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Advances in Nursing Care for Peristomal Irritant Dermatitis from Fecal Effluent in Enterostomy Patients: A Postprint

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Abstract

Peristomal fecal effluent irritant dermatitis severely impacts the quality of life of patients with intestinal stomas. This article provides a comprehensive review of the etiology, nursing assessment, and intervention measures for peristomal fecal effluent irritant dermatitis in intestinal stoma patients, aiming to provide targeted scientific evidence for clinical nursing staff in the prevention and treatment of this condition.

Full Text

Nursing Research Progress on Peristomal Fecal Irritant Dermatitis in Enterostomy Patients

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Abstract

Peristomal fecal irritant dermatitis severely impacts the quality of life for enterostomy patients. This article reviews the etiology, nursing assessment, and intervention measures for peristomal irritant dermatitis in enterostomy patients, aiming to provide targeted scientific evidence for clinical nursing staff in the prevention and treatment of this condition.

Keywords: irritant dermatitis; enterostomy; nursing assessment; psychological intervention; extended care

1. Etiology of Peristomal Fecal Irritant Dermatitis

1.1 Characteristics of Intestinal Fluid and Skin Barrier The stratum corneum, the outermost layer of the epidermis, serves as a protective barrier against external stimuli and allergens. Prolonged exposure to effluent leads to excessive hydration of the stratum corneum, weakening its barrier function and promoting bacterial colonization. Ileostomy effluent contains alkaline intestinal fluid with various enzymes that can cause skin ulceration upon contact. Colostomy stool contains abundant bacteria that readily induce local skin infection.

1.2 Suboptimal Stoma Placement Stomas should ideally be located within the rectus abdominis muscle according to surgical requirements. Sigmoid and descending colostomies are typically placed in the left lower quadrant, ileostomies and urostomies in the right lower quadrant, and transverse colostomies in the left or right upper quadrant. When the stoma mucosal height, position, or shape is 不理想 (unsatisfactory), the ostomy pouch may not adhere properly, leading to leakage and fecal dermatitis. Emergency surgeries often preclude precise preoperative stoma siting, resulting in higher postoperative rates of peristomal irritant dermatitis. Research indicates that the exposed mucosal height should be appropriate, particularly for ileostomies, which should protrude 2-3 cm above the skin level. Ileostomies less than 2 cm or colostomies less than 1 cm above the abdominal surface carry greater risk of peristomal skin damage. One study identified “insufficient exposed mucosal height” as the most common cause, accounting for 42.9% of fecal irritant dermatitis cases.

1.3 Inappropriate Stoma Baseplate Cutting The shape and size of the baseplate opening must match the stoma base. Novices often cut according to provided templates, which may not match their stoma shape. If the opening is too small, the stoma cannot be fully accommodated, and effluent may leak beneath the baseplate, causing skin inflammation. If too large, excessive peristomal skin exposure increases fecal irritation. Studies have shown that improper stoma care is the primary cause of fecal irritant dermatitis, including: oversized baseplate openings; delayed replacement of leaking baseplates; inadequate peristomal cleaning with adhesive and paste residue; excessive alcohol-based cleaning; and incomplete patient education resulting in insufficient knowledge of stoma care.

1.4 Use of Stoma Products The combined use of convex baseplates and belts is clinically recommended. Research demonstrates that convex baseplates can reduce the incidence of effluent irritant dermatitis. After measuring stoma size, the baseplate should be cut 1-2 mm larger than the stoma, with barrier paste applied to protect peristomal skin. Patients should be instructed in the proper replacement procedure (ARC). Studies have shown that combined application of stoma powder with painless skin protective film can shorten healing time. For patients with uneven peristomal skin, the baseplate should be applied

in supine or semi-recumbent position. In cold weather, the baseplate should be warmed, and patients should be instructed to distend their abdomen to flatten skin folds before application. Intermittent cutting of the baseplate edges can improve skin conformity and reduce dermatitis.

1.5 Other Contributing Factors Additional causes include flat or retracted stoma nipples, uneven peristomal skin, prolonged stoma loop placement, and allergic reactions.

2. Perioperative Nursing Assessment and Intervention

2.1 Preoperative Stoma Siting Preoperative stoma localization is critical, with over 80% of complications related to stoma position. Preoperative assessment should be conducted 1-2 days before surgery, evaluating the patient's overall condition and determining stoma placement through positional changes. Siting should avoid skin folds, depressions, scars, bony prominences, and belt areas, particularly in sitting and bending positions where abdominal folds are most pronounced. The optimal location should be determined comprehensively without affecting the patient's lifestyle. Research demonstrates that preoperative stoma positioning involving surgeons, nurses, enterostomal therapists, and patients can effectively reduce postoperative complications, improve self-care ability and quality of life, and decrease the incidence of peristomal fecal irritant dermatitis.

2.2 Postoperative Skin Assessment Timely assessment of peristomal skin status helps prevent complications. Current domestic assessment tools include the DET score and AIM guidelines. The DET score evaluates Discoloration, Erosion/ulceration, and Tissue overgrowth across affected area and severity dimensions, with scores ranging from 0 (healthy skin) to >0 (varying degrees of problems). The AIM guideline comprises Assessment, Intervention, and Monitoring for managing peristomal skin issues. Research indicates that standardized skin assessment tools enable timely and accurate evaluation of inflammation, facilitating effective prevention and treatment while improving quality of life and self-care ability.

2.3 Diet and Excretion Management Patients should follow individualized, balanced diets that are low-residue, non-irritating, and light, avoiding spicy foods and gas-producing items such as beans, dairy, curry, beer, onions, and carbonated beverages. High-fiber and nut foods should be limited. For patients with liquid effluent, astringent medications may be prescribed to reduce leakage. Ileostomy patients may consume soluble fiber or highly absorbent coarse fiber to thicken stool. Colostomy irrigation provides an effective rehabilitation method, significantly reducing defecation frequency and peristomal skin irritation. One study reported that rhubarb navel therapy improved bowel management compared to control groups. According to traditional Chinese

medicine theory, abdominal massage stimulates intestinal function by activating acupoints including Zhongwan, Guanyuan, Tianshu, and Shenque, regulating gastrointestinal function and improving stool consistency.

2.4 Psychological Intervention Postoperative care should monitor patients for avoidance behaviors, negative attitudes, and adaptation difficulties. Patients should be encouraged to face their stoma positively, accept changes in body image, shorten adaptation periods, and improve quality of life. Information and knowledge can eliminate fear of the unknown, while communication helps identify and address negative emotions promptly.

3. Advances in Nursing Management Models

3.1 ADOPT Model The ADOPT model, proposed by Peter et al. in 2005, is a problem-solving approach comprising Attitude, Definition, Open mind, Planning, and Try it out. This model provides intervention from the preoperative period throughout the entire perioperative course, helping patients build confidence in stoma care, identify self-care problems, and solve them collaboratively with healthcare providers, thereby improving self-care ability. Research demonstrates that ADOPT implementation enhances patients' self-efficacy and quality of life, prevents stoma-related problems, and increases patient satisfaction with healthcare.

3.2 Knowledge-Attitude-Practice (KAP) Model The KAP model is a behavior change intervention theory establishing causal relationships between knowledge, belief, and action. As a mature health promotion framework, KAP-based health education can improve patients' understanding of stoma care, strengthen health beliefs, promote healthy behaviors, enhance quality of life, improve disease self-management, and reduce complications. Studies report positive correlations between patients' health knowledge levels, self-care knowledge, quality of life scores, and nursing competence.

3.3 Continuing Care Model Traditional nursing was limited to hospitalized patients, but research shows discharged patients have substantial ongoing health needs. Continuing care, an extension of holistic inpatient nursing, provides sustained services during recovery, promoting rehabilitation and reducing readmissions. It encompasses continuity of information, management, and relationships. Literature reports that continuing care helps resolve home-based stoma issues, improves quality of life, and reduces complications. Mobile health education platforms and internet-based follow-up services can address the "care gap" after discharge.

4. Summary

Peristomal fecal irritant dermatitis is a common complication affecting enterostomy patients' social relationships, physical health, psychology, and stoma use.

Proactive nursing intervention and health guidance can alleviate negative psychological impacts and suffering. Healthcare providers should strengthen patient and family education to ensure proper stoma care techniques, appropriate product selection based on skin condition, and effective skin management to minimize effluent contact. Additionally, reasonable diet and bowel management can reduce dermatitis incidence. Follow-up services and internet platforms can provide continuing care to solve post-discharge care discontinuity.

Conflict of Interest Statement: The authors declare no conflicts of interest.

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