# World Journal of *Clinical Cases*

World J Clin Cases 2024 August 26; 12(24): 5448-5635





Published by Baishideng Publishing Group Inc

W J C C World Journal of Clinical Cases

Contents Thrice Monthly Volume 12 Number 24 August 26, 2024 **EDITORIAL** 5448 Diagnostic challenges from conflicting results of tests and imaging Yu R 5452 Are case reports valuable? Exploring their role in evidence based medicine and patient care Suvvari TK 5456 Recent advances in managing obstructive sleep apnea Nag DS, Chatterjee A, Patel R, Sen B, Pal BD, Wadhwa G 5462 Importance of risk assessment, endoscopic hemostasis, and recent advancements in the management of acute non-variceal upper gastrointestinal bleeding Maity R, Dhali A, Biswas J 5468 Navigating treatment resistance: Janus kinase inhibitors for ulcerative colitis Soldera J 5473 Clues for diagnosing misplaced central venous catheter in the right ascending lumbar vein during right femoral venous access Tokumine J, Moriyama K, Yorozu T **MINIREVIEWS** 5476 Exploration of the complex origins of primary constipation Zeng XL, Zhu LJ, Yang XD **ORIGINAL ARTICLE Retrospective Study** 5483 Influence of humanistic care-based operating room nursing on safety, recovery, and satisfaction after radical surgery for colorectal carcinoma Wang XP, Niu M 5492 Correlation between TEX14 and ADAM17 expressions in colorectal cancer tissues of elderly patients and neoplasm staging, invasion, and metastasis Chen G, Cong LH, Gu CJ, Li P 5502 Assessment of early factors for identification or prediction severe acute pancreatitis in pregnancy Mei LF, Gan Q, Hu J, Li YX, Tian R, Shi CJ 5513 Application value of machine learning models in predicting intraoperative hypothermia in laparoscopic surgery for polytrauma patients

Zhu K, Zhang ZX, Zhang M



#### Contents

Thrice Monthly Volume 12 Number 24 August 26, 2024

#### **Clinical Trials Study**

Effectiveness of the A3 robot on lower extremity motor function in stroke patients: A prospective, 5523 randomized controlled trial

Zhang LJ, Wen X, Peng Y, Hu W, Liao H, Liu ZC, Liu HY

5534 Effect of dietary with Zhibai dihuang pills and gonadotropin-releasing-hormone-analogue on girls with precocious and rapidly progressive puberty

Wang XM, Li W, Yang LQ, Luo R, Zhang CC

#### **Randomized Controlled Trial**

5542 Clinical efficacy, bone density, and follow-up in implant and orthodontic treatment for inclined adjacent teeth

Yang Y, Zhou SC, Ma YH, Wang X, Dong QS

5549 Information-motivation-behavioral guided nursing for stroke patients with pulmonary dysfunction: A randomized controlled trial

Peng X, Ni HQ, Liu YM, Zhu JL, Bai YT

5558 Application of buried auricular point combined with Wenjing Sanhan prescription in arteriosclerosis obliterans patients with resting pain

Li YP, Su T, Xue XL, Shi HR, Su ZH, Li J

#### **Clinical and Translational Research**

5568 Computed tomography-based radiomics predicts the fibroblast-related gene EZH2 expression level and survival of hepatocellular carcinoma

Yu TY, Zhan ZJ, Lin Q, Huang ZH

#### **CASE REPORT**

5583	Endometrial carcinoma with cervical stromal invasion: Three case reports			
	Liu MM, Liang YT, Jin EH			

- 5589 IgG4-related sclerosing cholangitis associated with essential thrombocythemia: A case report Wu ZN, JI R, Xiao Y, Wang YD, Zhao CY
- 5596 Are all primary omental infarcts truly idiopathic? Five case reports

Kar H, Khabbazazar D, Acar N, Karasu Ş, Bağ H, Cengiz F, Dilek ON

5604 Seven-years post allogeneic hematopoietic stem cell transplantation pure red cell aplastic anemia cured with daratumumab: A case report and review of literature

Deng B, Gao R, Yang B, Lei WB, Xue MF, Wang JS, Zhao P

5613 Splenic subcapsular hematoma following endoscopic retrograde cholangiopancreatography: A case report and review of literature

Guo CY, Wei YX



	World Journal of Clinical Cases
Conter	Thrice Monthly Volume 12 Number 24 August 26, 2024
5622	"Keyboard sign" and "coffee bean sign" in the prenatal diagnosis of ileal atresia: A case report
	Fei ZH, Zhou QY, Fan L, Yin C
5628	Treatment of nasopharyngeal carcinoma and prevention of non-alcoholic Wernicke's disease: A case report and review of literature
	Ma YY, He XC, Gao Y, Ma TT, Cheng G, Yue CW

#### Contents

Thrice Monthly Volume 12 Number 24 August 26, 2024

#### **ABOUT COVER**

Peer Reviewer of World Journal of Clinical Cases, Madhukar Mittal, FACE, MBBS, MD, Professor, Endocrinology and Metabolism, All India Institute of Medical Sciences Jodhpur, Jodhpur 342005, India. mittalspace@gmail.com

#### **AIMS AND SCOPE**

The primary aim of World Journal of Clinical Cases (WJCC, World J Clin Cases) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

#### **INDEXING/ABSTRACTING**

The WJCC is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Journal Citation Reports/Science Edition, Current Contents®/Clinical Medicine, PubMed, PubMed Central, Reference Citation Analysis, China Science and Technology Journal Database, and Superstar Journals Database. The 2024 Edition of Journal Citation Reports® cites the 2023 journal impact factor (JIF) for WJCC as 1.0; JIF without journal self cites: 0.9; 5-year JIF: 1.1; JIF Rank: 168/325 in medicine, general and internal; JIF Quartile: Q3; and 5year JIF Quartile: Q3.

#### **RESPONSIBLE EDITORS FOR THIS ISSUE**

Production Editor: Zi-Hang Xu; Production Department Director: Xu Guo; Cover Editor: Jin-Lei Wang.

NAME OF JOURNAL	INSTRUCTIONS TO AUTHORS
World Journal of Clinical Cases	https://www.wignet.com/bpg/gerinfo/204
ISSN	GUIDELINES FOR ETHICS DOCUMENTS
ISSN 2307-8960 (online)	https://www.wjgnet.com/bpg/GerInfo/287
LAUNCH DATE	GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
April 16, 2013	https://www.wignet.com/bpg/gerinfo/240
FREQUENCY	PUBLICATION ETHICS
Thrice Monthly	https://www.wjgnet.com/bpg/GerInfo/288
<b>EDITORS-IN-CHIEF</b> Bao-Gan Peng, Salim Surani, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati	PUBLICATION MISCONDUCT https://www.wjgnet.com/bpg/gerinfo/208
EDITORIAL BOARD MEMBERS	ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/2307-8960/editorialboard.htm	https://www.wjgnet.com/bpg/gerinfo/242
PUBLICATION DATE	STEPS FOR SUBMITTING MANUSCRIPTS
August 26, 2024	https://www.wignet.com/bpg/GerInfo/239
COPYRIGHT	ONLINE SUBMISSION
© 2024 Baishideng Publishing Group Inc	https://www.f6publishing.com

© 2024 Baishideng Publishing Group Inc. All rights reserved. 7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA E-mail: office@baishideng.com https://www.wjgnet.com



W J C C World Journal C Clinical Cases

## World Journal of

Submit a Manuscript: https://www.f6publishing.com

World J Clin Cases 2024 August 26; 12(24): 5483-5491

DOI: 10.12998/wjcc.v12.i24.5483

ISSN 2307-8960 (online)

ORIGINAL ARTICLE

### **Retrospective Study** Influence of humanistic care-based operating room nursing on safety, recovery, and satisfaction after radical surgery for colorectal carcinoma

#### Xian-Pu Wang, Min Niu

#### Specialty type: Surgery

Provenance and peer review:

Unsolicited article; Externally peer reviewed

Peer-review model: Single blind

#### Peer-review report's classification

Scientific Quality: Grade C Novelty: Grade B Creativity or Innovation: Grade B Scientific Significance: Grade B

P-Reviewer: Botargues JM

Received: April 22, 2024 Revised: June 3, 2024 Accepted: June 26, 2024 Published online: August 26, 2024 Processing time: 79 Days and 23.9 Hours



Xian-Pu Wang, Min Niu, Operating Room, Zhongnan Hospital of Wuhan University, Wuhan 430071, Hubei Province, China

Corresponding author: Min Niu, BMed, Nurse, Operating Room, Zhongnan Hospital of Wuhan University, No. 169 Donghu Road, Wuchang District, Wuhan 430071, Hubei Province, China. 13469996125@163.com

#### Abstract

#### BACKGROUND

Radical surgery is a preferred treatment for colorectal carcinoma, wherein nursing intervention is essential for postoperative recovery and prevention of complications. Recently, the application of humanistic care in medical care has attracted attention. Humanistic care emphasizes comprehensive care, with importance attached to patients' physical needs as well as psychological and emotional support to provide more humane and personalized care services. However, no clinical reports have examined the use of humanistic care in patients undergoing radical surgery for colorectal carcinoma.

#### AIM

To investigate the influence of humanistic care-based operating room nursing on the safety, postoperative recovery, and nursing satisfaction of patients who have undergone radical surgery for colorectal carcinoma.

#### **METHODS**

In total, 120 patients with rectal cancer who underwent surgery in Zhongnan Hospital of Wuhan University between August 2023 and March 2024 were selected and grouped based on the nursing methods employed. Of these patients, 55 were treated with routine nursing intervention (control group) and 65 were provided humanistic care-based operating room nursing (research group). The patients' vital signs were recorded, including systolic/diastolic blood pressure (SBP/DBP) and heart beats per minute (BPM), as well as serum stress indices, including norepinephrine (NE), adrenal hormone (AD), and cortisol (Cor). Postoperative recovery and complications were also recorded. Patients' negative emotions, life hope, and nursing satisfaction were evaluated using the Self-rating Depression/Anxiety Scale (SDS/SAS), Herth Hope Index (HHI), and self-deve-



WJCC | https://www.wjgnet.com

loped nursing satisfaction questionnaire, respectively.

#### RESULTS

During emergence from anesthesia, SBP, DBP, and BPM levels were found to be lower in the research group than those in the control group, also serum Cor, AD, and NE levels were lower. In addition, the research group had shorter operative, awakening, anal exhaust, first postoperative ambulation, drainage tube removal, intestinal recovery, and hospital times. The total complication rate and the SDS and SAS scores were lower in the research group than those in the control group. The HHI and nursing satisfaction scores were higher in the research group.

#### **CONCLUSION**

Humanistic care-based operating room nursing can mitigate physiological stress responses, reduce postoperative complications, promote postoperative recovery, relieve adverse psychological emotions, and enhance life hope and nursing satisfaction in patients undergoing radical surgery for colorectal carcinoma, which can be popularized in clinical practice.

Key Words: Humanistic care; Nursing; Radical surgery for rectal carcinoma; Stress response

©The Author(s) 2024. Published by Baishideng Publishing Group Inc. All rights reserved.

**Core Tip:** Currently, no clinical studies have reported the application of humanistic care-based operating room nursing in patients who underwent radical surgery for colorectal carcinoma. This study explored the impact of humanistic care-based operating room nursing on the physiological stress, postoperative recovery, and nursing satisfaction of such patients. The results revealed that humanistic care-based operating room nursing can significantly relieve patients' physiological stress responses, reduce postoperative complications, promote postoperative recovery, alleviate negative psychological emotions, and increase life hope and nursing satisfaction. This indicated promising clinical promotion value of this nursing model.

Citation: Wang XP, Niu M. Influence of humanistic care-based operating room nursing on safety, recovery, and satisfaction after radical surgery for colorectal carcinoma. World J Clin Cases 2024; 12(24): 5483-5491 URL: https://www.wjgnet.com/2307-8960/full/v12/i24/5483.htm DOI: https://dx.doi.org/10.12998/wjcc.v12.i24.5483

#### INTRODUCTION

Colorectal carcinoma (CRC) is one of the most common gastrointestinal malignancies, with nearly 1.8 million new cases and 881000 related deaths worldwide, accounting for approximately 10% of cancer-related deaths[1]. As a CRC subtype, rectal cancer accounts for one-third of newly diagnosed CRC cases annually[2]. The etiology of rectal cancer is currently unknown; however, it may be related to environmental factors, eating habits, and genetic factors[3]. Currently, surgical treatment remains the first choice for rectal cancer treatment. However, because of varying degrees of pain, vomiting, dizziness, anxiety, depression, and fear perioperatively, patients' ability to cope with cancer and compliance with treatment are reduced, which seriously affects the recovery process and quality of life[4]. Therefore, it is important to provide scientific and reasonable nursing care during the perioperative period, which is a necessary to improve surgical safety.

Traditional nursing is mainly disease-centered, lacking planning, pertinence, and enthusiasm, resulting in difficulty in meeting people's increasingly demanding nursing needs. In this context, several new patient-centered nursing models have emerged and have achieved better nursing quality than traditional nursing in various nursing settings, demonstrating several clinical application prospects<sup>[5]</sup>. Being patient-centered, the humanistic care theory emphasizes that nursing care for patients is a reflection of interpersonal activities, human nature, and emotions in the nursing process, thereby making the nursing process more humanistic and improving patient comfort [6,7]. Patients with cancer are at risk of serious psychological burden and negative emotions, including despair, depression, and anxiety because of factors such as a decline in physical function, increased economic pressure, and self-cognitive disorders, which seriously affect their physical and mental health[8]. Therefore, patients with cancer require more humane care services during treatment. The humanistic care-based nursing model has been shown to significantly improve the rehabilitation of patients after ovarian cancer surgery, reduce physical and mental stress responses, and effectively enhance nursing satisfaction and quality of life[9]. In addition, in patients receiving chemotherapy for malignancies, self-efficacy intervention combined with humanistic nursing significantly improved their self-care ability, quality of life, and nursing satisfaction[10]. These studies have suggested that humanistic care-based nursing can effectively meet the nursing quality needs of patients with cancer. However, no clinical studies have reported humanistic care-based operating room nursing for patients undergoing radical surgery for rectal carcinoma.

In this study, 120 patients who underwent surgery for rectal cancer at our hospital were collected and grouped into receiving routine operating room nursing or humanistic care-based nursing. The application value of humanistic carebased operating room nursing in rectal cancer surgery was evaluated by comparing physiological stress, postoperative



Beishidone® WJCC | https://www.wjgnet.com

recovery, emotions, and complications between the two groups.

#### MATERIALS AND METHODS

#### Study participants

A total of 120 patients with rectal cancer who underwent surgery at Zhongnan Hospital of Wuhan University between January 2023 and January 2024 were included in the study. They were grouped based on differences in nursing modalities. The control group included 55 patients treated with routine nursing, whereas the research group included and 65 patients who were given humanistic care-based operating room nursing.

Treatment-naive patients (aged 18-70 years) who were diagnosed with rectal cancer by digital rectal examination, pathological findings, and imaging, with tumor-node-metastasis (TNM) stage of T1-T2, America Society of Anesthesiologist (ASA) grades I-II, complete clinical data, without heart, kidney, and liver dysfunction, other malignancies, history or family history of mental illness, or special medication history were included. Patients with serious heart, liver, kidney, or other vital organ function diseases; coagulation, endocrine, and immune dysfunctions; mental disorders; complicated conditions such as burns, poisoning, and unique pathogenic infections; or referrals were excluded.

#### Nursing

The control group received routine care, which included basic nursing services as instructed by the doctor, vital sign monitoring, infusion care, medication care, scheduled patrols, and dietary guidance.

The research group received humanistic care-based operating room nursing, as specified below:

Strengthening preoperative inspection: The medical staff assessed patients' vital signs, understood their past medical history, understood the specific conditions, and developed individualized nursing plans according to the actual patient situation. To enhance patients' rehabilitation beliefs and compliance behaviors and improve their cooperation with treatment and nursing, nurses strengthened patients' and their families' understanding regarding treatment advantages, nursing significance, and rehabilitation exercises by playing videos, providing oral explanations, and distributing publicity brochures. Furthermore, to improve the self-restraint ability and correct bad habits and behaviors of the patients, the medical staff educated the patients about the positive effects of a reasonable diet, good life work, and rest on disease rehabilitation, providing favorable conditions for their rehabilitation. Patients were also cared for psychologically by identifying their negative emotions, such as nervousness, anxiety, and depression, analyzing factors that cause psychological burden according to the actual situation, and guiding them to use music, meditation, breathing, and talking to divert their attention and eliminate tension, anxiety, and other negative emotions. Moreover, nurses enhanced patients' confidence in surgical treatment by introducing successful cases.

Strengthening preoperative preparation: The operating bed was preheated 30 min before surgery, and the temperature and humidity in the operating room were adjusted reasonably. To eliminate the patient's nervousness about the unfamiliar environment, nurses warmly received the patient at the door of the operating room and explained the operating room environment and personnel composition. Simultaneously, nurses encouraged and comforted patients through communication, lifted their enthusiasm for treatment, reduced negative emotions, and strengthened their confidence in surgery. Furthermore, the operating room was kept quiet and tidy, and devices were moved as gently as possible to avoid noise stimulation.

Enhancing intraoperative care: To reduce patients' fear of medical procedures, nurses explained the purpose of each procedure before the administration of anesthesia. During anesthesia, nurses gently held the patient's hands or shoulders, gave him/her spiritual comfort, and distracted his/her attention via conversation to ensure smooth completion of the process. Regarding body positioning, nurses moved the patient gently to ensure patient comfort. Intraoperatively, pressure sores were prevented by cotton pads, and insulation measures were taken by covering patients with heated blankets, reducing unnecessary exposure, and heating the infusion liquid. Aseptic operation was performed in strict accordance with the specific operating room requirements during the procedure. Nurses also closely monitored the changes in patients' vital signs and reported them to doctors on time during emergencies such as dyspnea or increased heart rate. During surgery, the nursing staff closely cooperated with the physicians to execute surgery-related care, such as assisting the physicians in providing the operation-related equipment and removing related obstacles affecting the surgical process.

Strengthening postoperative care: Postoperatively, nurses adjusted the patient to a comfortable position, encouraged him/her to exercise according to the recovery status, and massaged his/her limbs regularly to prevent lower limb venous thrombosis. Strict postoperative nursing care of the indwelling catheter was also performed. Vital signs of the patients were monitored in real time to avoid risk factors leading to incisional infection. Patients were allowed to eat liquid food rather than solid when intestinal peristalsis was not restored, and small and frequent meals were advocated after recovery of intestinal peristalsis.

#### Outcome measures

Vital signs, including systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart beats per minute (BPM), were recorded. Venous blood was collected before and during emergence from anesthesia and centrifuged to collect serum for the measurement of norepinephrine (NE), adrenal hormone (AD), and cortisol (Cor) levels.

The operative, awakening, anal exhaust, first postoperative ambulation, drainage tube removal, intestinal function recovery, and hospitalization times were recorded. The occurrence of common complications such as infection, agitation, anastomotic fistula, nausea and vomiting, and ileus were also recorded.



Wang XP et al. Nursing for colorectal carcinoma



Figure 1 Comparison of vital signs at different surgical stages. A: Systolic blood pressure levels; B: Diastolic blood pressure levels; C: Heart beats per minute levels. \*P < 0.05 within the group before and after treatment. \*P < 0.05 compared with the control group at the same surgical stage. SBP: Systolic blood pressure; DBP: Diastolic blood pressure; BPM: Heart beats per minute.

Changes in negative emotions before and after nursing interventions were assessed using the Self-rating Depression/ Anxiety Scale (SDS/SAS). The SDS consists of 20 items using a 4-point scale. Higher SDS and SAS scores indicate severe depression and anxiety.

The Herth Hope Index (HHI) was used in life hope assessment of patients. The scale is divided into three dimensions: Temporality and future, positive readiness and expectancy, and interconnectedness, each with four items scored on a 4point scale. With a total score ranging 12-48, a higher score indicated a higher degree of hope. Scores of 12-23, 24-35, and 36-48 points indicate a low, moderate, and high level of hope, respectively.

Nursing satisfaction surveys were used to assess patients' satisfaction with nursing tasks, which were divided into three levels: Satisfied (high recognition and affirmation), basically satisfied (recognition and affirmation), and dissatisfied (disapproval)[11]. Satisfaction = (very satisfied cases + basically satisfied cases)/total number of cases × 100%.

#### Statistical analysis

Statistical analysis and image rendering of data was conducted using SPSS 21.0 and GraphPad Prism 6, respectively. Chisquare or Fisher's exact test was used to compare the counting data. The Kolmogorov-Smirnov test was used to analyze the distribution of continuous data, in which normally distributed data were described as the mean ± SD. Independent samples *t*-test (two-tailed) was used for intergroup comparisons of measurement data and paired *t*-test (two-tailed) for intragroup comparisons between different periods, with P < 0.05 representing statistical significance.

#### RESULTS

#### Comparison of the general data

No significant differences were found in terms of sex, age, eating habits, working status, education level, ASA grade, TNM stage, pathological type, and other general clinical data between the two groups (P > 0.05) (Table 1).

#### Comparison of vital signs

Preoperative SBP, DBP, and BPM were comparable between the groups (P > 0.05). Postoperative SBP, DBP, and BPM significantly increased in both groups, with levels lower in the research group than in the control group (P < 0.05) (Figure 1).

#### Comparison of the physiological stress response indices

No significant intergroup differences were found in the preoperative levels of Cor, AD, and NE (P > 0.05). Compared with the preoperative values, preoperative Cor, AD, and NE levels increased markedly in both groups, with lower levels in the research group than that in the control group (P < 0.05) (Figure 2).

#### Comparison of the intraoperative and postoperative indices

Compared with the control group, research group had shorter operative, awakening, anal exhaust, first postoperative ambulation, drainage tube removal, intestinal function recovery, and hospitalization times (P < 0.05) (Table 2).

#### Comparison of postoperative complications

Postoperative complications were recorded in both groups. In the control group, 2 cases of infection, 4 of agitation, 1 of anastomotic fistula, 6 of nausea and vomiting, and 2 of ileus were recorded, with a total incidence of 27.27%. In the research group, only 1 case of infection, 4 of nausea and vomiting, and 1 of ileus were noted, with an overall incidence of 9.23%. The research group had a lower total complication rate than that of the control group (P < 0.05) (Table 3).



Table 1 Comparison of general data [n (%), mean ± SD]					
Groups	Control group ( <i>n</i> = 55)	Research group ( <i>n</i> = 65)	χ²/t	P value	
Age (years)	51.23 ± 11.28	54.55 ± 10.77	1.646	0.102	
Sex			0.616	0.432	
Female	19 (34.55)	27 (41.54)			
Male	36 (65.45)	38 (58.46)			
Eating habits			0.677	0.411	
Light	14 (25.45)	21 (32.31)			
Greasy	41 (74.55)	44 (67.69)			
Working status			0.271	0.603	
Employed	22 (40.00)	23 (35.38)			
Unemployed	33 (60.00)	42 (64.62)			
Educational level			0.808	0.369	
$\geq$ high school	23 (41.82)	22 (33.85)			
< high school	32 (58.18)	43 (66.15)			
ASA grade			0.103	0.748	
Ι	27 (49.09)	30 (46.15)			
П	28 (50.91)	35 (53.85)			
TNM stage			0.073	0.788	
T1	19 (34.55)	24 (36.92)			
T2	36 (65.45)	41 (63.08)			
Pathological type			0.809	0.667	
Papillary adenocarcinoma	29 (52.73)	37 (56.92)			
Tubular adenocarcinoma	16 (29.09)	20 (30.77)			
Mucinous adenocarcinoma	10 (18.18)	8 (12.31)			

TNM: Tumor-node-metastasis.

Table 2 Comparison of perioperative indicators (mean ± SD)					
Control group ( <i>n</i> = 55)	Research group ( <i>n</i> = 65)	X <sup>2</sup>	P value		
$54.91 \pm 9.08$	47.95 ± 7.23	4.673	< 0.001		
$34.05 \pm 6.30$	27.26 ± 4.68	6.762	< 0.001		
19.16 ± 4.16	15.28 ± 3.77	5.357	< 0.001		
$8.42\pm2.64$	$7.14 \pm 2.28$	2.850	0.005		
$6.16\pm1.41$	$5.35 \pm 1.87$	2.639	0.009		
$28.22 \pm 5.56$	22.85 ± 5.65	5.226	< 0.001		
$8.73 \pm 2.74$	$7.57 \pm 2.38$	2.482	0.015		
	mean $\pm$ SD)   Control group (n = 55)   54.91 $\pm$ 9.08   34.05 $\pm$ 6.30   19.16 $\pm$ 4.16   8.42 $\pm$ 2.64   6.16 $\pm$ 1.41   28.22 $\pm$ 5.56   8.73 $\pm$ 2.74	mean $\pm$ SD)Control group (n = 55)Research group (n = 65) $54.91 \pm 9.08$ $47.95 \pm 7.23$ $34.05 \pm 6.30$ $27.26 \pm 4.68$ $19.16 \pm 4.16$ $15.28 \pm 3.77$ $8.42 \pm 2.64$ $7.14 \pm 2.28$ $6.16 \pm 1.41$ $5.35 \pm 1.87$ $28.22 \pm 5.56$ $22.85 \pm 5.65$ $8.73 \pm 2.74$ $7.57 \pm 2.38$	Kesearch group (n = 55)   Research group (n = 65)   X <sup>2</sup> 54.91 ± 9.08   47.95 ± 7.23   4.673     34.05 ± 6.30   27.26 ± 4.68   6.762     19.16 ± 4.16   15.28 ± 3.77   5.357     8.42 ± 2.64   7.14 ± 2.28   2.850     6.16 ± 1.41   5.35 ± 1.87   2.639     28.22 ± 5.56   22.85 ± 5.65   5.226     8.73 ± 2.74   7.57 ± 2.38   2.482		

#### Comparison of emotional ratings

The preoperative SDS and SAS scores were comparable between the groups (P > 0.05). Compared with preoperative scores, the scores on both scales reduced statistically after surgery, particularly in the research group (P < 0.05) (Figure 3).

#### Comparison of life hope scores

The two groups showed no notable differences in the scores of various dimensions of the HHI scale and the total score (P > 0.05). Both groups had high HHI scores after surgery, in terms of each dimension or the overall scale, with even more



Table 3 Comparison of postoperative complications, n (%)				
Groups	Control group ( <i>n</i> = 55)	Research group ( <i>n</i> = 65)	t	P value
Infection	2 (3.64)	1 (1.54)	-	-
Agitation	4 (7.27)	0	-	-
Anastomotic fistula	1 (1.82)	0	-	-
Nausea and vomiting	6 (10.91)	4 (6.15)	-	-
Ileus	2 (3.64)	1 (1.54)	-	-
Total incidence	15 (27.27)	6 (9.23)	6.717	0.010



Figure 2 Comparison of physiological stress response indices at different surgical stages. A: Cortisol levels; B: Adrenal hormone levels; C: Norepinephrine levels. <sup>a</sup>P < 0.05 within the group before and after treatment. <sup>c</sup>P < 0.05 compared with the control group at the same surgical stage. AD: Adrenal hormone; Cor: Cortisol; NE: Norepinephrine.



Figure 3 Comparison of emotional scores. A: Comparison of Self-rating Depression Scale scores at different surgical stages; B: Comparison of Self-rating Anxiety Scale scores at different surgical stages. \*P < 0.05 within the group before and after treatment. \*P < 0.05 compared with the control group at the same surgical stage. SDS: Self-rating Depression Scale; SAS: Self-rating Anxiety Scale.

noticeable increases in the research group (P < 0.05) (Figure 4).

#### Comparison of nursing satisfaction scores

In the analysis of patient nursing satisfaction, the satisfaction rate (76.36%) of the control group was significantly lower (95.38%) than that of the research group (P < 0.05) (Table 4).

#### DISCUSSION

Compared with other surgeries, tumor resection is characterized by great trauma, complex procedure, and long duration; hence, increased assistance of nurses is required. Most current nursing tasks in the operating room involve functional



Raishideng® WJCC | https://www.wjgnet.com

Table 4 Comparison of nursing satisfaction scores, n (%)					
Groups	Control group ( <i>n</i> = 55)	Research group ( <i>n</i> = 65)	X <sup>2</sup>	P value	
Satisfied	12 (21.82)	30 (46.15)	-	-	
Basically satisfied	30 (54.55)	32 (49.23)	-	-	
Dissatisfied	13 (23.64)	3 (4.62)	-	-	
Overall satisfaction	42 (76.36)	62 (95.38)	9.328	0.002	



Figure 4 Comparison of life hope scores at different surgical stages. A: Temporality and future scores; B: Positive readiness and expectancy scores; C: Interconnectedness scores. D: Total Herth Hope Index scores. <sup>a</sup>P < 0.05 within the group before and after treatment. <sup>c</sup>P < 0.05 compared with the control group at the same surgical stage.

nursing, focusing on simply caring for diseases, which makes it difficult to meet the diverse needs of patients[12]. Humanistic care refers to the ability, attitude, and behavior in patient-centered care provided by caregivers, which helps patients achieve physical, spiritual, and sociocultural well-being and gain a sense of security by making them feel cared for and respected in the care process<sup>[13]</sup>. Although humanistic care has been proposed for decades, nurses pay more attention to nursing skills than humanistic care, with some only focusing on disease treatment and neglecting patient interaction[14]. Past clinical experience has shown that the awareness and ability of medical staff to provide humanistic care are key factors affecting patients' psychological state, treatment outcomes, and overall rehabilitation[15].

Rectal cancer is a major digestive disorder, and the inevitable mechanical stimulation during abdominal surgery, severe pain at the end of anesthesia, and adverse emotions can excite the sympathetic nervous system, triggering stress reactions, hindering gastrointestinal peristalsis, and making it impossible for patients to exhaust and defecate normally [16-18]. If the condition worsens, flatulence, intestinal adhesion, abdominal wall adhesion, and even intestinal infarction may occur, thereby endangering the patient's life. Previous studies have shown that reducing the perioperative stress response of patients undergoing radical surgery for CRC is conducive to gastrointestinal function recovery[19]. Intraoperative hypothermia may cause sympathetic nerve excitement, resulting in intraoperative hemodynamic fluctuations. In addition, hypothermia is associated with various adverse effects, such as increased infection risk, prolonged hospitalization, high healthcare costs, and coagulopathy[20]. Therefore, individualized psychological care can effectively alleviate patients' negative psychological emotions, enhance their confidence in facing diseases, and reduce their psychological stress responses[21]. Considering that patients may have poor surgical outcomes because of physiological or psychological stress, they require psychological support and intraoperative thermal insulation measures.

Zaishidena® WJCC | https://www.wjgnet.com

The results of this study showed that compared with the patients of the control group, patients of research group had more stable vital signs during emergence from anesthesia, better serum stress response levels, shorter operative and postoperative recovery times, greater relief of negative emotions, and lower overall complication rates.

Rectal cancer is a life-threatening condition that predisposes patients to severe psychological stress and significant changes in lifestyle and habits postoperatively. Patients are susceptible to negative emotions such as depression and anxiety[22], adversely affecting their physiology, immunity, and social activities if not tended to properly[23]. Meanwhile, they may lose confidence and may not actively cooperate with doctors' treatment, which affects treatment compliance and quality of life[24]. Therefore, increasing patients' hope for life is an important part of nursing. In this study, the postoperative scores of various HHI dimensions and the total HHI score were higher in the research group than in the control group, because of the following reasons: First, we formulated a highly personalized nursing model according to patients' different educational levels, family status, income status, and psychological endurance, which can relieve patients' psychological pressure and improve their treatment compliance. Second, personalized health education was provided to patients, enabling them to have some understanding of the disease and its corresponding treatment plans and reducing negative emotions caused by unknown factors. Third, encouragement and support from nursing staff and family members can enhance patients' confidence in facing the disease, thus improving their life hope. Finally, the satisfaction of the control group was 76.36%, which was significantly lower than that of the research group. Therefore, it can be stated that the traditional nursing model can no longer meet the needs of patients, and humanistic care-based operating room nursing has high application value in radical surgery for rectal cancer.

This study has some limitations that must be addressed. First, the sample size was small, which led to statistical calculations when comparing some results. Second, each operating room did not have the same nursing team; the professional ability of nurses may be different, which may affect the quality of care to varying degrees. Third, the long-term postoperative recovery of the patients was not assessed because of the short research period. Hence, in-depth and comprehensive experimental analyses in the future are required to address these limitations.

#### CONCLUSION

In summary, humanistic care-based operating room nursing has high application value in radical surgery for rectal cancer, which can mitigate negative emotions, facilitate postoperative recovery, reduce postoperative complications, and improve the life hope and nursing satisfaction of patients, with high clinical promotion value.

#### FOOTNOTES

Author contributions: Wang XP designed the research study; Wang XP and Niu M performed the research; Wang XP and Niu M analyzed the data and wrote the manuscript; all authors have read and approved the final manuscript.

Institutional review board statement: This study was approved by the Ethic Committee of Zhongnan Hospital of Wuhan University.

Informed consent statement: Patients were not required to give informed consent to the study because the analysis used anonymous clinical data that were obtained after each patient agreed to treatment by written consent.

**Conflict-of-interest statement:** All the authors report no relevant conflicts of interest for this article.

Data sharing statement: No additional data are available.

**Open-Access:** This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: https://creativecommons.org/Licenses/by-nc/4.0/

Country of origin: China

ORCID number: Min Niu 0009-0009-4057-9583.

S-Editor: Gong ZM L-Editor: A P-Editor: Xu ZH

#### REFERENCES

Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin 2021; 71: 209-249 [PMID: 33538338 DOI: 10.3322/caac.21660



WJCC | https://www.wjgnet.com

- Qi X, Lin Y, Liu X, Chen J, Shen B. Biomarker Discovery for the Carcinogenic Heterogeneity Between Colon and Rectal Cancers Based on 2 IncRNA-Associated ceRNA Network Analysis. Front Oncol 2020; 10: 535985 [PMID: 33194594 DOI: 10.3389/fonc.2020.535985]
- 3 Tang T, Yu S, Song Z, Pan X, Xu F, Wu Y, Zhang L. Comprehensive Analysis of miRNA-Mediated Regulatory Network and Identification of Prognosis Biomarkers in Rectal Cancer. Front Genet 2022; 13: 792984 [PMID: 35495167 DOI: 10.3389/fgene.2022.792984]
- Ma F, Zhu Y, Liu Y. The relationship between psychological distress and the nursing humanistic care demands in postoperative cancer 4 inpatients: a cross-sectional study. BMC Nurs 2024; 23: 26 [PMID: 38195547 DOI: 10.1186/s12912-024-01704-7]
- Xu Y, Yang J. The effect of 5A nursing combined with psychological nursing on the immune function, cancer-related fatigue and 5 complications of patients undergoing radical resection of colorectal cancer. Cell Mol Biol (Noisy-le-grand) 2022; 68: 169-176 [PMID: 35809315 DOI: 10.14715/cmb/2022.68.1.21]
- Gao M, Wang Y, Lei Y, Zhang L, Li L, Wang C, Liao Y, Liao B. Applying the Carolina care model to improve nurses' humanistic care 6 abilities. Am J Transl Res 2021; 13: 3591-3599 [PMID: 34017540]
- 7 Liu X, Li C, Yan X, Shi B. Psychological capital has a positive correlation with humanistic care ability among nurses. Front Psychol 2022; 13: 955627 [PMID: 36186317 DOI: 10.3389/fpsyg.2022.955627]
- 8 Xu H, Xu G, Liu Y, Mu X, Liu Y, Hu H. Effect of Narrative Nursing Intervention Based on Targeted Nursing Intervention on Anxiety and Nursing Satisfaction of Patients with Malignant Tumors Undergoing Chemotherapy. J Healthc Eng 2021; 2021: 4438446 [PMID: 34900188 DOI: 10.1155/2021/4438446]
- Gao M, Zhang L, Wang Y, Li L, Wang C, Shen Q, Wang Y, Liao B. Influence of humanistic care based on Carolina care model for ovarian 9 cancer patients on postoperative recovery and quality of life. Am J Transl Res 2021; 13: 3390-3399 [PMID: 34017514]
- 10 Lv L, Liu Y, Tian T, Li J. Effect of Self-Efficacy Intervention Combined with Humanistic Nursing on Self-Care Ability and Quality of Life in Patients Receiving Chemotherapy for Malignant Tumors. Iran J Public Health 2022; 51: 345-354 [PMID: 35866110 DOI: 10.18502/ijph.v51i2.8687]
- Gao N, Li Y, Sang C, He J, Chen C. Effect of high-quality nursing on neurological function psychological moods quality of life of elderly 11 patients with stroke. Front Neurol 2023; 14: 1259737 [PMID: 37909031 DOI: 10.3389/fneur.2023.1259737]
- 12 Li C, Duan J. Effect of high-quality nursing intervention on psychological emotion, life quality and nursing satisfaction of patients with nasopharyngeal carcinoma undergoing radiotherapy. Am J Transl Res 2021; 13: 4928-4938 [PMID: 34150077]
- Liu Y, Zhang F, Guan C, Song B, Zhang H, Fu M, Wang F, Tang C, Chen H, Guo Q, Fan L, Hou X, Wang H, Wu B, Shan G, Zhang H, Yu F, 13 Lou X, Xie H, Zhou Y, Lu G, Xin X, Pan S, Guo S. Patient satisfaction with humanistic nursing in Chinese secondary and tertiary public hospitals: a cross-sectional survey. Front Public Health 2023; 11: 1163351 [PMID: 37711237 DOI: 10.3389/fpubh.2023.1163351]
- Liu H, Zhang L, Yan J, Huang H, Yi Q, Peng L. The Relationship between Social Support, Empathy, Self-Efficacy, and Humanistic Practice 14 Ability among Clinical Nurses in China: A Structural Equation Model. Journal of Nursing Management 2023; 2023: 1-9 [DOI: 10.1155/2023/1378278]
- Zhu Y, Liu G, Shen Y, Wang J, Lu M, Wang J. Humanistic Nursing Care for Patients in Low-Resourced Clinical Settings from Students' 15 Perspectives: A Participatory Qualitative Study. Int J Environ Res Public Health 2022; 19 [PMID: 36231956 DOI: 10.3390/ijerph191912656]
- Ren L, Zhu D, Wei Y, Pan X, Liang L, Xu J, Zhong Y, Xue Z, Jin L, Zhan S, Niu W, Qin X, Wu Z, Wu Z. Enhanced Recovery After Surgery 16 (ERAS) program attenuates stress and accelerates recovery in patients after radical resection for colorectal cancer: a prospective randomized controlled trial. World J Surg 2012; 36: 407-414 [PMID: 22102090 DOI: 10.1007/s00268-011-1348-4]
- 17 Ghoneim MM, O'Hara MW. Depression and postoperative complications: an overview. BMC Surg 2016; 16: 5 [PMID: 26830195 DOI: 10.1186/s12893-016-0120-v
- Shibutani M, Nakao S, Maeda K, Nagahara H, Fukuoka T, Iseki Y, Hirakawa K, Ohira M. Inflammation Caused by Surgical Stress Has a 18 Negative Impact on the Long-term Survival Outcomes in Patients With Colorectal Cancer. Anticancer Res 2020; 40: 3535-3542 [PMID: 32487655 DOI: 10.21873/anticanres.14342]
- Zhu G, Kang Z, Chen Y, Zeng J, Su C, Li S. Ultrasound-guided stellate ganglion block alleviates stress responses and promotes recovery of 19 gastrointestinal function in patients. Dig Liver Dis 2021; 53: 581-586 [PMID: 33303314 DOI: 10.1016/j.dld.2020.11.028]
- 20 Liu M, Qi L. The related factors and countermeasures of hypothermia in patients during the anesthesia recovery period. Am J Transl Res 2021; 13: 3459-3465 [PMID: 34017522]
- Wang S, Huang H, Wang L, Wang X. A Psychological Nursing Intervention for Patients With Thyroid Cancer on Psychological Distress and 21 Quality of Life: A Randomized Clinical Trial. J Nerv Ment Dis 2020; 208: 533-539 [PMID: 32187128 DOI: 10.1097/NMD.00000000001157]
- Li L, Liu L, Kang H, Zhang L. The influence of predictive nursing on the emotions and self-management abilities of post-colostomy rectal 22 cancer patients. Am J Transl Res 2021; 13: 6543-6551 [PMID: 34306395]
- 23 Shi X, Ma L, Hao J, Yan W. Regulatory effects of comprehensive psychological intervention on adverse emotions and immune status of cervical cancer patients during the perioperative period. Am J Transl Res 2021; 13: 6362-6371 [PMID: 34306375]
- Tu M, Wang F, Shen S, Wang H, Feng J. Influences of Psychological Intervention on Negative Emotion, Cancer-Related Fatigue and Level of 24 Hope in Lung Cancer Chemotherapy Patients Based on the PERMA Framework. Iran J Public Health 2021; 50: 728-736 [PMID: 34183922] DOI: 10.18502/ijph.v50i4.5997]



WJCC | https://www.wjgnet.com



#### Published by Baishideng Publishing Group Inc 7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA Telephone: +1-925-3991568 E-mail: office@baishideng.com Help Desk: https://www.f6publishing.com/helpdesk https://www.wjgnet.com

