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Review Article

The development status of specialized nursing in ostomy care both in China and abroad

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ABSTRACT

The status of ostomy-specialized nurses' training and the specialized care for patients with permanent colostomy both in China and abroad are analyzed. Based on features and characteristics of the development of ostomy care outside China, problems in China's ostomy care are discussed to promote the sustainable development of this type of care.

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1. Introduction

In recent years, the incidence of rectal cancer in China has been increasing rapidly.¹ As of 2005, the cumulative number of patients with permanent colostomies in China has reached more than 1 million,² and it is estimated that there were 312,000 new cases of colorectal cancer in China in 2015,³ 50%–60% of which involved low rectal cancer patients requiring radical surgery such as abdominoperineal excision of the rectum (Miles surgery). This surgery performs a permanent colostomy at the lower left abdomen of the patients, requiring patients to use an artificial anus for the rest of their lives.⁴ The post-operational change in defecation method has a severe influence on patients' physiological, psychological and social functions. In recent years, specialized ostomy care in China has been continuously improved and developed and specialized nurses on ostomy care have been trained, making a substantial contribution to the reduction of colostomy complications and the improvement of patients' self-care ability, albeit one that lags behind advances in other developed countries. In this article, the status of the development of specialized ostomy care is reviewed to provide references and lessons for the development of China's nursing care delivery related to ostomy.

2. Factors involved in colostomy complications

Difficulties in patients' lives after permanent colostomy primarily relate to complications⁵; the current incidence rates of colostomy complications in China and other countries are 16.3%–53.8% and 11%–60%, respectively.⁶ Eighty percent of ostomy patients have peristomal skin lesions.⁷ There are three major categories of factors that affect colostomy complications. The first major category of factors is surgical in nature, including the following complications: (1) overly high tension when extracting the colon tube during colostomy; (2) excessive trimming of the mesocolon at the colon with the stoma opening; (3) twists derived from the opened colon and mesocolon detachment; (4) colon mucosal necrosis at the stoma opening and shedding of the stoma mucosa suture; (5) overly long intraoperative free colon segments and insecure sutures between the colon (with the stoma opening) and abdominal wall; (6) overly large or small abdominal incisions; and (7) overly large suture spacing that leads to complications such as stoma necrosis, mucous membrane detachment at the stoma, overly narrow stoma, sunken stoma, and edema in the colon with the stoma opening in patients at an early postoperative stage.⁸ The second major category of factors is patient-related, including the following: (1) high abdominal pressure, wound infection, malnutrition, diabetes, and separation of the skin and mucous membrane around the stoma due to long-term use of corticosteroid drugs; (2) mucosal edema at the stoma in senior or hypoproteinemic patients; (3) chronic cough or prostatic hyperplasia; (4) parastomal hernia attributable to obesity and weak abdominal-wall muscles in

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seniors; and (5) stoma retraction derived from overly rapid post-operative weight gain.⁹ The third major category of factors relates to the level of ostomy care. Nursing intervention on patients who have had a permanent ostomy requires specialized care and stoma care products. There are certain technological difficulties associated with replacement of the ostomy pouch and the prevention and treatment of colostomy complications. Currently, there is a variety of stoma nursing products. Moreover, even when they are located in the same institution, different departments use different techniques and operation methods in ostomy care. Moreover, enterostomal therapist (ET) and nursing specialists in the field of ostomy care are in short supply, and in practice, ostomy care is primarily performed by clinical nurses, leading to unstable nursing quality. Nursing staff is not sufficiently skillful in ostomy care, and patients generally lack relevant knowledge of ostomies and skills in ostomy care. For example, patients without preoperational stoma positioning are susceptible to peristomal skin lesions and parastomal hernia; stoma bleeding can be caused by an overly small ostomy pouch, and fecal dermatitis can be caused by an overly large ostomy pouch.¹⁰ The fourth major category of factors relates to patients' self-care ability. There are vulnerable groups of ostomy patients with respect to self-care, e.g., male patients with low level of education, low income, manual labor occupations, or complications typically demonstrate low self-care ability.¹¹ Patients with a low level of education show an inadequate mastery of the techniques of ostomy care, whereas patients who are engaged in manual labor show poor compliance and are prone to have movements that increase abdominal pressure after hospital discharge, leading to the occurrence of complications such as parastomal hernias and stoma prolapse.¹²

3. The status of the development of ostomy care both in China and abroad

With respect to the causes of colostomy complications, in addition to the causes related to surgical and patient-related factors, the ostomy-care skills of nursing staff and patients' self-care ability are also closely correlated to the incidence of colostomy complications. Active and effective nursing intervention measures can effectively reduce colostomy complications and improve the patient's self-management ability with respect to defecation, thereby improving quality of life and social adaptability.

3.1. The quality of ostomy care

Currently, the care subjects of certified wound, ostomy and continence nurses (CWOCNs) in US hospitals are inpatients and occupants of long-term care facilities. CWOCNs primarily provide consultations and technical services.¹³ In China, ostomy-care investigations have a different focus than in other countries. In countries outside of China, ostomy care includes the entire process from hospital admission to discharge and includes transfers from hospitals to community health centers; this approach truly achieves seamless care for the ostomy patient, in which CWOCNs pass major patient care issues and care programs to nurses working in the community health centers, with the latter continuing to implement various care measures according to the hospital's care plan.¹⁴ Therefore, the patients' hospital stays are shortened, and care costs decreased. Zhang et al¹⁵ show that telephone follow-up intervention by ostomy nurses for colostomy patients significantly enhance patients' self-efficacy and confidence related to postoperative ostomy management and reduce the incidence rate of colostomy complications. The American Nurses Association recommends that case managers have a professional certificate of registered nurse and, ideally, either a master's degree or advanced

clinical management skills; they should not be limited to determining clinical care measures but should also be responsible for planning on each individual patient's care during hospitalization and monitoring and analyzing the outcome. Moreover, they should more strongly emphasize communication and collaboration with other members in the multidisciplinary team and the seamless exchange of information with patients so that a cost-effective and highly efficient medical and nursing path can be found to form evidence of an optimal practice.^{16,17} The main practitioners of ostomy care in the other countries are either ET or an ET-led multidisciplinary medical team and key interventions include assessing the patient's needs, timely communicating and coordinating with the patient's caregivers and medical team to meet the patient's needs, developing personalized patient care plans, and regularly following up with the patient, thus ensuring the achievement of the desired objectives.¹⁸ Thus, the implementation of case management for ostomy patients will realize continued care in a real sense.

Specialized ostomy care started rather late in China. Compared to the US, China's ostomy care development lags far behind. The service objects of ETs in China are inpatients and outpatients; services have not yet been expanded to patients in community health centers.¹³ The continued care of ostomy patients in China focuses on post-discharge care plans, thus lacking continuity. Continued care for colostomy patients takes the form of telephone follow-ups, follow-up visits, social clubs for colostomy patients, colostomy outpatient follow-up, Internet follow-up and communications.¹⁹ The implementation of continued care is conducive both to nurse-patient communication and to the easing of the doctor-patient relationship.²⁰ Zhang et al²¹ followed up ostomy patients in the early post-discharge stage by telephone, finding that patients who were very satisfied with continued care accounted for 98.1%, and patients who perceived the strong support of nursing specialists for their ostomy care accounted for 96.2%. Chen et al²² applied the case-management model to ostomy patients (observation group), in which the case management specialist performed active, continuous and targeted nursing interventions on ostomy patients in the perioperative period and strived to help the patients seek support from their families and community health centers to meet various aspects of the patients' needs, including physiological and psychological needs, in addition to guidance related to ostomy care. They found that whereas 87.5% of the patients in the treatment group could take full care of themselves, only 52.6% of the patients in the control group could do so, indicating that follow-up interventions effectively improved patients' self-care ability. However, in terms of continued care of ostomy patients, telephone follow-up lacks systematicness and continuity. In addition, there is no specific requirement related to the number of telephone interventions and the content and operating procedures of continued care include no relevant guidance and standards. Moreover, evaluation of the effectiveness of health service utilization is also lacking. For that reason, feedback on the quality of care services is inadequate.²³ With respect to the implementation of case management for ostomy patients, there is no uniform standard for the selection of case management specialists. The qualification, education and knowledge level of case management nurses also vary. To some extent, this affects the effectiveness of personalized health education related to ostomy care.¹⁷

3.2. Education and training of stoma nursing specialists

The Wound, Ostomy & Continence Nurses Society (WOCNS) has become an authoritative and influential academic organization in the field of international wound, ostomy and continence (WOC) care.²⁴ In 1961, WOCNS founded the world's first school for ostomy therapy, which continuously improves the specialized nursing

curriculum based on the development process of specialized care, develops practice guidelines and standards for specialized care, emphasizes rigorous training and assessment of practices, and enhances the ability of nursing specialists.²⁵ With the aggravating factor of an aging population, problems of chronic wounds, continence, and gastrointestinal problems are also aggravated, and the social demand for specialized WOC care increases.²⁶ The development of WOC nursing in China began in 1993. With Australia's help, two Chinese nurses participated in an enterostomal therapy education program and became China's first WOCNs. To date, more than 400 WOCNs have been trained in China.²⁷ When screening ET candidates in China, more attention is paid to ability; in the last five years, ET candidates have mostly been college and vocational school graduates, who accounted for 39.08% and 45.98% of the candidates, respectively.²⁸ It was rare for candidates to have a master's degree. Relatively low education levels have reduced the opportunity for China's ETs to participate in international academic exchanges and to learn from each other with their international counterparts, thus affecting the enhancement of the level of ostomy-specialized care. Moreover, in China's ET training, trainees take a longer time to study theories and only have one-half of the clinical practice time of their counterparts in the US. After graduation, many ET graduates lack practical experience and countermeasures when encountering health care problems related to complex wounds and ostomies. In summary, China's specialized ostomy nurses need improvement in education levels, training time and training method.

3.3. Status of the service model of multidisciplinary teams

In the US, the operating model of the wound and ostomy field is that of the multidisciplinary team (MDT), which primarily consists of CWOCNs, surgeons, clinical nurse specialists (CNS), nurse practitioners (NP) and physical therapists (PT). These professionals create a team collaboration model with both division of labor and cooperation, requiring joint consultation or group discussion at any time based on patients' needs and meeting in a group once each month. This MDT operation model helps improve the quality of ostomy care service and ensures the operational safety of ostomy-specialized nurses while providing quality and efficient services to patients.²⁹ It was reported that China's MDTs for ostomy care included directors of physicians and surgeons, nurses in charge, psychotherapists and nutritionists. In addition to performing operations, administering medicines, replacing materials, and monitoring the wound, the surgeons and physicians together must also treat patients' pre-existing comorbidities. The nurse in charge is responsible for preparing care-training programs for patients and their family members. The psychotherapist is responsible for counseling the patient on psychological disorder factors such as depression, pessimism, and anxiety, helping ostomy patients to improve their willingness to engage in self-care. The nutritionist is responsible for regulating the patients' diet. It was found that the MDT process of preoperative and postoperative rehabilitation intervention after Miles surgery for rectal cancer effectively improved ostomy patients' quality of life.³⁰ Currently, however, China's MDT remains still in its infancy and focuses on medical treatment, with little participation by specialized nurses on ostomy care. Moreover, the lack of a unified evaluation system leads to an uneven quality of services from local MDTs in different places.³¹ Some scholars propose to integrate MDT into the standardized diagnosis and treatment of colorectal cancer, believing that to do so could improve the quality of colorectal cancer treatment.³² Therefore, a standardized MDT operation model should be further investigated.

4. Recommendations for the development of China's specialized care of ostomy patients

4.1. Standardizing continued care processes and quality monitoring systems

The establishment and improvement of ostomy care processes and the quality monitoring system of continued care is an important guarantee of the improvement of the service quality of continued care.³³ Currently, there is no unified standard for the content, form, and process of continued care for ostomy patients, and issues such as insufficient nursing human resources, low follow-up quality and inadequate funds, linger. The failure rate of telephone follow-up on ostomy patients living far away is relatively high, and the difficulties faced by the patients cannot be resolved timely.³⁴ Therefore, development of the content and operational processes of standardized continued care, the improvement and convergence of the care programs after the patient's admission and discharge, and the establishment of related financial compensation mechanisms are issues that must be resolved to promote the sustainable development of China's continued ostomy care.

4.2. Strengthening collaboration within MDT

Although the MDT service model in cancer therapy has attracted an increasing amount of attention, the mechanism for building a multi-disciplinary team remains in the exploratory stage, lacking not only appropriate diagnostic and treatment standards but also a patient evaluation system. A standardized assessment and evaluation mechanism is the basis for maintaining MDTs' regular operation, in which the patient's evaluation system fully reflects the advantages of the multi-disciplinary care team. Meanwhile, incentives to team members should also be established to ensure the team's stability.³⁵ Only after establishing and improving the MDT service model for ostomy care and continuously practicing in clinical trials can it provide more evidence for implementing extended care and case-based nursing care of ostomy patients.

4.3. Accelerating China's training of ETs and standardizing the ET training system

Currently, the pace of China's training of ETs is lagging behind the needs of the population and cannot satisfy either clinical care needs or patient demand. The adoption of various methods such as sending nurses abroad, inviting nursing experts into China, and promoting joint educational programs has become a trend in accelerating the training of ETs in China.³⁶ There are currently eight schools in ET training; each school determines its own curriculum, and therefore, there are no nationally unified curricula and textbooks.²⁷ Thus, nationally unified access standards for specialized nurses and a standardized training system, improving the relevant laws and regulations according to China's national conditions and clinical characteristics, can ensure the quality of ETs' education and training.

5. Conclusions

China's specialized ostomy care is experiencing rapid development, providing personalized and diversified health education and continued care services for ostomy patients, allowing those patients to obtain more ostomy care-related knowledge and information to help them build a proactive treatment attitude, not only reducing the incidence rate of ostomy complications in patients but also effectively improving the patients' self-care ability and quality of life. However, there remain many problems to be solved,

including strengthening the training of specialized ostomy nurses and enhancing the quality of healthcare teams, actively investigating how to build an MDT to provide patients with a full range of care, improving related continued-care processes and strengthening community care services to underscore the social advantages and status of the nursing profession.

Conflicts of interest

All contributing authors declare no conflicts of interest.

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