

Effect of Pain Care for Improvement of Postoperative Pain and Sleep Quality



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Abstract: At the present stage, although the medical level in our country has developed rapidly, there is still a lack of norms and evaluation criteria for the nursing intervention of postoperative pain in patients. In particular, the clinical application of pain assessment in resting state and active state after operation is not common, because the pain degree caused by the two is different. Therefore, comparing the nursing score with the patient's self-score can find the shortcomings of the current clinical nursing, so as to effectively improve the service quality of nursing staff's pain nursing intervention after surgery. Objective: To explore the effect of postoperative pain care for the improvement of the pain and sleep quality. Methods: 80 patients undergoing cardiac surgery in our hospital from January 2022 to January 2023 were selected for clinical study, randomly divided into two groups with different postoperative pain care methods, and the pain assessment results of the two groups were recorded and compared. Results: Resting pain and active pain scores in the observation group were significantly lower than the control group, statistically significant ($P < 0.05$), and the sleep quality was significantly better than the control group ($P < 0.05$). Conclusion: Nursing staff need to make precise assessment of the patient's pain after surgery, and pay more attention to improvement for the pain and sleep quality of the patient during the special pain care. For those patients with pain, unsatisfactory improvement, we must strive to improve care services and focus on pain care throughout the perioperative period, so as to give patients the best medical experience.

Keywords: Postoperative Pain Care; Rest and Active Pain; Sleep Quality

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1 Introduction

In clinical surgical operations, patients are often prone to pain after finishing and safely returning to the ward, mainly because the incision of the operation is slowly reflected after the anesthetic effect is ineffective, but the degree of pain of patients is different according to the way of operation [1]. At present our national medical level although the rapid development, but for patients with postoperative pain is no special criteria, especially in patients after surgery resting state and activity, the pain degree is not the same, especially in activity, because may be involved in the wound, it is easy to produce severe pain [2, 3]. However, in the current clinical nursing

measures, the evaluation effect of patients' pain is poor. Comparing the nursing score with the patient's self-score can find the shortcomings of the current clinical nursing, so as to effectively strengthen the quality of service for nursing staff in clinical work.

The study was approved by the hospital ethics committee.

2 Data and Method

2.1 General Information

From January 2022 to January 2023, 80 patients were

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divided into two groups by random number chart. Observation group: 40 patients, 18 males / female 22 cases: age 43 to 78 years, mean of 58.6 ± 1.5 years; duration of 1 to 13 years, mean of 5.5 ± 0.4 years. Control group: 40 cases, 17 male / female 23 cases: age 42 to 79 years, mean of 58.7 ± 1.3 years; duration of 1 to 12 years, mean of 5.6 ± 0.3 years. There was no difference in the basic data of the two groups, and they were comparable ($P > 0.05$).

2.2 Methods

2.2.1 Grouping and Methods

The control group is the routine care group, such as condition observation, explaining the disease knowledge, timely communication between nurses and patients, enhancing the sense of trust, informing the patients of the correct usage of drugs and the treatment stage. The observation group jointly applied special pain care: (1) Pain education: detailed and comprehensive explanation of the causes of pain, patiently answering the questions, so as to prevent fear and anxiety caused by the lack of pain cognition. Mainly oral education, with the distribution of manuals, health knowledge lectures and WeChat platform communication, comprehensively improve the pain awareness. (2) Pain intervention: a) Music therapy: play music for the patients to complete breathing relaxation exercises, and relax, divert attention to pain and relieve pain; b) imagination therapy: create a clean and quiet environment, guide patients to pay full attention and imagination, encourage patients to restore their psychological state and release the pressure. In this process, It can also be guided to regular deep breathing, Further promote muscle relaxation and reduce the pain level. (3) Medication intervention: to strengthen the pain degree assessment of patients, Patients with severe pain need to communicate with their doctor, And follow the doctor's advice to provide patients with the corresponding drug analgesia, Explain the patient well, Eliminate their psychological doubts, Obtain the cooperation of the patients. (4) Sleep care: to create a good sleep environment for patients, Keep it clean, comfortable and quiet, Patients are told to fall asleep at night through warm water feet, drinking warm milk and other ways to promote sleep, Avoid watching exciting videos and other programs before falling asleep. During the bed period can maintain a comfortable position, the limbs naturally relax

and maintain deep breathing, and then promote sleep. (5) psychological relaxation nursing measures, specific measures are as follows: (i) Music meditation: under the background of music, guide patients to keep fully relaxed, recall the happy people or things before, and effectively relieve the body and mind. It can also cooperate with analgesic drugs to relieve patients' pain feeling and improve patients' confidence to overcome the disease. (ii) Respiratory training: guide the patient to follow the deep and slow breathing with the rhythm, breathe deep with the nose and slowly bulge the abdomen, slowly exhale with the mouth and contract the abdomen, and exercise repeatedly several times. (iii) Relaxation training: the patient takes the supine or semi-lying position to guide the patient to relax the muscle contraction of the whole body under the background of music. Pay attention, guide the patient to inhale slowly for 10s and gradually clench the fist, relax slowly when you exhale, and conduct the muscle contraction and relaxation training of the neck, shoulder, face and limbs in the same way. Do it once a day at noon and before bed, half an hour each time.

2.2.2 Evaluation Criteria

All patients in group 2 evaluated the effect 2 weeks after surgery, (1) assessed their postoperative pain by VAS visual analog score (0-10 points) and (2) evaluated their sleep quality by Pittsburgh Sleep Quality Index (PSQI), 0 to 21, the higher the score is the worse the sleep quality.

3 Statistical Methods

The data was analyzed SPSS 22.0, the standard deviation of measurement data is ($\bar{x} \pm s$), the data t-test comparison between groups, $P < 0.05$ was considered statistically significant.

4 Result

4.1 Comparison of Resting and Active Pain Scores (VAS) Between the Two Groups

The VAS of observation group was significantly lower in comparison of resting and active pain scores (VAS) between the two groups. The results are shown in Table 1:

Table 1 Comparison of resting and active pain scores (VAS) between the two groups

| group | n | Resting pain | Active pain |
|-------------------|----|--------------|-------------|
| observation group | 40 | 3.47±0.28 | 5.83±1.37 |
| control group | 40 | 5.19±0.34 | 6.94±1.41 |
| P | - | <0.05 | <0.05 |

4.2 Comparison of PSQI Between 2 Groups

The PSQI of 2 groups was higher before the nursing intervention and alike compared between 2 groups, The PSQI of observation group was significantly lower than the control group ($P<0.01$), after nursing intervention.

Table 2 Comparison of PSQI between 2 Groups ($\bar{x} \pm s$)

| divide into groups | n | Before the intervention | After the intervention |
|--------------------|----|-------------------------|------------------------|
| observation group | 40 | 13.62±2.15 | 6.15±1.05 |
| control group | 40 | 13.63±2.13 | 9.95±1.26 |
| P price | | $P>0.05$ (0.308) | $P<0.01$ (0.003) |

4.3 Comparison of Patient Satisfaction with Care Between the Two Groups

The nursing satisfaction of the patients in the observation group was 95.00%, while that of the control

group was 65.00%. The nursing satisfaction in the observation group were significantly higher than that of the control group, and the difference between the two groups was significant ($P<0.01$).

Table 3 Comparison of patient care satisfaction in the two groups (n, %)

| group | n | Very satisfied | satisfied | discontent | Nursing satisfaction |
|-------------------|----|----------------|-----------|------------|----------------------|
| observation group | 40 | 21 | 17 | 2 | 95.00 |
| control group | 40 | 11 | 15 | 14 | 65.00 |
| P | | | | | 0.006 |

5 Discussion

Usually after the end of surgery, patients experience varying degrees of pain as the concentration of anesthetic drugs drops. Generally speaking, the pain after cardiac surgery will be very intense, and the pain is not effectively controlled as soon as possible. This acute pain is likely to evolve into chronic pain, and the characteristics of pain will be transformed from the original acute injury pain to more serious neuropathic pain, and will last for several years. In the perioperative period of patients with coronary heart disease, patients with the disease may be at risk of developing myocardial infarction due to the presence of pain. In addition, because they are afraid of cough, easy to cause respiratory secretions are not smooth, may lead to serious complications of hypoxemia, pneumonia, atelectasis and so on [4]. This will seriously affect the patient's postoperative rehabilitation and quality of life. By improving postoperative pain management,

postoperative adverse effects can be significantly reduced, improving sleep and promoting recovery. It can also avoid the occurrence of a series of postoperative complications, and can also reduce the mental burden of patients, such as anxiety, panic, loss, despair, loss of confidence, loss of interest, etc. By adopting appropriate postoperative pain management programs, clinical studies have proved to significantly reduce postoperative complications, promote patient recovery, and improve patient survival conditions.

Chronic postoperative pain is chronic persistent pain at the surgical site, lasting for at least 3 months. After tissue damage, long-term pain symptoms often appear, which not only seriously damages the physical health of patients, but also seriously reduces their quality of life. The risk of chronic pain after surgery has been previously underestimated, and recent studies have shown that the incidence of chronic postoperative pain varies according to the type of surgery. After performing surgery, we recommend taking care immediately after receiving medical advice. We recommend that medical staff

carefully observe and help patients deal with problems they may be concerned or afraid of undergoing surgery. Since each patient has their own unique personal characteristics, work background, and cultural qualities, they may have their own unique emotions [5]. We suggest that medical staff provide them with special support according to their situation to help them better adapt to the environment after undergoing surgery. Inform patients that any form of physical change can cause pain, including changes in body posture, tearing wounds, coughing. Appropriate postoperative pain treatment plan is provided to help patients with good psychological communication. Before surgery, let patients know the rehabilitation measures after surgery, including avoiding excessive use of painkillers. If the patient's condition is very severe, please remind you to reduce the symptoms with professional help. Through communication with preoperative patients, we are able to better understand the postoperative symptoms and provide them with more nursing help, so that patients can better cope with the postoperative pain. We can also help them understand the postoperative symptoms by talking with them.

Studies have shown that postoperative pain changes with activity status. In the active state, the pain will be stronger than in the resting state, because when the patient performs the activity, the pain receptors are stimulated, which conducts more pain signals, which enhances the pain. It is very important to strengthen the whole care of postoperative pain to reduce the pain degree, especially to pay attention to the active pain of the patient after surgery, to prevent the pain from affecting the patient's postoperative ambulation activities and related functional exercise [6]. Active pain nursing assessment in clinical application to strengthen the timeliness of pain assessment, using two different evaluation methods to understand the degree of pain, and timely according to the assessment results take effective analgesic measures, is beneficial to improve the patients after surgical pain management effect, to promote patients with early postoperative activity and function recovery has important help, for the postoperative body rehabilitation incision healing laid an important foundation [7]. In this study, patients in the observation group had lower postoperative resting and active pain scores than those in the control group. Showed that the application of enhanced active pain care assessment can improve the quality of pain management in surgical patients. At the same time, the observation group also showed a significant improvement in the

postoperative sleep quality compared to the control group.

Therefore, in the postoperative pain care, nurses need to adopt personalized nursing plan according to the changes of the disease, so that the postoperative pain is timely relief. For those patients with pain, unsatisfactory improvement, we must strive to improve care services and focus on pain management throughout the perioperative period so as to give patients the best medical experience.

The caregivers can therefore self-report based on the pain when the patients are active, A general understanding of the main causes of pain when patients are active, And with a targeted and specific pain care, Advance patients pain-related health education, Developing patient awareness of self-management, And guide patients on correct breathing, coughing and getting out of bed, To minimize the pain perception in patients, Give the best care services to patients, Can effectively improve the quality of nursing work, It can also improve patients' satisfaction with the nursing work, At the same time, the application of psychological relaxation nursing in postoperative pain management can effectively reduce the patients 'pain score, reduce patients' perception of pain, relieve patients 'negative emotions, improve patients' compliance and self-confidence, enhance psychological thoughts, and play a complementary and physical and mental treatment role. psychological relaxation nursing is a fusion of physics, psychology, rehabilitation, behavioral medicine and aesthetics in a new medical method, by playing appropriate music to ease the nervous mental state, change the patient's thought and cognitive idea, mobilize the patient's subjective initiative, improve the patients with pleasure and relaxation. And in the musical background of meditation, relaxation training, can achieve physical and mental relaxation, distraction, pain relief good effect. [8-10]. In surgery, in the clinical care of posterior pain, Whole-course care for perioperative pain has a positive effect [11].

In summary, clinical postoperative pain care should be carefully considered from the perspective of paying attention to patients, so as to significantly improve patients' treatment satisfaction and postoperative quality of life. Therefore, in the postoperative pain care, nurses need to adopt personalized nursing plan according to the changes of the disease, so that the postoperative pain is timely relief [12, 13]. For those patients with pain, unsatisfactory improvement, we must strive to improve care services and focus on pain care throughout the perioperative period [14, 15], so as to give patients the best medical experience.

6 Conclusion

Nursing staff need to make precise assessment of the patient's pain after surgery, and pay more attention to improvement for the pain and sleep quality of the patient during the special pain care. Therefore, in the postoperative pain care, nurses need to adopt personalized nursing plan according to the changes of the disease, so that the postoperative pain is timely relief. For those patients with pain, unsatisfactory improvement, we must strive to improve care services and focus on pain care throughout the perioperative period, so as to give patients the best medical experience.

Conflict of Interest

All authors declare no conflicts of interest.

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