

Effect of Nursing Interventions in Prevention and Healing of Incontinence-Associated Dermatitis among Critical Care Patients

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Abstract

Incontinence is a common problem among hospitalised patients and has been associated with multiple health complications, including incontinence-associated dermatitis (IAD) and hospital-acquired pressure ulcers (HAPUs). IAD is one of the clinical manifestations of moisture-associated skin damage (MASD). IAD is a common problem in aged patients with faecal and/or urinary incontinence. In this study it was sought to reduce the incidence of IAD among critically ill patients admitted in ICU from 5.94 rate to <2.00 by implementing Nursing Interventions of IAD protocol. A one group pre-test post-test design was selected using consecutive sampling technique. The data was obtained by using an audit checklist prior and post-interventions. Results showed that the compliance to IAD protocol increased from 37.94 percent to 77.33 percent. Incidence of IAD reduced from 5.94 to 2.02 in the last 3 months. Healing status of IAD was 100 percent in June & July 2017. Thus nursing interventions are effective in the prevention and healing of IAD among critical care patients. To conclude incontinence associated dermatitis is a prevalent but under-recognised form of skin damage in the critically ill patients with urinary or fecal incontinence. Prevention and treatment focus on treatment of underlying incontinence and protection of skin exposed to urine or stool-based on a structure skin care regimen.

Urinary incontinence is a global health problem affecting 8.2 percent of the world population. In 2018, an estimated 423 million individuals were affected with urinary incontinence. Faecal incontinence is also common in men and women aged 65 and older, with a 17 percent incidence rate over 4 years. IAD is a type of irritant contact dermatitis that is associated with the prolonged exposure of the skin to urine or faeces. At the ICU, patients are given continuous specialised nursing care for the prevention and treatment of pressure ulcers. However, IAD prevention includes the availability of special care targeted to incontinent patients wearing diapers. Some health professionals cannot properly identify IAD, which is many times mistaken with pressure ulcers (PU) in their early stages.

In addition to damaging the skin and causing itching and pain, IAD is considered a gateway to infections such as those of the urinary tract and skin, as well as a risk factor for the emergence of pressure ulcers.

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Despite a standard protocol for prevention of IAD in the organisations in place it was observed that the incidences of IAD are on a rise in ICUs. In the month of March 2017, the incidence peaked to rate of 5.94. In an audit conducted to assess the compliance to IAD protocol in ICUs, it was found that the compliance was merely 37.94 percent. Hence the Nursing leadership deemed that a QIP was required to enhance compliance and reduce the incidence of IAD. It was therefore sought to assess the effectiveness of nursing interventions in the prevention and healing of incontinence-associated dermatitis among critical care patients.

Objectives

The study was set out with following objectives:

- To increase the compliance to IAD protocol.
- To reduce the incidence of IAD to <2.
- To promote 100 percent healing status among critical care patients in the ICUs.

Literature Review

Beeckman et al (2009) conducted a study to describe the current evidence about the prevention and treatment of IAD and to formulate recommendations for clinical practice and research. It was revealed that

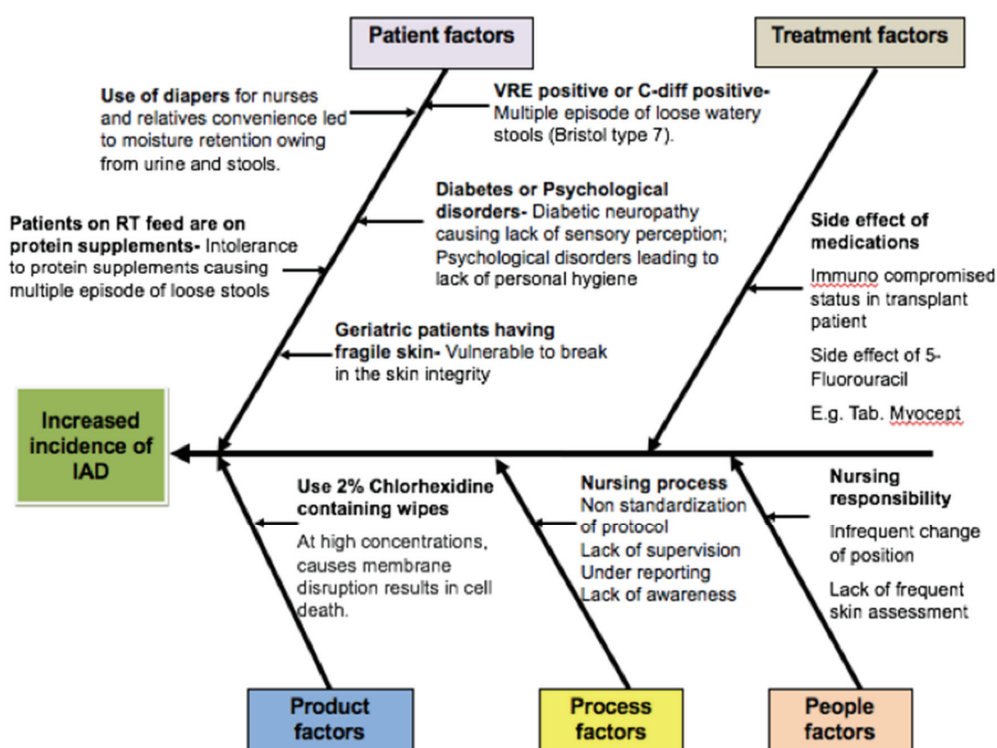


Fig 1: Root cause analysis for increased incidence of IAD.

IAD can be prevented and healed with timely and appropriate skin cleansing, skin protection and focus on proper use of incontinence containment materials.

Doughty et al (2012) conducted a study to review current evidence regarding the pathology, prevention, and management of IAD. The panellists concurred that IAD is clinically and pathologically distinct from pressure ulcers and intertriginous dermatitis, and that a consistently applied, structured, or defined skin care programme is effective for prevention and management of IAD. They also agreed that differential assessment of IAD versus pressure ulceration versus intertriginous dermatitis remains a major challenge.

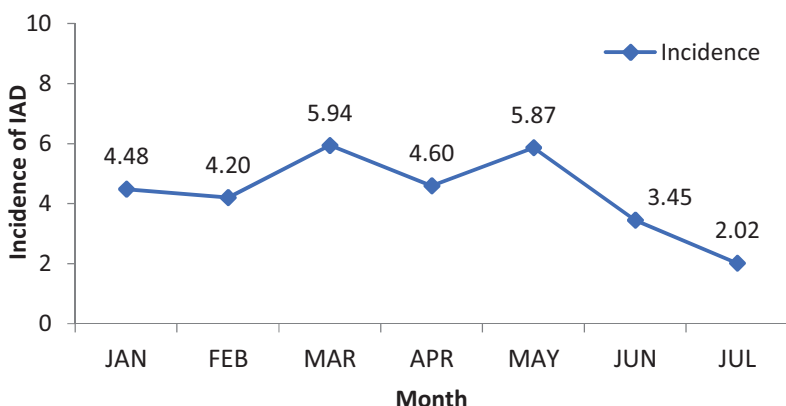


Fig 2: Rate of IAD among critically ill ICU patients from Jan to July 2017.

Gray (2007) reviewed and evaluated the research base pertaining to dermatitis (IAD) and synthesised this knowledge into best practice recommendations based on existing evidence. The panel found that effective prevention and treatment can reduce IAD incidence and increase healing rate. An effective strategy will consist of gentle perineal cleansing, moisturisation, and the application of a skin protectant or moisture barrier.

Methodology

The research approach used for this study was quantitative type. A pre-experimental design research design was adopted. One group pre-test post-test only design which

is a subtype of pre experimental design was used. The study was conducted in all the ICUs of Global Hospital. Patients admitted to intensive care unit, with faecal or urine incontinence were sampled. The presence of faecal incontinence (any type) was used as the only variable.

Sample and sampling technique: Non-probability-purposive sampling was adopted.

Criteria for sample selection:

Inclusion criteria - 1. Being admitted to the intensive care unit. (2) Being faecal or urine incontinent.

Exclusion criteria - Age below 18 years. (2) No contact possible between skin and stool at the perianal region (e.g. due to enteral stoma). (3) Patients with pre-existing pressure injuries of the sacrococcygeal and buttock area or any pre-existing skin disease in the affected area were excluded.

Data collection instrument: Interview technique was used to collect information on demographic data. Observational audit tool was used to assess the wound and its healing status.

Data collection process: While on daily rounds, the auditor observed all the bedridden for pressure ulcers including patients who complained of faecal and/or urine incontinence. Assessment of the skin was done

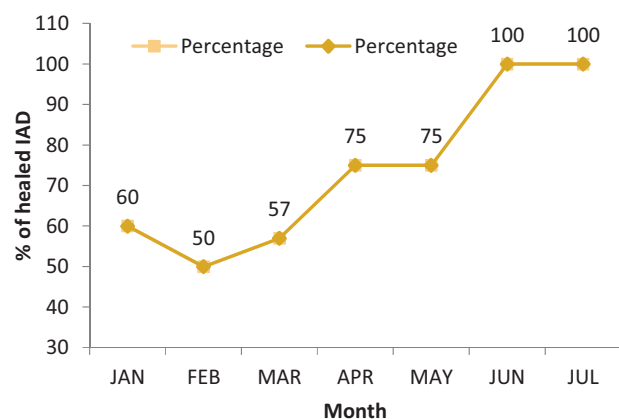


Fig 3: Percentage of healing status of IAD among critically ill ICU patients from Jan to July 2017.

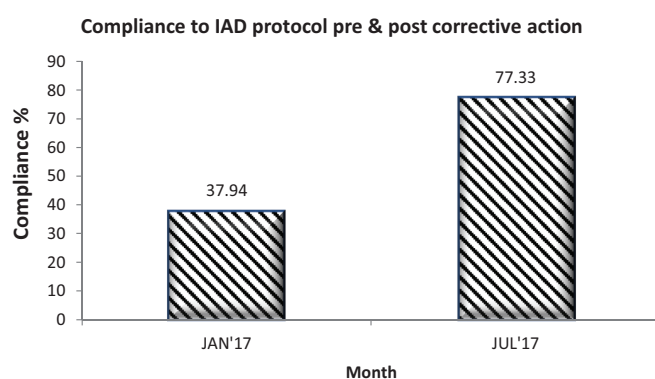


Fig 4: Comparison of compliance to IAD protocol before and after implementation.

using Observational audit tool. Demographic data of these were collected using Interview technique. The purpose of the audit was explained to the participants. They were also assured of the confidentiality of the information. Participants who fulfilled the sampling criteria were selected. This process continued for 3 months (Jan, Feb and March 2017). The collected data were compiled for analysis. Although there was a standard protocol for prevention of IAD in the organisation it was observed that the incidence of IAD was on a rise in ICUs. In the month of March 2017 the incidence rate peaked to a value of 5.94. Root cause analysis revealed that many factors were involved (Fig 1).

Brain storming was done with the core nursing team. The following corrective measures were considered:

- Continuous Nursing Education was emphasised on care and prevention of IAD.
- 12 hourly use of Skin barriers twice a day in the form of local applicators or sprays.
- 2% Chlorhexidine wipes were replaced with Chlorhexidine free wipes.
- Use of Non-frictional method of cleaning affected areas was implemented.

- Skin assessment every 2 hourly was enforced. In charge rounds was supported with a checklist which incorporated with the 5 P's, position being one of them.
- Flexi seal catheters inserted to patients with type 7 stools unless contraindicated.
- Tracking of IAD on a daily basis and self-reporting culture was encouraged.
- Pressure sore prevention clock.

After implementing these approaches for a month (April 2017), again post audit was conducted for a period of 3 months (May, June and July 2017) to evaluate the effectiveness of these approaches. The collected data were compiled for analysis.

Results

From May to July 2017, 8 out of 2544 admitted patients developed IAD. The incidences reduced from 5.94 to 2.02 (Fig 2).

In the month of June 2017 there were 3 patients and in July 2017 there were 2 patients admitted with IAD. Both the cases were completely healed at the time of discharge (Fig 3).

The compliance to IAD protocol increased from 37.94 percent in Jan 17 to 77.33 percent by July 17 (Fig 4). This could be attributed to the corrective measures that were implemented.

Nursing Implications & Recommendations

The scope of the study has implications for nursing in the areas of practice, education, administration and research.

Nurses play a major role in the health care delivery system. Today more than ever before, health care reforms call nursing to provide cost effective care in the prevention and healing of IADs. They can develop protocols related to nursing measures. The findings of the study can be utilised by practicing nurses in alleviating the suffering of patients having IADs.

Nursing interventions are increasing in popularity and people are seeking more of these to prevent and heal IADs. Hence, it is essential to give emphasis on nursing measures in nursing curriculum and education as a part of wound care.

Nurse administrator needs to be aware of problems faced by the critical ill patients with IAD and implementation of the solutions. IAD prevention and healing education programmes should be organised in the hospitals for optimal utilisation by the nurses.

There is a significant gap in research with IADs in India. Controlled studies in this area can create a

new health care paradigm in the health care delivery system of both urban and rural population.

Recommendation

There is a need for clear differentiation between IAD and pressure ulcers. The authors identified a need for development of a uniform instrument and method to study IAD prevalence and management strategies across different patient groups.

Limitations: The study was limited to patients in critical care unit. Further, generalisation of the findings was limited because the study was confined to one hospital.

Conclusion

Incontinence-associated dermatitis is a prevalent but under-recognised form of skin damage in the critically ill patients with urinary or faecal incontinence. Prevention and treatment focus on treatment of underlying incontinence and protection of skin exposed to urine or stool based on a structure skin care regimen.

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