The Self-Directed Learning Ability of Junior Nurses in the Emergency Department: An Up-to-date Survey

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ABSTRACT

Objective This study aimed to evaluate the self-directed learning ability of junior emergency department (ED) nurses and provide the rationale for whether it is necessary to strengthen the training of junior ED nurses.

Methods Using the convenience sampling method, a self-directed learning ability questionnaire survey was conducted among 358 junior ED nurses in several tertiary hospitals in Guangdong Province.

Results The total score of self-learning ability of junior ED nurses was 119.85 ± 16.82 (scores >135, 85-135, and <85 indicate excellent, intermediate, and poor self-learning ability, respectively). The retrospective analysis showed that gender, whether having participated in academic education, and the degree of motivation for promotion were major factors that affected the self-learning ability of junior ED nurses ($P < 0.05$).

Conclusions The self-learning ability of junior ED nurses in Guangdong is at an intermediate level. Nursing managers should pay more attention to the junior ED nurses with poor self-learning ability. In particular, adopting various training methods and establishing appropriate promotion mechanisms and economic incentive measures may help improve their self-learning ability and enable them to meet job requirements.

Keywords Emergency department; Junior nurses; Self-directed learning; Influencing factors

INTRODUCTION

The emergency department (ED) is the first line of defense for the hospital to treat critically ill patients, and ED nurses play an important role in the rescues. However, in the emergency department of most

domestic hospitals, junior nurses with little experience account for a large proportion of ED nurses [1]. It has been reported that ED nurses at junior levels may have insufficient operational, critical thinking, proactive problem-solving skills that are required for critically ill patient care, which affects the overall core competence of ED nurses and the success rate of patient rescue [2]. Therefore, it is necessary to train the nurses at junior levels in the emergency department. However, the traditional training model for the junior ED nurses is mostly passive, which makes it difficult to achieve good training results [3]. The self-directed learning ability of nurses refers to the ability of nurses to take advantage of their subjective initiative to have a strong desire to learn knowledge actively, and particularly, to master the knowledge and skills necessary for nursing work with high quality [4]. The study aimed to evaluate the self-directed learning ability of junior ED nurses and provide a basis for guiding nursing managers to develop training plans suitable for junior ED nurses.

MATERIALS AND METHODS

Research participants

In March 2021, using a convenience sampling method, 358 junior ED nurses from a number of tertiary hospitals in Guangdong Province were enrolled in this study. The inclusion criteria were 1) having a nurse practitioner qualification certificate from the People's Republic of China, 2) working in the ED for over 6 months, and 3) the respondents agree to participate in this survey. The exclusion criteria included 1) those who could not complete the questionnaire in time due to study abroad, maternity leave, personal leave, etc., 2) those who did not actively cooperate and did not answer the questionnaire carefully, and 3) those who had been on the job for less than 6 months.

General information collection form

This form was a self-designed general information survey form for nurses. The collected information included gender, working years, education, job title, whether they are staff members, whether they have participated in academic education, monthly income, whether they are specialized nurses, their desire for promotion, and their marital status.

Assessment tool for self-directed learning ability of junior ED nurses

The self-directed learning ability evaluation scale developed by Shuqin Xiao from China Medical University (CMU) in 2008 was used for the evaluation [4]. This scale included four dimensions, namely self-motivation beliefs, task analysis, self-monitoring and adjustment, and self-regulation, with a total of 34 items. Using the Likert 5-level scoring system, "Strongly disagree", "Disagree", "Neither agree nor disagree", "Agree", "Strongly agree" are scored 1-5 points respectively; negative items are scored in reverse. The higher the score, the stronger the self-learning ability. A score ≥ of 136 indicated excellent self-directed learning ability, a score between 85-135 is indicated moderate self-directed learning ability, and a score ≤ of 84 indicated poor self-learning ability. The Cronbach's Alpha Reliability Coefficient of this scale is 0.944.

Data collection method

Before starting this investigation, the consent and cooperation of the nursing staff in the ED of each hospital were obtained. The number of questionnaires to be issued and the survey time were determined according to the specific conditions of the ED of different hospitals. The researcher stated the purpose of the survey before the questionnaire started. After obtaining the informed consent of the research subjects, the respondents began to fill out the questionnaire (through an online platform). A total of 358 questionnaires were returned, all of which were valid questionnaires, with an effective rate of 100%.

Statistical analysis

The statistical analysis was carried out using SPSS 24.0 software. The data of general information of junior ED nurses were described by frequency and percentage. Measurement data were expressed as mean and standard deviation (mean±SD). Logistic regression analysis was used to analyze related factors. A p-value of less than 0.05 indicated that the difference was statistically significant.

RESULT

The general information of the junior ED nurses

As shown in Table 1, among the junior ED nurses who participated in the questionnaire (n=358), 184 (51.4%) had a junior college degree. Most junior ED nurses (60.3%) had job titles as nurses. There were 178 people (49.7%) with 3-5 years of work experience, and 180 people (51.3%) with less than 3 years of work experience. Most of them were contractors with strong motivation for promotion.

Table 1. The general information of the junior ED nurses

Items		N (%)
Gender	Male	68 (19.0)
	Female	290 (81.0)
Working experience	<1 year	44 (12.3)
	1-2 years	76 (21.2)
	2-3 years	60 (16.8)
	3-5 years	178 (49.7)
Job title	Assistant nurse	24 (6.7)
	Nurse	216 (60.3)
	Senior nurse	100 (27.9)
	Supervisor nurse	18 (5.1)
Degree	Technical secondary school	27 (7.5)
	Junior College	184 (51.4)
	Bachelor	146 (40.8)
	Master or higher	1 (0.28)
Motivation for promotion	Very strong	120 (33.5)
	Strong	130 (36.3)

	Not very strong	104 (29.1)
	None	4 (1.1)
Full-time employee	Yes	24 (6.7)
	No	334 (93.3)
Participated in academic education	Yes	228 (63.7)
	Never	64 (17.9)
	No, but plan to	55 (15.4)
	No, and not plan to	11 (3.1)
Marital status	Married	100 (27.9)
	Unmarried	256 (71.5)
	Others	2 (0.6)

The score of self-directed learning ability evaluation scale

The average score of the self-directed learning ability evaluation scale for 358 junior ED nurses was 118.99±19.55. The scores of each dimension were shown in Table 2.

Table 2. The self-directed learning ability evaluation scale score of junior ED nurses

Item	Item numbers	Score (Mean±SD)
Self-motivation beliefs	14	50.3±8.39
Task analysis	6	20.08±4.06
Self-monitoring and adjustment	10	34.67±6.19
Self-regulation	4	13.94±2.47
In total	34	118.99±19.55

The self-directed learning ability among junior ED nurses with different characteristics

The comparison of self-directed learning ability among junior ED nurses with different characteristics is shown in Table 3 and the assignment of independent variables is detailed in Table 4.

Table 3. The comparison of self-directed learning ability among junior ED nurses with different characteristics

Items		Scores	t/F value	P value
Gender	Male	123.24±19.17	4.122	0.042
	Female	117.99±19.54		
Working experience	<1 year	122.89±18.33	2.564	0.464
	1-2 years	119.34±21.2		
	2-3 years	119.78±20.35		
	3-5 years	117.6±18.84		
Degree	Technical secondary school	116.41±18.2	3.715	0.294
	Junior College	118.51±17.87		
	Bachelor	120.23±21.71		

	Master or higher	94±NA*		
	Assistant nurse	123.75±15.21	2.865	0.413
Job title	Nurse	118.95±19.42		
	Senior nurse	118.47±21.52		
	Supervisor nurse	115.89±14.26		
Full-time employee	Yes	116.38±17.56	0.683	0.409
	No	119.17±19.7		
	Yes	120.52±18.81	15.266	0.002
Participated in academic education	Never	114.7±18.46		
	No, but Plan to	120.67±21.49		
	No, and not plan to	103.73±23.05		
	<5000	118.98±18.84	3.126	0.373
Income (¥)	5000-10000	119.96±20.12		
	10000-15000	116.07±18.59		
	15000-20000	110.6±16.83		
Specialist nurse	Yes	117.35±22.22	0.12	0.729
	No	119.14±19.31		
	Very strong	124.47±21.59	35.741	<0.001
Motivation for promotion	Strong	120.89±17.07		
	Not very strong	110.39±17.24		
	None	115.75±18.21		
	Married	118.96±19.56	1.848	0.397
Marital status	Unmarried	119.35±19.67		
	Others	103.5±9.19		

*Note：Only one person was in this category, so the SD value was not available.

Table 4. Assignment of independent variables

Variables	Assignment method
Gender	Male=1；Female=2
Participated in academic education	Yes=1；No=2；No but plan to=3；No and not plan to=4
Motivation for promotion	Very strong =1; Strong=2; Not very strong =3；None=4

DISCUSSION

Junior ED nurses need to improve their self-directed learning ability

In this study, the self-directed learning ability score of junior ED nurses is 118.99±19.55, indicating that self-directed learning ability of junior ED nurses in Guangdong Province is at an intermediate level. This score is lower than the scores in the research reported by Pingping Zhuang et al. [5], Xiaolan Diao et al. [6], and Chen Qian et al. [7] suggested that self-directed learning ability of junior ED nurses needs to be improved.

Regarding the scores of four dimensions, the score of self-motivation belief was the highest, while the score of self-evaluation was the lowest; these results were consistent with the research results by Jiannv Wang et al [8]. Junior ED nurses may relate the reason for this score to the lack of monitoring of learning. Although they have a strong belief in learning, they lack the relevant experience in effectively learning professional knowledge since they have just entered this field. Similarly, the study by Jiannv Wang et al. has pointed out that junior nurses at the initial stage of career development are usually inexpensive and may often lack critical thinking skills to adjust learning strategies timely [8]. Therefore, emergency care managers may need to help improve their independent learning ability (for instance, setting learning goals) and supervise the learning efficiency of junior ED nurses.

Analysis of the influencing factors of the self-learning ability of the junior nurses in the emergency department

As shown in Table 3, gender, whether they have participated in academic education, and the degree of willingness to promote professional titles are the major factors affecting the self-directed learning ability of junior ED nurses (p<0.05).

Male junior ED nurses seem to have stronger self-directed learning abilities in comparison to female junior ED nurses

As shown in Table 3, the self-directed learning ability of male junior ED nurses is higher than that of female junior ED nurses. The reasons for this discrepancy are as follows. First, emergency work is intense and fast-paced. Male nurses might be physically and psychologically more competent than female nurses in emergency department work. Also, many hospitals tend to hire male nurses in the emergency department when recruiting nurses. However, in the traditional Chinese viewpoint, the nursing profession is full of prejudice and discrimination against men [9]. To get rid of this kind of prejudice and discrimination, male nurses tend to have a strong enterprising spirit to be successful in their careers. This mindset may drive them to learn actively, have better independent learning ability, and have a relatively clear career development plan. On the other hand, nurses with a clear career plan tend to have a high self-directed learning ability since clear goals can guide them to keep learning [10].

Junior ED nurses who have participated in academic education have a stronger self-learning ability than those who have not

This study also shows that junior ED nurses who have participated in academic education are more capable of autonomous learning, which is consistent with the results of Cunmei Tan et al [11]. Among the research participants, 211 people (58.9%) had a college degree or a technical secondary school degree. As undergraduate education is becoming more and more popular today, undergraduate degree is the basic educational requirement for nurses' promotion and further training. Therefore, a large number of nurses promote themselves through continuing education. They have shown their ability to pass the exam successfully, and getting a diploma has been a learning goal for them. To reach the goal, they need to formulate a specific study plan, and the school's requirements for the curriculum have played a monitoring

and regulating role. These learning experiences of junior ED nurses post-employment may improve their independent learning ability, making them superior to the junior ED nurses in terms of self-directed learning ability.

Junior ED nurses with a strong desire for promotion have strong self-learning ability

This study shows that junior ED nurses who have a strong desire for promotion have better learning ability. This is consistent with the previous results showing that nurses with good self-learning ability are more likely to pass the qualification examination and be promoted smoothly [7]. In most hospitals, the higher the professional title, the better the corresponding treatments, and the more opportunities for studying and training; these opportunities are the reasons why many people want to be promoted. On the other hand, the promotion of the professional title itself can be a goal. The promotion requires junior ED nurses to self-monitor and adjust and requires them to actively learn relevant knowledge and meet the promotion requirements in theory and scientific research. Therefore, to a certain extent, the desire for promotion helps improve their independent learning ability.

Strategies to improve the self-directed learning ability of junior ED nurses

The results of this study show that the self-directed learning ability of junior ED nurses is greatly affected by the three factors, including gender, whether they have participated in academic education, and the desire to be promoted. Therefore, starting from these three aspects and formulating relevant practical strategies are critical to improving their independent learning ability. First, nursing managers can work on the shift schedule of nurses, arranging the nurses with different genders, professional titles, and educational backgrounds in a better way that they can have positive influence on each other in their daily work. Secondly, different training programs can be introduced to junior ED nurses with different requirements and different levels. Particularly, the training programs, either through modeling rewards and incentive mechanisms [12] or psychological interventions [13] that can help them formulate clear career development plans and continuing education plans are beneficial. Third, setting small goals and appropriate financial rewards, as well as proper supervising, are critical; junior ED nurses could gradually develop the self-directed learning ability in the process of achieving their goals.

CONCLUSION

The self-learning ability of junior ED nurses in Guangdong Province is at an intermediate level. Nursing managers should pay more attention to the ED nurses with poor self-learning ability. In particular, adopting various training methods and establishing appropriate promotion mechanisms and economic incentive measures may help improve their self-learning ability and enable them to meet job requirements.

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STATEMENT

There is no conflict of interest in this article.

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