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Original Research Article

Retrospective study of occurrence of pressure ulcers among the patients admitted in rural tertiary care hospital and their outcome

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ABSTRACT

Introduction: This retrospective study addresses the pivotal role of pressure ulcer prevention in evaluating the quality of care within critical care units. The incidence of pressure ulcers serves as a crucial indicator, impacting patient recovery and complicating treatment.

Materials and Methods: In this data based retrospective study we assessed the prevalence of pressure ulcers for a duration of 6 years. In this data we included the patients from surgical, medical, respiratory and cardiac critical care units who were admitted between 01/06/16 to 01/06/22. All male and female patients aged above 18 years were included. Patients who got discharge within 48 hours were excluded.

Results: Total of 35 patients were noted to have bedsores in intensive care unit from June 2016-June 2022 admitted under both medical and surgical branches. Out of which 34.3% were in age group above 70yrs where 87.9% were male patients. Most commonly 1-2 bedsores (97.1%) were present involving mostly buttock area (82.9%) of 2-5cm size (45.7%). Most of the patients admitted under medical branch developed bedsores more often than surgical branch and appeared after admission (77.1%) with 15-30 days hospital stay (31.4%).

Conclusion: This study has illuminated our path forward in improving patient care and preventing pressure ulcer development among patients admitted to our medical and surgical Intensive Care Units in our Rural Tertiary hospital. The findings have paved the way for targeted interventions, underlining our commitment to raising the standard of care for our critically ill patients.

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1. Introduction

Pressure ulcers, also referred to as bedsores or decubitus ulcers, pose a significant challenge within the realm of healthcare, particularly among patients with restricted mobility or prolonged hospitalizations.^{1,2} These debilitating wounds can lead to prolonged recovery times, increased healthcare costs, and even life-threatening complications. In rural tertiary care hospitals, where resources and specialized care may vary compared to urban counterparts, understanding the occurrence and subsequent outcomes

of pressure ulcers is of paramount importance. Presently various treatment modalities are available for the treatment of pressure ulcers.³⁻⁵

This retrospective study delves comprehensively into the incidence of pressure ulcers among patients admitted to a rural tertiary care hospital. By examining historical data, we aim to uncover patterns, risk factors, and clinical characteristics associated with the development of these ulcers. Furthermore, this investigation seeks to provide a thorough analysis of the outcomes experienced by patients affected by pressure ulcers, including the impact on morbidity, mortality, and overall quality of life.⁶⁻⁹

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The insights garnered from this study hold potential for far-reaching implications, informing targeted interventions, refining care protocols, and ultimately elevating the standard of care provided to patients in rural tertiary care settings. By comprehensively understanding the dynamics of pressure ulcer occurrence and its consequences, we aim to foster a more proactive and effective approach to wound prevention and management in these critical healthcare environments. This study also helped us to audit the bedsore among the patient admitted in our critical care units.

2. Materials and Methods

After obtaining institutional ethical clearance this retrospective study was conducted in our rural tertiary care hospital having 50 adult critical care beds. In this data based retrospective study we assessed the prevalence of pressure ulcers for a duration of 6 years. In this data we included the patients from surgical, medical, respiratory and cardiac critical care units who were admitted between 01/06/16 to 01/06/22. The patients who were referred from the outside hospital were also included in this study. All male and female patients aged above 18 years were included. Patients who got discharge within 48 hours were excluded.

3. Results

A total of 35 patients had bedsores. Out of 35 patients 88% were male and rest were female patients. Most commonly it was found among elderly patients (Figure 1).

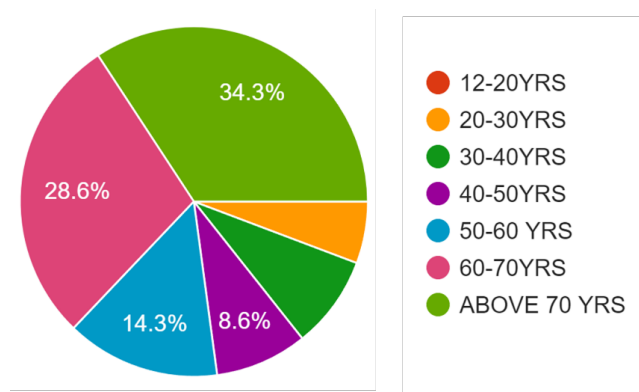


Fig. 1: Age wise distribution of patients with bedsores

Based on the location of bedsores, 82.9% of the patients were having it on gluteal or buttock area as shown in Figure 2.

A total number of bed sores were recorded and was found that 97.1% of the patients had only one bedsores and is depicted in Figure 3.

Based on the size the bedsores were recorded and was found that highest number of bedsores (45.7%) were between 2-5 cm in size. (Figure 4a)

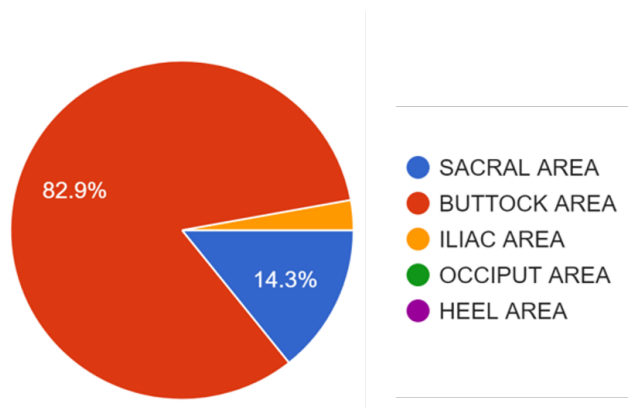


Fig. 2: Distribution of patients based on the location of bedsores.

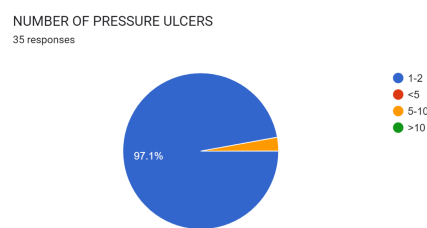


Fig. 3: Number of bed sores per patient

Based on the number of critical care unit stay, the patients with divided and was found that, majority (31.4%) of the patients stayed between 15-30 days. (Figure 4b)

It was found that 67.6% of the patients were of medical cases (Figure 4c) and out of 35 patients 77.1% patients had bedsores at the time of admission. (Figure 4d).

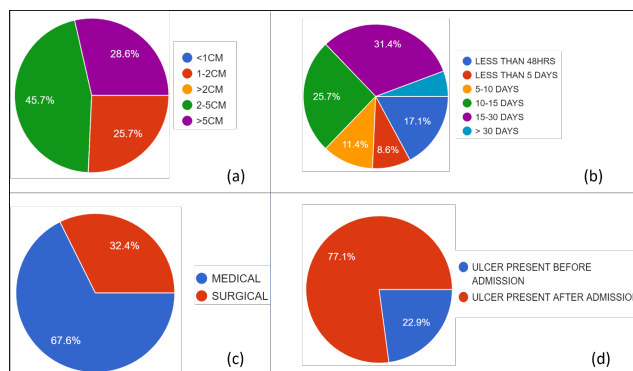


Fig. 4: a: The distribution of patients based on bedsores size; b: Number of days stayed in critical unit; c: Patient admission categorization based on department; d: Onset of the bedsores.

4. Discussion

Bedsore represents a critical healthcare concern due to their potential to cause significant morbidity and prolonged hospital stays. They not only lead to physical discomfort and pain but can also result in serious complications such as infections and delayed wound healing. Furthermore, the financial burden associated with treating bedsores is substantial, with costs including wound care supplies, extended hospital stays, and potential legal liabilities.

One of the key factors contributing to the persistence of bedsores is the aging population. As individuals age, their skin becomes more fragile and less resilient to pressure, making older adults particularly susceptible. Additionally, the prevalence of chronic diseases like diabetes and vascular disorders further increases the risk of developing bedsores. These conditions compromise blood flow and impair the body's ability to heal wounds, making it essential to implement proactive preventative measures. In our study a total of 35 patients had bedsores. Out of 35 patients 88% were male and rest were female patients. Most commonly it was found among elderly patients and was amounting for 34.3% who were above the age of 70 years. A similar study found that the elderly patients had average age group of 83.8 years.¹⁰

Prevention of bedsores is paramount in healthcare settings. Implementing a multidisciplinary approach that involves nurses, physicians, physical therapists, and nutritionists is crucial. Although the pressure sores are seen any part of the body especially the part which is dependent and bearing all the weight of that particular region. In our study it was found that nearly 83% of pressure sores were on the buttocks. It is not uncommon that a single patient having multiple pressure sore, however it is very common that only pressure sore may be seen in the patient. In our study we found that, 97% of the patient had only one pressure sore. Various literature suggest that it is not uncommon to see the patient who are chronically ill they may have only one pressure sore.¹¹

Regular assessments of patients' skin integrity and risk factors for developing bedsores should be conducted. Specialized pressure-relieving equipment such as foam mattresses, cushions, and alternating air mattresses can greatly reduce the risk. Frequent repositioning of immobile patients and the use of protective dressings or creams can also mitigate the development of pressure ulcers. The bedsores, also known as pressure sores, can have serious consequences. They serve as an indirect gauge of a hospital's quality of care. Our study revealed that 22.9% of patients developed bedsores after admission, while the remaining 77.1% arrived with existing bedsores from external facilities. This underscores a clear opportunity for enhancement in our tertiary care hospital. Education plays a vital role in preventing bedsores. Healthcare providers must be knowledgeable about the risk factors, signs, and

best practices for management. Moreover, patients and their caregivers should receive thorough instruction on how to perform pressure-relieving techniques and recognize early signs of skin breakdown. Encouraging open communication between patients, their families, and healthcare providers fosters a collaborative approach in preventing bedsores.^{12,13}

The prevalence of the bedsores in medical cases were highest (66.7%) in comparison to the surgical cases. A similar retrospective showed the identical finding.¹⁴ The reason could be, higher number of cerebrovascular cases are being admitted in this tertiary care.¹⁵ In cases where bedsores have already developed, a prompt and comprehensive treatment plan is imperative. This includes thorough wound assessment, debridement of necrotic tissue, and appropriate dressing choices. The goal is to create an environment that promotes wound healing while addressing any underlying factors contributing to the ulcer's persistence. In severe cases, surgical intervention may be necessary to facilitate healing and prevent further complications.

5. Limitation of the Study

We did not record the diagnosis of the patient, average number of the ICU stay, type of intervention and the condition of the bedsores at the time of discharge from the critical care unit. The degree of the bedsores is not recorded. It is a single centre study hence cannot be extrapolated and generalize the outcome. Further a detailed prospective multicentre study is required for better understanding.

6. Conclusions

This retrospective study sheds light on the occurrence of pressure ulcers among patients admitted to a rural tertiary care hospital. The findings underscore the significance of preventative measures and vigilant monitoring in healthcare settings, especially in rural areas where resources may be limited. The study also highlights the need for tailored interventions to address this issue and improve patient outcomes. Further research and targeted interventions are warranted to effectively mitigate the incidence of pressure ulcers and enhance the overall quality of care in such settings.

7. Conflicts of Interests

None declared.

8. Source of Funding

None.

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None.

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