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A Descriptive Exploratory Study to Assess The Risk Factors For the Development of bedsores among Lower Segment Fracture Patients Admitted In the Orthopedic Ward of JNM Hospital, Kalyani

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ABSTRACT

The research study was conducted to assess the risk factors for development of bed sore among lower segment fracture patients admitted in orthopedic ward, JNM hospital, Kalyani. The aim of this study was to identify the risk factor for development of bed sore among lower segment fracture patient. A quantitative research approach was selected for the study. It was a methodological study conducted in one phase. In this study questionnaires method was followed to collect the data. Sample size for the study consisted of 60 samples who are admitted in Orthopedic ward of JNM Hospital both male and female ward. The sampling technique was non-probability convenience sampling. Open questionnaires on 6 question was used to assess the risk factor of development of bed sore among lower segment fracture patient. After analysis of the results and after reviewing the different literature from PubMed, Medline, nursing and health science etc. The Study results showed that the higher risk of bed sore in age group 51-60 years 23(38.33%) so adult age mainly act as a risk factor of bed sore. And other hand 48 (80%) persons are occasionally moisturizer in moisture, and the incidence rate of bed sore is the highest in Orthopedic surgery ward and it can say that two aspects of demographic variables that are family monthly income

and nutritional status in our study. So from the association we can say that the risk for bedsore is mostly present among the patient of orthopedic ward

Keywords: Risk factors, Bedsore, Lower segment fracture

I. INTRODUCTION

Pressure ulcer is a localized injury to the skin and other underlying tissue, usually over a bony prominence (e.g., sacrum, greater trochanter), as a result of pressure or pressure in combination with shear and or friction. Pressure affects cellular metabolism by decreasing or obliterating tissue circulation, resulting in tissue ischemia^[1].

Pressure ulcers are the common conditions among patients hospitalized in acute and chronic care facilities. Now days, pressure ulcers are recognized worldwide as one of the five most common causes of harm to patients and preventable patient safety problem. The pain and discomfort due to pressure ulcer prolongs illness, rehabilitation, time of discharge and even contribute to disability and death^[2].

Fractures occur in individuals of all ages. However, the type and body location vary widely depending on different factors, mainly related to individual bone quality and the nature of the trauma. Especially for the fractures occurring in the elderly population, which are often fragility fractures^[3].

Need of the Study

- ✓ Majority of the patients in lower segment fracture have more risk than others of developing bed sore due to prolong hospitalization. Thus, this study will help to identify those who were at risk in order to and make the appropriate intervention to prevent the formation of bed sore.
- ✓ This study is needed for making strategies in reduction of pressure over bony prominence and other vulnerable skin sites.
- ✓ To prevent further complication from Hospital Acquired Pressure Ulcer like wound infection, deep tissue damage, ulceration and cellulitis etc. which are arise due to bed sore in lower segment fracture.
- ✓

II. STATEMENT OF PROBLEM

“A descriptive exploratory study to assess the risk factors for development of bedsore among lower segment fracture patients admitted in Orthopedic ward of JNM Hospital, Kalyani”.

Objectives:

- 1.** To identify the risk factors for development of bedsore among lower segment fracture patients admitted in Orthopedic ward of JNM hospital, Kalyani.
- 2.** To find out the association between levels of Braden scale interpretation score with selected demographic variables among lower segment fracture patients.

III. RESEARCH METHODOLOGY

Research approach:

Quantitative research approach was used

Research design:

Descriptive exploratory study design.

Research setting:

Male and Female Orthopedic Ward of JNM Hospital, Kalyani.

Population:

Patient admitted in Orthopedic Ward of JNM Hospital.

Sampling technique:

The study is of - Non probability convenience sampling technique.

Sample:

Lower segment fracture patients who are having risk for development of bed sore.

Sample size:

60 patients with lower segment fracture admitted in orthopedic ward of JNM Hospital.

Selection and development of tool

Section - A: Socio-demographic profile: This section deals with age, gender, family monthly income, nutritional status, educational status, duration of bed confinement.

Section - B: Braden Scale: This section deals with six items, which composed of sensory perception, moisture, activity, mobility, nutrition, friction & shear.

Interpretation of Braden Scale Score -

Score	Risk
19-23	Not risk
15-18	Mild risk
13-14	Moderate risk
10-12	Severe risk
6-9	Very severe risk

Ethical consideration:

- ✓ Permission was taken from the Principal of our institution for conducting the study and Permission was taken from the H.O.D. of the Orthopedic department
- ✓ Informed consent was taken from the sample and there was no ethical issue aroused during the study.

III. RESULTS

Table 1 shows the frequency & distribution of demographic variables among lower segment fracture patients with the risk of bed sore. Majority of the subject 23(38.33%) were in the age group of 51-60 years, gender 35(58.33%) were male, family monthly income 38(63.33%) were between 5,000 – 10,000, nutritional status 27(45%) were BMI 19 – 25, educational status 25(41.66%) were primary education and duration of bed confinement 45(75%) were less than 1 month.

Table No:1 Description of demographic variables of lower segment fracture patients by using frequency and percentage distribution. (n=60)		
Demographic variables	Frequency (n)	Percentage (%)
1. Age (in years)		
21-30	7	11.66%
31-40	11	18.33%
41-50	19	31.66%
51-60	23	38.33%
2. Gender		
Male	35	58.33%
Female	25	41.66%
Transgender	00	0

3. Family Monthly Income		
Less than 5000	16	26.66%
5000-10,000	38	63.33%
10,001 - 15,000	05	8.33%
More than 15,000	1	1.66%
4. Nutritional Status		
BMI less than 19	14	23.33%
BMI 19-25	27	45.00%
BMI more than 25 - 30	19	31.66%
BMI more than 30	00	0
5. Educational Status		
No formal education	18	30%
Primary education	25	41.66%
Secondary education	12	20%
Higher secondary	04	6.66%
Graduate	02	3.33%
>Graduate	00	0
6. Duration of Bed Confinement		
Less than 1 month	45	75%
1-2 month	11	18.33%
More than 2 - 3 month	01	1.66%
More than 3month	03	5%

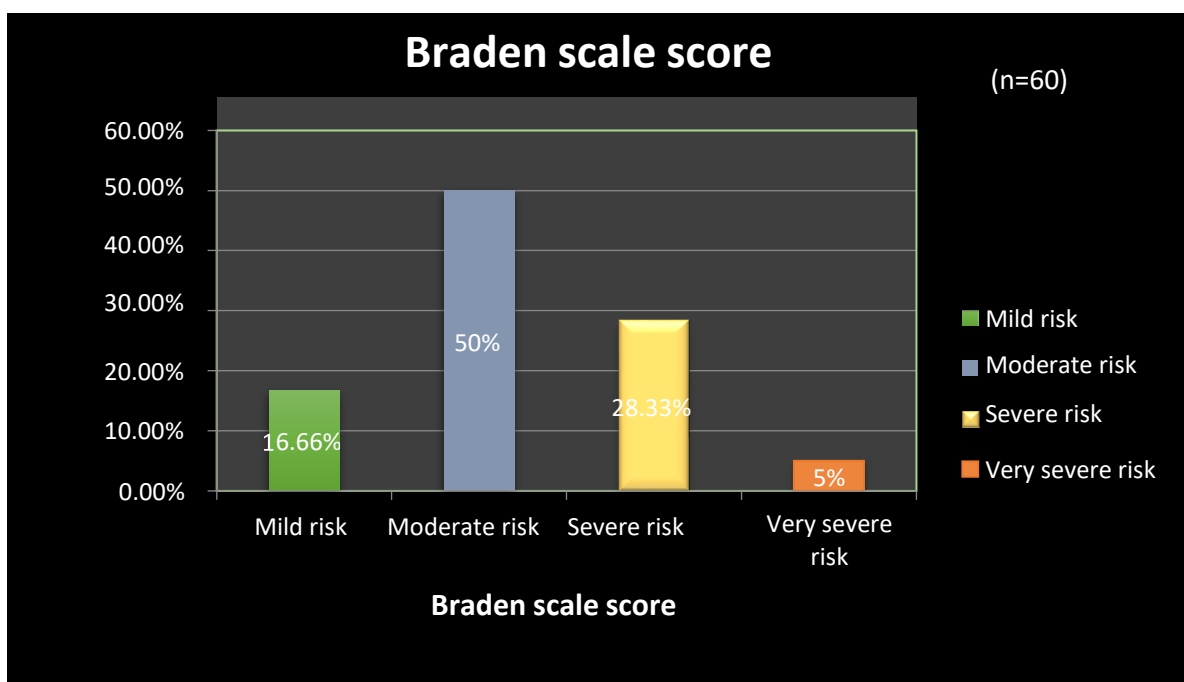
Table 2 In Braden scale score majority of the subject 33(55%) have no impairment in sensory perception, 48(80%) are occasionally moist in moisture, 53(88.33%) are bed fast in activity, 39(65%) are very limited in mobility, 26(43.33%) are probably 44inadequate and adequate in nutrition, 37(61.66%) have potential problem in friction and shear.

Table – 2: Findings related to the assessment of risk factor for development of bed sore among lower segment fracture patients. (n = 60)		
	Frequency (n)	Percentage (%)
1. Sensory Perception		
Completely Limited	2	3.33 %
Very Limited	5	8.33 %
Slightly Limited	20	33.33 %
No impairment	33	55 %
2. Moisture		
Constantly Moist	1	1.66 %
Very Moist	5	8.33 %
Occasionally Moist	48	80 %
Rarely Moist	6	10 %
3. Activity		
Bed fast	53	88.33 %
Chair fast	5	8.33 %
Walk occasionally	2	3.33 %
Walk frequently	0	0 %
4. Mobility		

Completely limited	17	28.33 %
Very limited	39	65 %
Slightly limited	4	6.66 %
No limitation	0	0 %
5. Nutrition		
Very poor	8	13.33 %
Probably inadequate	26	43.33 %
Adequate	26	43.33 %
Excellent	0	0 %
6. Friction & Shear		
Problem	23	38.33 %
Potential problem	37	61.66 %
No apparent Problem	0	0 %

Graph - 1 Assessment of risk factors for development of bed sore among lower segment fracture patients by levels of Braden scale interpretation score

Graph - 1 revealed that based on the Braden scale scoring interpretation among the participants 0(0%) has not risk, 10(16.66%) has mild risk, 30(50%) has moderate risk, 17(28.33%) has severe risk and 3(5%) has very severe risk.



Association between level of Braden scale with selected demographic variables among lower segment fracture patient

In the association only family income and nutritional status of the patients were found significant association with the Braden scale among sociodemographic variables

IV. DISCUSSION

Findings related to the demographic variables of lower segment fracture patients

In demographic variables majority of the subject 23(38.33%) were in the age group of 51-60 years, gender 35(58.33%) were male, family monthly income 38(63.33%) were between 5,000 – 10,000, nutritional status 27(45%) were BMI 19 – 25, educational status 25(41.66%) were primary education and duration of bed confinement 45(75%) were less than 1 month. A descriptive cross sectional study was conducted by Amin R, Saha P. K., Aktar S.,(2014) to assess pattern and risk assessment of bedsore in hospitalized patients. The result showed that majority 41.2%, of the respondents belonged to age group of 41-60 years. The study also

revealed that male 43.4% are high risk 31.6% are obese.⁴⁹ In our study the higher risk of bedsore in age group 51-60 years 23(38.33%). In the literature review the higher risk of bedsore 41- 60 years and also in gender that is male. So , adult age and male are mainly act as a risk factor of bedsore^[4].

Findings related to the assessment of risk factors for development of bed sore among lower segment fracture patients

In Braden scale score majority of the subject 33(55%) have no impairment in sensory perception, 48(80%) are occasionally moist in moisture, 53(88.33%) are bed fast in activity, 39(65%) are very limited in mobility, 26(43.33%) are probably 44inadequate and adequate in nutrition, 37(61.66%) have potential problem in friction and shear. An observational study was conducted by Khadijeh Hoviattalab et al. (2017) to establish the range and extent of prevention intervention undertaken by nurses for patients who are at high risk of developing of currently have a pressure ulcer. The results showed that the most frequent prevention measure was cleaning the patient's skin and minimizing exposure to moisture that were undertaken in more than 90%of all patients.²⁶ In our study we showed that, 48 (80%) are occasionally moist in moisture. In the literature review the results showed that the most frequent prevention measure minimizing exposure to moisture that also less chance of risk for development of bedsore. So it reviled that as minimize exposure in moisture may reduce risk for development of bedsore^[5].

Findings related to association between level of Braden scale interpretation score with selected demographic variables

In the association only family income and nutritional status of the patients were found significant association with the Braden scale among sociodemographic variables. A Systematic Review and Meta-Analysis was conducted by Borojeny Afzali Loftolah, Albatineh H Ahmed, Dehkordi Hasanpour Ali, Gheshlagh Ghanei Reza (2020) to assess the Incidence of Pressure Ulcers and its Associations in Different Wards of the Hospital. The results showed that the pooled estimate of the incidence rate of pressure ulcer was 12% (95% CI: 10-14). The incidence rates of the pressure ulcers of the first, second, third, and fourth stages were 45% (95% CI: 34-56), 45% (95% CI: 34-56), 4% (95% CI: 3-5), and 4% (95% CI: 2-6), respectively. The highest incidence of pressure ulcers was observed among inpatients in orthopedic surgery ward.^[6]

V. CONCLUSION

A bedsore, pressure sore or a decubitus ulcer is a localized gangrenous portion of tissue due to poor blood supply causing defective nutrition of that area. The present study showed the assessment of risk factors of development of bedsore among lower segment fracture patient. The study revealed that the Braden scale scoring interpretation among the participants 0(0%) has not risk, 10(16.66%) has mild risk, 30(50%) has moderate risk, 17(28.33%) has severe risk and 3(5%) has very severe risk. We want to highlight the potential need to assess the risk factors for development of bedsore among lower segment fracture patient. After assessment of risk factors the probable causes and level of bedsore was identified.

Recommendations:

- The study can be conducted among staff nurse.
- A similar study can be undertaken in different target population.
- A similar study may be replicated on a large sample; thereby findings can be generalized for a large population.
- A descriptive study can be carried out to assess the level of knowledge regarding assessment of risk factors for development of bedsore.

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