VOLUME - 13, ISSUE - 08, AUGUST - 2024 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Transfusion Medicine

FACTORS AFFECTING CAUSATION OF PRESSURE SORE IN A TERTIARY CARE HOSPITAL SETTING: A COMPREHENSIVE ANALYSIS

Dr Gn Gupta	Hod , Pathology & Transfusion Medicine , Sdmh Jaipur
Ms Shailja Ahuja	Quality Assurance Coordinator – Sdmh Jaipur
Dr Rukmini Singh	Research Associate- Sdmh Jaipur
Dr Radhika Singh	Jr Critical Care - Sdmh Jaipur

ABSTRACT

Pressure ulcers (PUs), also known as pressure sores or bedsores, are localized injuries to the skin and underlying tissue caused primarily by prolonged pressure. This study aimed to identify factors contributing to pressure sore acquisition in an acute hospital setting by analyzing pressure ulcer incident forms from January to August 2023. Data were collected from a tertiary care hospital in central Rajasthan, including 124 reported pressure injuries. The analysis focused on determining areas with high incidence rates, documenting risk status and care planning, and planning for clinical management improvements. Findings indicated significant comorbidities among patients, such as hypertension (52.3%), diabetes (40.6%), and cardiovascular diseases (7.6%). Additionally, 28% of patients had a history of smoking, and 20.6% had a history of alcohol consumption. The results underscore the need for comprehensive care plans, early detection, and multidisciplinary interventions to enhance patient outcomes. This study highlights the importance of preventive measures and targeted interventions in reducing the incidence of pressure ulcers in hospital setting

KEYWORDS :

INTRODUCTION

Pressure ulcers (PUs), also known as pressure sores or bedsores, are localized injuries to the skin and underlying tissue, primarily caused by prolonged pressure on the skin. Patients who are bedridden or immobile are more prone to pressure sores making prevention an important point of care (Lyder, 2003).

Besides significant discomfort and morbidity for patients there is also increase healthcare costs due to extended hospital stays for wound management (Barker et al., 2013). Understanding the factors that influence the development of pressure ulcers is critical to the development of effective prevention and treatment strategies. The Scottish Statement of Best Practice for the Prevention of Pressure Ulcers highlights the need for prevalence and incidence data to guide the development of these strategies.. (NHS Quality Improvement Scotland, 2009).

In this study, we aimed to identify potential contributing factors to pressure sore acquisition in an acute hospital setting by analyzing pressure ulcer incident forms. The study focused on determining areas with high incidence or prevalence of pressure ulcers, documenting risk status and care planning, and planning for appropriate changes and improvements in clinical management. By understanding these factors, healthcare providers can develop targeted interventions to reduce the incidence of pressure ulcers and improve patient outcomes.

Methodology:

All pressure-related injuries in a tertiary are hospital in central Rajasthan documented from January to August 2023 were included in the analysis. The data collection involved analyzing pressure ulcer incident forms for inpatient department (IPD) patients, which also included a root cause analysis checklist. Data were collated from the incident forms, the pressure injury record register, and daily monitoring records. Statistical analysis was conducted using Microsoft Excel to calculate prevalence and incidence rates.

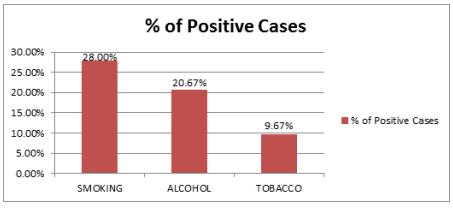
Sample Size and Duration

The study analyzed all pressure ulcer incident forms for IPD patients from January to August 2023. A total of 124 pressure injuries were reported, including pressure ulcers (PU), incontinence-associated dermatitis (IAD), deep tissue injuries (DTI), medical adhesive-related skin injuries (MARSI), and device-related pressure injuries (DRPI).

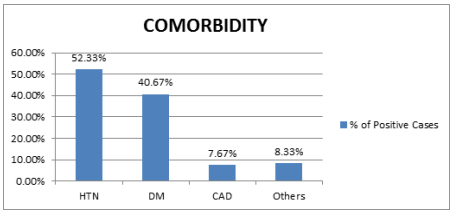
Data Collection Tools:

The incident forms and registers documented various pressure injuries, including PU, IAD, DTI, MARSI, and DRPI. The data were analyzed to identify which wards or ICUs had higher incidence rates and to assess comorbid factors. Graphical representations of the data were created, and results were calculated for different months and injury types.

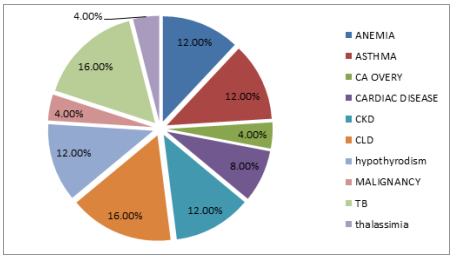
Results:



The history revealed that 28% of patients had history of smoking and 20.6% had history of alcohol consumption and 9.67% had history of tobacco ingestion



There were significant number of patients with hypertension (52.3%) ,DM(40.6%)and CAD(7.6%)



The study revealed the other co morbidities in the patients with 16% also had Chronic liver disease and Tuberculosis

(16%) and CKD,Cardiac ,Asthma also were seen in 12%

The analysis revealed significant numbers of patients with coexisting diabetes and hypertension among the comorbidities assessed. It was seen 28% of patients were smokers, and 20.6% had a history of alcohol intake.Hypertension was a major risk factor as 52.33% had hypertension and 40.6% had Diabetes These factors are crucial to the healing process of pressure ulcers and preventing further deterioration due to comorbidities.

DISCUSSION:

The findings highlight the importance of creating enhanced patient care and education protocols based on the audit results. There is a need to place these patients on customized care plans involving dermatologists ,plastic surgeons ,physiotherapists and .wound care nurses .Also timely detection at early stages s essential for intervention to improve healing.

The causation of pressure sore is affected by patient comorbidities with the quality and effectiveness of care keeping pressure ulcer prevention a priority (National Pressure Ulcer Advisory Panel [NPUAP], 2014)..

As seen in the present study the risk of pressure ulcer development increases with comorbidities, such as diabetes, hypertension, smoking, and alcohol consumption, (Gefen, 2008). Moreover, the presence of these comorbidities can complicate the healing process, leading to prolonged recovery times and increased risk of complications (Coleman et al.,2013).

Chou et al. (2013) conducted a systematic comparative effectiveness review highlighting the importance of risk assessment tools in preventing pressure ulcers. Their findings emphasize that early and accurate risk assessment, combined with preventive measures, can significantly reduce the incidence of pressure ulcers in hospital settings. Gaspar et al. (2019) further support this by demonstrating that comprehensive prevention programs effectively reduce the prevalence of hospital-acquired pressure ulcers. Mervis and Phillips (2019) provide an in-depth analysis of the pathophysiology, epidemiology, and risk factors associated with pressure ulcers, underscoring the multifaceted nature of this condition

Pressure ulcers need active and timely diagnosis treatment with multidisciplinary team .Preventive care and recognizing early signs of pressure sore can help in proper care and cure ,Patient and caregiver education is important as they have a role in prevention and early detection also .Geriatric care is increasingly becoming focus of attention and pressure sores are important aspect of care .Timely intervention,proper management and follow up are the areas to focus upon to prevent unnecessary morbidity and suffering

CONCLUSION:

The incidence rates of pressure ulcers in the hospital, while below the benchmark, have increased in the past three months. Healing rates are not encouraging, indicating the need for proactive care and focus. A review of hospital policy and procedures for pressure ulcer care is necessary to improve outcomes.

Due to the declining health status of individuals with multiple comorbid conditions, clinicians must develop realistic care planning and achievements to prevent and treat wounds. Effective partnerships in the management of pressure ulcers, timely early detection, and treatment under the care of plastic surgeons or dermatologists are essential. Additionally, follow-up is needed to understand reasons for non-healing and ensure protocols are followed

REFERENCES:

1. Barker, A. L., Kamar, J., Tyndall, T. J., White, L., Hutchinson, A., & Klopfer, N. (2013). Implementation of pressure ulcer prevention best practice recommendations in acute care: An observational study. *International Journal of Nursing Studies, 50*(4), 518-526. https://doi.org/10.1016/j.ijnurstu.2012.10.016
2. Chou, R., Dana, T., Bougatsos, C., Blazina, I., Starmer, A. J., Reitel, K., & Buckley, D. I. (2013). Pressure ulcer risk assessment and prevention: A systematic comparative effectiveness review. *Annals of Internal Medicine, 159*(1), 28-38.
3. Coleman, S., Gorecki, C., Nelson, E. A., Closs, S. J., Defloor, T., Halfens, R., ... & Nixon, J. (2013). Patient risk factors for pressure ulcer development: Systematic review. *International Journal of Nursing Studies, 50*(7), 974-1003. https://doi.org/10.1016/j.ijnurstu.2012.11.019
4. Gaspar, S., Peralta, M., Marques, A., Budri, A., & Gaspar de Matos, M. (2019). Effectiveness on hospital-acquired pressure ulcers prevention: A systematic review. *International Wound Journal, 16*(5), 1087-1102.
5. Gefen, A. (2008). How much time does it take to get a pressure ulcer? Integrated evidence from human, animal, and in vitro studies. *Ostomy/Wound Management, 54*(10), 26-35.
6. Kottner, J., Cuddigan, J., Carville, K., Balzer, K., Berlowitz, D., Law, S., Litchford, M., Mitchell, P., Moore, Z., Pittman, J., Sigaudo-Roussel, D., Yee, C.Y., & Haesler, E. (2020). Pressure ulcer/injury classification today: An international perspective. *Journal of Tissue Viability, 29*(3), 197-203.
7. Lyder, C. H. (2003). Pressure ulcer prevention and management. *JAMA, 289*(2), 223-226. https://doi.org/10.1001/jama.289.2.223
8. Mervis, J. S., & Phillips, T. J. (2019). Pressure ulcers: Pathophysiology, epidemiology, risk factors, and presentation. *Journal of the American Academy of Dermatology, 81*(4), 881-890.
9. NHS Quality Improvement Scotland. (2009). *Best Practice Statement: Prevention and Management of Pressure Ulcers*. NHS Quality Improvement Scotland.
10. National Pressure Ulcer Advisory Panel (NPUAP). (2014). *Prevention and Treatment of Pressure Ulcers: Quick Reference Guide*. National Pressure Ulcer Advisory Panel.