Influence of risk nursing in emergency department nursing on cognitive function and first aid effect of patients

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ABSTRACT

Objective: To explore the effect of risk nursing in emergency department nursing on patients' cognitive function and first aid effect. **Methods:** A total of 100 patients admitted to our emergency department from March 2020 to March 2022 were randomly divided into control cluster (n = 45) and study cluster (n = 55). All patients and their families were informed and signed the study consent form. Routine emergency department nursing was carried out in the control cluster, and risk nursing was carried out in the study cluster on the basis of it. The variances in nursing quality, cognitive function, first aid effect, life and nursing satisfaction after different nursing were contrasted between the two clusters, in order to analyze the value and significance of risk nursing in the emergency department. **Results:** contrasted with the control cluster, the study cluster had upper nursing quality marks (P < 0.05); none remarkable variance in LOTCA marks between the two clusters before nursing (P > 0.05), and the LOTCA marks of the two clusters increased after nursing, but contrasted with the control cluster, the study cluster had more remarkable changes (P < 0.05); contrasted with the control cluster, the study cluster had a upper success rate of rescue (P < 0.05); none remarkable variance in the life marks between the two clusters before nursing (P > 0.05), and the life marks of the two clusters increased after nursing, but contrasted with the control cluster, the study cluster had more remarkable changes (P < 0.05); contrasted with the control cluster, the study cluster had a upper satisfaction rate (P < 0.05). **Conclusion:** In emergency department nursing, the development of risk nursing has achieved ideal results, which can more effectively enhance the first aid effect and enhance the prognosis of patients, which is worthy of popularization and application.

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Keywords: Emergency department nursing; Risk nursing; Cognitive function; First aid effect

Introduction

According to relevant data, due to aging, environmental pollution, traffic accidents and other factors, the number of emergency department visits in China has increased remarkably, from 51.9 million to 166.5 million per year [1]. The emergency department mainly receives patients with acute diseases with unstable vital signs and life-threatening conditions. Such patients have the characteristics of rapid disease progression, high complications and many emergencies. These characteristics determine that the nursing in the emergency department has an upper risk coefficient. Any small deviation and small error in the nursing will affect the prognosis and life of patients, which also puts forward upper requirements for the emergency department nursing [2, 3].

The research on emergency nursing medicine in China started relatively late, and the current nursing model can basically meet the basic needs of emergency nursing services, but it cannot effectively reduce the risk of emergency nursing and enhance the effect of first aid [4]. In this context, risky care emerged [5]. Risk nursing refers to the identification and evaluation of existing and potential nursing problems and risks, and through effective treatment to reduce the nursing risk coefficient, reduce

nursing risk events, in order to reduce the adverse effects on patients, medical staff and hospitals. By querying the relevant research data, it is found that there are few relevant studies on risk care in emergency department care.

Therefore, in this paper, 100 patients admitted to the emergency department were selected and given routine care and risk care intervention, respectively, and the results are reported as follows.

Materials and methods

General data

A total of 100 patients admitted to our emergency department from March 2020 to March 2022 were selected and randomly divided into control cluster (n = 45) and study cluster (n = 55). The control cluster consisted of 25 males and 20 females, aged 21-80 years, with mean one of (50.64 ± 7.34) years; disease types: 8 cases of traumatic cranio cerebral injury, 11 cases of hypertensive intracerebral hemorrhage, 17 cases of acute cerebral infarction, 3 cases of severe organophosphorus pesticide poisoning, 6 cases of carbon monoxide poisoning; the study cluster consisted of 31 males and 24 females, aged 22-79 years, with mean one of (50.07 ± 7.55) years; disease types: 13 cases of

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traumatic cranio cerebral injury, 15 cases of hypertensive intracerebral hemorrhage, 18 cases of acute cerebral infarction, 4 cases of severe organic pesticide poisoning, 5 cases of carbon monoxide poisoning; the general data of the two clusters were comparable (P > 0.05).

Inclusion criteria (1) Presented to the emergency department; (2) Aged 18 years or older; (3) The type of disease can impair cognitive function.

Exclusion criteria : (1) mental disorders; (2) incomplete follow-up data; (3) disability before admission.

Methods

Control cluster

Routine emergency department nursing, specialized nursing according to the patient's condition, including condition triage, notifying the doctor, monitoring vital signs, cooperating with the doctor for various symptomatic treatment, postural care, respiratory care, etc., psychological counseling and comfort for the conscious person.

Study clusters

Carry out risk nursing on the basis of the control cluster, (1) establish a risk nursing cluster, and carry out training on the relevant knowledge of risk nursing for the members in the cluster, strengthen their cognition of risk nursing, and enhance their identification of potential nursing risks; (2) regularly organize the training of emergency nursing skills, strengthen their nursing operation in combination with practical work treatment cases, and conduct assessment, and link the assessment results with performance; (3) reasonably develop a shift system to ensure that the patient's condition can achieve close monitoring. And implement elastic scheduling system, pay attention to personnel "new and old" matching, there are at least 1 experienced, senior nursing staff in each class; (4) evaluate the current admission of emergency patients, analyze their condition, physical condition, etc., develop individualized nursing plan; through inquiry of data, and discuss with patient cases, analyze the possible risk factors in the treatment and nursing process, and make targeted emergency treatment plans, strengthen the identification of risk factors in nursing, in order to reduce the occurrence of risk events. (5) Implement emergency rescue articles, ensure the storage, quantitative preservation and designated placement of drugs by specially-assigned persons, regularly inspect the residual amount and shelf life of drugs, and timely supplement the relevant drugs; regularly inspect and test the relevant equipment to ensure its normal operation, timely repair or scrap the devices with potential safety hazards in accordance with the provisions, and ensure the smooth development of emergency rescue work. (6) enhance the treatment process, set up guidance personnel in the emergency hall, and set up pushing beds, wheelchairs and other facilities on the side to accelerate the treatment time. And be responsible for assisting patients to complete payment, examination, taking reports, etc., and do a good job in triage care. (7) Implement the first aid records, enhance the writing quality of nursing documents, accurately and in detail record the changes in the patient's condition and vital signs, rescue methods, medication and nursing treatment measures, so as to ensure that the data are standardized and the handwriting is clear. (8) After the patient 's condition is stable, carry out health education, psychological counseling, patiently inform and correct the patient' s existing

unhealthy behaviors, so that they can avoid risky behaviors in rehabilitation. At the same time, psychological counseling to inform their healthy psychology can promote physical rehabilitation. (9) Organize regular meetings every week to discuss and analyze the risk events occurred in this stage, and let each nursing staff describe the work in this stage, timely discover the existing risk hazards, and do a good job in the next step of nursing implementation.

Observation indicators

Nursing quality Comparative

The hospital-made nursing quality questionnaire [6] was used to evaluate, including five items, including risk awareness, basic nursing, first aid skills, first aid equipment and drug management, and nursing documents, each with a mark of 0-100. marks were positively correlated with quality of care.

Cognitive function Comparative

The application of the Cognitive Function Rating Scale (LOTCA) [7] was used to evaluate the marks from 0 to 115 points, and the marks were positively correlated with cognitive function.

Comparative of first aid effects

To compare the effects of first aid, the outcomes recorded include cure, enhancement, disability, and death. The first aid success rate can be calculated using the formula:

First Aid Success Rate = (Cure + Enhancement) / Total * 100%

In this formula, "Cure" refers to the number of cases where the patients were completely cured, "Enhancement" refers to the number of cases where there was an improvement in the condition, "Disability" refers to the number of cases where the patients experienced a disability, and "Death" refers to the number of cases where the patients did not survive.

To calculate the first aid success rate, you would add the number of cases with a cure and enhancement outcome, divide it by the total number of cases, and then multiply by 100% to get the percentage.

Quality of life comparative

The core scale of life (QOL-30) [8] was used for evaluation. This time, four items of physical state, psychological state, social state and cognitive state were selected, and each item was markd from 0 to 100 points. marks were positively correlated with life.

Nursing satisfaction Comparative

The hospital self-made satisfaction questionnaire [9] was used to evaluate, with a mark of 0-100, satisfaction: ≥80 points, basic satisfaction: 60-79 points, dissatisfaction: <60 points. Satisfaction rate = (satisfaction + basic satisfaction) / total × 100%.

Statistical methods

The data were processed by SPSS 25.0 software package, the measurement data was represented by ($\overline{x} \pm s$), the t test was used, the count data was represented by n (%), and the χ^2 test was used. P<0.05 indicated that the variance was remarkable.

Results

Comparative of nursing quality

The study cluster showed significantly higher scores in five nursing quality indicators compared to the control cluster. These indicators include risk awareness, basic nursing, first aid skills,

first aid equipment and drug management, and nursing documents. The observed differences between the two clusters were statistically significant (P < 0.05), indicating a notable variation in nursing quality between the groups. Figure 1 provides a visual representation of these differences.
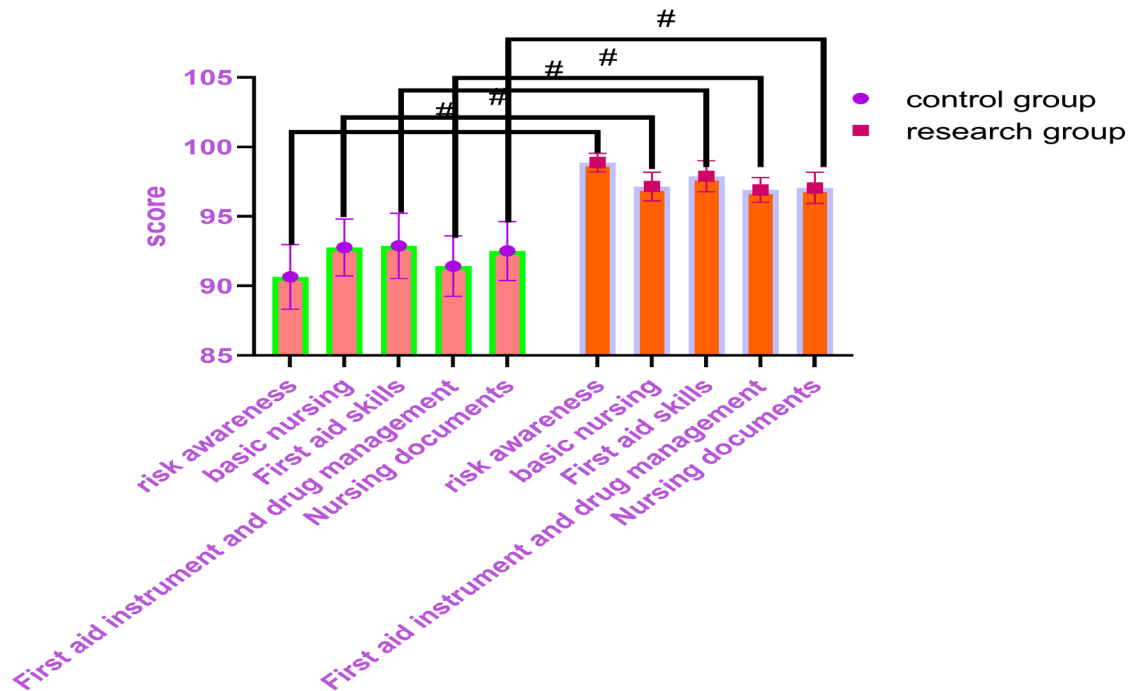
Figure 1 Comparative of nursing quality (**Note:** Comparative of risk awareness, basic nursing, first aid skills, first aid equipment and drug management, nursing document marks between the two clusters, #P<0.05, the variance is remarkable)
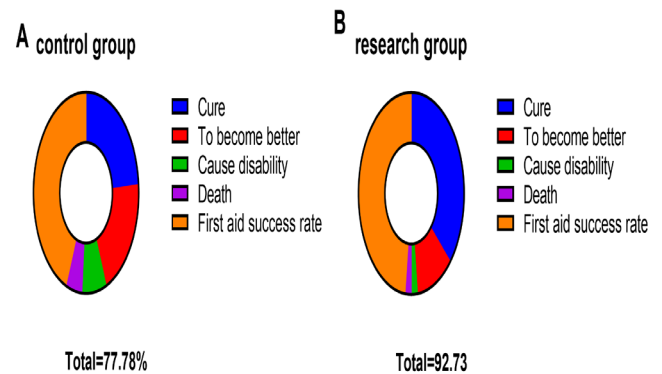
Comparative of cognitive functions

None remarkable variance in the LOTCA mark between the two clusters before nursing (P>0.05), and the LOTCA mark in the two clusters increased after nursing, but contrasted with the control cluster, the change in the study cluster was more obvious (P<0.05) (Figure 2).
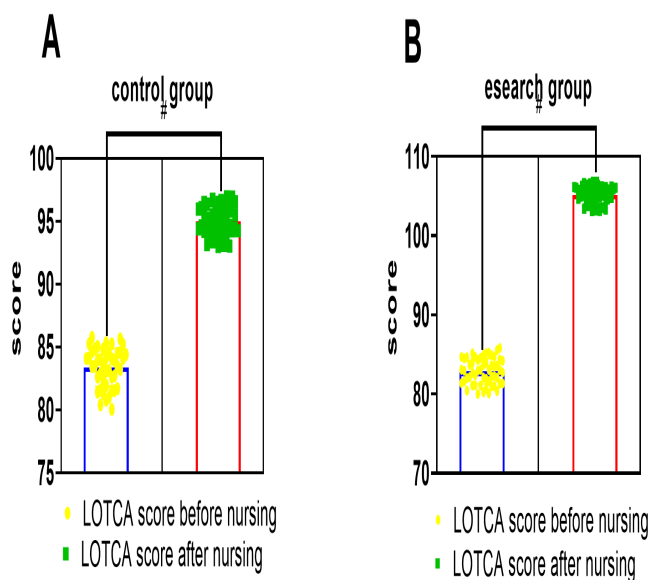
Figure 2 Cognitive function Comparative (**Note:** The Comparative between the two clusters before and after treatment, #P<0.05, the variance is remarkable)

Comparative of first aid effects

Contrasted with the control cluster, the rescue success rate of the study cluster was upper, and the variance between the clusters was remarkable (P<0.05) (Figure 3).


Figure 3 Comparative of first aid effects

Note: The effective rates of first aid in the control cluster and the study cluster were 77.78% and 92.73% respectively, and the effective rate of first aid in the study cluster was remarkably upper than that in the control cluster.

Comparative of life

None remarkable variance in the life marks between the two clusters before nursing (P>0.05). After nursing, the life marks in both clusters increased, but contrasted with the control cluster, the changes in the study cluster were more obvious (P<0.05) (Figure 4).
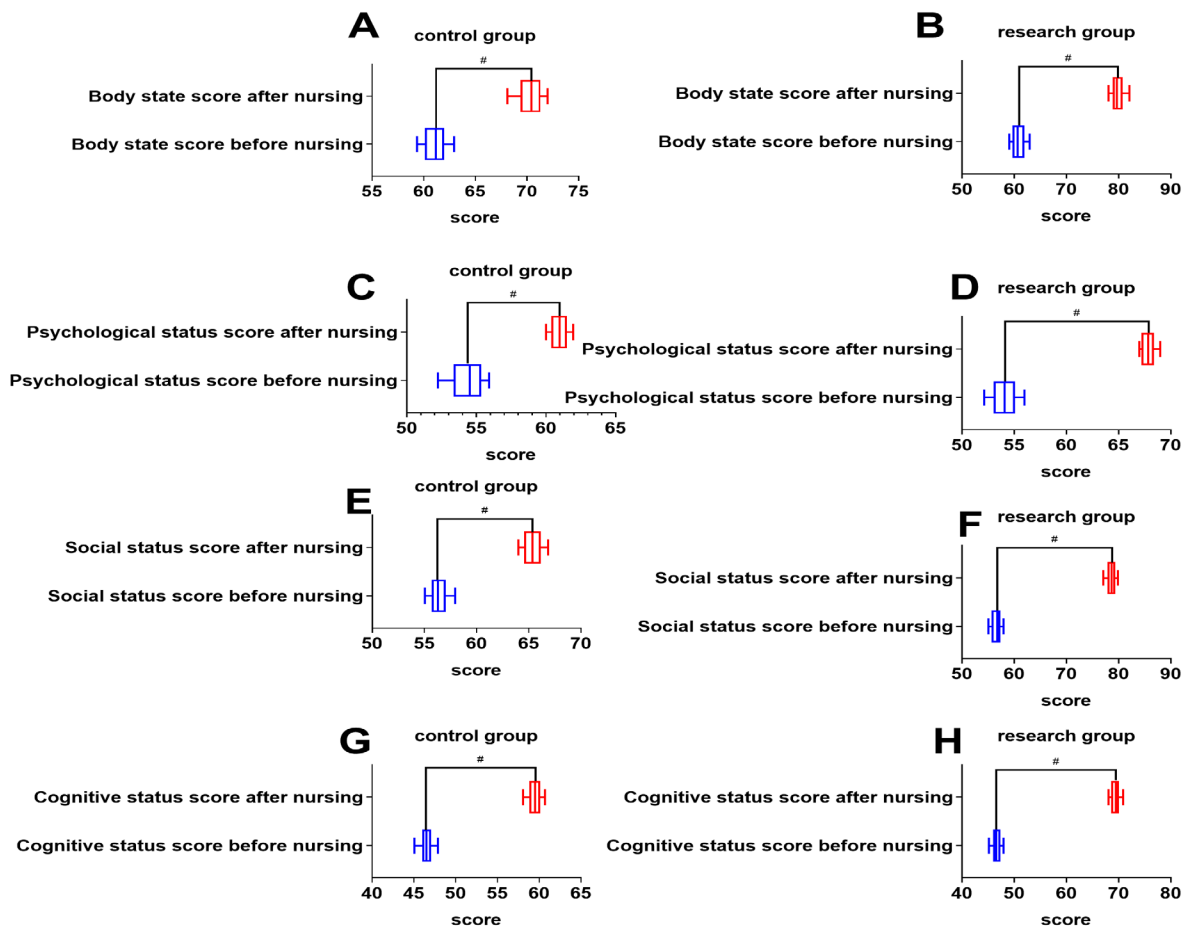
Figure 4 Comparative of life (**Note:** Comparative of physical status, psychological status, social status, and cognitive status between the two clusters before and after treatment, #P<0.05, the variance is remarkable)

Nursing satisfaction Comparative

According to the information provided, the nursing satisfaction rates of the control cluster and the study cluster were compared. The control cluster had a satisfaction rate of 88.22%, while the study cluster had a higher satisfaction rate of 96.36%. The difference in satisfaction rates between the two clusters was statistically significant (P<0.05), indicating that the study cluster had a significantly higher level of nursing satisfaction compared to the control cluster.

It's important to note that without additional context or information about the study, such as the sample sizes, methodology, or specific factors being investigated, it is challenging to draw further conclusions. However, based on the given data, the study suggests that whatever intervention or changes were implemented in the study cluster had a positive impact on nursing satisfaction compared to the control cluster.

Table 1 **Nursing satisfaction Comparative (cases, %)**

Cluster	Cases	Satisfaction	Generally satisfied	Not satisfied	Satisfaction with care
Control cluster	45	21	16	8	37 （82.22)
Study cluster	55	32	21	2	53 （96.36)
X^2	/	/	/	/	5.499
P	/	/	/	/	0.019

Discussion

Nursing is an important part of treatment. By implementing reasonable and targeted nursing intervention, it can not only effectively control the occurrence of adverse events, but also play its better preventive effect and enhance the comfort of patients seeking medical treatment. The object of emergency department nursing work is mainly critically ill patients requiring emergency hospitalization. Nursing has the characteristics of urgency, busy and many. In addition, the patient's condition develops rapidly and comes dangerously. The nursing staff not only needs to have excellent professional

knowledge, but also needs to have a upper awareness of risk estimation, so as to enhance the effect of first aid and enhance the prognosis of patients [10]. By analyzing the existing nursing models in the emergency department of our hospital, it is found that there are the following shortcomings: (1) lack of predictive nursing awareness and inability to identify potential or even existing risk factors early [11]; (2) nursing is not targeted and cannot estimate the risk according to the patient 's personal condition, and almost the same nursing model is carried out for a type of patient in actual nursing, resulting in the occurrence of nursing risk events [12, 13]; (3) the scheduling system is

unreasonable and busy work leads to low enthusiasm of nursing staff. Based on this, our hospital carried out risk care and achieved satisfactory results. Risk management is a professional nursing intervention program, by assessing the psychological and physical status of patients, and learning from prospective foresight, in order to effectively manage nursing risk factors. Popularly speaking, risk nursing refers to the identification and analysis of existing and potential risk factors in nursing, evaluation and treatment by querying relevant authoritative data, and finally find out the solution to eliminate existing risk factors and prevent the occurrence of potential risk factors, so as to reduce the nursing risk coefficient [14-16]. Risk care can not only reduce the harm of doctors and patients, reduce the economic losses of hospitals and patients, but more importantly, reduce the occurrence of adverse events such as complications and enhance the life of patients [17]. Because there are few practices to carry out risk nursing in our hospital, nursing risk clusters are established before nursing implementation, and team members are trained on risk nursing, in order to enhance the risk awareness of nursing staff themselves, so that they always run through the risk identification and risk prediction awareness in the whole nursing process [18]. This study found that the nursing quality of nursing staff in the emergency department was remarkably enhanced after carrying out risk nursing, and the analysis of the reasons was related to carrying out training, assessment and linking with performance, and this mechanism could urge nursing staff to actively learn relevant knowledge [19]. At the same time, the training combined with the actual case analysis, can enhance the team members' analysis, problem-solving ability, so that timely detection of potential risk factors in nursing, and ultimately can effectively enhance the quality of nursing.

The principle of risk nursing is to prevent problems before they occur. Nursing staff make a comprehensive and comprehensive evaluation by combining professional nursing knowledge, nursing procedures and the patient's own situation, so as to analyze the possible nursing risks and problems of patients in treatment, nursing and rehabilitation, so as to determine the nursing focus and nursing plan, which can effectively enhance the prognosis of patients [20, 21].This study found that after carrying out risk care in the emergency department, the first aid effect, cognitive function, and life of patients were remarkably enhanced. Comprehensive analysis to carry out risk nursing has the following advantages:

(1) it can change the nursing concept of nursing staff, transform passive nursing into active preventive nursing, and can effectively enhance their own prevention awareness and responsibility [22];

(2) it can be targeted and comprehensively evaluate patients to ensure that the nursing plan is more targeted and personalized;

(3) it can not only effectively find the existing nursing risk factors, but also predict the nursing risk in advance, and effectively eliminate [23];

(4) it can adjust the nursing plan at any time according to the patient 's personal situation and disease development;

(5) the implementation of elastic typesetting system can avoid the occurrence of insufficient hands and idle phenomenon of low-peak personnel at the peak period, which can keep the nursing staff highly motivated [24, 25].At the same time, it is found that the development of risk nursing can enhance the satisfaction of patients with nursing, and the analysis of the reasons may be always patient-centered in the implementation of risk nursing, and health education and psychological guidance in nursing can make patients feel high-quality nursing services, which can not only enhance self-care ability, but also facilitate the formation of a good nurse-patient relationship [26].

Conclusion

Carrying out risk nursing in emergency department nursing has achieved satisfactory results, which can effectively enhance the quality of department nursing, enhance the effect of first aid, facilitate the enhancement of cognitive function and life of patients, and increase their satisfaction with nursing. It is worthy of being widely popularized and applied. However, it should be noted that in carrying out risk care, the nursing plan should be flexibly changed according to the actual situation of patients, rather than a "template" trial care according to experience and reference. There are still many shortcomings in this study, which are limited by the source, number, observation indicators and follow-up time of study samples. The final experimental data results may have deviations. In the later study, more accurate experimental data can be obtained by expanding the samples and follow-up time.

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