

Study on the Current Status and Influencing Factors of Social Restrictions in Postoperative Colorectal Cancer Patients

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Abstract: To investigate the current status of social restrictions in postoperative colorectal cancer patients and analyze the influencing factors to provide references for developing targeted nursing intervention strategies, a total of 166 postoperative colorectal cancer patients from a specialized oncology hospital in Zhejiang Province were selected using convenience sampling from April to July 2021. The investigation employed a general data questionnaire, the Social Constraints Scale (SCS-15), and the Fear of Progression Questionnaire-Short Form (FoP-Q-SF). The total social constraints score of postoperative colorectal cancer patients was (30.14±5.15) points; social constraints in postoperative colorectal cancer patients were positively correlated with fear of cancer recurrence ($P<0.05$). Postoperative colorectal cancer patients perceive social constraints at an above-moderate level, and this perception is influenced by multiple factors. Healthcare professionals need to pay special attention to the assessment of social constraints in young, low-income, and long-course colorectal cancer patients, and adopt targeted interventions to reduce their social constraints and promote physical and mental health.

Keywords: Colorectal Cancer; Social Constraints; Fear of Cancer Recurrence; Psychological Nursing

1. Introduction

Colorectal cancer is a collective term for malignant tumors of the colon, rectum, and anus, characterized by high incidence, high mortality, and high recurrence rates. Its incidence and mortality rates rank among the top three malignant tumors worldwide^[1]. Due to the long survival time after radical surgery for colorectal cancer, about 30% of stage I-III patients still experience recurrence or metastasis after radical surgery. The distal recurrence and metastasis rate within two years post-surgery is as high as 50% to 80%^[2]. Therefore, scholars are increasingly focusing on the mental health of colorectal cancer patients. Social constraints occur when patients feel restricted when trying to discuss their feelings and thoughts about cancer stressors with their spouse, family, or friends. This makes patients feel unsupported, misunderstood, or alienated, creating a non-supportive social environment that leads to the suppression of their relevant feelings and thoughts^[3]. Fear of cancer recurrence (FCR) refers to the fear and worry of individuals about the possibility of recurrence, metastasis, or progression of the primary cancer site^[4]. It is one of the major psychosocial issues faced by colorectal cancer patients during the course of disease treatment^[5]. The improvement in cancer survival rates forces patients to face the impact of treatment side effects, changes in body image, and the uncertainty of disease recurrence and death. Over time, this increases patients' psychosocial burden, potentially leading to social withdrawal and self-isolation behaviors^[6]. Previous studies have shown that high levels of FCR can lead to excessive avoidance of reality, disruption of physical and social functioning, and severe impacts on quality of life and social functioning^[7-8]. This study investigated postoperative colorectal cancer patients to understand their levels of social constraints and analyze the influencing factors, providing references for nursing interventions to address perceived social constraints in postoperative colorectal cancer patients.

2. Materials and Methods

2.1. Sample

From April to July 2021, postoperative colorectal cancer patients who underwent radical surgery in a specialized oncology hospital in Zhejiang Province were conveniently selected as research subjects. Inclusion criteria: (1) Pathologically confirmed diagnosis of colorectal cancer; (2) Age ≥ 18 years; (3) Awareness of their condition and willingness to participate in this study; (4) Ability to communicate normally and complete the questionnaire independently or with assistance; (5) The primary caregiver is the spouse. Exclusion criteria: (1) Severe mental disorders, cognitive impairments, or language communication disorders; (2) Severe organic diseases of the heart, brain, or lungs, or severe complications; (3) Terminal patients; (4) Unaware of their illness. This study was approved by the Ethics Committee of the School of Nursing, Hangzhou Normal University (20190078), and the hospital's Ethics Committee (IRB-2021-126).

2.2. Methods

2.2.1. General Information Questionnaire

This questionnaire was self-designed by the researchers after reviewing domestic and international literature and conducting group discussions. It consists of two main parts. The first part covers the general information of the patients, including gender, ethnicity, age, place of residence, marital status, fertility status, education level, religious belief, occupational status, family income, and medical insurance. The second part pertains to the patients' disease conditions, including tumor diagnosis, time of diagnosis, treatment methods, disease stage, presence of a stoma, and comorbidities.

2.2.2. Spouse Version of the Social Constraints Scale (SCS)

Given that preliminary research found that most caregivers of colorectal cancer patients are spouses, the spouse version of the Social Constraints Scale (SCS) was selected. This scale, developed by Professor Lepore^[9] and translated into Chinese by You^[10], measures the frequency with which individuals feel restricted by their spouse from discussing cancer-related feelings over the past 30 days. It consists of 15 items, scored on a 4-point Likert scale from "not at all" to "most of the time," with scores ranging from 1 to 4 for each item, and a total score of 15 to 60. Higher scores indicate a higher perceived level of social constraint. In this study, the scale's Cronbach's α coefficient was 0.92.

2.2.3. Fear of Progression Questionnaire - Short Form (FoP-Q-SF)

This scale was developed by Mehnert^[11] and translated into Chinese by Wu Qiyun^[12]. It consists of 12 items divided into two dimensions: physical health and social/family. It uses a 5-point Likert scale, with scores ranging from 1 to 5, where "never" to "always" respectively. Higher scores indicate a higher level of worry about cancer progression, and a score of ≥ 34 suggests psychological dysfunction. In this study, the internal consistency of the scale was 0.886, with Cronbach's α coefficients for each dimension being 0.836 and 0.804, respectively, indicating good reliability and validity.

2.3. Survey Methods

This study used a cross-sectional survey method. The questionnaire included standardized instructions explaining the purpose, significance, filling requirements, and precautions of the survey. With patients' informed consent, the questionnaire was completed anonymously and independently. If a patient could not fill it out manually, the researcher would ask each item according to its original meaning. According to Kendall's method of estimating sample size as 10-20 times the number of variables, the sample size was roughly estimated using the scale with the most items (15 items) as the basis, resulting in a sample size range of 150-300. To reduce the error brought by convenience sampling, the sample size was further increased by 10%, making the minimum sample size 165. A total of 179 questionnaires were distributed in this survey, and 179 were recovered. After excluding incomplete questionnaires, 166 valid questionnaires were selected, with an effective rate of 92.7%.

2.4. Statistical Methods

Data were statistically processed and analyzed using SPSS 26.0 software. Frequency and percentage were used for categorical data, while mean \pm standard deviation ($\bar{x} \pm s$) was used for continuous data. T-

tests or analysis of variance (ANOVA) were used for comparisons between samples. The correlation between fear of cancer recurrence, social constraints, and stress in colorectal cancer patients was analyzed using Pearson correlation analysis. The influencing factors of fear of cancer recurrence in colorectal cancer patients were analyzed using multiple linear regression, with $P < 0.05$ indicating statistical significance.

3. Results

3.1. General Data of Postoperative Colorectal Cancer Patients

The age range of the study subjects was 21-84 years, with an average age of (58.96 ± 11.90) years. Most subjects were male and lived in rural areas, accounting for 109 cases (65.7%) and 96 cases (57.8%), respectively. Family annual income was below 80,000 yuan for 42 cases (25.3%), 80,000-150,000 yuan for 52 cases (31.3%), and above 150,000 yuan for 72 cases (43.4%). The treatment course was less than 6 months for 81 cases (48.8%), and 19 cases (11.4%) were in the early stage of the disease.

3.2. Social Constraints and FCR and Their Correlation in Postoperative Colorectal Cancer Patients

The total social constraints score of postoperative colorectal cancer patients was (30.14 ± 5.15) , which was at an upper-middle level. Social constraints were correlated with fear of cancer recurrence and its dimensions ($P < 0.001$), with higher scores in the physical dimension of fear of cancer recurrence. Scores for each dimension are shown in Table 1, and correlations are shown in Table 2.

Table 1: SCS and Fear of Cancer Recurrence Scores in Postoperative Colorectal Cancer Patients ($x \pm s$, $n=166$)

Items	Scores	Average Item Scores
Social Constraints	30.14 ± 5.15	2.01 ± 0.34
Fear of Cancer Recurrence	20.71 ± 6.12	1.73 ± 0.51
Physiological Dimension	18.84 ± 3.71	3.14 ± 0.62
Family-Social Dimension	14.77 ± 4.05	2.46 ± 0.68

Table 2: Correlation Analysis of Social Constraints and Fear of Cancer Recurrence in Postoperative Colorectal Cancer Patients

Items	r	P
Physiological Dimension	0.294	< 0.001
Family-Social Dimension	0.225	< 0.001
Fear of Cancer Recurrence	0.295	< 0.001

3.3. Univariate Analysis of Social Constraints Scores in Postoperative Colorectal Cancer Patients

Univariate analysis was used to determine the correlation between factors such as age, permanent residence, annual household income, treatment duration, disease stage, and whether chemotherapy was performed, and social constraints in postoperative colorectal cancer patients. See Table 3 for details.

Table 3: Univariate Analysis of SCS Scores in Postoperative Colorectal Cancer Patients ($x \pm s$, $n=166$)

Variables	n	SCS	t/F	P
Sex			$t=0.673$	0.502
male	109	30.34±5.39		
female	57	29.77±4.68		
Age			$F=5.964$	0.003*
≤45	11	33.14±4.83		
46~64	76	30.31±5.01		
≥65	79	28.89±5.05		
Habitual residence			$F=5.816$	0.004*
village	96	30.31±5.07		
towns and villages	24	32.71±4.42		
city	46	28.46±5.16		
Adult child			$t=2.46$	0.808
yes	148	30.17±5.33		
no	18	29.94±3.40		
Educational background			$F=0.540$	0.584
illiteracy	53	30.38±5.43		
primary to junior high school	84	30.31±5.20		
junior high school	29	29.24±4.53		
Occupational status			$F=0.668$	0.573
wait for employment	70	29.76±5.16		
be on the job	6	29.67±5.89		
retirement	73	30.19±5.15		
ask for leave	17	31.71±5.03		
Annual income			$F=3.774$	0.025*
<80,000 yuan	42	31.62±5.53		
80,000~150,000 yuan	52	30.54±5.18		
>150,000 yuan	72	29.00±4.69		
Frequency of physical exercise			$F=2.097$	0.126
at regular intervals	40	29.18±5.16		
now and then	111	30.20±5.03		
never	15	32.33±5.62		
Treatment course			$F=6.371$	0.002*
<6 months	81	28.73±4.41		
6~12 months	43	31.47±5.34		
>12 months	42	31.52±5.64		
Stage of disease			$t=-2.171$	0.039*
early stage	19	27.79±3.78		

non-early	147	29.90±5.31		
Chemotherapy or not			$t=-2.429$	0.016*
no	78	29.13±4.50		
yes	88	31.05±5.54		
Radiotherapy or not			$t=-1.471$	0.143
no	134	29.86±4.96		
yes	32	31.34±5.83		

*P<0.05

3.4. Multiple Linear Regression Analysis of Social Constraints in Postoperative Colorectal Cancer Patients

Variables with statistical significance in univariate analysis and correlation analysis were used as independent variables, and the total social constraints score of postoperative colorectal cancer patients was used as the dependent variable for multiple linear regression analysis (α in=0.05, α out=0.10). Variables included in the regression model were age ($\leq 45=1$, 46-64=2, $\geq 65=3$), permanent residence (rural=1, town=2, city=3), annual household income (below 80,000 yuan=1, 80,000-150,000 yuan=2, above 150,000 yuan=3), treatment duration (<6 months=1, 6-12 months=2, >12 months=3), and fear of cancer recurrence (input as original values). These variables could explain 40.8% of the total variance, as shown in Table 4.

Table 4: Multiple Stepwise Linear Regression Analysis of Social Constraints in Postoperative Colorectal Cancer Patients

Variables	β	SE	β^*	t	P
(Constant)	28.031	2.745		10.213	<0.001
Age	-1.374	0.554	-0.180	-2.481	0.014
Annual income	-1.080	0.451	-0.170	-2.397	0.018
Treatment course	0.521	0.187	0.198	2.781	0.006
FCR	0.176	0.055	0.232	3.206	0.000

R²=0.197, Adjusted R²=0.177; F=9.865; P<0.001.

4. Discussion

4.1. Current Status of Social Constraints in Postoperative Colorectal Cancer Patients

The results of this study showed that the social constraints score of postoperative colorectal cancer patients was (30.14±5.15), which is at a moderately high level and higher than the results of foreign scholars^[13]. Analyzing the reasons: Firstly, it may be due to the Chinese cultural background where people tend to emphasize interpersonal relationships. Therefore, when having cancer, patients communicate less about their cancer condition and are unwilling to share their worries, resulting in a higher social constraints score for colorectal cancer patients. Additionally, patients' spouses and family members tend to avoid cancer-related issues, which to some extent increases the level of social constraints and exacerbates the fear of cancer recurrence in patients. The results of this study also showed that the level of social constraints in colorectal cancer patients is positively correlated with the fear of cancer recurrence (P=0.001). Regression analysis found that fear of cancer recurrence has a positive predictive effect on social constraints, consistent with the results of Cohee^[14]. Heather's study^[15] on the psychosocial status of breast cancer patients found that the fear of cancer recurrence affected patients' normal interpersonal interactions and interfered with their daily lives. This suggests that healthcare professionals should strengthen health education for colorectal cancer patients, guide their caregivers, and communicate effectively with patients to reduce their sense of loneliness and improve their understanding of the disease. At the same time, healthcare workers can also provide online consultation platforms, encourage patients to adopt different methods to get timely help, promote psychological and physiological adaptation in cancer patients, and reduce the fear of cancer recurrence.

4.2. Multiple Factors Affecting Social Constraints in Postoperative Colorectal Cancer Patients

4.2.1. Fear of Cancer Recurrence

The results of this study showed that fear of cancer recurrence significantly affects perceived social constraints, consistent with the findings of Palas^[16]. Mahendran^[17] found that patients with moderate to high levels of fear of recurrence are more likely to use cognitive avoidance coping strategies such as distraction, and perceive their coping strategies as effortful, ineffective, and time-wasting, thus they tend to use denial, withdrawal, and other methods to avoid the threats and challenges posed by the disease. The analysis suggests that the incurability of cancer and the unpredictability of cancer recurrence may be the reasons. Even after completing cancer treatment, patients still worry about the potential risk of recurrence, leading to psychological responses such as anxiety, fear, and concern. Patients may avoid thinking about or discussing certain cancer-related thoughts or feelings to buffer unpleasant atmospheres or avoid exposure to negative social environments that may cause harm^[18]. Liu Xiaoyan's study on fear of cancer recurrence in ostomy patients indicated that fear of cancer recurrence is negatively correlated with patients' social support^[19]. When patients can access more resources, emotional value, and other favorable conditions, it positively regulates the progression of the disease and inhibits the development of negative emotions, thus leading to a lower fear of recurrence. Therefore, during the rehabilitation period of postoperative colorectal cancer patients, special attention should be paid to the negative impacts of fear of cancer recurrence. Focus on the patients' psychosocial aspects to reduce their level of social constraints.

4.2.2. Age

The results of this study show that age significantly affects the level of social constraints in postoperative colorectal cancer patients. The younger the age, the higher the level of social constraints, consistent with the findings of Shen Yaqin^[20]. This may be related to the different psychosocial characteristics of different age stages. Young people have higher social needs and are more sensitive to external evaluations of themselves. They experience stronger psychological stress and maladaptation when cancer occurs^[21]. Older patients have more social experience and higher levels of regulation and adaptation to cancer^[22]. Younger colorectal cancer survivors have higher levels of social isolation, especially women, who are more concerned about their self-image and are more likely to experience negative emotions such as inferiority, anxiety, and depression when facing body image disorders, leading to social isolation^[23]. Yin Chunlan^[24] found that young people with cancer have stronger psychological stress and maladaptation and poorer psychosocial adaptation. Lally et al. found in a study on breast cancer patients that younger women are more likely to experience social constraints than older women^[25]. Therefore, the social constraints of young people should be a focus of healthcare providers, with more targeted and detailed emotional counseling for the younger population.

4.2.3. Household Income Level

The results of this study show that economic income level is a factor influencing social constraints in postoperative colorectal cancer patients, consistent with the findings of YOU^[26]. This may be related to the difficulty in affording high medical expenses and concerns about treatment costs. Low-income groups bear a huge economic burden due to the high cost of colorectal cancer treatment, and various factors such as the disease itself also affect patients' income, leading to a decrease in overall living standards. Patients are prone to self-isolation, reducing their sense of control over life and leading to pessimistic emotions. The study by Zhang Ping et al. shows that social constraints are negatively correlated with quality of life^[27]. The study by Gao Qiaoqiao^[28] on social constraints in breast cancer patients found that low-income patients also face body image disorders caused by surgical trauma and side effects of radiotherapy and chemotherapy, resulting in more severe psychological distress. The study by Gao Qiaoqiao^[28] on social constraints in breast cancer patients found that low-income patients also face body image disorders caused by surgical trauma and side effects of radiotherapy and chemotherapy, resulting in more severe psychological distress. This suggests that healthcare providers should pay attention to the negative emotions of colorectal cancer patients during their recovery period, especially those with lower incomes. They should improve patients' correct understanding of the disease and provide timely psychological counseling to reduce anxiety, depression, and other negative emotions.

4.2.4. Treatment Course

Changes in body image caused by surgery, especially for patients undergoing stoma surgery, can lead to embarrassment in social situations. As a result, most patients reduce social activities, and their level of social constraints increases. With the progression of the disease, patients who are frequently

hospitalized experience greater restrictions on social activities, leading to higher levels of social constraints^[29]. The results of this study show that the course of the disease is a factor influencing social constraints in postoperative colorectal cancer patients. Research confirms that the course of the disease is not only an important factor in determining treatment plans, but also that the longer the patient is ill, the poorer their resistance, the more pronounced their symptoms, and the lower their self-management ability, increasing the likelihood that they will be unable to readjust to life after treatment^[24]. The Social Cognitive Processing Theory (SCPT) suggests that breast cancer patients, when discussing disease-related thoughts or feelings with friends or family, may avoid discussing or addressing their symptoms if they perceive social constraints, potentially leading to a greater symptom burden^[30]. Studies have shown that breast cancer patients' perception of high social constraints from peers and healthcare workers is associated with a greater symptom burden^[27]. Therefore, healthcare providers should provide early psychological counseling to postoperative colorectal cancer patients, engage in proactive and frequent communication, encourage and guide patients to understand recovery knowledge, and help them develop a correct attitude toward their stoma to facilitate acceptance.

5. Conclusion

This study found that the level of social constraints in postoperative colorectal cancer patients is moderately high and influenced by various factors. Healthcare providers should focus on the characteristics of postoperative colorectal cancer patients, paying special attention to younger, low-income patients with a long disease course and high fear of cancer recurrence scores. They should actively communicate with patients and provide psychological support during the recovery process to reduce the level of social constraints. This study only surveyed postoperative colorectal cancer patients in Zhejiang Province. The level of social constraints in postoperative colorectal cancer patients in different regions needs further research.

References

- [1] Sung H, Ferlay J, Siegel R L, et al. *Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries*[J]. *CA: a cancer journal for clinicians*, 2021, 71(3): 209-249.
- [2] Stok E P V D, Spaander M C W, Dirk J. Grünhagen, et al. *Surveillance after curative treatment for colorectal cancer*[J]. *Nature Research*, 2017(5).
- [3] Juth V, Smyth J M, Carey M P, et al. *Social constraints are associated with negative psychological and physical adjustment in bereavement*[J]. *Appl Psychol Health Well Being*, 2015, 7(2):129-148.
- [4] Lebel S, Ozakinci G, Humphris G, et al. *Current state and future prospects of research on fear of cancer recurrence* [J]. *Psychooncology*, 2017(4).
- [5] Thewes B, Husson O, Poort H, et al. *Fear of Cancer Recurrence in an Era of Personalized Medicine*[J]. *Journal of Clinical Oncology*, 2017, 35(29):3275-3278.
- [6] Wang Wen, Wu Dan, Qian Jinping, et al. *Development of social alienation scale for colorectal cancer survivors and its reliability and validity* [J]. *Nursing Research*, 2022, 36(19):3385-3392.
- [7] Hu Zhengnan, Wang Hui, Li Rongrong, et al. *Status quo and influencing factors of fear of cancer recurrence in patients after liver cancer surgery* [J]. *Nursing Research*, 2022, 36(19):3516-3521.
- [8] Cheng Yang, Pu Congshan, Yi Jing, et al. *Status and influencing factors of post-TACE fear of cancer recurrence in patients with primary hepatocellular carcinoma*[J]. *Modern Clinical Nursing*, 2020, 19(03): 15-24.
- [9] Lepore S J, Silver R C, Wortman C B, et al. *Social constraints, intrusive thoughts, and depressive symptoms among bereaved mothers.* [J]. *J Pers Soc Psychol*, 1996, 70(2):271-282.
- [10] You J, Lu Q. *Social constraints and quality of life among Chinese-speaking breast cancer survivors: a mediation model*[J]. *Quality of Life Research*, 2014, 23(9):2577-2584.
- [11] Mehnert A, Herschbach P, Berg P, et al. *[Fear of progression in breast cancer patients--validation of the short form of the Fear of Progression Questionnaire (FoP-Q-SF)]*. [J]. *Zeitschrift für Psychosomatische Medizin und Psychotherapie*, 2006, 52(3):274-288.
- [12] Wu Qiyun, Ye Zhixia, Li Li, et al. *Reliability and validity of Chinese version of Fear of Progression Questionnaire-Short Form for cancer patients*[J]. *Chinese Journal of Nursing*, 2015, 50(12):5.
- [13] Rivera-Rivera J N, Badour C L, Burris J L. *The association between psychological functioning and social support and social constraint after cancer diagnosis: a 30-day daily diary study*[J]. *Journal of Behavioral Medicine*, 2021, 44(3): 355-367.
- [14] Cohee A, Johns S A, Alwine J S, et al. *The mediating role of avoidant coping in the relationships*

- between physical, psychological, and social wellbeing and distress in breast cancer survivors[J]. *Psycho-Oncology*, 2021, 30(7): 1129-1136.
- [15] Campbell-Enns H J, Woodgate R L. *The psychosocial experiences of women with breast cancer across the lifespan: a systematic review*[J]. *Psycho-Oncology*, 2017, 26(11): 1711-1721.
- [16] Palas J M C, Hyland K A, Nelson A M, et al. *An examination of the relationship of patient modifiable and non-modifiable characteristics with fear of cancer recurrence among colorectal cancer survivors*[J]. *Supportive Care in Cancer*, 2021, 29(8).
- [17] Mahendran R, Liu J, Kuparasundram S, et al. *Fear of cancer recurrence among cancer survivors in Singapore* [J]. *Singapore Medical Journal*, 2021, 62(6): 305-310.
- [18] Wong C C Y, Lu Q. *Do social constraints always hurt? Acculturation moderates the relationships between social constraints and physical symptoms of Chinese American breast cancer survivors*[J]. *Asian American Journal of Psychology*, 2016, 7(2): 129.
- [19] Liu Xiaoyan, Yuan Ming, Yang Kai. *Analysis of influencing factors of fear of cancer recurrence in patients with enterostomy*[J]. *Psychological Month*, 2023, 18(20):42-44.
- [20] Shen Y Q, Sun H M, Wang M, et al. *Social Constraints Status in breast cancer patients on postoperative chemotherapy: influencing factors*[J]. *Journal of Nursing Science*, 2023, 38(15): 30-34.
- [21] Qiu Jiajia, Li Ping, Huang Lijin, et al. *Correlation Study on Social Restrictions and Stigma in Young Breast Cancer Patients*[J]. *Medicine and philosophy*, 2023, 44(18): 47-51.
- [22] Zou Yan, Zhang Huiling, Tian Jingjing, et al. *Research status of cancer patients' perception of social constraints*[J]. *Modern Nurse*, 2023, 30(12): 12-16.
- [23] GRUBI, HANSON G, BRADLEY C, et al. *Colorectal cancer survivors' challenges to returning to work: a qualitative study*[J]. *European Journal of Cancer Care*, 2019, 28(4): e13044.
- [24] Yin Chunlan, Qu Huili, Xia Tingting, et al. *A study on the correlation between stigma, coping style and psychosocial adjustment in young medical and philosophical breast cancer patients after surgery*[J]. *Chinese Journal of Practical Nursing*, 2019, 35(15):6.
- [25] LALLY R M, KUPZYK K, MILLS A, et al. *Effects of social constraints and web-based psychoeducation on cancer-related psychological adjustment early-after breast cancer diagnosis*[J]. *Journal of Psychosocial Oncology*, 2019, 37(6): 677-698.
- [26] You J, Wang C, Yeung N C Y, et al. *Socioeconomic status and quality of life among Chinese American breast cancer survivors: the mediating roles of social support and social constraints*[J]. *Psycho-oncology*, 2018, 27(7): 1742-1749.
- [27] Zhang Ping, Yin Yongtian, Chen Lijun, et al. *Advances in perceived social constraints in breast cancer patients*[J]. *Journal of nursing*, 2020, 35(19):5.
- [28] Gao Qiaoqiao, Zhu Tingting, Li Jiayin, et al. *Correlation between social constraints and psychosocial adjustment in breast cancer patients undergoing chemotherapy*[J]. *Modern Preventive Medicine*, 2020.
- [29] Ma Xinyu, Cheng, Huanyu, Zhao Yarui, et al. *Research progress in social isolation among survivors of colorectal cancer* [J]. *Chinese Evidenced-based Nursing*, 2024, 10(4): 658-662.
- [30] Mosher C E, Johnson C, Dickler M, et al. *Living with Metastatic Breast Cancer: A Qualitative Analysis of Physical, Psychological, and Social Sequelae* [J]. *Breast Journal*, 2013, 19(3):285-292.