doctors and nurses in mainland China—a national cross-sectional study. *J Crit Care*. 2021;62:265–70. doi:10.1016/j.jcrc.2020.12.029.
36. Wang H, Li X, Hu X, Chen H, Gao Y, Zhao H, Huang L. Perceptions of nursing profession and learning experiences of male students in baccalaureate nursing program in Changsha, China. *Nurse Educ Today*. 2011;31(1):36–42. doi:10.1016/j.nedt.2010.03.011.
37. Liu W, Zhao S, Shi L, Zhang Z, Liu X, Li L, Duan X, Li G, Lou F, Jia X, Fan L, Sun T, Ni X. Workplace violence, job satisfaction, burnout, perceived organizational support and their effects on turnover intention among Chinese nurses in tertiary hospitals: a cross-sectional study. *BMJ Open*. 2018; 8(6):e019525. doi:10.1136/bmjopen-2017-019525.
38. Schoonover-Shoffner K. Why aren't men choosing nursing? *J Christ Nurs*. 2006;23(2):16–7.
39. Smith BW, Rojo J, Everett B, Monday J, Sierra J, Salamonson Y. Professional success of men in the nursing workforce: an integrative review. *J Nurs Manag*. 2021;29(8):2470–88. doi:10.1111/jonm.13445.
40. Wubetie A, Taye B, Girma B. Magnitude of turnover intention and associated factors among nurses working in emergency departments of governmental hospitals in Addis Ababa, Ethiopia: a cross-sectional institutional based study. *BMC Nurs*. 2020;19(1):1–9. doi:10.1186/s12912-020-00490-2.
41. Guo RY. More than just breadwinners: how Chinese male migrant workers' family relationships shape their factory labour process. *Community Work Fam*. 2021;24(4): 415–34. doi:10.1080/13668803.2019.1700919.
42. Wu X, Hayter M, Lee AJ, Yuan Y, Li S, Bi Y, Zhang L, Cao C, Gong W, Zhang Y. Positive spiritual climate supports transformational leadership as means to reduce nursing burnout and intent to leave. *J Nurs Manag*. 2020; 28(4):804–13. doi:10.1111/jonm.12994.
43. Xie Y, Gu D, Liang C, Zhao S, Ma Y. How transformational leadership and clan culture influence nursing staff's willingness to stay. *J Nurs Manag*. 2020;28(7):1515–24. doi:10.1111/jonm.13092.

## ปัจจัยที่มีผลต่อความตั้งใจคงอยู่ในแผนกฉุกเฉินและหอผู้ป่วยหนัก: การวิจัยแบบภาคตัดขวาง

เฉียวเฉิน ลิ่ว ชูติณัฐ์ อัคคະเดชอนันต์\* ประทุม สร้อยวงศ์ พนิดา จันท์ไสวพันธ์

**บทคัดย่อ:** พยาบาลชายมีบทบาทสำคัญในการพยาบาลทางคลินิกโดยเฉพาะอย่างยิ่งในแผนกฉุกเฉิน และหอผู้ป่วยหนัก อย่างไรก็ตาม อัตราการลาออกจากพยาบาลที่ทำงานในหน่วยงานเหล่านี้สูงกว่าหน่วยงานอื่น ล่งผลให้เกิดการขาดแคลนพยาบาล ดังนั้น ความตั้งใจคงอยู่ของพยาบาลชายในแผนกฉุกเฉิน และหอผู้ป่วยหนักจึงเป็นสิ่งสำคัญสำหรับโรงพยาบาลและระบบสุขภาพ วัตถุประสงค์ของการวิจัยแบบภาคตัดขวางนี้เพื่อระบุปัจจัยที่มีผลต่อความตั้งใจคงอยู่ของพยาบาลชายจำนวน 240 คนในแผนกฉุกเฉิน และหอผู้ป่วยหนักของโรงพยาบาล 5 แห่งในประเทศไทย เครื่องมือวัดที่ใช้ในการรวบรวมข้อมูล ได้แก่แบบบันทึกข้อมูลทั่วไป แบบวัดความตั้งใจคงอยู่ของแมคเดน เครื่องมือวัดการปฏิบัติภาวะผู้นำ แบบวัดความก้าวหน้าในอาชีพ แบบวัดการเห็นใจผู้อื่นในทีมงาน แบบสอบถามความขัดแย้งในบทบาททางเพศ แบบสำรวจความยึดมั่นผูกพันของพนักงานแบบสามองค์ประกอบ และแบบวัดความพึงพอใจของแมคคลอสต์/มูลเลอร์ วิเคราะห์ข้อมูลโดยใช้สถิติพรรณนา สัมประสิทธิ์สหสัมพันธ์ของเพียรสัน และการวิเคราะห์การถดถอยพหุคุณ

ผลการศึกษาชี้ให้เห็นว่าความตั้งใจคงอยู่ของพยาบาลชายในแผนกฉุกเฉินและหอผู้ป่วยหนักอยู่ในระดับปานกลาง ความก้าวหน้าในอาชีพเป็นตัว变量ที่แข็งแกร่งที่สุด รองลงมาคือความพึงพอใจในงานและภาวะผู้นำ การเปลี่ยนแปลง และตัว变量ทั้งสามนี้สามารถทำนายความตั้งใจคงอยู่ได้ 54.3% ของความแปรปรวน ผู้บริหารการพยาบาลสามารถใช้ผลการวิจัยในการจัดทำกลยุทธ์ที่เหมาะสมในการอธิบายรักษาพยาบาลชายให้อยู่ในแผนกฉุกเฉินและหอผู้ป่วยหนัก ซึ่งไห้แก่การสนับสนุนความก้าวหน้าในอาชีพ เสริมสร้างความพึงพอใจในงาน และส่งเสริมภาวะผู้นำ การเปลี่ยนแปลงในพยาบาลชาย

*Pacific Rim Int J Nurs Res 2022; 26(3) 404-416*

**คำสำคัญ:** ความก้าวหน้าในอาชีพ แผนกฉุกเฉิน หอผู้ป่วยหนัก ความตั้งใจคงอยู่ ความพึงพอใจในงาน พยาบาลชาย ภาวะผู้นำ การเปลี่ยนแปลง

เฉียวเฉิน ลิ่ว นักศึกษาหลักสูตรปริญญาเอก คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่  
E-mail: xiaochen\_lyu@cmu.ac.th  
ติ่ดต่อที่: ชูติณัฐ์ อัคคະเดชอนันต์\* ผู้ช่วยศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่ E-mail: thitinut.a@cmu.ac.th  
ประทุม สร้อยวงศ์ รองศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่ E-mail: pratum.sovivong@cmu.ac.th  
พนิดา จันท์ไสวพันธ์ ผู้ช่วยศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่ E-mail: phanida.j@cmu.ac.th