

Research Article

Analysis of Placement Priorities and Nursing Countermeasures of Transnasally Inserted Intestinal Obstruction Catheters in Patients with Acute Small Bowel Obstruction

Xiaoli Qian and Wei Yan 

Department of General Surgery, General Hospital of Eastern Theater Command, Nanjing, Jiangsu 210001, China

Correspondence should be addressed to Wei Yan; yanwei8201@163.com

Received 23 August 2022; Revised 13 September 2022; Accepted 17 September 2022; Published 29 September 2022

Academic Editor: Atul Kabra

Copyright © 2022 Xiaoli Qian and Wei Yan. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Objective. To explore the placement priorities and analysis of nursing countermeasures of transnasally inserted intestinal obstruction catheters in patients with acute small bowel obstruction (ASBO). **Methods.** One hundred and three patients with ASBO treated in our hospital from May 2016 to February 2022 were enrolled to this study. Patients who received individual nursing for transnasally inserted intestinal obstruction catheters were considered as the observation group ($n = 59$) and those who received traditional nursing were regarded as the control group ($n = 44$). The symptom relief time, daily gastrointestinal decompression, bowel sound recovery time, exhaust, defecation recovery time, and gas-liquid plane disappearance time were compared between both groups. The abdominal pain was evaluated by visual analogue scale (VAS), and the psychology of patients was evaluated by self-rating anxiety scale (SAS) and self-rating depression scale (SDS). Patients' clinical efficacy and incidence of adverse effects were counted, and quality of life was assessed using the short form 36 (SF-36) health survey questionnaire. **Results.** In the observation group, the improvement time of clinical symptoms and VAS, SAS, and SDS scores after intubation were lower than those of the control group, while the total clinical treatment efficiency was higher ($P < 0.05$). As to the adverse effects, the observation group was lower than the control group ($P < 0.05$). Also, the SF-36 scores were higher than those of the control group in all dimensions ($P < 0.05$). **Conclusion.** The individual nursing strategy implemented for the transnasally inserted intestinal obstruction catheter can effectively shorten the recovery of ASBO patients and improve their treatment outcome and prognosis quality of life.

1. Introduction

Acute small bowel obstruction (ASBO) is one of the familiar acute abdominal conditions in surgery, most of which have predisposing factors and a history of open surgical treatment [1]. The onset is marked by abdominal pain, bloating, nausea, vomiting, and cessation of anal discharge and defecation [2]. Besides, ASBO patients often have fluid and electrolyte loss, which can lead to necrosis and infection, and vomiting can be very frequent and the patients may even go into shock if no treatment is given [3]. At this stage, most clinical patients are treated with gastrointestinal decompression. The aim is to avoid infection, reduce edema of the bowel wall, relieve symptoms, and promote repair. The

most common decompression method is to insert a gastric tube and use a negative pressure suction device to extract gastric juice, intestinal juice, and gas in the gastrointestinal tract, or using an enema to promote the excretion of intestinal contents through the anus can also reduce gastrointestinal pressure and achieve the purpose of reducing the symptoms of intestinal obstruction [4].

Transnasally inserted catheter therapy for intestinal obstruction is an important method to help decompress patients' stomachs and intestines by placing a catheter to effectively decompress the intestinal lumen above the site of obstruction [5]. The transnasally inserted intestinal obstruction catheter decompresses the site more deeply and more completely than the normal gastric tube

decompression [6]. But the fixation method of the transnasally inserted intestinal obstruction catheter differs from that of the common gastrointestinal decompression tube, and the proper fixation of its position is relevant to the treatment outcome. So, the fixation point needs to be adjusted daily to prevent the catheter from going deeper or dislodging [7]. Furthermore, intestinal obstruction is prone to complicate ionic disturbances and acid-base imbalance and also to cause a variety of adverse effects [8]. Therefore, it is also vital to adopt nursing interventions along with treatment for early recovery of ASBO patients. However, the current clinical care content for ASBO is still lacking in specificity, and for the treatment of more complex transnasally inserted intestinal obstruction catheters, traditional nursing strategies are obviously not enough [9]. At present, many authors have pointed out that a targeted nursing strategy for ASBO and transnasally inserted intestinal obstruction catheters needs to be found as soon as possible in the clinic, but no significant results have been achieved so far [10, 11].

In this research, we analyzed the placement priorities and nursing countermeasures of transnasally inserted intestinal obstruction catheters in ASBO patients to provide valuable reference and guidance for future clinical management.

2. Materials and Methods

2.1. Study Area. The study was carried out at department of general surgery, General Hospital of Eastern Theater Command from May 2016 to May 2022.

2.2. Data Collection. One hundred and three patients with ASBO treated with transnasally inserted intestinal obstruction catheters in our hospital from May 2020 to February 2022 were regarded as the research objects. Inclusion criteria were as follows: (1) the diagnosis of ASBO is confirmed by imaging [12], and all patients reveal abdominal pain, abdominal distension, anal failure of stool and gas pass; (2) patients are older than 18 years; (3) complete case data; and (4) good compliance and no transfer. Exclusion criteria were as follows: (1) patients with intestinal obstruction caused by tumors; (2) patients without drug allergies; (3) patients with abnormal heart, liver, and kidney functions; and (4) pregnant and lactating women. Patients receiving individual nursing for the transnasally inserted intestinal obstruction catheter were considered the observation group ($n=59$) and those receiving traditional nursing were regarded as the control group ($n=44$). Included patients were informed about this trial and had signed an informed consent form.

2.3. Post-Admission Treatment. After admission, both groups were treated with fasting, anti-inflammatory, fluid replacement and maintenance of water-electrolyte balance, followed by treatment with a transnasally inserted intestinal obstruction catheter, all done by the same clinician in our hospital.

2.4. Nursing Strategies. After admission of patients in both groups, healthcare workers first established intravenous access, monitored vital signs, informed the treatment process, improved cooperation between family members and patients in treatment, helped patients eliminate adverse emotions, and made timely interventions for their needs. Since the patients in the observation group were treated with transnasally inserted intestinal obstruction catheters, due to the different fixation methods, the medical staff had to mark the catheters daily, observe and record the length of each patient's catheter outside the nasal cavity, make timely adjustments for deep or dislodged catheters, and promptly dump the drainage fluid to prevent catheter dislodgement. Patients also need to be advised to reduce large movements so as not to affect catheter twisting, etc. Furthermore, patients were closely observed daily for the occurrence of complications and timely communication with physicians, and successful cases were explained to patients and their families to enhance their confidence. The staff also give daily oral care to patients, keep the ward quiet, and create a good ward environment until they recover.

2.5. Outcome Measures. The improvement of clinical symptoms (time of symptom relief, average daily gastrointestinal decompression volume, time of recovery of bowel sounds, time of recovery of exhaustion and defecation, and time of disappearance of air-fluid plane) in both groups was observed and recorded. Abdominal pain after intubation was assessed via visual analogue scale (VAS) [13], and the psychology of patients was evaluated via self-rating anxiety scale (SAS) [14] and self-rating depression scale (SDS) [15]. The efficacy of both groups of patients was analyzed: markedly effective—patients' symptoms disappeared, and bowel movements and exhaustion returned to normal; effective—patients' symptoms disappeared, and the obstruction was dramatically improved; ineffective—the condition of patients did not improve or even worsen. Effective rate = (markedly effective + effective)/total number of cases $\times 100\%$. Complication rates were compared between both groups. The quality of life after treatment was assessed via the short form 36 (SF-36) health survey questionnaire [16].

2.6. Statistical Methods. The SPSS23.0 software was used for statistical analysis, and data were expressed as mean \pm standard deviation and assessed via independent sample *t*-test. The count data were evaluated via the chi-square test, with $P < 0.05$ indicating a statistically remarkable difference.

3. Results

3.1. Summary of Results. In the observation group, the improvement time of clinical symptoms and VAS, SAS, and SDS scores after intubation were lower than those of the control group, while the total clinical treatment efficiency was higher, and the SF-36 scores were higher than those of the control group ($P < 0.05$).

3.2. Baseline Data of Two Groups of Patients. Baseline data such as age, gender, body mass index (BMI), type of obstruction, and ethnicity were statistically calculated for both groups, and there was no difference ($P > 0.05$), suggesting that both groups were experimentally comparable, as shown in Table 1.

3.3. Comparison of Improvement of Clinical Symptoms. The time to symptom relief in the observation group was (2.64 ± 1.17 d), which was dramatically shorter than that in the control group ($P < 0.05$, Figure 1(a)). In contrast, the average daily gastrointestinal decompression in the observation group was (729.27 ± 97.28 mL/d), which was higher than that in the control group (414.95 ± 66.29 mL/d) ($P < 0.05$, Figure 1(b)). The recovery time of bowel sounds was shorter in the observation group than in the control group ($P < 0.05$, Figure 1(c)). The recovery time of defecation and bowel movement in the observation group was clearly (3.89 ± 1.82 d) much lower than that in the control group ($P < 0.05$, Figure 1(d)). Finally, the disappearance time of the gas-liquid plane in the observation group was (9.66 ± 4.35 d), which was dramatically shorter than that in the control group ($P < 0.05$, Figure 1(e)).

3.4. VAS Score and Mentality Score after Intubation. The VAS score in the observation group was (3.27 ± 1.56), which was dramatically lower than that in the control group (5.70 ± 1.73) ($P < 0.05$, Figure 2(a)), indicating that the pain improvement in the observation group was better. Subsequently, the SAS and SDS scores of the observation group were (18.53 ± 3.06) and (16.85 ± 3.81), respectively, and both were lower than those of the control group ($P < 0.05$, Figures 2(b) and 2(c)), indicating that the post-treatment psychology of patients in the observation group was also better.

3.5. Comparison of Treatment Efficiency. The clinical efficacy of patients in both groups demonstrated that they were predominantly effective (52.5% in the observation group and 52.3% in the control group), but only 3.4% of patients in the observation group were ineffective, compared with 15.9% of those in the control group. The total efficacy rate of the observation group was 96.6%, which was higher than the rate of 84.1% in the control group ($P < 0.05$, Table 2).

3.6. Comparison of Incidence of Adverse Reactions. The incidence of adverse reactions during treatment in both groups was 5.1% in the observation group. Furthermore, nasopharyngeal discomfort occurred in 6.8% of patients in the control group, catheter dislodgement occurred in 4.5% of patients, electrolyte disturbance occurred in 4.5% of patients, and catheter blockage occurred in 4.5% of patients, for an overall adverse effect rate of 20.5%. The incidence of adverse reactions was lower in the observation group than in the control group ($P < 0.05$, Table 3).

3.7. Comparison of Quality of Life. To get a more comprehensive picture of patients' recovery, we assessed the quality of life of both groups. A PF score of (54.02 ± 7.05) was seen in the observation group, which was dramatically higher compared to the control group ($P < 0.05$, Figure 3(a)). The RP score in the observation group was (56.22 ± 5.14), which was likewise higher than that of the control group ($P < 0.05$, Figure 3(b)). BP scores were also higher in the observation group than in the control group ($P < 0.05$, Figure 3(c)). In addition, the GH score in the observation group was (84.78 ± 6.25), which was higher than the GH score in the control group (76.07 ± 6.91) ($P < 0.05$, Figure 3(d)). The VT score was higher in the observation group compared with the control group (80.85 ± 6.73 vs. 72.93 ± 7.08) ($P < 0.05$, Figure 3(e)). The SF scores of both groups were also higher in the observation group than in the control group ($P < 0.05$, Figure 3(f)). Similarly, the RE score in the observation group was (87.39 ± 5.99), which was higher than that in the control group ($P < 0.05$, Figure 3(g)). Finally, the MH scores in the observation group were higher ($P < 0.05$, Figure 3(h)).

4. Discussion

ASBO, as a highly prevalent emergency worldwide, is characterized by rapid onset and poor prognosis, and once the optimal treatment period is missed, it often endangers the life of patients [17]. The most basic treatment for ASBO is gastrointestinal decompression, but the nasogastric catheter is not long enough, which may lead to fluid and gas accumulation in the stomach and therefore affect the outcome of decompression [18]. To address this situation, a transnasally inserted intestinal obstruction catheter was prepared as an alternative in the clinical practice. However, with deeper catheter placement, patients will be at a much higher risk of adverse events such as impaired blood supply to the intestinal wall and wound infection [19]. Therefore, how to prevent the risk of adverse interventions more effectively in the application of transnasally inserted intestinal obstruction catheters has become a hot and difficult area of modern research.

In modern health care, there is a need not only for symptomatic treatment of patients' pathology but also for more appropriate care [20]. We have found that targeted nursing during invasive procedures such as prevention of mechanical ventilation infection and central venous placement via peripheral venipuncture can effectively reduce the probability of adverse patient events [21]. Therefore, this research will investigate targeted care strategies for the use of transnasally inserted intestinal obstruction catheters in ASBO treatment. It will provide an essential reference for nursing of transnasally inserted intestinal obstruction catheters for which reliable clinical guidance is currently lacking. As we mentioned above, the current clinical attention to transnasally inserted intestinal obstruction catheters is obviously insufficient, which directly leads to the unsatisfactory prognosis of ASBO patients [9]. Therefore, this study has very high guiding significance for ASBO patients treated with transnasally inserted intestinal obstruction catheters in the future. This may also be the key to

TABLE 1: Baseline data of two groups of patients.

	N	Age	Gender (male/female)	BMI (kg/m ²)	Type of intestinal obstruction (complete/strangulated/incomplete)	Nationality (Han/minority)
Observation group	59	45.4 ± 1.7	31 (52.5)/28 (47.5)	27.0 ± 2.1	19 (32.2)/20 (33.9)/20 (33.9)	53 (89.8)/6 (10.2)
Control group	44	45.8 ± 1.4	24 (54.5)/20 (45.5)	26.1 ± 2.6	16 (27.1)/17 (28.8)/11 (18.6)	41 (93.2)/3 (6.8)
χ^2/t		1.302	0.041	1.942	0.949	0.355
P		1.196	0.840	0.055	0.622	0.551

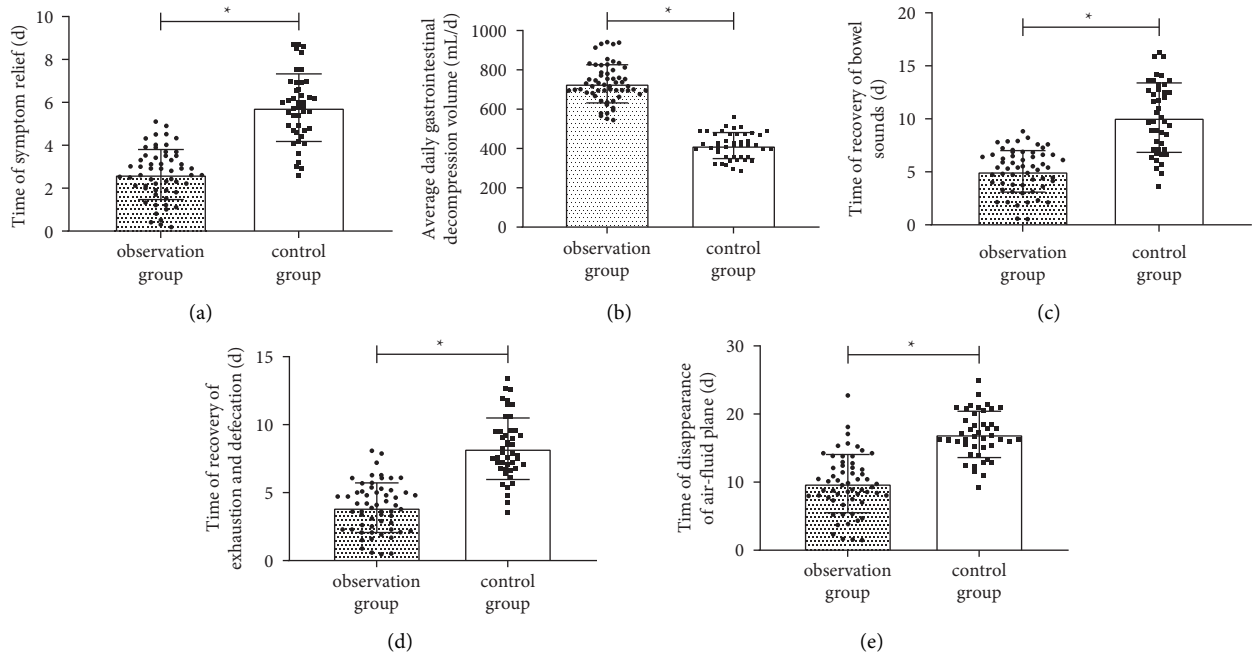


FIGURE 1: Comparison of improvement of clinical symptoms. (a) Comparison of time of symptom relief. (b) Comparison of average daily gastrointestinal decompression volume. (c) Comparison of time of recovery of bowel sounds. (d) Comparison of time of recovery of exhaustion and defecation. (e) Comparison of time of disappearance of air-fluid plane. Note: * means $P < 0.05$ for the comparison between the two groups.

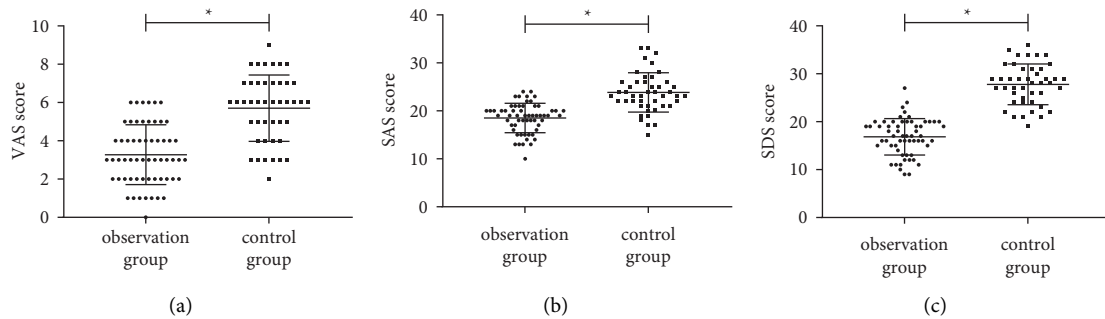


FIGURE 2: VAS score and mentality score after intubation. (a) Comparison of VAS scores. (b) Comparison of SAS scores. (c) Comparison of SDS scores. Note: * means $P < 0.05$ for the comparison between the two groups.

preventing adverse complications of transnasally inserted intestinal obstruction catheters and improving clinical medical services in the future.

In this research, patients in the observation group had dramatically shorter clinical symptom improvement times than the control group after the implementation of nursing

measures for the transnasally inserted intestinal obstruction catheter, indicating that the successful implementation of the nursing strategy adopted in this research can effectively improve the recovery of ASBO patients. Combining previous studies with our clinical experience, we summarized common problems in ASBO patients admitted to the

TABLE 2: Comparison of treatment efficiency.

	<i>n</i>	Markedly effective	Efficient	Invalid	Total effective rate
Observation group	59	26 (44.1)	31 (52.5)	2 (3.4)	96.6%
Control group	44	14 (31.8)	23 (52.3)	7 (15.9)	84.1%
χ^2					4.954
<i>P</i>					0.026

TABLE 3: Comparison of incidence of adverse reactions.

	<i>n</i>	Nasopharyngeal discomfort	Catheter dislodgement	Electrolyte disturbance	Catheter blockage	Overall adverse effect rate
Observation group	59	1 (1.7)	1 (1.7)	1 (1.7)	0 (0.0)	5.1%
Control group	44	3 (6.8)	2 (4.5)	2 (4.5)	2 (4.5)	20.5%
χ^2						5.784
<i>P</i>						0.016

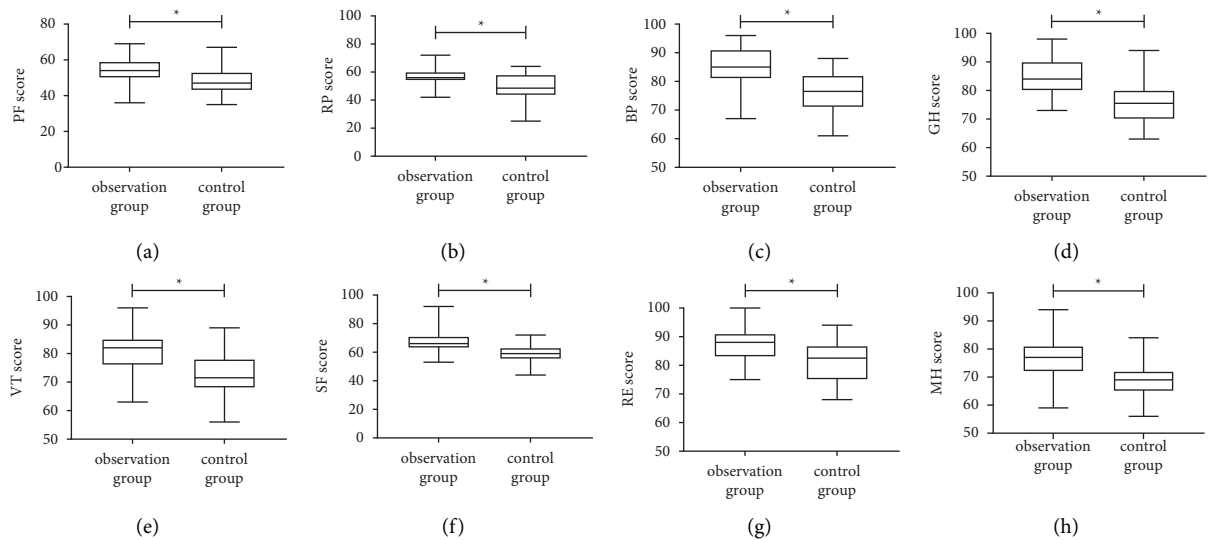


FIGURE 3: Comparison of SF-36 score. (a) Comparison of the PF scores. (b) Comparison of the RP scores. (c) Comparison of the BP scores. (d) Comparison of the GH scores. (e) Comparison of VT scores. (f) Comparison of SF scores. (g) Comparison of RE scores. (h) Comparison of MH scores. Note: * means $P < 0.05$ for the comparison between the two groups.

hospital for transnasally inserted intestinal obstruction catheterization [22–26] and developed targeted nursing measures for these conditions.

(1) *Unhealthy Psychology*. When patients were first admitted to the hospital, their condition was serious. They had abdominal pain and distension, and they wanted to be relieved of their pain as soon as possible, with negative emotions of anxiety, tension, and fear. This research pointed out that maintaining an optimistic and good psychological state has a crucial significance in enhancing the treatment outcome of patients [27]. Thus, the nursing staff should observe the psychological changes of patients and explain the treatment plan, the procedure to be performed, the purpose of placing the intestinal obstruction catheter, the specific precautions to be taken after placement, and the safety and minimally

invasive nature of placing the intestinal obstruction catheter and its good efficacy to make them confident by using scientific knowledge and easy-to-understand language. At the same time, the nursing staff also needs to pay attention to accompanying the family members’ missionary work, and their encouragement and support will be a great comfort to patients, so that they can maintain an optimistic attitude to accept the treatment and increase the confidence to overcome the disease. In the end, the nursing staff should do a good job of catheter self-protection education according to patients’ ability to accept, establish a good treatment atmosphere for them from various aspects and angles, and help them to establish confidence to overcome the disease.

(2) *Restricted Activity after Cannulation*. Due to the placement of the tube, the patient will lose the ability to move

himself. This condition not only is detrimental to the recovery of the body's function but also may cause complications such as venous thrombosis and pressure sores in the lower extremities [28]. Hence, we will recommend patients to be more semi-recumbent at the time of placement and to get out of bed for 5–10 min with the assistance of family members if physical strength allows, which can greatly guarantee the active function of the body during the placement and promote functional recovery and resistance to adverse reactions.

(3) *Personal Nutrition and Diet Influence.* Due to the limited digestive function, patients' diet needs to be carried out in strict compliance with medical advice. If the intestinal obstruction is relieved and peristalsis returns to normal after treatment, patients can eat a liquid diet by mouth and then gradually transition to semi-liquid and general diet. The nursing staff arranged a reasonable infusion plan according to patients' dehydration and relevant blood biochemical indicators and closely observed the changes in condition and accurately recorded the in and out volume during the infusion. Patients are monitored regularly for liver and kidney function and electrolytes. Patients were also instructed to keep their mouths clean, to perform oral care three times a day, to remove nasal secretions in a timely manner, and to take nebulized inhalation treatment if they had throat discomfort.

(4) *Corresponding Treatment after Catheter Placement.* Due to the difference between the transnasally inserted intestinal obstruction catheter and the conventional nasogastric catheter, it does not need to be fixed at the nasal flank, and approximately 10–20 cm should be left between the nostril and the earlobe to allow the intestinal obstruction catheter to slide downward with intestinal peristalsis and prevent the catheter from twisting and folding. Meanwhile, patients and family members need to be reminded that they need to control their strength when performing turning to prevent the air bag from shifting or rupture. After the implementation of the above targeted measures, the VAS, SAS, and SDS scores and complication rates were lower in the observation group than in the control group, while the clinical outcomes were higher, which can fully verify the successful implementation of the nursing strategy. Furthermore, in a previous study, we saw that targeted individual nursing measures not only have excellent effects on improving patients' conditions but also further enhance their overall quality of life after treatment [29]. The quality of life of patients improves dramatically in the observation group, which is also due to the excellent effect of the implementation of the correct nursing strategy.

Of course, because there are no uniform guidelines for nursing of transnasally inserted intestinal obstruction catheters, the strategy implemented in this research may still have shortcomings that could be improved. We are not yet able to determine what the long-term prognosis of patients is due to the short experimental period. We will confirm the above limitations by conducting a sound experimental analysis as soon as possible.

5. Conclusion

The individual nursing strategy implemented for the transnasally inserted intestinal obstruction catheter can effectively shorten the recovery of ASBO patients and improve their treatment outcome and prognosis quality of life, which is worth promoting in the clinical setting.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

References

- [1] F. Catena, B. De Simone, F. Coccolini, S. Di Saverio, M. Sartelli, and L. Ansaloni, "Bowel obstruction: a narrative review for all physicians," *World Journal of Emergency Surgery*, vol. 14, no. 1, p. 20, 2019.
- [2] S. R. Rami Reddy and M. S. Cappell, "A systematic review of the clinical presentation, diagnosis, and treatment of small bowel obstruction," *Current Gastroenterology Reports*, vol. 19, no. 6, p. 28, 2017.
- [3] E. Ozturk, M. van Iersel, M. M. Stommel, Y. Schoon, R. R. Ten Broek, and H. van Goor, "Small bowel obstruction in the elderly: a plea for comprehensive acute geriatric care," *World Journal of Emergency Surgery*, vol. 13, no. 1, p. 48, 2018.
- [4] V. Benedykt and L. Korobko, "Acute small bowel obstruction. Some aspects of conservative treatment," *Georgian Medical News*, no. 288, pp. 7–11, 2019.
- [5] J. H. Fu, N. Zhao, B. Liu et al., "Advances in clinical application of obstruction catheter in prevention and treatment of intestinal obstruction," *Zhonghua Wei Chang Wai Ke Za Zhi*, vol. 24, no. 10, pp. 931–935, 2021.
- [6] L. Yang, W. Ma, M. Wang, R. Zhang, T. Bi, and S. Zhou, "Efficacy of intestinal obstruction stent combined with laparoscopic surgery and neoadjuvant chemotherapy in patients with obstructive colorectal cancer," *Oncology Letters*, vol. 18, no. 2, pp. 1931–1937, 2019.
- [7] R. J. Litwin, A. L. Tam, R. A. Sheth et al., "Safety and efficacy of percutaneous transabdominal and transesophageal decompression gastric catheters for palliation of malignant bowel obstruction," *Abdominal Radiology (NY)*, vol. 46, no. 9, pp. 4489–4498, 2021.
- [8] H. Kitagawa, T. Namikawa, J. Iwabu et al., "Bowel obstruction associated with a feeding jejunostomy and its association to weight loss after thoracoscopic esophagectomy," *BMC Gastroenterology*, vol. 19, no. 1, p. 104, 2019.
- [9] A. Alsharawneh and J. Maddigan, "The oncological emergency of intestinal obstruction: ED recognition and treatment outcomes," *Seminars in Oncology Nursing*, vol. 37, no. 5, Article ID 151207, 2021.
- [10] M. Yin, J. Li, J. Wang et al., "Observation of the effect of focused psychological intervention combined with standardized pain nursing on postoperative pain levels and depression and anxiety in patients with intestinal obstruction," *Disease Markers*, vol. 2022, Article ID 2467887, 5 pages, 2022.
- [11] J. Wang, L. J. Ren, X. L. Chen et al., "Quick rehabilitation nursing improves the recovery of colon cancer patients after

- laparoscopy,” *Journal of Biological Regulators & Homeostatic Agents*, vol. 31, no. 4, pp. 1073–1079, 2017.
- [12] R. P. G. Ten Broek, P. Krielen, S. Di Saverio et al., “Bologna guidelines for diagnosis and management of adhesive small bowel obstruction (ASBO): 2017 update of the evidence-based guidelines from the world society of emergency surgery ASBO working group,” *World Journal of Emergency Surgery*, vol. 13, no. 1, p. 24, 2018.
- [13] M. P. Jensen, C. Chen, and A. M. Brugger, “Interpretation of visual analog scale ratings and change scores: a reanalysis of two clinical trials of postoperative pain,” *The Journal of Pain*, vol. 4, no. 7, pp. 407–414, 2003.
- [14] J. Yang, S. Tang, and W. Zhou, “Effect of mindfulness-based stress reduction therapy on work stress and mental health of psychiatric nurses,” *Psychiatria Danubina*, vol. 30, no. 2, pp. 189–196, 2018.
- [15] T. Yue, Q. Li, R. Wang et al., “Comparison of hospital anxiety and depression scale (HADS) and zung self-rating anxiety/depression scale (SAS/SDS) in evaluating anxiety and depression in patients with psoriatic arthritis,” *Dermatology*, vol. 236, no. 2, pp. 170–178, 2020.
- [16] L. Lins and F. M. Carvalho, “SF-36 total score as a single measure of health-related quality of life: Scoping review,” *SAGE Open Medicine*, vol. 4, Article ID 2050312116671725, 2016.
- [17] F. Guerra, D. Coletta, P. A. Greco, E. Eugeni, and A. Patriti, “The use of indocyanine green fluorescence to define bowel microcirculation during laparoscopic surgery for acute small bowel obstruction,” *Colorectal Disease*, vol. 23, no. 8, pp. 2189–2194, 2021.
- [18] M. J. Lee, A. E. Sayers, T. M. Drake et al., “National prospective cohort study of the burden of acute small bowel obstruction,” *BJS open*, vol. 3, no. 3, pp. 354–366, 2019.
- [19] A. E. Tyagunov, A. A. Tyagunov, T. V. Nechay, V. N. Vinogradov, L. S. Kurashinova, and A. V. Sazhin, “Timing of surgery, intestinal ischemia and other real factors of mortality in acute adhesive small bowel obstruction: a multiple-center study,” *Khirurgiia (Mosk)*, no. 3, pp. 26–35, 2021.
- [20] B. Lopez-Domingo and B. Rodriguez-Martin, “Factors associated with the provision of individualized care during hospitalization: a systematic review,” *Journal of Nursing Management*, vol. 29, no. 2, pp. 113–132, 2021.
- [21] P. Bennett, R. Burns, S. Champion, and S. Gordon, “Effectiveness of an aged simulation training suit to support development of compassion and person-centred care in the aged-care workforce,” *Australasian Journal on Ageing*, vol. 41, no. 2, pp. 314–324, 2022.
- [22] K. M. Schuster, D. N. Holena, A. Salim, S. Savage, and M. Crandall, “American association for the surgery of trauma emergency general surgery guideline summaries 2018: acute appendicitis, acute cholecystitis, acute diverticulitis, acute pancreatitis, and small bowel obstruction,” *Trauma Surgery Acute Care Open*, vol. 4, no. 1, Article ID e000281, 2019.
- [23] E. Sebastian-Valverde, I. Poves, E. Membrilla-Fernandez, M. J. Pons-Fragero, and L. Grande, “The role of the laparoscopic approach in the surgical management of acute adhesive small bowel obstruction,” *BMC Surgery*, vol. 19, no. 1, p. 40, 2019.
- [24] N. S. Rajaretnam, G. Y. Meyer-Rochow, J. Hallett et al., “Surgical management of primary small bowel NET presenting acutely with obstruction or perforation,” *World Journal of Surgery*, vol. 45, no. 1, pp. 203–207, 2021.
- [25] B. V. Sigua, V. P. Zemlyanoy, S. V. Petrov, D. H. Qalandarova, and A. L. Efimov, “Features of diagnosis and treatment of elderly and senile patients with adhesive small bowel obstruction,” *Advances in Gerontology*, vol. 34, no. 1, pp. 33–38, 2021.
- [26] O. Lasheen and M. Elkorety, “Abdominal cocoon or encapsulating peritoneal sclerosis: a rare cause of small bowel obstruction,” *European Journal of Case Reports in Internal Medicine*, vol. 7, no. 12, Article ID 001972, 2020.
- [27] T. J. Paul Olson, C. Pinkerton, K. J. Brasel, and M. L. Schwarze, “Palliative surgery for malignant bowel obstruction from carcinomatosis: a systematic review,” *JAMA Surgery*, vol. 149, no. 4, pp. 383–392, 2014.
- [28] J. Tian, W. X. Guan, J. He et al., “Analysis of related factors in elderly patients with strangulated small bowel obstruction,” *Zhongguo Yi Xue Ke Xue Yuan Xue Bao*, vol. 40, no. 3, pp. 321–327, 2018.
- [29] A. Frattini, “Nursing procedures carried out with an intestinal obstruction,” *Revue de l’infirmiere*, no. 217, pp. 22–24, 2016.