Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 5
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Research Progress on Unplanned Readmission of Enterostomy Patients

Jingjing Wang, Long Zhang*

School of Nursing, Yanbian University, Yanji 133000, Jilin Province, China

**Author to whom correspondence should be addressed.*

Abstract: From the perspective of unplanned readmission in patients with enterostomy, this study reviewed the incidence, influencing factors and intervention measures, to provide reference for increasing the attention of medical staff, early detection of risk factors and formulation of personalized intervention measures.

Keywords: Enterostomy; Unplanned readmission; Influencing factors; Overview

Online publication: May 30, 2025

1. Introduction

An enterostomy is created when normal anal function cannot be retained due to intestinal disease, creating a new opening in the abdomen that draws part of the intestine out of the body for excretion of feces [1]. Although an ostomy saves a patient's life, it results in unplanned readmissions due to various complications. Therefore, it is important to clarify the unplanned readmission rate of patients with enterostomy, arouse the attention of medical staff, and carry out effective intervention measures to reduce the economic burden of patients and improve the prognosis. At present, there are few studies on the unplanned readmission of enterostomy patients in our country. This study summarized the relevant factors for the unplanned readmission of enterostomy patients, and laid the foundation for future targeted intervention.

2. Unplanned readmission rate of enterostomy patients

Based on the national readmission database, Sanaiha *et al.* reviewed 376,693 patients with colostomy, of whom 41.6% were readmitted within the first week of discharge [2]. Through a 6-month follow-up of 316 patients with colostomy in Henan, Hou found that the incidence of unplanned readmission was 25.4%, and most of them occurred within 3 months after discharge [3]. At present, there is no relevant study on the unplanned readmission of enterostomy patients in China, and there is a lack of statistical analysis of the relevant data.

3. Influencing factors

3.1. Patient factors

3.1.1. Demographic data

Age and sex were the factors influencing the unplanned readmission of enterostomy patients. Older patients are more likely to have unplanned readmissions, which may be related to decreased immune function and increased complications in elderly patients. Some studies have shown higher rates of unplanned readmissions in men, while others have shown a higher risk of readmissions in women [4, 5]. In contrast, the study of Plonkowski *et al.* study found that readmissions were gender-neutral [6]. The relationship between gender and unplanned readmission is inconsistent and needs to be further verified.

3.1.2. Comorbidity

Patients who have complications before surgery have a higher chance of developing unplanned readmissions [7]. Zhang *et al.* followed up 750 elderly patients with heart failure, and the results showed that 22.3% of the patients had readmitted to hospital [8]. Infection was associated with unplanned readmissions [9]. Poor blood sugar control in patients with combined diabetes can affect wound healing and increase the risk of infection, leading to unplanned read missions [10]. In addition, co-existing respiratory conditions can also lead to complications and increase unplanned readmissions [7]. Studies have shown that congestive heart failure is associated with readmission in patients with ileostomy [6], however, there was no statistical significance between respiratory and diabetes comorbidities and readmissions.

3.1.3. Obesity

Obesity is more likely to lead to unplanned readmissions. Obese patients had a 50 percent and 20 percent chance of being readmitted to the hospital within 30 months and six months, respectively, compared with non-obese patients, according to a study [11]. It may be that obese patients have higher intra-abdominal pressure due to fat involvement, less muscle in the abdominal wall, lower elasticity, and less tight skin adhesion to the ostomy bag, which increases the occurrence of complications and leads to unplanned readmitted hospital visits [12].

3.1.4. Frailty

Frailty not only increases the risk of an enterostomy, but also increases the financial burden on the patient, leading to higher unplanned read missions [13]. Braschi *et al.* conducted a survey of enterostomy patients ≥ 65 years of age using five modified frailty indexes, showing that frailty was an independent risk factor for unplanned readmission and had a 1.4-fold higher incidence of complications in frailty patients compared to non-frailty patients [14]. At present, the relationship between frailty and unplanned readmission in enterostomy patients has not been investigated in China.

3.2. Disease factors

3.2.1. Ostomy type

Patients with ileostomy have a higher rate of unplanned readmissions [10]. But the study of Plonkowski *et al.* study showed no significant difference in readmission rates between ileostomy patients and colostomy patients, with an increased readmission correlation among loop ileostomy patients [6]. Therefore, the effect of the mode of ostomy on readmission still needs further study.

3.2.2. Ostomy complications

Patients with long recovery time after ostomy and lack of knowledge about ostomy after discharge are likely to lead to complications such as infection and increase unplanned readmission [4]. Leakage of ostomy excrement can also cause a series of common complications, such as prolapse, edema, and stenosis of the stoma, increasing the risk of unplanned readmission [15]. This is consistent with previous research by Wang [10].

3.3. Other factors

Ying *et al.* used a cohort design to analyze the relationship between hospital stay and unplanned readmission and the results showed that the risk of unplanned readmission increased with the extension of hospital stay, while the reduction of hospital stay did not increase the rate of unplanned readmission [16].

4. Intervention measures

4.1. Strengthening discharge guidance can help reduce unplanned readmissions

Lin *et al.* implemented a routine nursing plus nursery-led discharge plan for colorectal cancer patients receiving ostomy and conducted a 6-month follow-up. The results showed that compared with the control group, the incidence of complications and unplanned readmissions was lower in the intervention group [17]. This suggests that effective discharge planning can improve the quality of discharge teaching, reduce the length of stay and the occurrence of complications, and reduce unplanned readmission. The discharge warning tool is an auxiliary tool to prevent unplanned readmission. Yun *et al.* divided the patients with permanent enterostomy into an intervention group and a control group, and used the discharge warning tool on the basis of the control group [18]. The results show that this method can effectively reduce the complications of patients with permanent enterostomy and reduce the incidence of patients with unplanned readmission.

4.2. Enhancing ostomy education to reduce unplanned readmissions

Forsmo *et al.* selected 122 patients undergoing enterostomy for intervention, and the results showed that stomy education based on the theory of accelerated rehabilitation surgery could significantly reduce the length of hospital stay, but could not reduce the readmission of patients [19]. The intervention based on the concept of accelerated rehabilitation can reduce the length of hospital stay of patients, but patients may have insufficient knowledge of stomostomy and increase the rate of unplanned readmission. Therefore, health education guided by the accelerated rehabilitation theory needs to be investigated with large samples in the future.

4.3. Implementing effective nursing measures can reduce the risk of unplanned readmissions

Cluster nursing is an evidence-based nursing model that combines a series of related nursing measures and has been widely used in clinical practice [20].Ozata *et al.* selected 104 patients who underwent ostomy surgery for intervention, including in-hospital ostomy care, education, and structured post-discharge follow-up, and the results showed that cluster care significantly reduced the readmission rate of patients after ostomy [21]. With the rapid development of information technology, the application of the “Internet +” information medical care platform in the field of medical services is increasingly widespread. Based on the “Internet +” information medical care platform, Mei *et al.* selected 233 patients with permanent colostomy for continuous care, and found that the “Internet

+" continuous care service model can effectively improve patients' stomostomy-related knowledge and reduce the rate of unplanned readmission [12].

5. Conclusion

Effective interventions are able to reduce the rate of unplanned readmissions for patients. At present, the research on the unplanned readmission of enterostomy patients in China is relatively insufficient, and no targeted risk prediction model has been established. In addition, considering the differences in cultural background, Chinese scholars should learn from foreign experience in the future to construct intervention measures suitable for the unplanned readmission of enterostomy patients in China.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Wang H, 2023, Correlation Research on Disease Benefit Finding, Resourcefulness and Quality of Life of Patients with Enterostomy, thesis, Yanbian University.

[2] Sanaiha Y, Xing H, Morchi R, et al., 2020, National Study of Immediate and Delayed Readmissions After Colostomy Creation. Journal of Surgical Research, 246: 457–463.

[3] Hou M, 2020, Research on the Current Situation and Factors of Unplanned Readmission of Colorectal Cancer Ostomy Patients, thesis, Henan University.

[4] Sun L, 2021, Analysis of Risk Factors for Unplanned Readmission within 3 Months after Colorectal Cancer Surgery. Nursing Practice and Research, 18(09): 1290–1293.

[5] Justiniano C, Temple L, Swanger A, et al., 2018, Readmissions With Dehydration After Ileostomy Creation: Rethinking Risk Factors. Diseases of the Colon & Rectum, 61(11): 1297–1305.

[6] Plonkowski A, Allison C, Philipson P, et al., 2023, Risk Factors Associated with Readmission within 30 Days Following Stoma Surgery: Development of a 'Traffic Light' Prediction Model. Colorectal Disease, 25(4): 747–756.

[7] Yang J, Feng J, Li K, 2015, Analysis of Influencing Factors of Unplanned Readmission within 1 Year after Colorectal Cancer Surgery. Journal of Nurses Training, 30(06): 551–552.

[8] Zhang J, Wu Q, Li C, et al., 2025, Prediction Study of Symptom Perception during the Acute Episode on Short-Term Health Outcomes in Elderly Patients with Heart Failure. Journal of Nursing Science, 40(01): 74–78.

[9] He Y, Yang J, Jiang L, 2019, Research Progress on Unplanned Readmission after Colorectal Cancer Surgery. Nursing Research, 33(2): 290–293.

[10] Wang Z, Xu H, Li J, et al., 2018, Research on the Current Situation and Influencing Factors of Unplanned Readmission after Emergency Enterostomy. Chinese Journal of Nursing Education, 15(11): 860–864.

[11] Patel K, Krishna S, Porter K, et al., 2020, Diverticulitis in Morbidly Obese Adults: A Rise in Hospitalizations with Worse Outcomes According to National US Data. Digestive Diseases and Sciences, 65(9): 2644–2653.

[12] Dai L, 2019, A Brief Analysis of the Impact of Body Mass Index on Complications of Enterostomy. Journal of Colorectal & Anal Surgery, 25(05): 626–628.

[13] Ebrahimian S, Lee C, Tran Z, et al, 2022, Association of Frailty with Outcomes of Resection for Colonic Volvulus: A

National Analysis. PLoS One, 17(11): e0276917.

[14] Braschi C, Salzman G, Russell M, 2024, Association of Frailty With Post-operative Outcomes of Older Adults Undergoing Elective Ostomy Reversal. American Surgeon, 90(1): 75–84.

[15] Huang A, Meng Y, Wang X, et al., 2023, Construction and Application of a Continuing Nursing Service Model for Ostomy Patients Based on the "Internet+" Information-based Medical Care Platform. Journal of Nursing Administration, 23(5): 350–354.

[16] Yuan Y, Zhang S, Sun S, et al., 2025, Causal Association Analysis of Hospitalization Duration and Readmission Rate in Patients with Mental Disorders. Journal of Shandong University (Medical Edition), 63(3): 99–109.

[17] Lin L, Fang Y, Wei Y, et al., 2024, The Effects of a Nurse-led Discharge Planning on the Health Outcomes of Colorectal Cancer Patients with Stomas: A Randomized Controlled Trial. International Journal of Nursing Studies, 155: 104769.

[18] Shen Y, Wang Z, Hou M, et al., 2021, The Application of Discharge Warning Tools in Preventing Unplanned Readmission of Enterostomy Patients. Journal of Qilu Nursing, 27(6): 1–3.

[19] Forsmo H, Pfeffer F, Rasdal A, et al., 2016, Pre- and Postoperative Stoma Education and Guidance within an Enhanced Recovery After Surgery (ERAS) Programme Reduces Length of Hospital Stay in Colorectal Surgery. International Journal of Surgery, 36(Pt A): 121–126.

[20] Li C, Hu J, Su X, et al., 2017, Research Progress of the Concept of Cluster Nursing and Its Application in Surgical Nursing. Chinese Journal of Modern Nursing, 23(30): 4.

[21] Ozata I, Tufekci T, Aksan T, et al., 2024, Reducing Dehydration-induced Readmissions Post-colorectal Surgery: The Impact of a Prevention Bundle. International Journal of Colorectal Disease, 39(1): 138.