



Research Article

(IAD) INCONTINENCE-ASSOCIATED DERMATITIS- CONTINENCE CARE

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ABSTRACT

Indraprastha Apollo Hospital aims to provide healthcare of international standards to patients. Major challenges in dealing with incontinence patients who are prone to develop IAD due to poor skin integrity. The project was aimed with objective to reduce cost of healthcare by reducing average length of stay (ALOS) in hospital by preventing IAD. Methodology to differentiate HAPU from IAD by monitoring patients with incontinence and educating staff nurses on signs and symptoms of IAD. A clinical improvement project was successfully completed on patients presenting with incontinence, were a skin care regimen was followed, by cleansing the skin, to remove urine or faeces routinely, prior to the application of a skin protecting barrier to protect the skin to avoid or minimize exposure to urine and/or faeces and friction. This resulted with ALOS due to IAD from 7 to 14 days in 2015 & 5 to 7 days in 2016 and the average incidence of IAD was 3 in 2015 as knowledge deficit was corrected incidence increased to 5 in 2016, and incidence of HAPU reduce as there was misperception of both.

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INTRODUCTION

IAD incontinence –Associated Dermatitis is the damage to skin that occurs as an exposure of skin to urine and stools. It causes considerable discomfort and very painful, it is time consuming and expensive to treat, leading to pressure ulcers.

As most of the skin injury reckoned as HAPU, there was a need to reduce the incidence of HAPU and other skin damages to analyse and implement appropriate treatment to ensure early recovery. In Sep 2014 a group of international experts met in London to review the knowledge deficits in IAD and adopted best practice principle to address this problem. Preventing IAD within the hospital care setting can only be achieved if we provide additional information by developing a structured prevention programme.

Effective skin care strategies needs to be planned for prevention of skin break down and improving patient quality of life and ensure best clinical outcomes. This system has been assisted in addressing IAD tracing, prevention, compliance with regulatory mandates to recognized risk factor for IAD development to identify gaps and follow practice to deliver evidence-based practice, that is patient oriented ensuring appropriate nursing diagnosis, management and treatment. IAD has a significant impact on the health status of

patients despite advances in nursing care and self-care education, The achievements of an organization are the result of the combined effort of each individual, their observation and timely intervention to prevent further complication. A barrier film dressing that is suitable for IAD that has a good half-life, is ideal for skin repair, and a blessing for a patient suffering from IAD. Patients vulnerable to skin injury from pressure and shear are also vulnerable to skin damage resulting from moisture, friction and irritants.

MATERIAL AND METHODS

IAD[Incontinence Associated Dermatitis] is the skin damage that has occurred as a result of exposure to urine and stool. It causes discomfort and pain if not diagnosed on time, healing is delayed and expensive. It is a type of irritant contact dermatitis found in patients with urinary and faecal incontinence [1]

Patients Affected By IAD

Data collection in IAD is a significant problem. However, in many countries, the precise number of patients affected by IAD is not known because of the difficulties of recognising the condition and distinguishing it from Category/Stage I and II pressure ulcers. The lack of an internationally validated and accepted method for IAD data collection further contributes to a wide variation in prevalence and incidence figures. However in Indraprastha Apollo Hospital we have a dedicated team HAPU [Hospital Acquired Pressure Ulcer] this team consist of a Assistant Nursing Superintendent, Nursing supervisor and a

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Staff Nurse they visit all patient on admission where HAPU is reported and monitors patients with incontinence and are dedicated for tracking, observation, monitoring and advise line of care for all patients with skin injuries and they have competent knowledge to deffereciante and keep a documented record of the findings and recovery post management.

Posters to educate and help staff to identify and deffereciante HAPU & IAD.



Fig 1

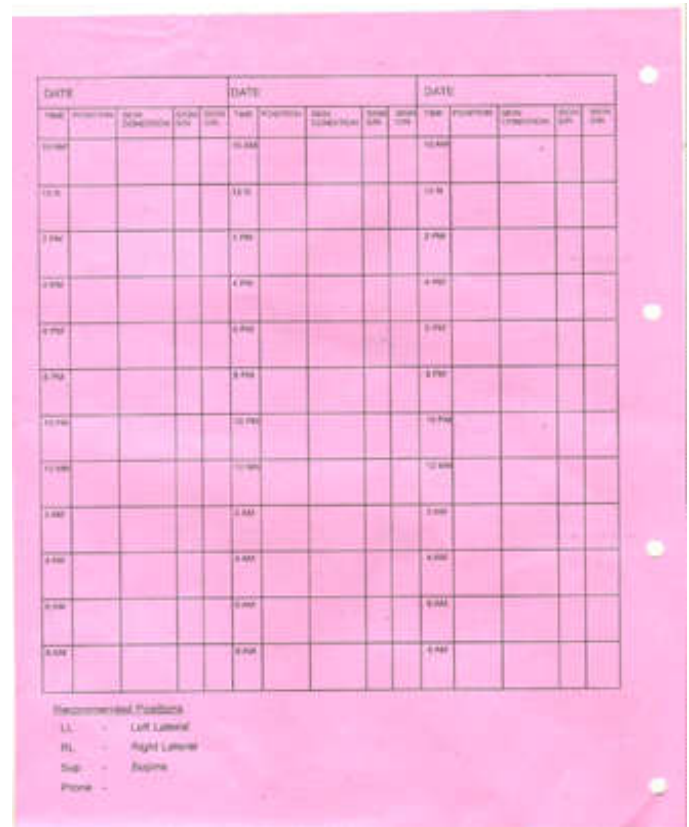
Recognition of IAD & IAD Prone Area

Erythema ranging from pink to red is the initial sign of IAD. The skin area affected by IAD will extend to all areas in the perineum and beyond that they are exposed.

tingling sensation on affected area. Pain starts when the epidermis is intact and worsens if incontinence is not controlled and worsens with frequency and quantity of soiling. Normal skin is safe, protective, is acidic with a pH of 4–6 plays acts as a skin’s barrier (acid mantle) regulates the skin flora of bacteria (skin micro biome). This ensures optimal stratum corneum cohesion and barrier function [3]. IAD becomes active when the normal skin flora is disrupted which triggers inflammation. Over hydration increase pH of skin is the key mechanisms to develop IAD.

The basic assessment for HAPU is done using a Braden pressure [2] ulcer risk assessment tool .The tool monitors moisture and specific condition when there is incontinence which is mandatory 2hrly and more if the situation demands.

Braden Pressur Ulcer Risk Assessment Tool. [Fig 2]



Form # 3012 A

Indraprastha Apollo HOSPITALS TOUCHING LIVES

BRADEN PRESSURE ULCER RISK ASSESSMENT

SCORES	4	3	2	1	DATE
SENSORY PERCEPTION Ability to respond meaningfully to pain, heat, cold, tickle, or discomfort	NO IMPAIRMENT Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort	SLIGHTLY LIMITED Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort. OR Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort over 1/2 of body	VERY LIMITED Responds only to painful stimuli. Responds to verbal commands. Responds to sensory stimulation by reflexes. OR Has a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body	COMPLETELY LIMITED Responds to pain only. Responds to verbal commands. Responds to sensory stimulation by reflexes. OR Has a sensory impairment which limits the ability to feel pain or discomfort over most of body	
MOISTURE Degree to which skin is exposed to moisture	RARELY MOIST Skin is usually dry. When only requires changing or routine incontinence	OCCASIONALLY MOIST Skin is occasionally moist (perspiring, an ointment, or change) approximately once a day	OFTEN MOIST Skin is often but not always moist. Linens must be changed at least once a shift	CONSTANTLY MOIST Skin is moist almost constantly by perspiration, urine, or feces. Linens are changed every time patient is shifted at least	
ACTIVITY Degree of physical activity	WALKS FREQUENTLY Walks outside the room at least twice a day and inside room at least once every 2 hours during waking hours	WALKS OCCASIONALLY Walks occasionally during day but for very short distances, with or without assistance. Searches majority of each shift in bed or chair	CHAIRFAST Ability to walk unaided. Limited or no assist. Cannot bear own weight and/or must be supported into chair / wheelchair	BEDFAST Confined to bed	
MOBILITY Degree of physical activity	NO LIMITATIONS Moves, shifts and changes position without assistance	SLIGHTLY LIMITED Moves frequently through slight changes in body or clothing position with assistance	VERY LIMITED Makes constant or slight changes in body position or clothing to move. Requires or significant changes in position	COMPLETELY IMMOBILE Does not make any significant changes in body or clothing position without assistance	
NUTRITION Usual food intake pattern. NPO history by mouth	EXCELLENT Eats most of usual meal. Never refuses a meal. Usual diet is varied and well balanced. Occasionally needs between meals. Does not require supplementation	ADEQUATE Eats a fair to a large amount of food. Occasionally will refuse a meal. But not usually daily. Occasionally will refuse a meal. If refused OR is on tube feeding or TPN regimen, will probably needs most of nutritional needs	PROBABLY INADEQUATE Eats only a small amount of food. Generally eats only about 1/2 of usual food. Protein intake includes only a small amount of protein. Occasionally will take a liquid supplement. OR receives less than optimum amount of liquid diet or tube feeding	VERY POOR Eats little or nothing. Never eats more than 1/2 of usual meal. Eats a large amount of food. Takes fluid orally. Does not take a liquid supplement. OR is NPO and/or receives no oral liquids or IV for more than 3 days	
FRICION & SHEAR	NO APPARENT PROBLEM Moves in bed and in chair independently and there is sufficient incontinence to sit up comfortably during meals. Maintaining good position in bed or chair at all times	POTENTIAL PROBLEM Moves in bed and in chair independently. During a move skin peels or rubs. Skin is red, swollen, or tender. Requires assistance to move. Maintains good position in bed or chair at all times	PROBLEM Requires assistance to move. Complete skin peeling or rubbing during meals. Requires assistance to move. Maintains good position in bed or chair at all times		
RISK SCALE	NONE 23 22 21 20 19	MILD 18 17 16 15	MODERATE 14 13	HIGH 12 11 10	SEVERE 9 8 7 6
Total Score					
Sign Staff Nurse & C. No					
PLAN OF CARE	A	B	C		
	No intervention required	<ul style="list-style-type: none"> Special Mattress - Alpha / Alpha Excel Reposition Skin inspection Preventive Activity Educate patient and family Evaluate on change of condition 	<ul style="list-style-type: none"> All plus (B + C) Special Mattress - Alpha Excel / Nimbus Position Change Massage Individual Risk Factors 		

NOTE : DAILY ASSESSMENT TO BE DONE FOR PATIENTS HAVING SCORES ≤ 18

Jan 15/16

Urinary incontinence can extend to greater area of the labia majora in females and the scrotal area in male and medial aspect of thigh, groin upward over the sacrococcygeal area, back and downward over the posterior thigh and abdomen for both. IAD presents with pain, discomfort, burning itching or



IAD contributes to pressure ulcers. High Risk of HAPU is with IAD, also danger of infection and morbidity. Aetiology of IAD is 'top down' injury and HAPU is 'bottom up' both may co-exist causing skin injury and soft tissue injury below and within the skin. [Fig3] Skin Care Bundel

Key risk factors for IAD

Type of incontinence

- Faecal incontinence (diarrhoea/formed stool)
- Double incontinence (faecal and urinary)
- Urinary incontinence
- Frequent episodes of incontinence (especially faecal)
- Chemical and cosmetic products that cause occlusion and contamination.
- Poor skin condition (e.g. due to aging/steroid use/diabetes).
- Compromised mobility
- Diminished cognitive awareness
- Inability to perform personal hygiene
- Pain
- Raised body temperature (pyrexia)
- Medications (antibiotics, immunosuppressant)
- Poor nutritional status
- Critical illness.
- Though age is a contributing factor for high risk it is not an independent factor for IAD

Assessment Categorisation & Monitoring of IAD

Staff nurses were educated on recognition, monitoring of IAD. Healthy normal intact skin of perineum area compared to rest of body is safe and has no risk of IAD

- Category 1 – Red* but skin intact (mild) Erythema+/-oedema
- Category 2 – Red* with skin breakdown (moderate-severe)
- Category 1+/--vesicles/bullae/skin erosion+/- denudation of skin +/- skin infection

All patients with urinary and/or faecal incontinence should be observed regularly for skin assessment for signs of IAD [4].

This is done 2hrly and more frequent based on number of episodes of incontinence. Special attention is paid to skin folds or areas where soilage or moisture that may be trapped. Patients at risks are monitored more frequently and high risk of IAD, e.g. individuals with diarrhoea or with multiple risk factors, skin assessments was performed more frequently and findings documented in nurses notes, the HAPU team maintains the data as well.

Management of IAD and Prevention

Begins with identification IAD, treatment and elimination of the skin contact with urine /faeces this is done by applying a skin barrier which will prevent skin exposure to urine and faeces and restore skin healing.

Implementation of skin care had two key intervention Firstly gentle cleaning of the skin to free it from urine and faecal contamination Secondly apply a skin protector barrier to avoid and minimise exposure to urine, faeces and minimise friction.

The Prevalence & Incidence of Incontinence and IAD In Apollo Delhi

2015 IAD ranged from 1 TO 7 Average 3 / Month

Impact of IAD on the Quality of Life of Our Patients

IAD causes pain, discomfort, sleep disturbance and loss of independence this needed early diagnosis and treatment and monitoring which was done by our HAPU team. Once IAD has occurred, patients at high risk for pressure ulceration as well as increased risk of secondary infection and morbidity were managed by skin cleaner and barrier protector.

Impact on Total Care Costs

- BRADEN Assessment tool and dedicated HAPU team has reduced the cost associated with IAD, additional cost was not incurred in this initiative.

Transparent barrier protector helped easy visual observation and monitoring the progress of IAD and saved nurses time, in addition linen, laundry and consumables cost reduced.

- Complications such as pressure ulceration, secondary infection was reduced considerably due to early treatment, shorter inpatient stay, routine care timely.

Benefit of skin care protocol has reduced the incidence of IAD, leading to cost reduction.

Impact of Implementing an IAD Prevention Protocol Apollo Delhi

Average length of stay due to IAD is 7to 14 days.[2015]

- 2016 the average incidence of IAD was 5 as the knowledge deficit was corrected and staff were able to deffereciate HAPU &IAD with early diagnosis and treatment the ALOS has come to 5 to 7 days which was 7 to 14 days earlier. This was only achieved by education and training staff the most appropriate method for early diagnosis, management and clinical support.[fig4, fig5, fig6]
- Cost-savings due to the reduction in dressing material, reduction of ALOS which Reduced nursing time/hospital stay and cost for patient's hospitalisation which showed [VOC] voice of customer satisfaction resource used was minimal.

- Knowledge questionnaire for staff pre and post test showed that the staff had knowledge deficit. After the formal lecture, demonstration education module used to raise the importance of IAD for early diagnosis and treatment. A structured approach to IAD prevention reduced the ALOS [fig 5, fig6] and improved patient's quality of life. This was only achieved as the staff complied, which increased inpatient quality of life

No.of incidence of IAD	2015	2016
January	6	8
February	1	0
March	4	1
April	1	7
May	1	4
June	1	6
July	7	3
August	1	6
September	1	6
October	6	6
November	1	5
December	7	8
Total	37	60

Data supported with graph.

	2015	2016
Average reporting per of IAD /month	3	5
ALOS (in number of days)	14	7

Graph showing IAD data of 2015 &2016.[Fig 4]

[Fig5, Fig6]

DISCUSSION AND CONCLUSION

IAD are common in inpatient hospital set up. Knowledge of IAD, recognition, monitoring and management ensures best clinical outcome. Hence, nursing care has a major role in preventing, diagnosing and timely management which goes a long way in managing inpatients. Management of IAD in hospital affects the patients in variety of ways. The assessment, prevention and treatment of IADs' are of major importance to healthcare professionals in their daily practice. Correcting knowledge deficits on IAD among staff nurses, planning in prevention of IAD by monitoring inpatients with incontinence has reduced the cost of wound management, reduce work load, reduced ALOS leading to patient satisfaction and prevented negative outcomes.

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