

Research Progress of Continuous Nursing for Patients with Chronic Wounds After Discharge

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Abstract: The research status of continuous nursing of patients with chronic wounds is reviewed. Since the research on continuous nursing of chronic wound patients in China is still in the initial stage, if necessary, learn from foreign experience, improve relevant systems, develop corresponding evaluation tools, actively implement telemedicine, and carry out hospital-community linkage models, etc. to provide high-quality nursing services for patients with chronic wounds.

Keywords: Chronic wounds; Discharged patients; Continuing care; Nursing content; Review

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1. Introduction

The International Society of Wound Healing defines chronic wounds as wounds that cannot be repaired through a normal, orderly, and timely process, and have not yet reached anatomical and functional integrity after repair ^[1]. With the accelerated development of social economy and aging, the incidence of vascular diseases, diabetes and other chronic diseases is rising, and there are about 400 million people around the world suffering from chronic wounds ^[2]. According to research data, there are nearly 10 million new chronic wound patients every year in China ^[3] and the incidence rate and prevalence continue to rise ^[4,5]. It is another serious healthcare problem after tumors and obesity ^[6]. Continuous nursing was first proposed in a report by the Joint Committee of the United States in 1947. In 2003, the American Geriatrics Society ^[7] interpreted continuity of care as the ability to provide continuous, coordinated care services and a series of nursing activities designed to prevent adverse outcomes when patients change to different or the same care facility or change care services. So far, continuous nursing has been widely carried out abroad ^[8], but in China, it is still in its initial stage and needs further exploration ^[9]. This article explores the content and methods of continuity of care for chronic wound patients both domestically and internationally, with the aim of providing a reference for future continuity of care for chronic wound patients.

2. Continuity of nursing contents

2.1. Psychological intervention

Chronic wounds are characterized by complex etiology, long course of disease and poor curative effect^[10]. Due to prolonged treatment, Fearn's *et al.* (2017) found that chronic wounds seriously affected patients' physical and mental health^[11]. Beitz *et al.* (2005) showed that patients with chronic wounds tended to have poor mental health, and anxiety was the main psychological reaction of patients with chronic wounds^[12,13]. Gouin *et al.* (2012) found that long-term anxiety is not conducive to wound healing^[14]. Therefore, it is important to improve the way of communication, understand the psychological status of patients, analyze their inner concerns, and channel them. It can also make patients increase their sense of security and release bad emotions. Upton *et al.* (2012) showed that less than a quarter of patients with chronic wounds had received psychological treatment^[15]. Therefore, at the same time of nursing, attention should be paid to the psychological condition of patients and timely initiation of counseling.

2.2. Cognitive intervention

Due to the differences in patients' knowledge level^[16]. Therefore, explaining knowledge to patients should be easy to understand, and lectures and exchange meetings can be held regularly. At present, the study of Gethin *et al.* (2020) shows that the general knowledge level of patients has been significantly improved, suggesting that the explanation of wound care knowledge can be increased to help patients understand their wounds, which is conducive to wound healing^[17]. In foreign countries, interactive health education based on picture-looking dialogue has been used to intervene, and it has been found that it can improve patients' self-care ability^[18]. Lin *et al.* (2019) found that such education could deepen patients' memory and increase their understanding of disease knowledge^[19].

2.3. Nutritional intervention

Diets high in fat, salt, and sugar are not conducive to wound healing. Further research by Kim *et al.* (2023) found that low albumin levels can also affect wound healing and prolong healing time^[20]. Patients with chronic wounds are more prone to malnutrition^[21]. A meta-analysis suggests that nutritional interventions can effectively improve nutritional status and promote wound healing^[22]. Therefore, it is necessary to pay attention to the nutritional status of patients, develop appropriate dietary plans, and improve their quality of life and well-being. Chronic wound patients may develop anemia due to malnutrition, disease depletion, etc. Anemia is more common among chronic wound patients^[23]. Therefore, it is also necessary to constantly monitor whether patients have symptoms of anemia.

2.4. Behavior intervention

The existence of wounds limits the daily activities of patients^[24] and affects their quality of life. Martinengo *et al.* (2019) found in the summary analysis of the prevalence of chronic wounds in the world that the prevalence of chronic wounds in the general population accounted for 0.22%, of which the lower extremity wounds accounted for 0.15%^[25]. Most of the wounds were in the lower extremities. Zhang *et al.* (2019) and Fu *et al.* (2019) all found that patients would not dare to move because of fear, and they had been bedridden since the injury^[26,27]. Therefore, the significance of exercise should be emphasized to patients, and advice should be given in combination with personal conditions, and its strength is best tolerated by themselves.

2.5. Lifestyle intervention

Pereira found that smoking would affect wound healing^[28]. Domestic studies by Liu *et al.* (2018) and A Ge *et al.* (2018) show that smoking is a risk factor^[29,30]. In prospective cohort studies, smokers were found to have significantly greater injuries and wounds than non-smokers^[31]. Therefore, the patient can explain the harm of smoking on wound healing and ask to quit smoking.

3. Continuous nursing model

3.1. Telemedicine

Telemedicine (TM) is defined by the World Health Organization (WHO) as the use of information technology by medical personnel to research, evaluate, diagnose, treat, care and prevent diseases in a remote context, as well as continue to educate themselves, so as to promote the health of individuals and groups^[32]. A meta-analysis showed that telemedicine significantly improved wound healing rates compared to conventional care^[33]. He *et al.* (2018) used the WeChat platform to constantly understand the wound situation and timely answer patients' concerns through WeChat information, voice, video and other means^[34]. After six months of intervention, the therapeutic effect, on-site consultation rate and recurrence of patients were significantly improved. At present, telemedicine has problems such as limitation of wound assessment, lack of medical education, imperfect system and disclosure of privacy^[35]. Moreover, 2/3 of the patients are over 60 years old^[36]. These patients may not have, or may not necessarily use, a smartphone^[37]. Therefore, the telemedicine suitable for our country should be further explored in the future.

3.2. Hospital-community linkage model

The hospital-community linkage model is an innovative service model with patients' health needs as service orientation, multidisciplinary team cooperation, and advantages integration^[38]. Under this model, Dong *et al.* (2019) found that the cost of patients' medical treatment decreased significantly, and the satisfaction of patients' medical treatment in primary hospitals increased significantly^[39]. The study of Feng *et al.* (2019) found that among 64 patients, 50 of them had complete wound healing, with a healing rate of 78% and patient satisfaction as high as 98%^[40]. Therefore, the hospital-community linkage model should be promoted. This is not only conducive to wound healing and satisfaction of patients but also can improve the professional knowledge and skills of community medical staff, improve the community's ability to deal with chronic wounds, and rationally allocate medical resources^[41].

3.3. Home care

Foreign studies have found that patients with home nursing have lower amputation rates and infection rates than those treated in hospitals, and the utilization of medical resources and hospitalization costs are significantly reduced^[42]. Pain and physiological pressure are also significantly reduced^[43]. Liu *et al.* (2019) showed that the application of the small program of "Wound Care" in home nursing patients with chronic wounds not only saved the time and cost of treatment but also deepened the communication between nurses and patients^[44]. In addition, for patients with chronic diseases, the advantages are not only reflected in the economic aspect but also reduce the difficulty of coming to the hospital and traveling to multiple departments^[45]. In addition, due to the different conditions and nursing needs, foreign assessment tools should not be directly used, and can be

made according to the specific conditions of domestic patients with chronic wounds ^[46].

4. Summary

The continuous nursing of patients with chronic wounds after discharge mainly includes explaining relevant knowledge regularly, paying attention to nutritional status, assessing the psychological condition of patients, and reducing the occurrence of bad living habits. At present, the research on the continuous care of patients with chronic wounds after discharge has been relatively mature in foreign countries, but the research on the continuous care of patients with chronic wounds after discharge is still in the preliminary stage and needs further exploration. When necessary, the can learn from foreign experience, improve relevant systems, develop corresponding assessment tools, actively implement telemedicine, and carry out the linkage model between hospitals and communities, so as to provide high-quality nursing services for patients with chronic wounds.

Disclosure statement

The authors declare no conflict of interest.

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