

**A Prospective Study of Bedsores Patients in a Tertiary Care Centre****Chelladurai S<sup>1</sup>, Umarani S<sup>2</sup>, Padma Kathirvel<sup>3</sup>, Kannan G<sup>4</sup>, Gottigundala Naveen Reddy<sup>5</sup>**<sup>1</sup>Assistant Professor, Department of General Surgery, Government Omandurar Medical College, Govt estate, Chennai, Tamilnadu<sup>2</sup>Associate Professor, Department of General Surgery, Government Omandurar Medical College, Govt estate, Chennai, Tamilnadu<sup>3</sup>Assistant Professor, Department of General Surgery, Government Karur Medical College, Karur, 639008, Tamil Nadu<sup>4</sup>Assistant Professor, Department of General Surgery, Government Thiruvannamalai Medical College, Tamilnadu<sup>5</sup>Postgraduate Resident, Department of General Surgery, Government Omandurar Medical College, Govt estate, Chennai, Tamilnadu

Received: 25-11-2023 / Revised: 23-12-2023 / Accepted: 30-12-2023

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Conflict of interest: Nil

**Abstract:****Background:** A pressure sore or bed sore is due to underlying prolonged pressure over that area. It is seen most commonly in bed ridden patients over the bony surfaces. It is classified into grades based on depth of involvement.**Objective:** primary objective is to study the natural course of bedsores patients from cause to treatment and effect on socioeconomic status.**Methods:** A prospective observational study was done for period of two years from 2022 to 2024, on 100 patients admitted for bedsores in a tertiary care Centre.**Discussion:** The mean age distribution was 44.7±14. RTA and CVA are the major causes. Majority presented late with GRADE 4 after mean duration of 3.5 months. 60% of patients belonged to lower socio-economic class of which almost all of them became unemployed after the disease.**Conclusion:** Bedsores are one of the major causes for mortality affecting both health and socioeconomic status of the patients. Hence, prevention of bedsores is utmost important with proper enlightenment.**Keywords:** RTA- Road Traffic Accident, CVA-Cerebrovascular Accident, ICU-Intensive Care Unit, SHTN-Systemic hypertension, T2DM- Type 2 Diabetic Mellitus, CAD-coronary artery disease, PTB-Pulmonary Tuberculosis.

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**Introduction**

A pressure sore or bed sore is due to underlying prolonged pressure over that area. It is seen most commonly in bed ridden patients due to hip fracture, spinal cord injury, cerebrovascular accident, immobility due to other causes [1]. An image of bedsores mentioned below (figure 1).

**Pressure sore stages-** (Suspected) Deep Tissue Injury: purple or maroon discolored area of intact skin or blood-filled blisters due to underlying soft tissue injury.

- Stage 1: Intact skin with non-blanchable redness over a bony prominence.
- Stage 2: Partial thickness loss of dermis presenting as a shallow open ulcer.

- Stage 3: Full thickness tissue loss, subcutaneous tissue visible
- Stage 4: Full thickness loss with exposed bone, tendon or muscle [2].

**Methods:**

A prospective observational study was made for period of 2 years from 2022 to 2024 on 100 patients who got admitted in a tertiary care Centre. Study was conducted on the age distribution, cause of bedsores, site of bedsores, time of onset of bedsores, grade at presentation, employment status before and after getting a pressure sore, course in hospital. Data was collected and entered in excel sheets and represented in charts and tables.

Figure 1: GRADE 4 BED SORE



Figure 1: Grade 4 bed sore

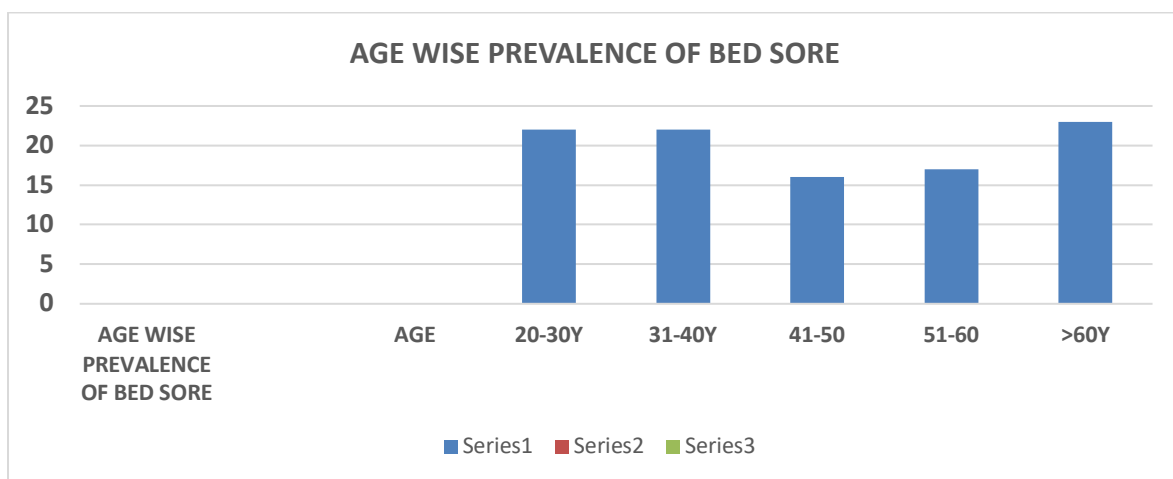
**Results**

Of the 100 patients studied 23 people were of older than 60 years, 17 people of age 51-60 years, 16 people were of age 41-50 years, 22 people were of age 31-40 and 22 people of 20 to 30 years age (Column 1) for 30 people, RTA with paraplegia was the cause of bed sore followed by CVA (30 people), other causes (16 people) which includes chronic bedridden ICU patient's, RTA with quadriplegia (10 people), fall from height (10) people, post meningomyelocele operated (2 people).

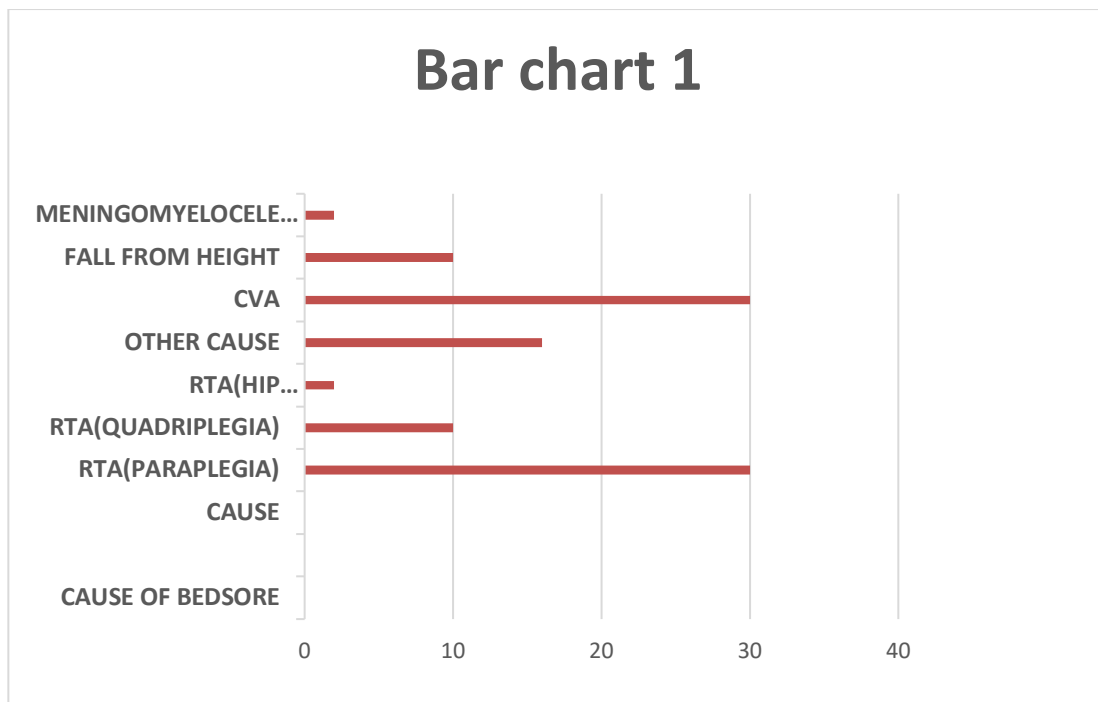
(Bar chart 1) 46 people had bed sore at sacral region, 29 had in ischium and sacral regions, 19

had in ischium region alone, sacrum and heel areas are involved in 6 people. (column 2) the average time of presentation of bed sore patient to hospital after the cause of bed sore (table 1) out of 100 patients 60 were daily wage labour and got unemployed after the disease, 20 people were housewife and continued to be same, 10 people were skilled labour and got unemployed, 10 people were young students who got unemployed. (column 3). Grade of bed sore at presentation is represented in pie chart 1.

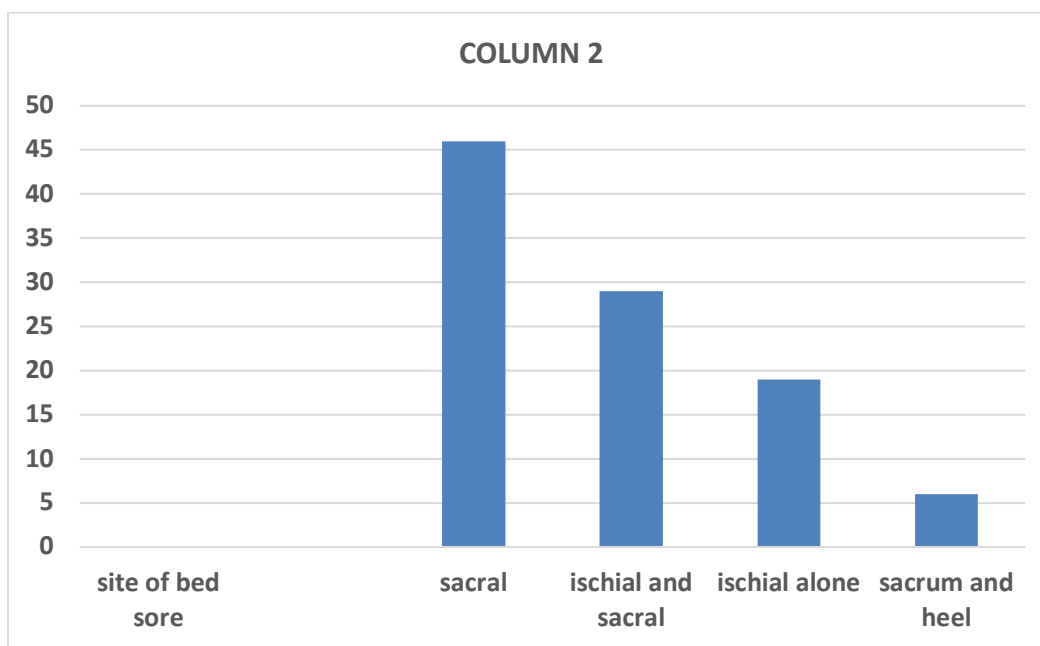
course in the hospital is described in (table 2). associated comorbids statistics mentioned in (table 3). locality of the bed sore patients was described in (table 4).



Graph 1: AGE WISE PREVALENCE OF BED SORE



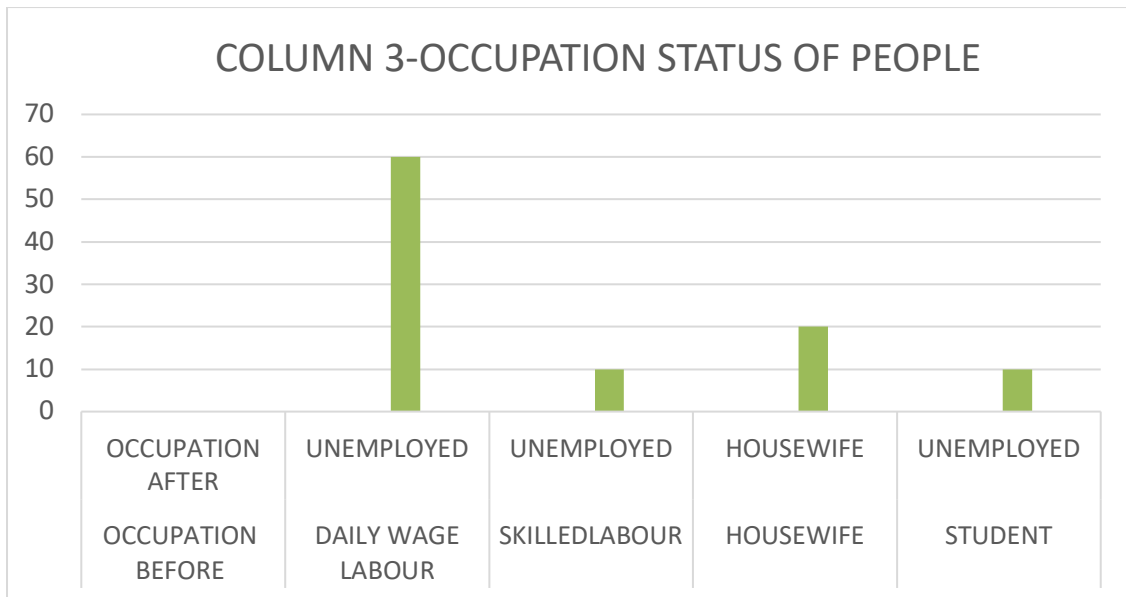
Graph 2: Bar Chart-1



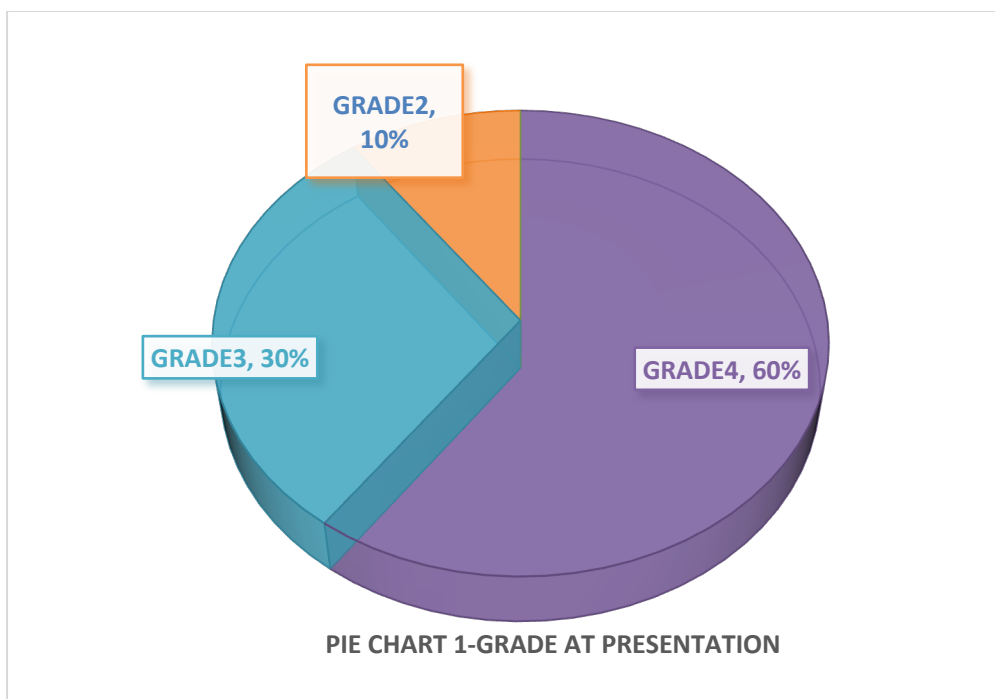
Graph 3: Column 2

Table 1: Average time of presentation of bed sore to hospital after the cause

Cause	Average Duration
RTA (Paraplegia)	2M
RTA (Ouadriplegia)	3M
RTA (Hip Replacement)	4M
CVA	15 Days
Fall from Height	2M
Meningomyelocele postop	6M



**Graph 4: COLUMN 3-OCCUPATION STATUS OF PEOPLE**



**Graph 5: PIE CHART 1-GRADE AT PRESENTATION**

**Table 2: Course in hospital**

Gluteal flap	44
V-Y flap	26
Healed on its own	10
Discharged at request	3
Expired	7
AMA	10

**Table 3: Comorbids**

T2DM/SHTN	40
T2DM ALONE	10
SHTN ALONE	10
CAD	10
OLD PTB	05
NO COMORBIDS	25

**Table 4: Locality of patients**

Rural	47
Semi-Urban	23
Urban	30



**Figure 2:**



**Figure 3:**

**Discussion**

The mean age of patients was found to be 44.7+/-14 with peak prevalence seen after the age of 60(23%).RTA with paraplegia(30%) and CVA(30%) were found to be leading causes for the bedsore. RTA with paraplegia and quadriplegia

was more common cause in younger adults and CVA in elderly.

This is followed by chronic bedridden ICU patients(16%).ICU bedridden patients have poor general condition and lack of mobilization makes a lead point for pressure sore[3].The most common site for the pressure sore was sacral region(46%),

followed by ischium and sacral region(29%), ischium region alone(19%), sacrum and heel (6%).The mean time of presentation of bedsore patient to hospital after the aetiology was 3.5 months. Mean time of onset varies with cause and general condition, mobility extent, nursing care provided. Majority of people admitted were from rural areas(47%) with lack of awareness over bedsore prevention and care and lack of proper nursing facilities[4,5]. Most of the patients were from lower socioeconomic class according to modified kuppuswamy score with unskilled and semi skilled labour as profession(60%)and are unemployed to due the morbidity of the condition[6].

About 60% patients presented with grade 4 bed sore due to late presentation and improper care and use of native medications for initial treatment. Of the 100 patients studied 70% have associated comorbidities such as SHTN, T2DM, CAD, OLD PTB. Of these 40% have systemic hypertension, type 2 DM which are found to be important factors effecting the wound healing .These patients are more prone to infection of bedsore and there by deteriorating the patient condition.

In these patients 44% were treated with fasciocutaneous flaps such as gluteal flap surgery by plastic surgery team as shown in( Figure 2 & 3), 26% by v-y flap, 10% healed on its own with daily dressing ,culture sensitive antibiotics and alpha/air bed ,improving general condition.7% of total 100 patients got expired due to sepsis as a leading cause[7].

### Conclusion

Bedsore is preventable with proper education to the patients about the cause. Patients should be educated about bed sore care which includes frequent position change every 2 hours, use of alpha beds, proper nutrition and nursing care, early approach to health care facility soon after the bedsore is identified. Prevention is better than cure. After the admission ,proper care must be taken not only related to general condition and wound status but also the psychological stress of the patients with help of professional.

Patients admitted for RTA with spine injuries and paraplegia/quadruplegia and patients with CVA

should be carefully watched for bedsore development. Patients in ICU and who are chronic bed ridden are more prone to pressure sore. Bedsore has become one of the major cause for mortality and morbidity of patient and also effecting their socio economic status. Hence proper enlightenment about the prevention of bedsore and treatment options helps to reduce the burden on society.

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