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Applied Research on the Hospital-Community Collaborative Care Model in Community Chronic Wound Management

Authors: Chen Huiying, summer flowers, Li Qin

Date: 2024-10-31T00:00:00+00:00

Abstract

Objective To examine the application efficacy of the hospital-community integrated care model in community-based chronic wound management. Methods One hundred chronic wound patients admitted to our hospital from June 2023 to November 2023 were enrolled as study subjects. Among them, 50 chronic wound patients admitted during June-August who received conventional care served as the control group, while 50 chronic wound patients admitted during September-November who implemented the hospital-community integrated care model served as the study group. A hospital-community integrated chronic wound care team was established, and through theoretical and wound management skills training for team members, a high-quality care management model was developed. The wound recovery rate, wound healing time, and nursing staff's theoretical knowledge and practical skills were compared before and after implementation of the hospital-community integrated chronic wound care model, and satisfaction with the integrated care model was investigated. Results The chronic wound recovery rate and healing time in the study group were 98.00% and 21.24$±2.237*days*, *respectively*, *comparedwith*68.00±$1.583 days in the control group. The theoretical assessment pass rate and skill assessment pass rate of nursing staff in the study group were 95.00% and 97.50%, respectively, compared with 45.00% and 52.50% in the control group. All differences were statistically significant (P<0.05). The number of satisfied individuals with integrated care was 49, with a satisfaction rate of 98%, indicating high satisfaction. Conclusion The adoption of the hospital-community integrated care model improves the chronic wound care system, facilitates continuity of care and wound recovery for patients, and enhances the theoretical and practical skills of community nursing staff, warranting widespread promotion.

Full Text

Preamble

Application of Hospital-Community Integrated Care Model in Community-Based Chronic Wound Management

Huiying Chen, Hui Xia, Qin Li
(Outpatient Nursing, Anting Town Community Health Service Center, Jiading District, Shanghai, Shanghai 201805, China)

Abstract

This study investigated the application effectiveness of a hospital-community integrated care model in community-based chronic wound management. We enrolled 100 patients with chronic wounds admitted between June and November 2023. The 50 patients who received conventional care from June to August served as the control group, while the 50 patients who received the hospital-community integrated care model from September to November constituted the study group. A hospital-community integrated chronic wound care team was established and received theoretical and practical training in wound management to form a high-quality care model. We compared wound recovery rates, healing times, nursing staff competency levels, and patient satisfaction before and after implementation. The study group achieved a wound recovery rate of 98.00% with an average healing time of $21.24\$\pm2.237 days, significantly outperforming the control group's 68.00\pm\$1.583$ days (P<0.05). Nursing staff theoretical and skill pass rates in the study group reached 95.00% and 97.50%, respectively, compared to 45.00% and 52.50% in the control group (P<0.05). Patient satisfaction with the integrated care model was 98% (49/50). These findings demonstrate that the hospital-community integrated care model enhances the chronic wound care system, facilitates continuous treatment and recovery, and improves community nursing staff competencies, warranting broader implementation.

Keywords

chronic wounds; community; nursing; care

Introduction

Chronic wounds refer to wounds that fail to achieve anatomical and functional integrity through normal, orderly, and timely repair processes due to various intrinsic or extrinsic factors, primarily including diabetic foot ulcers, vascular ulcers, pressure injuries, and non-healing acute wounds [1]. In recent years, as China has gradually entered an aging society, the incidence of pressure injuries, diabetic foot ulcers, lower extremity venous ulcers, and bedsores among long-term bedridden patients has increased the morbidity and recurrence rates of chronic wounds [2]. The healing of chronic wounds is a complex process

influenced by multiple factors, necessitating comprehensive and standardized assessment and analysis to provide systematic, personalized nursing care [3,4].

Community healthcare personnel generally possess relatively limited knowledge and comprehensive skills in chronic wound management, which constrains the development of community health services. The hospital-community integrated care model has emerged as a common approach for managing patients with chronic diseases in recent years, effectively combining medical resources to provide technical support and nursing knowledge to communities [5,6]. This study enrolled 100 patients with chronic wounds admitted between June and November 2023, applying the hospital-community integrated care model to chronic wound management with demonstrated effectiveness, as reported herein.

Methods

1.1 General Information

A total of 100 patients with chronic wounds admitted to our center from June to November 2023 were selected as study subjects. Both groups had diabetes and hypertension as underlying conditions. The 50 patients admitted between June and August who received conventional care served as the control group, with a mean age of 66.54$\pm$3.41$years(38males, 12females).The50patientsadmittedbetweenSeptemberandNovember$ $communityintegratedchronicwoundcaremodelconstitutedthestudygroup, withameanageof65.98\pm$3.34 years (37 males, 13 females). No significant differences were observed between groups (P>0.05), ensuring comparability.

Patient inclusion criteria were: (1) age over 50 years; (2) stable chronic wound condition; (3) willingness and ability to complete the hospital-community integrated treatment protocol; (4) capability to use mobile phones or computers for remote communication and monitoring; (5) good physical condition without severe cardiac, hepatic, or renal disease; and (6) absence of other serious conditions such as malignant tumors.

1.2.2 Study Group

The hospital-community integrated chronic wound care model was implemented through the following components: (1) Team establishment: A hospital-community integrated care team was formed, led by a senior nursing director from the hospital and the director of the community service center, responsible for team operations, coordination, supervision, and referrals, with team members comprising hospital therapists and community wound management personnel. (2) Protocol development: Hospital chronic wound nursing management protocols were integrated with community management systems, establishing bidirectional referral standards and procedures, chronic disease consultation systems, personnel management regulations, and graded nursing protocols to standardize care processes and ensure effective implementation. (3) Training: Community participants received 12 hours of theoretical

instruction covering wound assessment, treatment, exudate management, therapeutic protocols, and prevention, plus 14 hours of practical training to ensure proficient application of nursing knowledge and standardized procedures, with competency assessments required before practice [7,8]. (4) Continuous learning: A WeChat learning group was created for all participating staff to facilitate remote consultation on complex cases and timely updates on new clinical skills. (5) Health education: Patients and families received education on daily chronic wound care techniques, proper compression stocking use, and preventive measures to enhance self-care capabilities and awareness. (6) Follow-up: Telephone follow-ups were conducted every 15 days to assess patient conditions and provide guidance on identified problems or care deficiencies, while home visits occurred semi-annually to observe wound status and deliver direct nursing instruction to promote recovery [9]. Handover procedures between hospital and community were emphasized, requiring detailed documentation of wound status, treatment history, and current therapeutic direction to ensure continuity and effectiveness of care [10].

1.3 Evaluation Indicators

Evaluation indicators included patient wound cure rate, wound healing time, nursing satisfaction, and nursing staff theoretical and skill competency pass rates. Cure rate was defined as restoration of skin structure and function, including elasticity, color, and smoothness, without post-healing complications, calculated as the percentage of healed cases among total cases. Healing time referred to the duration from first dressing change to complete wound closure. Patient satisfaction was assessed across five dimensions: convenience, medical technical capability, nursing service quality, clinical environment, and treatment process, using a 25-point scale where 15-25 points indicated satisfaction and <15 points indicated dissatisfaction; questionnaires were distributed to all 50 patients for self-reported evaluation based on actual experience. Nursing staff theoretical and skill pass rates were calculated as the ratio of qualified personnel to total assessed personnel.

1.4 Statistical Methods

Data were independently entered by two researchers and analyzed using SPSS 22.0 statistical software. Measurement and count data were expressed as (x±s, %), with between-group differences assessed using t-tests and ^{2} tests. Statistical significance was defined as $P<0.05$.

Results

2.1 Patient Wound Recovery Rate and Healing Time

The study group achieved a wound cure rate of 98.00% with an average healing time of 21.24$±2.237$days$, $whilethecontrolgroupshowedacurerateofonly$68.00±$1.583

days. The integrated care model demonstrated significantly superior outcomes compared to conventional care (see Table 1).

2.2 Nursing Satisfaction

Evaluation of the integrated care model across five dimensions—convenience, medical technical capability, nursing service quality, clinical environment, and treatment process—revealed that 49 patients scored above 15 points, yielding a high overall satisfaction rate of 98%.

2.3 Community Nursing Staff Knowledge Level

Nursing staff in the study group demonstrated improved theoretical knowledge and practical skills in wound care, with theoretical pass rates increasing by 50% and skill pass rates by 45% (see Table 2).

Discussion

3.1 Challenges in Chronic Disease Management

According to National Bureau of Statistics data released on January 17, 2024, China's population aged 60 and above reached 296.97 million in 2023, accounting for 21.1% of the total population, with those aged 65 and above numbering 216.76 million (15.4% of the total). With a large elderly population and accelerating aging trends, issues such as obesity, diabetes, and long-term bedridden status have become increasingly prominent, leading to rising numbers of elderly patients and chronic wound cases. Global statistics indicate that 1-2% of the population suffers from non-healing chronic wounds [11]. Chronic wound patients often present with multiple comorbidities and are prone to complications such as secondary infections and sepsis, while experiencing multiple symptoms including pain, exudate, odor, and sleep disturbances during treatment, severely impacting functional status and quality of life. This has become a significant burden on families and society, making effective chronic wound management a critical social concern [12]. In recent years, deepening research on chronic wound symptoms both domestically and internationally has highlighted the need for scientific theories and proper approaches to manage patients' physical, psychological, and wound-related symptoms, establishing standardized and effective intervention models to improve outcomes and quality of life [13].

3.2 Challenges in Community Chronic Wound Care

Chronic wounds, defined as wounds that fail to heal or show no healing tendency for over one month due to various factors, require prolonged nursing and treatment. The promotion of home-based elderly care has increased wound management demands among community-dwelling patients with disabilities, semi-disabilities, long-term bedridden status, and those receiving end-of-life care [14]. Most community nursing services are provided by general practitioners, ordinary

nurses, or family caregivers, lacking specialized surgeons and wound therapists. Community healthcare personnel generally possess low levels of chronic wound care knowledge and comprehensive skills, making it difficult to properly assess wound conditions and select appropriate treatments, thereby limiting effective care delivery and constraining the development of community health services, particularly chronic disease management initiatives [15-17].

3.3 Benefits of Integrated Care Model for Patient Treatment

As community-based elderly care models develop in China, community nursing has alleviated social pressure but remains constrained by the limited comprehensive capabilities of community healthcare staff and their lack of chronic wound care knowledge, resulting in suboptimal care outcomes and restricting community hospital development—contrary to the goals outlined in the "Healthy China 2030" Planning Outline [18]. Our community has addressed these existing problems by implementing a hospital-community integrated nursing service model, guided by policy initiatives to transfer specialized medical and nursing services from tertiary hospitals to community settings. The establishment of a hospital-community integrated team with defined bidirectional referral standards and procedures has integrated hospital and community support and technology into clinical practice, enabling patients to receive timely professional care and achieving a wound cure rate of 98.00% with average healing time reduced to 21.24$±$2.237 days.

Comprehensive technical and theoretical training for community staff, combined with remote technical guidance through online tools, has enhanced wound treatment and nursing competencies, with theoretical and skill pass rates showing significant improvements [19-22]. Health education for patients and families has enabled them to perform simple daily care properly and understand preventive measures for prognosis, improving family wound management capabilities [23]. For elderly patients with reduced mobility, the hospital-community integrated care model provides access to treatment and nursing services equivalent to tertiary hospitals at nearby community facilities, achieving a satisfaction rate of 98%.

The hospital-community integrated care model holds significant importance for nursing service reform and development in China. By providing technical support, disseminating wound management and nursing knowledge, and implementing bidirectional referrals, hospitals can deliver better treatment outcomes and experiences, improving cure rates, reducing treatment duration, and increasing satisfaction among chronic wound patients while gradually standardizing community chronic disease management.

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