ORIGINAL RESEARCH

Application of TCM Nursing in Post-anesthesia Recovery Room Under Integrated Management Mode

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ABSTRACT

Objective • To explore the effect of traditional Chinese medicine (TCM) nursing under the integrated management mode during anesthesia recovery.

Methods • The researchers' hospital admitted 114 patients who underwent general anesthesia between August 2022 and April 2023. Based on the admission order, these patients were divided into a control group (N=57) and an observation group (N=57). The control group received routine nursing intervention, while the observation group received comprehensive TCM nursing management, which included therapies such as cupping, acupressure, massage, herbal decoction, and mirabilite application. The study evaluated the psychological status, recovery indexes after anesthesia, comfort level, incidence of complications, and patient satisfaction with nursing care.

Results • Compared to the control group, the observation group showed significant improvement in their psychological well-being ($P < .05$) and better recovery outcomes after anesthesia ($P < .05$). Additionally, the observation group reported higher levels of comfort ($P < .05$), a lower incidence of complications (8.77% vs 29.82%, $P < .05$), and greater satisfaction with nursing care (98.25% vs 84.21%, $P < .05$) compared to the control group.

Conclusion • Integrated management of traditional Chinese medicine effectively reduces postoperative adverse events, improves treatment outcomes, and facilitates patient recovery. Its benefits are evident, and its feasibility is well-established. (*Altern Ther Health Med.* [E-pub ahead of print.])

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INTRODUCTION

Anesthesia plays a crucial role in surgical treatment, but it also can have adverse effects on patients, such as cognitive impairment, dry mouth, chills, vomiting, and other complications. These negative effects impact the prognosis and diminish the effectiveness of the treatment.[1,2] Providing high-quality nursing care in the anesthesia recovery room is paramount.[3] Traditional Chinese medicine (TCM), guided by TCM theory and based on TCM dialectics, offers a nursing approach that can significantly improve the quality of care and the management of the recovery room.[4] However, the current nursing measures are still inadequate, and patients' psychological well-being, comfort, and satisfaction with their care are not being adequately addressed.[5,6]

To address this healthcare shortfall, the authors of this study implemented TCM nursing integrated management model on patients in a post-anesthesia care unit and assessed its clinical outcomes. The TCM nursing integrated management model is a novel approach that combines anesthesiologists' expertise and nurses' support to deliver comprehensive treatment, care, and rehabilitation based on TCM principles.[7] TCM nursing interventions include cupping, acupressure, massage, herbal decoction, and mirabilite application, which are selected according to each patient's condition and symptoms.[8-10] This study aimed to evaluate the effectiveness and safety of TCM nursing under the integrated management model during the anesthesia recovery period.

General Information and Methods

General Information. The Ethics Committee of the researchers' hospital (HBZY2020-KY-016-01) approved this study. From August 2022 to April 2023, 114 anesthetized patients admitted to the Hebei Provincial Hospital of Traditional Chinese Medicine were divided into 2 groups: the control group (N=57) and the observation group (N=57).

Inclusion Criteria

Criteria for participant inclusion in the study required that: (1) Patients and their families were aware of the research and willingly agreed to participate, signing an informed consent form. (2) Patients provided complete patient data, including demographic information, medical history, medication usage, preoperative and postoperative vital signs, type and duration of anesthesia, postoperative complications, psychological status, comfort level, and satisfaction with nursing care. (3) The patients' surgery was either abdominal, orthopedic, thoracic, or gynecological. (4) The patient was under anesthesia for less than 2 hours, and patients were classified as ASA Level I-II.

Potential patient subjects were explicitly excluded from the study if they had: (1) severe gastrointestinal dysfunction, (2) were long-term or had recently experienced a respiratory infection, (3) patients with severe hepatic and renal dysfunction, (4) individuals with severe mental disorders, (5) people with severe cardiovascular disease or coagulopathy, (6) patients whose families declined to sign the informed consent form, or (7) patients with hypertension and diabetes.

The patients were grouped according to the order of admission rather than random grouping because this was a retrospective study based on the medical records of the patients who received anesthesia in Hebei Provincial Hospital of Traditional Chinese Medicine during the study period. The general data of the patients included age, gender, weight, chronic diseases, medication use, type of surgery, and duration of anesthesia. The type of surgery included abdominal, orthopedic, thoracic, and gynecological surgery. The anesthesia time was calculated from the induction to the end of surgery.

Care Methods

The control group patients received standard nursing care. Upon entering the postoperative anesthesia recovery room, these patients underwent ECG monitoring to monitor their heart rate, blood pressure, and other vital signs closely. The appropriate body position was also selected, and the doctor was promptly notified of any necessary treatment. The ward was maintained clean and hygienic, with a temperature range of 23 to 27 °C and humidity between 40% and 60%. The bed sheets were kept dry and neat, ensuring a quiet environment for sufficient rest. Special attention was given to maintaining warmth during the period.

The observation group had implemented an integrated management mode for traditional Chinese medicine nursing. The specific approach was creating a nursing team for the integrated management of traditional Chinese nursing. The group consisted of 5 charge nurses with 10 years of extensive experience, 2 with ample knowledge, 1 chief physician, 1 deputy chief physician, and 1 attending physician.

A group of 7 individuals collaborated and developed a nursing plan based on the patient's condition. They underwent training on integrated management concepts and holistic awareness. After an assessment, students were assigned to the group, and regular random checks were conducted. Weekly meetings allowed each nursing staff member to summarize and report their work, analyze any issues, and propose specific measures to enhance work efficiency and quality of care. In basic nursing, patients in the recovery stage of anesthesia should be closely monitored for vital signs using ECG, heart rate, and blood pressure, with records taken every 15 to 30 minutes. Special attention was given to any signs of bleeding or worsening condition, and prompt treatment was administered if abnormalities occurred. Additionally, the estimation of anesthesia recovery time and the occurrence of adverse events were based on body mass and the patient's overall condition while providing technical nursing care.

The following techniques illustrate the range of traditional Chinese medical nursing methods and treatments.

Shivering: One should use 10g of rose, 30g of cooked ground 30g, 10g of medlar, 30g of lotus seeds, and 30g of longan. Combine these ingredients in a bamboo pot for soaking and boiling. After boiling, transfer the bamboo pot to avoid excessive heat. Apply the principles of cupping by selecting the appropriate points on the body while avoiding the incision area. Remove the cupping after 10 minutes. Adjust the frequency based on the patient's recovery.

Restlessness: Evaluate the patient's condition and offer targeted guidance to address their restlessness. This may involve using language effectively, showing empathy, addressing doubts, complying with their wishes, and employing techniques to win their trust and relieve inner pressure. Ensure that the ward environment is clean and well-lit to create a relaxed atmosphere for the patient, preventing anxiety and irritability.

Urinary retention: Patients who have undergone anesthesia are prone to experiencing urinary retention. Cupping therapy can be used as a treatment method, focusing on acupuncture points like Shenque, Guanyuan, Shenshu, and Qihai. Additionally, points like Zhongji, Blasishu, Sanyinjiao, Yinlingquan, and Zusanli can be selected for point massage to promote bladder stimulation. Adding points like Sea of Qi, Curved Bone, and Guan Yuan can enhance the beneficial effects for older or weak patients who struggle with urination.

Nausea and vomiting: Acupuncture can be utilized by applying pressure to specific acupoints. The acupoints Hegu, Neiguan, and Zusanli on both sides of the body are targeted, with needles inserted under the skin. This technique can be employed until the desired therapeutic effect is achieved.

Bloating: To alleviate bloating, one can apply mirabilite to the Shenque Point and rub both hands to generate warmth. Then, gently massage the patient's lower abdomen in a clockwise direction using the palm of your hand. Gradually increase the pressure while massaging the Qi Sea, Guan Yuan, and Zhongwan acupoints. Continue massaging for approximately 3 to 5 minutes. Additionally, one can place 50g of mirabilite in a gauze bag and apply it to the Shenque Point to promote gastrointestinal peristalsis. If the patient has local skin damage, ulcers, or hypothermia, alternative measures should be used to address those conditions.

Dry Mouth: For patients experiencing dry mouth, the treatment involves using Shengjin Zhike Yishun decoction. This prescription includes hawthorn, licorice, black plum, honey, mint, Sichuan Dome, and borneol. Mix these ingredients with 400ml of water and boil until reduced to 200ml. Although the symptoms may not be severe, applying pressure to the water spring point can help alleviate dryness in the mouth and improve overall clinical symptoms.

Patient Observation Index

In addition to the treatments mentioned above, a Patient Observation Index was utilized to assess patient observations. To gauge the mental states of patients, the psychological status of the 2 groups was evaluated with the psychological pain thermometer (DT) and self-rating anxiety scale (SAS).

The patients in both groups were assessed using the DT, which had an average score of 10. Scores ranged from 0 to 10, with each point representing a different level of distress. A score of 0 indicated normal mental state, 1 to 3 indicated mild psychological distress, 4 to 6 indicated moderate psychological pain, 7 to 9 showed severe psychological pain, and a score of 10 indicated extreme psychological pain.[11]

The SAS consisted of 20 items, scored on a 4-point scale. The highest score was 100, and the lowest possible score was 25. Scores below 50 were considered normal, scores between 50 and 60 indicated mild anxiety, scores between 61 and 70 indicated moderate anxiety, and scores above 70 showed severe anxiety. A higher score indicated more severe anxiety.[12]

Recovery period indexes outlined the criteria for assessing recovery in the anesthesia patients of both groups based on Steward's score and recovery time. A Steward Awakening Score evaluated consciousness, airway patency, and limb activity. A Steward score of ≥4 points indicated that the patient was ready to leave the anesthesia recovery room.[13]

Criteria for Comfort Assessment: The patients were evaluated using the GCQ in 5 dimensions: psychology, physiology, spirit, social culture, and environment. A total of 28 items were included in the assessment. A positive scoring system of 1-4 was employed, resulting in a maximum score of 112 points. A higher score indicates a greater level of comfort.[14]

Incidence of complications: Various complications such as chills, restlessness, urinary retention, nausea, vomiting, abdominal distention, and dry mouth were calculated separately for both groups. The incidence rate was determined by dividing the total number of complications by the total number of cases and multiplying by 100%.

Nursing satisfaction: The satisfaction of patients and their family members was evaluated using a self-made nursing satisfaction questionnaire that assessed the attitude and professional competence of the nursing staff. Scores ranged from 0 to 100, with scores below 60 considered unsatisfactory, scores between 60 and 85 considered basic satisfaction, and scores above 85 considered very satisfying. The satisfaction rate was calculated using the formula: [(1-unsatisfactory)/total number of cases] × 100%.

Statistical Analysis

The information about patients undergoing anesthesia was entered into SPSS 26.0 statistical software for analysis. Psychological status, anesthesia recovery period, comfort level, and complication rate were evaluated using a *t* test and chi-square test. A significant level of $P < .05$ was considered statistically significant for these measures.

RESULTS

General Information of Patients in Both Groups

Patients in both groups were divided into a control group (N=57) and an observation group (N=57) based on their admission order. The general information of the 2 groups was collected and analyzed, revealing no significant differences between them ($P > .05$). See Table 1 for specific details.

Comparison of Mental State

The mental state of the 2 groups was compared and analyzed using psychological status indexes. The data indicated that after receiving nursing care, both groups experienced a decrease in DT value and SAS value ($P < .05$). Furthermore, the observation group exhibited significantly lower DT and SAS values than the control group ($P < .05$). Overall, the mental status of the observation group showed significant improvement compared to the control group ($P < .05$). For specific information, see Table 2.

Relevant Indexes of Anesthesia Recovery Period

To examine and assess the relevant measures during the recovery period after anesthesia, a comparison was made between the 2 groups. The findings revealed that the Steward score in the observation group was notably higher than that of the control group, while the recovery time was significantly shorter ($P < .05$). The observation group demonstrated

Table 1. General Data of the 2 Group ($\bar{x} \pm s$), (n,%)

Group	n	Male (case)	Female (case)	Average Age (years)	Chronic diseases (case)	Medication use (case)	Average weight (kg)
Control Group	57	29(50.88)	28(49.12)	41.36±4.41	12(21.05)	15(26.32)	65.23±8.76
Observation Group	57	27(47.37)	30(52.63)	41.57±4.33	13(22.81)	14(24.56)	66.12±9.01
χ^2/t		0.140	0.140	0.257	0.052	0.062	0.521
P value		.708	.708	.798	.820	.803	.604

Table 2. Comparison of Mental Status ($\bar{x} \pm s$, score)

	DT		SAS	
Group	Before nursing	After nursing	Before nursing	After nursing
Control Group (n=57)	6.68±0.98	4.12±0.68[a]	66.67±3.35	36.68±4.33[a]
Observation Group (n=57)	6.59±0.96	3.76±0.71[a]	65.98±3.24	34.35±4.45[a]
t	0.495	2.765	1.118	2.833
P value	.621	.007	.266	.005

[a]$P < .05$ compared with pre-care

Abbreviations: DT, Distress Thermometer; SAS, Self-rating Anxiety Scale.

Table 3. The Indexes of Anesthesia Recovery ($\bar{x} \pm s$)

Group	n	Steward score	Recovery time (min)
Control Group	57	6.88±1.73	80.97±11.68
Observation Group	57	7.98±1.61	73.84±10.64
t		3.514	3.407
P value		.001	.001

Table 4. Comparison of Comfort Degree Between the 2 groups (n,%)

Group	Psychologically	Physically	Mentally	Social culture and environment	Overall comfort
Control Group (n=57)	25.69±3.41	12.11±2.32	17.34±0.87	16.01±1.92	71.15±7.63
Observation Group (n=57)	27.33±3.35	13.41±2.41	17.88±0.89	17.12±1.79	75.74±7.47
χ^2	2.590	2.934	3.276	3.193	3.245
P value	.011	.004	.001	.002	.002

Table 5. Incidence of Complications (n,%)

Group	Shiver	Fidgeting	Urinary retention	Abdominal distention	Dry mouth	Nausea and vomiting	Incidence
Control Group (n=57)	3(5.26)	3(5.26)	1(1.75)	2(3.51)	4(7.02)	4(7.02)	17(29.82)
Observation Group (n=57)	0(0.00)	1(1.75)	0(0.00)	1(1.75)	1(1.75)	2(3.51)	5(8.77)
χ^2							8.111
P value							.004

Table 6. Comparison of Nursing Satisfaction (n,%)

Group	n	Very satisfied	Basically satisfied	Not satisfied	Satisfaction
Control Group	57	31 (54.38)	17 (29.82)	9 (15.79)	48 (84.21)
Observation Group	57	47 (82.46)	9 (15.79)	1 (1.75)	56 (98.25)
χ^2					7.105
P value					.008

improved anesthesia recovery-related indicators compared to the control group ($P < .05$). See Table 3 for specific details.

Comparison of Patients' Comfort Degree

A comparison and analysis were conducted on patients' comfort levels in both groups. The data indicated that patients' psychological, physiological, spiritual, social, and cultural comfort in the observation group was significantly higher than in the control group ($P < .05$). The observation group exhibited a higher overall comfort score than the control group ($P < .05$), and the recovery time was significantly lower than that of the control group ($P < .05$). Compared with the control group, the observation group's anesthesia recovery-related indicators were better ($P < .05$), See Table for specific details.

The level of comfort experienced by the two groups of patients was compared and analyzed. The findings indicated that the patients' psychological, spiritual, social, and cultural comfort in the observation group was significantly higher than those in the control group ($P < .05$). Compared to the control group, the observation group had a higher overall comfort score ($P < .05$), as shown in Table 4.

Incidence of Complications

The occurrence of complications following anesthesia in the 2 were compared and analyzed. The data revealed that the incidence of complications in the control group was 29.82%, significantly higher than in the observation group (8.77%, $P < .05$), with specific information shown in Table 5.

Nursing Satisfaction

The level of satisfaction with post-anesthesia nursing care in the 2 groups was compared and evaluated. The data demonstrated that the satisfaction rate in the observation group was 98.25%, which was significantly higher than that of the control group (84.21%, $P < .05$), as shown in Table 6.

DISCUSSION

Anesthesia plays a crucial role in surgical procedures, but it can also lead to specific adverse effects on patients, including cognitive impairment, dry mouth, chills, vomiting, and other complications. These adverse effects can impact the prognosis and diminish the effectiveness of treatment.[15-18] Therefore, enhancing the quality of nursing intervention during the recovery period is essential. Extensive research conducted by numerous scholars has shown that Traditional Chinese Medicine nursing can effectively enhance the quality of care and improve the management of the recovery room.[19-21]

This study implemented the integrated management model of TCM nursing on patients in the post-anesthesia care unit (PACU) and examined its clinical impact. The findings revealed that the observation group exhibited significantly improved psychological well-being ($P < .05$) and better recovery indicators after anesthesia ($P < .05$) compared to the control group. Moreover, the observation group reported higher comfort levels ($P < .05$), a lower incidence of complications (8.77% vs 29.82%, $P < .05$), and greater nursing satisfaction (98.25% vs 84.21%, $P < .05$) than the control group.

These results suggest that TCM nursing under the integrated management model can effectively reduce postoperative complications, enhance treatment outcomes, facilitate patient recovery, and improve patients' psychological well-being, comfort levels, and satisfaction with nursing. An analysis of the reasons behind these outcomes reveals that the observation group benefitted from a dedicated integrated nursing team that conducted a comprehensive risk assessment based on patients' physical conditions, anesthesia, age, and other factors. This approach actively reduced adverse events, facilitated patient recovery, improved safety and efficiency, and shortened recovery.

Additionally, patients were provided emotional support during this time, with medical staff guiding them actively through their tone of speech, attitude, and actions. This helped to eliminate negative emotions such as panic and worry, improved their psychological state, and increased their confidence and determination to overcome the illness. Ultimately, this enhanced the effectiveness of treatment and sped up the recovery process. The control group experienced a significantly higher incidence of complications at 29.82% compared to the observation group's 8.77% ($P < .05$). Furthermore, the observation group reported a higher level of comfort than the control group ($P < .05$), effectively reducing complications such as shivering, nausea and vomiting, and urinary retention while enhancing patient safety and comfort primarily due to the observation group's patients receiving targeted care.

The Chinese Wolfberry (Lycium barbarum L.) nourished the liver, kidneys, and lungs during nursing. It also had the power to nurture the stomach, balance the endocrine system, and replenish the blood and Qi. Longan is also known for its properties in invigorating the spleen and stomach, clearing the heart, awakening the spleen, nourishing the blood, and clearing the mind. Cupping with bamboo follows the principle of detumescence, pain relief,

promoting blood circulation, and removing blood stasis. This method helped improve blood circulation in patients, warming the meridian, dispelling wind and cold effects, and promoting the patient's temperature recovery.[5]

Emotional nursing has effectively reduced patients' restlessness and agitation by leveraging the positive connection between gestures and movement.[7] For patients receiving spinal anesthesia, cupping therapy was applied to Point Shenque, the longevity point in the human body, to counter adverse events and promote fluid retention. Point Guanyuan strengthened the root cause of the disease and reinforced the lower abdomen, while Point Shenshu dissipated kidney heat. Point Qihai, located on the Ren Pulse, is one of the primary acupoints in the body. Cupping therapy can stimulate these acupoints simultaneously, regulating the functions of corresponding meridians and organs, facilitating the flow of Qi and blood, and promoting balance between yin and yang. This enhances therapeutic outcomes and reduces the incidence of uroschesis by increasing or decreasing the acupoints for elderly patients or those with postoperative weakness in micturition.[9]

After being under anesthesia due to the effects of the medication, it is common to experience gastrointestinal issues such as nausea and vomiting.[22] In clinical settings, the acupuncture points Hegu, Neiguan, and Zusanli are often used to treat post-operative nausea and vomiting. These points help to open up the body's channels and adjust the functions of zang-fu organs, resulting in sustained stimulation and improved therapeutic effects. Additionally, some patients may experience abdominal distension during the recovery period due to a build-up of gas. By applying mirabilite to the Shenque point, gastrointestinal peristalsis can be effectively promoted, aiding in gas release and reducing abdominal distension. It is important to note that patients with skin damage or ulcers should avoid this treatment to prevent any further complications or adverse events.[23]

Because the patient must undergo fasting before surgery, the loss of spontaneous breathing and the temporary disappearance of the physiological air humidification and filtering action occur after anesthesia. As a result, the patient's oral cavity often becomes dry after the operation, which can lead to feelings of nervousness and anxiety, reducing their tolerance and affecting their prognosis. Additionally, this can lead to thick sputum, an imbalance in oral flora, increased infection, and oral ulcers.[5] In the treatment group, Hawthorn can eliminate food stasis and disperse blood stasis, licorice can clear heat, detoxify, expectorate, and relieve cough, and black plum can contract the lungs and intestines and produce body fluid. Honey has a heat-clearing, invigorating, and moistening effect. Mint can provide a fresh and refreshing feeling while dispersing wind and dissipating heat. Sichuan Dome promotes blood circulation, expels wind, and relieves pain. Borneol is commonly used in clinics for relieving orifices, dispersing stagnant fire, reducing swelling, and relieving pain. It effectively relieves patients' dry mouth and thirst after surgery. Even if the symptoms are not obvious, pressing the water spring point (Shuiquan or ST 24) can relieve dry mount. This belongs to the kidney meridian of foot-shaoyin and is commonly used to treat dysuria.[24]

The nursing satisfaction rate in the observation group was 98.25%, significantly higher than in the control group (84.21%, $P < .05$). The results showed that under the integrated management mode, TCM nursing could prevent and treat complications in the recovery stage of anesthesia. The approach has accelerated patient recovery, improved clinical outcomes, and promoted patient rehabilitation. Patients and their families have recognized the quality of care and expressed high satisfaction. However, this study acknowledges some limitations, such as the specific requirements for implementing the management model in the theory and practice of TCM by medical staff. Further clinical promotion will require more detailed procedures, which will be the focus of the researchers' future work.

CONCLUSION

Implementing TCM nursing in the anesthesia recovery room through an integrated management approach can strengthen nursing management in the recovery room and effectively improve the quality of care. It can also significantly reduce the incidence of postoperative adverse events, such as shivering, nausea and vomiting, urinary retention, abdominal distension, and dry mouth, thereby improving patient safety. It can also effectively improve patients' psychological status, comfort level, and satisfaction, promoting their recovery and overall quality of life. The effect is noticeable, and the feasibility is strong.

COMPETING INTEREST

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AUTHOR CONTRIBUTIONS

Zhou YJ and Xu Z were in charge of conception and design. Liu XG provided administrative support. Provision of study materials or patients: Liu ZJ and An LH provided study materials and patients. Zhang SN collected and assembled data. Zhou YJ, Xu Z, and An LH analyzed and interpreted the data. All authors wrote the manuscript. All authors approved the manuscript. Yanjie Zhou and Zhe Xu contributed equally to this study.

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ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was conducted in accordance with the declaration of Helsinki. This study was conducted with approval from the Ethics Committee of Hebei Provincial Hospital of Traditional Chinese Medicine (ID: HBZY2020-KY-016-01). Written informed consent was obtained from all participants.

AVAILABILITY OF DATA AND MATERIALS

All data generated or analyzed during this study are included in this published article.

CONSENT FOR PUBLICATION

The manuscript is not submitted for publication or consideration elsewhere.

REFERENCES

1. Soehle M, Bochem J. Anesthesia for electroconvulsive therapy. *Curr Opin Anaesthesiol*. 2018;31(5):501-505. doi:10.1097/ACO.0000000000000624
2. Sridharan K, Sivaramakrishnan G. Comparison of fentanyl, remifentanil, sufentanil and alfentanil in combination with propofol for general anesthesia: a systematic review and meta-analysis of randomized controlled trials. *Curr Clin Pharmacol*. 2019;14(2):116-124. doi:10.2174/1567201816666190313160438
3. Luo X, Mou J, Li B, Liao X, Zhang M. Development and evaluation of catheter removing in general anesthesia patients during anesthesia recovery in post-anesthesia care unit. *Chung Hua Hu Li Tsa Chih*. 2018;53(12):1468-1472. doi:10.3761/j.issn.0254-1769.2018.12.012
4. Feng W, Shi S. Effect of traditional Chinese medicine special nursing on gastrointestinal disturbance after general anesthesia for lumbar disc herniation. *Journal of Clinical and Pathological Sciences*. 2020;40(11):2971-2974. doi:10.3978/j.issn.2095-6959.2020.11.028

5. Zeng M, Wang X, Xie P. Application of traditional Chinese medicine characteristic nursing in patients in anesthesia recovery room. *Clinical Research in Traditional Chinese Medicine*. 2018;(33):93-94.
6. Duan X. Effect of traditional Chinese medicine nursing on cognitive function recovery of senile patients after general anesthesia. *Guangming Chinese Medicine*. 2019;34(2):316-318. doi:10.3969/j.issn.1003-8914.2019.02.058
7. Chen H, Li C, Xu X. The effects of the Chinese medicine nursing on emergence agitation after general anesthesia operation. *Sino-Foreign Medicine*. 2016;35(26):154-157. doi:10.16662/j.cnki.1674-0742.2016.26.154
8. Wu X. Application of nursing intervention of traditional Chinese medicine in reducing adverse reactions of general anesthesia patients during recovery period. *Acta Guangxi University of Chinese Medicine*. 2019;22(3):74-77. doi:10.3969/j.issn.2095-4441.2019.03.023
9. Guo X, Lin C, Sun Y. Chinese medicine nursing in prevention and treatment of urinary retention after spinal canal anesthesia. *Acta Changchun University of Chinese Medicine*. 2016;32(4):796-798. doi:10.13463/j.cnki.cczyy.2016.04.049
10. Pang Z. Application effect analysis of integrated management of anesthesia care in patients in post-anesthesia recovery room. *Popular Technology*. 2022;24(5):71-74. doi:10.3969/j.issn.1008-1151.2022.05.019
11. Hou C, Tan J, Zhang W, Yang Y. Effect of psycho-cardiologic nursing combined with Chinese press needle embedding on psychological distress in patients with coronary atherosclerotic heart disease. *China Medical News*. 2020;17(07):185-188.
12. Li W, Han M, Hou T, Li J, Zhai M. Effect of a single sub-anesthetic dose of ketamine on emotion and quality of recovery of patients with radical mastectomy during early period of postoperative. *Chinese Journal of Clinical Health*. 2019;22(6):794-798. doi:10.3969/J.issn.1672-6790.2019.06.019
13. Chen X, Guo Z, Wei L, Ma Y, Tan G. Comparison of the anesthetic effect of propofol or ketamine combined with dexmetomide in children with congenital heart disease undergoing cardiac catheterization. *Acta Acad Med Guangxi*. 2019;36(10):1647-1650. doi:10.16190/j.cnki.45-1211/r.2019.10.023
14. Dai H, Si Y. Monitoring the effect of holistic nursing care in treatment room after anesthesia on the physiological and psychological comfort of patients undergoing abdominal operation. *Int J Nurs (N Y)*. 2020;39(13):2449-2451. doi:10.3760/cma.j.cn221370-20190808-00760
15. Wei CN, Chang XY, Dong JH, Zhou QH. Remifentanil for carboprost-induced adverse reactions during Cesarean delivery under combined spinal-epidural anesthesia. *Front Pharmacol*. 2020;11:980. doi:10.3389/fphar.2020.00980
16. Wu X, Cao J, Shan C, et al. Efficacy and safety of propofol in preventing emergence agitation after sevoflurane anesthesia for children. *Exp Ther Med*. 2019;17(4):3136-3140. doi:10.3892/etm.2019.7289
17. Fan J, Zhang F. Sufentanil and remifentanil respectively combined with propofol on blood pressure and bispectral index in children during anesthesia induction. *Journal of Pediatric Pharmacy*. 2020;26(2):28-30. doi:10.13407/j.cnki.jpp.1672-108X.2020.02.009
18. Jiang XL, Gu XY, Zhou XX, et al. Intestinal dysbacteriosis mediates the reference memory deficit induced by anaesthesia/surgery in aged mice. *Brain Behav Immun*. 2019;80:605-615. doi:10.1016/j.bbi.2019.05.006
19. Deng J, Liu H, Wu X, Gu Y, Zhang G. The efficacy of aromatherapy on relief of postoperative nausea and vomiting: a meta-analysis. *J Nurs (Luton)*. 2018;33(11):40-43. doi:10.3870/j.issn.1001-4152.2018.11.040
20. Han W, Wang S, Deng X. Suggestions on development and management of Chinese nursing system in anesthesiology under present situation. *International Journal of Anesthesiology and Resuscitation*. 2020;41(5):541-544. doi:10.3760/cma.j.cn321761-20190611-00047
21. Mi C, Dong D, Yu D, Wang C, Ge Y, Gao J. Effects of ultrasound-mediated drug delivery of Dachengqi decoction through Tianshu (ST25) point on the early recovery quality of patients after radical gastrectomy. *International Journal of Anesthesiology and Resuscitation*. 2019;40(1):11-15. doi:10.3760/cma.j.issn.1673-4378.2019.01.003
22. Jia X, Wang H, Ma W, Zhang Y, Wang D, Han W. Significance of fentanyl-induced cough in predicting the postoperative nausea and vomiting. *Drugs for Use and Clinical Practice*. 2018;21(10):1177-1179. doi:10.14053/j.cnki.ppcr.201810022
23. Chan C, Chen L. Analysis on the electronic microscopy characteristics of 5 mineral traditional Chinese medicines containing sulfate. *Chinese Pharmacist*. 2020;23(1):67-73. doi:10.3969/j.issn.1008-049X.2020.01.015
24. Chen A, Wen B, Ma C, Chen P. Clinical observation on 27 cases of primary Sjögren's syndrome treated with filiform needling combined with "Yiqi Shengjin San.". *Jiangsu Traditional Chinese Medicine*. 2019;51(10):64-66. doi:10.3969/j.issn.1672-397X.2019.10.022