

Improving the accuracy of incontinence-associated dermatitis in the surgical intensive care unit

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INTRODUCTION

Incontinence-associated dermatitis (IAD) is a skin inflammation caused by prolonged exposure to urine or feces. It is a common skin injury in medical care and a risk factor that exacerbates pressure injuries. ICU patients often experience higher rates of IAD due to the severity of their illness and medication-related incontinence, making IAD significantly more prevalent than in general wards. Therefore, ICU nurses need to understand that IAD is a common and preventable condition, as it can cause significant patient discomfort and lead to more severe skin damage.

This unit is the Surgical Intensive Care Unit at a medical center, with 28 beds and an 84.3% average occupancy rate in 2022. It treats patients unable to manage their care due to conditions in various surgical specialties. The incidence density of pressure injuries in 2022 was 1.5%, exceeding Taiwan's benchmark of 0.81%, with 55.5% of IAD cases progressing to sacral pressure injuries. From January 1 to January 31, 2023, the IAD rate was 13.3%, rising to 20.5% from February 1 to February 28, 2023. This increase has prompted us to improve IAD care accuracy and skin care quality.

AIM

- 1. Reduce IAD Incidence:** Decrease the incidence rate IAD within our unit.
- 2. Enhance Nurses' Knowledge and Skills in IAD Care:** Improve nurses' understanding of IAD care and increase the accuracy of care implementation.

METHOD

- 1. Current Status Survey:** A group was formed on March 2, 2023, and observations were conducted over a 13-day period. **The survey included 51 nurses in the unit and involved bedside observations and IAD care knowledge assessments.** The findings revealed that **the accuracy of IAD care was 49.3% and the accuracy of IAD knowledge was 51.7%.**

- 2. Causes Identified:** (1) Inadequate IAD care knowledge and skills; (2) Non-compliance with critical care procedures; (3) Lack of quality control monitoring; (4) Insufficient incontinence care products and storage space.

- 3. Improvement Measures** (Execution period: April 1, 2023 - September 30, 2023) :

(1) On-the-Job Training: Implemented interactive experiential learning to enhance skill retention and application in clinical care; **(2) Introduction of IAD-CPR care procedure and IAD care schedule form** : The IAD-CPR care flow chart (*Figure 1*) was formulated for nurses to quickly determine IAD grade during clinical care, select suitable IAD care products, and perform registration according to IAD care schedule form (*Figure 2*) to maintain the continuity of use of care products between ; **(3) Annual Quality Monitoring:** Conducted regular audits of clinical care; **(4) ncontinence Product Inventory:** Organized storage and inventory for IAD Grades 0–2 to improve accessibility for nurses.

Figure 1. IAD-CPR care flow chart

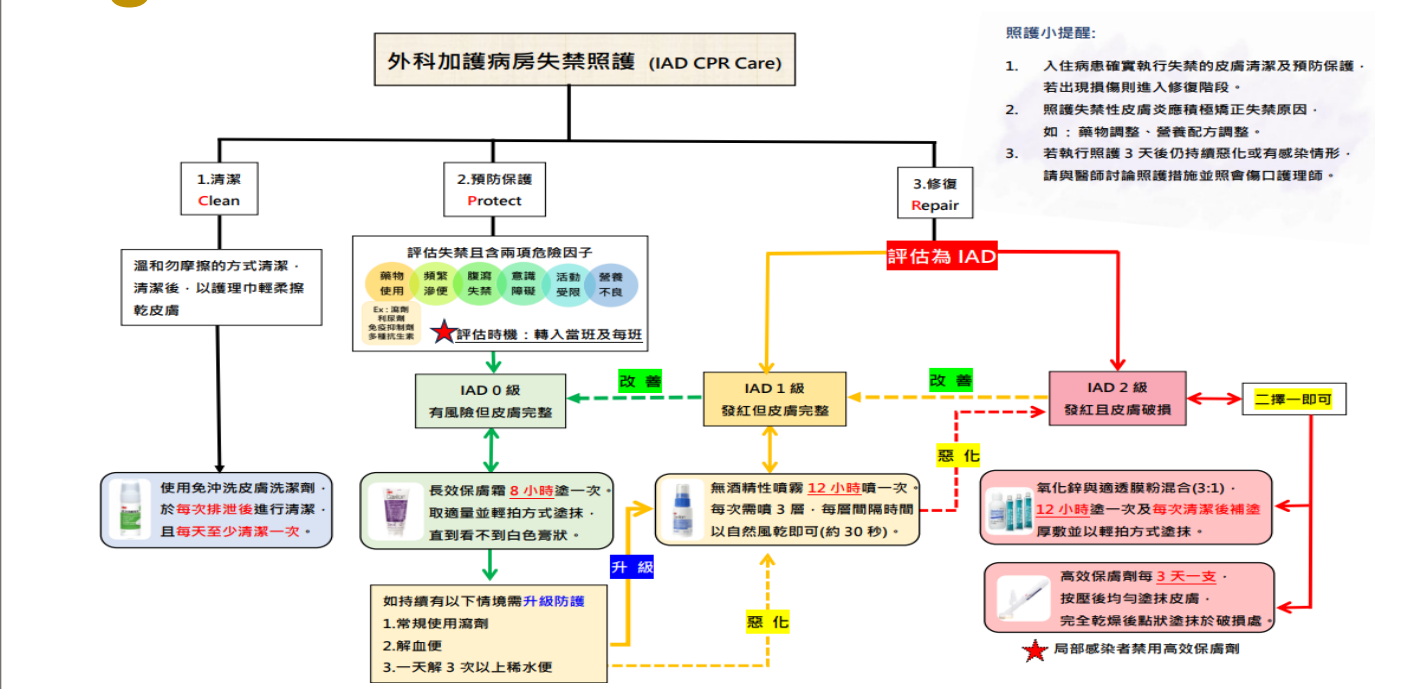


Figure 2. IAD care schedule form

失禁性皮膚炎照護			
☐ 0級	☐ 1級	☐ 2級	
05	09	☐ ZNO+粉 ☐ 高致	日期區間
13		09	/
21	21	21	/

RESULTS

- 1. IAD knowledge accuracy and and IAD care skill accuracy** (Evaluation Period: August 1, 2023 to August 22, 2023): After the proposal was implemented, IAD knowledge accuracy in nurses increased from 51.7% to 96.5% (*Figure 3*), and IAD care Skill accuracy increased from 49.3% to 98.1% (*Figure 4*).

Figure 3. IAD knowledge accuracy

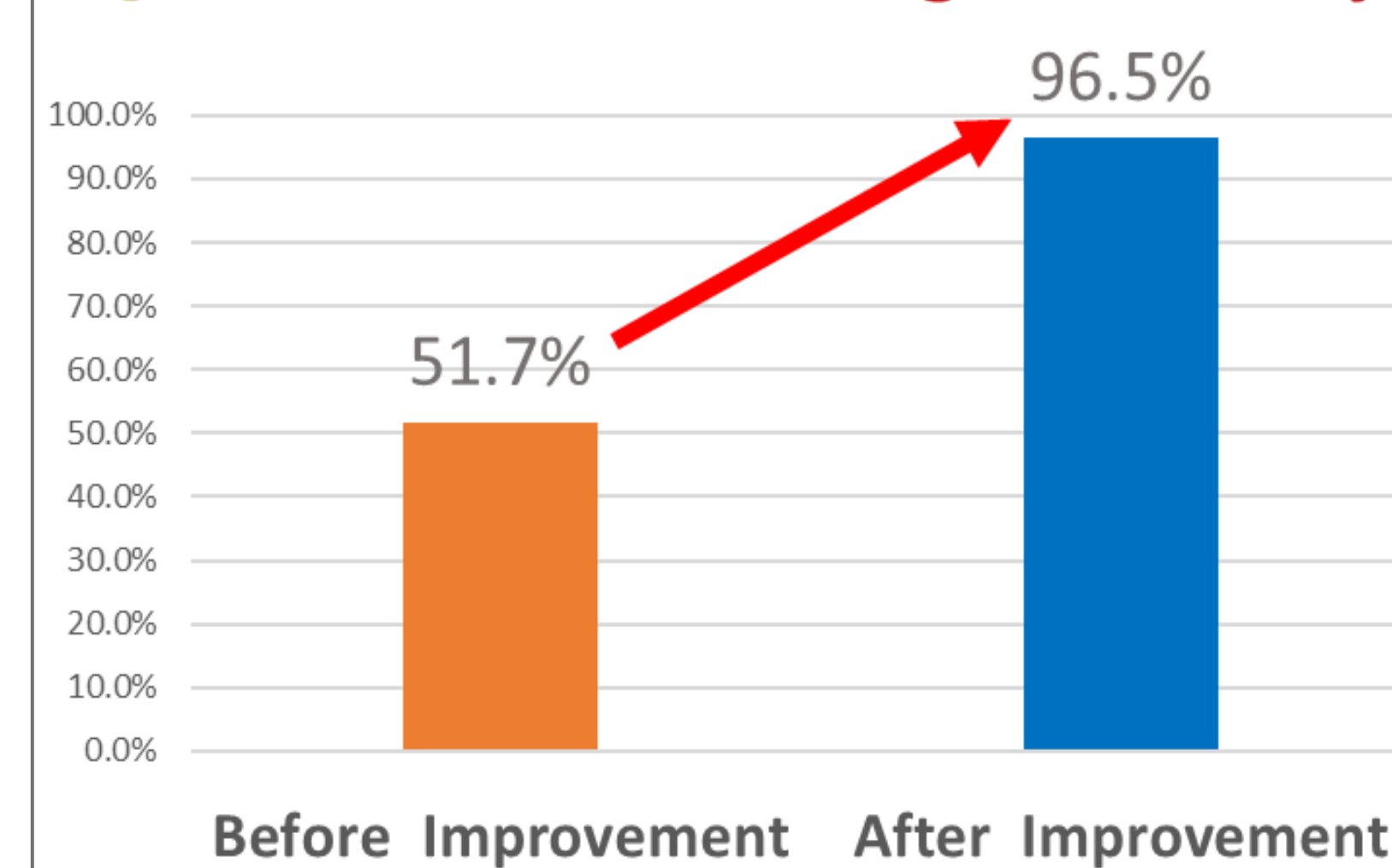
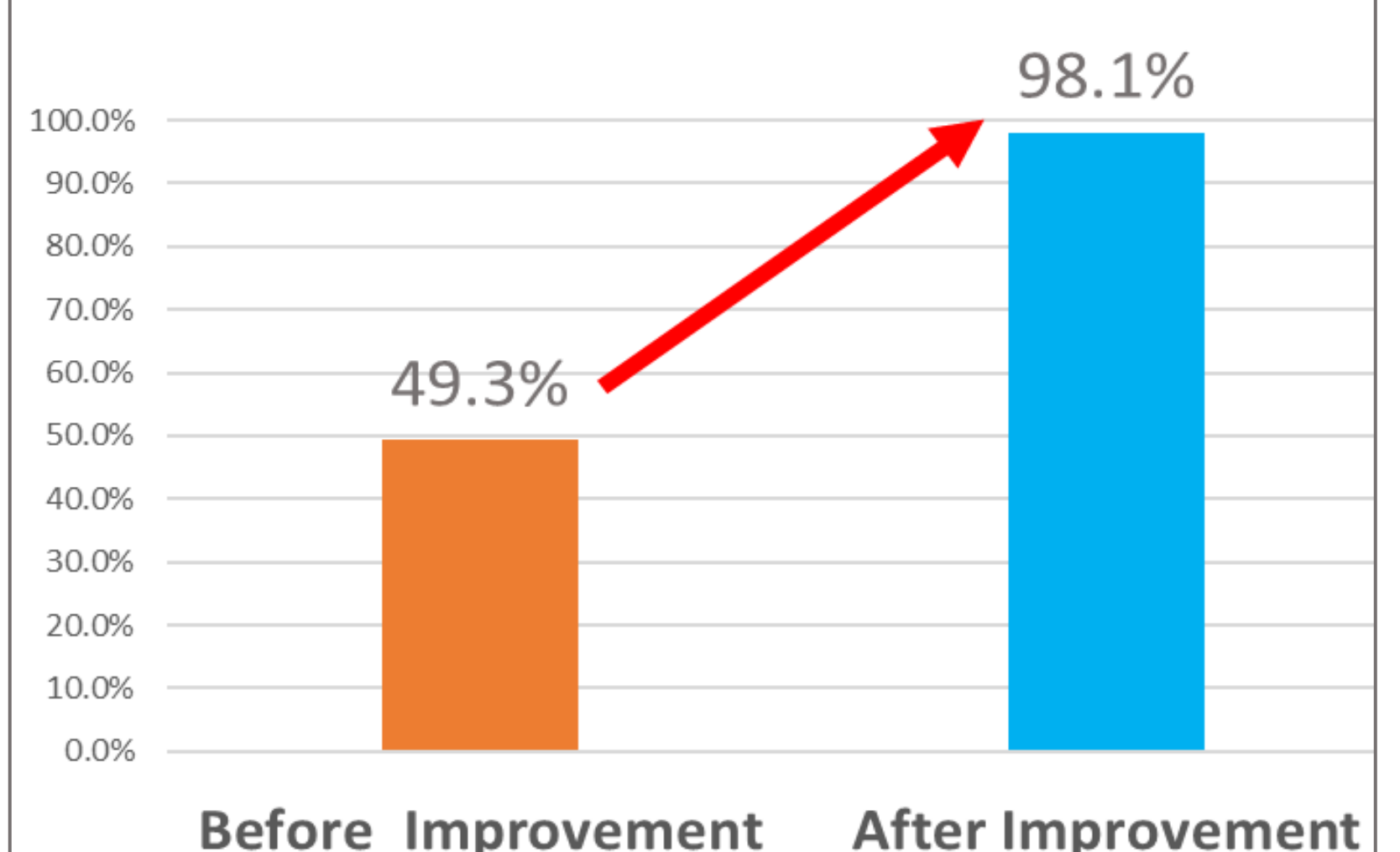
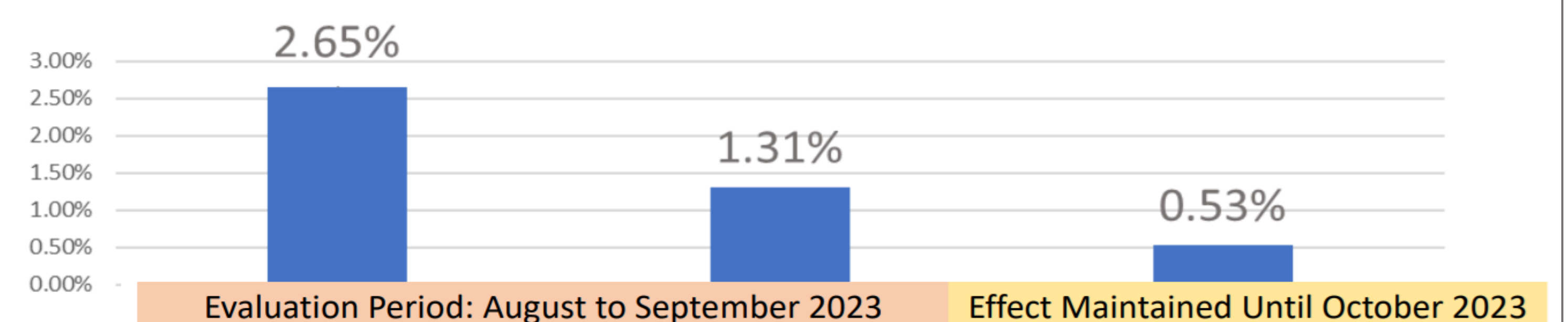


Figure 4. IAD care skill accuracy



- 2. Surgical Intensive Care Unit IAD Incidence Rate:** According to the statistics, the incidence rates of IAD for August and September 2023 were 2.65% and 1.31%, respectively. The effectiveness was maintained, as the IAD incidence rate for October dropped to 0.53% (*Figure 5*).

Figure 5. Surgical intensive care unit IAD incidence rate



Evaluation month	August	September	October
IAD Incidence Rate	2.65%	1.31%	0.53%
Occurrence of IAD	21	10	4
Days of Stay	792	763	757

CONCLUSIONS

This improvement project used experiential learning for in-service education to enhance IAD knowledge and clinical application. We created the “IAD-CPR Care Flowchart” for quick assessment of IAD severity and selection of care products, and implemented the “IAD Care Schedule Form” to ensure continuous product use. We also adjusted care product placement and inventory for easier access, and included IAD incidence in annual quality control indicators with regular audits. **The project applied empirical guidelines and strategies, successfully reducing IAD occurrence and improving skin care quality in the intensive care unit.**

ACKNOWLEDGEMENT

During the implementation of this project, we encountered some resistance due to differing opinions from some senior colleagues, which made it challenging to achieve consistency in IAD prevention care. However, we received strong support from the nursing supervisors and the director of the intensive care unit, who facilitated coordination and communication with physicians, specialists, and nutritionists regarding IAD prevention measures. Additionally, the secretary assisted in planning the placement of incontinence care product spaces. Thanks to the team members who actively promoted the project, they frequently provided guidance during morning meetings and clinical rounds, which motivated the nursing staff to actively participate in the project.

REFERENCES

- Gates BP, Vess J, Long MA, Johnson E. Decreasing incontinence-associated dermatitis in the surgical intensive care unit: a quality improvement project. J Wound Ostomy Continence Nurs. 2019;46(4):327-331.
- Jiang H, Shen J, Lin H, Xu Q, Li Y, Chen L. Risk factors of incontinence-associated dermatitis among critically ill patients: a systematic review and meta-analysis. Front Med. 2023;10:1-7
- Mitchell A, Hill B. Moisture-associated skin damage: an overview of its diagnosis and management. Br J Community Nurs. 2020;25(3):S12-S18.
- Sharma P, Latha S, Sharma RK. Development of a need-based interventional skin care protocol on incontinence-associated dermatitis among critically ill patients. Indian J Crit Care Med. 2021;25(2):158-165.
- Ward LA. Engaging nurses through active and experiential learning. Nurs. 2022;52(8):31-35.
- Zhang X, Wang X, Zhao X, Zhang Y. A structured skin care protocol for preventing and treating incontinence-associated dermatitis in critically ill patients. Adv Skin Wound Care. 2022;35(6):335-342

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