

Study on the Value of the Theory of Protection Motivation in the Nursing of Spinal Fracture to the Quality of Life

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Abstract: *Objective:* To analyze the effect of protection motivation theory on the quality of life of patients with spinal fracture. *Methods:* From August 2019 to September 2020, 72 patients with spinal fracture were selected and randomly divided into two groups. The routine nursing group was the routine nursing group, and the combined nursing with the theory of protective motivation was the dynamic nursing group. *Results:* The hospitalization time, detumescence time, healing time and muscle strength recovery time of group A were shorter than those of group B ($P < 0.05$). The VAS score and Barthel index score of the dynamic group were better than those of the conventional group ($P < 0.05$); The score of SF-36 in the group A was higher than that in the group B ($P < 0.05$). *Conclusions:* The application of protection motivation theory in the nursing of patients with spinal fracture can shorten the healing time of fracture, promote the recovery of muscle strength, relieve the pain of fracture, and then improve the ability of daily life and quality of life of patients.

Keywords: Spinal fracture nursing; Protection motivation theory; Quality of life; Application value

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1. Introduction

In orthopedic diseases, the risk of spinal fracture is higher, which is common in thoracolumbar fractures. Most of the patients with spinal fracture had a history of lumbar trauma. Physical examination showed spinal deformity, local tenderness and buttonhole pain. In severe cases, spinal cord injury may occur, affect motor function and sensory function, and even induce death. At present, most of the patients with spinal fracture are treated with internal fixation. In order to improve the effect of postoperative rehabilitation, scientific nursing intervention is supplemented to help patients return to society. However, the main content of routine nursing mode is to monitor the changes of patients' breathing, pulse, blood pressure, body temperature and other indicators, and to prevent complications such as venous thrombosis, pressure sores or aspiration pneumonia. It does not pay attention to the change of patients' self-care behavior, which limits the curative effect^[1]. In this paper, 72 cases of patients with spinal fracture were selected to explore the value of daily nursing motivation.

2. Material and methods

2.1. Information

From August 2019 to September 2020, 72 patients with spinal fracture were randomly divided into two groups. There were 23 males and 13 females, with an average age of (58.71 ± 3.28) years (range, 45-74 years); In the conventional group, there were 24 males and 12 females, aged from 46 to 75 years, with an average of (58.94 ± 3.31) years, including 7 cases of cervical spine fracture, 19 cases of thoracic spine

fracture and 10 cases of lumbar spine fracture. The selected samples were confirmed by X-ray and all of them were informed. The patients with liver, kidney and brain tumors were excluded. The ethics committee approved the study. The fracture site, age and gender of the two groups were compared, $P > 0.05$.

2.2. Methods

In the routine group, routine nursing was carried out, and the patients with spinal fracture were explained the hospital system after admission, and the patients and their families were led to be familiar with the hospital environment. Communicate with patients more, evaluate their psychological state, patiently explain the matters needing attention of spinal fracture. Guide patients to carry out various examinations and plan their daily diet according to the examination results. Preoperative preparation, pelvic floor muscle exercise and respiratory exercise were carried out one day before operation, and the operation process was informed at the same time. After the operation, the patients were instructed to carry out physical activities, and their family members were instructed to help the patients change their body position regularly. Postoperative regular attention to wound recovery, and guide patients to urinate correctly ^[2].

To carry out nursing care in combination with the theory of protection motive of the motor unit, the measures are as follows:

2.2.1. Create a nursing team

The nursing team was established by selecting experienced patients in the Department of spinal fracture nursing. The theoretical knowledge of protection motivation was trained for the team members. The internal and external susceptibility, reaction cost, reaction efficiency and severity of spinal fracture patients were judged in the form of variables. The individualized nursing scheme was determined according to the evaluation results of different patients ^[3].

2.2.2. Group education

Patients with spinal fracture were hospitalized for 1-4 weeks, and 60-90min health education was carried out. Videos and brochures were used to explain the development and outcome of spinal fracture, so as to guide the patients to correctly recognize the disease, so as to improve the patients' self-protection motivation. Meanwhile, the disease precautions and their impact on future life were informed, supplemented by psychological intervention. At the same time, assess the mastery of the patients, make the patients clear their own problems, and give guidance.

2.2.3. Individual intervention

During ward round, nursing staff should carry out individualized guidance according to the actual situation of patients, so as to strengthen the susceptibility and severity, and improve self-efficacy and response efficiency. Falls Risk Awareness Questionnaire (FRAQ) fall risk scale was used to determine the fall risk of patients with spinal fracture, and to inform the patients of the susceptibility and severity of secondary fracture, so as to improve the response efficiency and reduce the reaction cost of secondary fracture prevention. In order to improve the awareness of calcium supplement and enhance the efficiency of calcium intake, the awareness of calcium supplement should be corrected, and the effects of calcium deficiency on the body, as well as the potential risks and severity of calcium deficiency should be informed. In addition, during the nursing period, it is necessary to strengthen the communication with patients, weaken the internal and external returns, assist patients to form correct cognition by analyzing the internal factors caused by patients' daily behaviors, so as to promote patients to recognize the "benefits," such as guiding patients to scientifically recognize the pleasure brought by smoking and drinking, so as to weaken the internal returns, and at the same time, instruct patients' relatives and friends to communicate with patients more, to weaken

external returns [4].

2.2.4. Safety intervention

To reduce the risk of falls, the risk factors of falls were evaluated and preventive measures were formulated, such as instructing patients to stop after waking up, after getting up and after standing.

2.3. Statistical study

SPSS 21.0 was selected to calculate the relevant data of patients with spinal fracture, % and ($\bar{x}\pm s$) were selected to record the relevant counts and measurement indexes during treatment and care, and X^2 and t tests were performed.

3. Results

3.1. Analysis of recovery indexes of patients with spinal fracture

The time of hospitalization, detumescence, healing and muscle strength recovery of the patients in the dynamic group were shorter than those in the conventional group ($P < 0.05$). See **Table 1**.

Table 1. Analysis of recovery time of patients with spinal fracture ($\bar{x}\pm s$)

Group name	Length of stay (H)	Detumescence time (H)	Healing time (weeks)	Muscle strength recovery (weeks)
Group A (n = 36)	18.79±2.74	7.43±2.19	21.84±3.21	25.68±3.42
Group B (n = 36)	13.68±2.51	4.79±1.08	16.75±2.32	19.72±2.39
t	8.2511	6.4870	7.7109	8.5707
P	<0.05	<0.05	<0.05	<0.05

3.2. Analysis of VAS score and Barthel index score between groups

After nursing intervention, VAS score decreased and Barthel index score increased, compared with the conventional group, $P < 0.05$; Before nursing, VAS score and Barthel index of the two groups were compared, $P > 0.05$. As shown in **Table 2**.

Table 2. Analysis table of VAS score and Barthel index score in patients with spinal fracture (points, $\bar{x}\pm s$)

Group	VAS		Barthel index	
	Before nursing	After care	Before nursing	After care
Group A (n = 36)	7.41±0.59	2.69±0.38	64.38±3.79	85.19±4.23
Group B (n = 36)	7.42±0.61	3.51±0.42	64.43±3.81	73.24±3.47
t	0.0707	8.6866	0.0558	13.1050
P	>0.05	<0.05	>0.05	<0.05

3.3. Score analysis of quality of life between groups

The scores of quality of life in the intervention group were significantly higher than those in the control group ($P < 0.05$). As shown in **Table 3**.

Table 3. Analysis of quality of life in patients with spinal fracture (points, $\bar{x}\pm s$)

Group name	Somatic function	Mental health	Role physical	Social function
Group A (n = 36)	81.74±3.68	87.57±4.19	82.69±3.94	85.66±3.87
Group B (n = 36)	67.48±3.54	70.69±3.94	71.23±3.47	73.74±3.71
t	16.7559	17.6093	13.0967	13.3406
P	<0.05	<0.05	<0.05	<0.05

4. Discussion

Spinal fracture patients are often accompanied with spinal cord injury, which can affect muscle strength, and even lead to abnormal urination and defecation function. Most of the patients are treated with surgical treatment, and the postoperative patients have a long rest time. Therefore, the risk of deep vein thrombosis or other stress injury is high, which will affect the limb motor function and reduce the quality of life of patients. In this paper, the theory of protection motivation is applied to the nursing of patients with spinal fracture. Through the fall threat assessment, the awareness of the susceptibility and severity of secondary fracture of patients with spinal fracture is enhanced, the internal and external returns are weakened, and the reaction efficiency and self-efficacy of patients are improved. It is conducive to mobilize the enthusiasm of patients with spinal fracture, and make patients manage daily diet and transportation from the heart, to avoid the risk of falling. In addition, for patients with spinal fracture, calcium intake efficiency and exercise efficiency are important factors affecting bone health. However, affected by the condition of fracture, patients have low confidence in exercise behavior and calcium intake behavior. Therefore, collective education and individualized guidance can improve patients' cognition of scientific exercise and reasonable calcium intake, and instruct patients' relatives to communicate with patients more, which can reduce the cost of exercise Behavior, calcium uptake behavior and reaction cost [5]. Combined with the analysis of this study, the time of hospitalization, detumescence, healing and muscle strength recovery was shortened. VAS score decreased, Barthel index score increased, the quality of life score increased, suggesting that the effect of protective motivation theory in the nursing of patients with spinal fracture is better. The analysis of the reasons shows that the motivation group can effectively avoid the risk of secondary fracture, improve the self-efficacy and sensory efficacy of patients' prevention behavior, weaken the cognition of internal and external rewards, enhance the cognition of disease susceptibility and severity, and further improve the quality of life of patients Nursing cooperation, improve their quality of life.

In conclusion, the application of the theory of protective motivation in the nursing of patients with spinal fracture can improve the compliance of patients, and the rehabilitation effect is good, which has the promotion value.

Disclosure statement

The author declares no conflict of interest.

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