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FACTOR ASSOCIATED WITH THE RISK OF PRESSURE SORES IN SOUTH TANGERANG CITY

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ABSTRACT

Hospitals are obliged to provide quality health services according to the standards that have been applied. The most frequent occurrence in patients of inpatient units is decubitus ulcers. Pressure sores are localized wounds to the skin or tissue that usually occur on protruding bones, pressure sores are caused by pressure and combined with prsessure. This study is to determine whether there is a relationship between mobilization factors, nutritional factors, and awareness level factors on the incidence of pressure sores at South Tangerang City Hospital. This study was a case-control study using a retrospective case sample of 30 patients with pressure sores and a control case sample of 30 patients without pressure sores. Samples were taken in the surgical inpatient unit and Intensive Care Unit (ICU). The instruments used were the Mini Nutritional Assesment (MNA) questionnaire and the Glasgow Coma Scala (GCS) questionnaire. This study found that significant factors asspciated with an increased risk of prsessure sores were physical mobility (p-value=0.017), nutritional status (p-value=0.009), and awareness of pressure sores (p-value=0.002). Nurses should be aware of these factors to prevent the risk of decubitus ulcers among patients with long-term hospitalization.

Keywords: Pressure ulcer, Factors associated, Hospitalization

Introduction

Hospitals have an obligation as a provider of quality health services in accordance with the standards that have been applied and can be reached by the entire community. Hospitals as health services that have the aim of providing health services to the community individually and completely and there are inpatient services in accordance with law number 33 of 2009 (Ilmi et al., 2021). Hospitals as a place for providing overall health services provide outpatient, inpatient, and emergency care (Museum & Fossil, 2019). A common occurrence found in bed rest patients in inpatient units with a high incidence rate is pressure ulcers or pressure sores (Primalia & Hudiyawati, 2020).

Pressure sores can reduce quality of life globally, they can lead to rapid mortality in some patients and they are costly with an estimated cost of 1.4-2.1 billion dollars per year in the UK and they are a major problem for healthcare organizations. In the US, pressure sores are a health care burden with approximately 1-3 million people experiencing pressure sores and 60,000 patients die each year from complications of pressure sores (Saghaleini et al., 2018). After research in several countries stated that the largest prevalence among other countries was at a level of 32.4% in the

Netherlands while 3.4% in Germany, and in the UK there are 290,000 nursing home residents so that around 58,000 pressure sores occur in this population (Denis Anthony et al., 2019). According to the Ministry of Health 2018, the prevalence of pressure sores in Indonesia is 33.3%, which is the highest rate compared to Southeast Asian countries ranging from 2.1-31.3% (Krisnawati, 2022). Epidemiology varies based on several places of incident rate 0.4 - 38% in acute care units, long-term care units range from 2.2% - 23.9%, and in home care facilities range from 0% - 7% (Mizan et al., 2019).

According to The National Pressure Ulcer Advisory Panel (NPUAP) pressure ulcers are damage to the skin or soft tissue in the lower layer or above the protruding bone, these wounds appear on intact skin or open wounds occur due to frequent or prolonged pressure and frequent friction (Edsberg et al., 2018). Pressure ulcers are wounds that occur due to prolonged pressure positions that will experience tissue weakness or damage (Mervis & Phillips, 2019). Pressure sores are also referred to as side effects in inpatient care due to constant pressure caused by limited mobility (Walther, 2022). According to research (Yuliati & Munte, 2022) states that patients aged >60 years have a risk of pressure sores 22.3 times compared to patients aged <60 years. Elderly patients are more susceptible to decubitus two-thirds of decubitus patients occur at the age of >70 years (Hafizh et al., 2022). The classification of old age according to the Ministry of Health is the early elderly 46-55 years, the late elderly 56-56 years, and the elderly > 65 years (Hakim, 2020).

According to (Novitasari, 2018), there are several main factors that influence the occurrence of pressure sores, namely mobility factors, factors that change the level of consciousness, nutritional factors. Pressure sores can result in decreased quality of life, high costs for health care, and a significant increase in morbidity and mortality (Mervis & Phillips, 2019). The quality goal of the hospital service quality indicator is that patients do not experience pressure sores at 0% (Krisnawati, 2022). Cases of hospitalized patients in 2018-2022 amounted to 140,490 patients, patients suffering from decubitus in 2018-2022 were 107 patients. According to data taken from the medical records of the South Tangerang City Hospital, the room that has the occurrence of pressure sores is the Intensive Care Unit (ICU) and according to the preliminary study that the surgical inpatient room experiences bed rest for a long period of time. Therefore, this study was conducted in this room.

Methods

This study used a quantitative test using a restrospective study method. This study was conducted on inpatients who were in the surgical inpatient room and intensive care unit (ICU) of South Tangerang City Hospital. Total sampling was 60 respondents divided into 30 affected by pressure sores and 30 not affected by pressure sores. The instruments used were Mini Nutrition Assessment (MNA) and Glassgow Coma Scale (GCS). Data collection process

The research data collection process used a questionnaire directly. The form of analysis used in this study is descriptive analysis (mean, standard deviation, percentage and frequency) and Chi-square analysis. This study has obtained ethical approval from the Ethics Committee of Esa Unggul University (0922-08.054 /DPKE-KEP/FINAL-EA/UEU/VIII/2022).

Results

1. Characteristic of Respondents

Present your findings in a logical order. Use the appropriate table or illustration. Likewise, the readability and accuracy of the statistical test calculations. Presentation of tables or figures is in the results section (not attached).

Table 1. Characteristics of Respondents

Variabel	N (%)	Rerata (SD)
Jenis Kelamin		
Laki-laki	35 (58.3%)	
Perempuan	25 (41.7%)	
Usia (tahun)		63.3 (9.9)
Merokok		
Ya	25 (41.7%)	
Tidak	35 (58.3%)	
Lama Rawat (hari)		6.1 (2.8)
Mobilisasi		
Terbatas ditempat tidur	38 (63.3)	
Mampu bangun dari tempat tidur	19 (31.7)	
Dapat bepergian keluar rumah	3 (5)	
Status Nutrisi		
Malnutrisi	21 (35)	
Beresiko malnutrisi	23 (38.3)	
Gizi normal	16 (26.7)	
Tingkat kesadaran		
Kompos mentis	21 (35)	
Apatis	13 (21.7)	
Delirium	13 (21.7)	
Samnolen	9 (15)	
Koma	4 (6.7)	

Descriptive analysis, N= total respondents, %= percentage, SD= Standard Deviation Based on Table 1, the majority of respondents in this study were male (46.7%), average age 63 years, smoking (41.7%), length of stay 6 days, limited mobilization in bed (63.3%), at risk of malnutrition (38.3) and decreased consciousness (65%).

2. Factors associated with pressure sore risk

Table 2: Factors associated with pressure sore incidence (N=60)

Variabel	Chi-square	*p-value*
Mobilisasi		
Terbatas ditempat tidur Mampu bangun dari tempat tidur Dapat bepergian keluar rumah	5.718	0.017*
Status Nutrisi		
Malnutrisi Beresiko malnutrisi Gizi normal	9.314	0.009*
Tingkat kesadaran		
Kompos mentis Apatis Delirium Samnolen Koma	14.82	0.002*

Chi-square, * *p-value* < *0.05*

Based on Table 2, this study found that significant factors associated with an increased risk of pressure sores were physical mobility (p-value = 0.017), nutritional status (p-value = 0.009), and awareness of pressure sores (p-value = 0.002).

Discussion

Respondents found during the observation where the wound is still in the early stages of the score value 3 means that the length x width of 1.0cm2 there is no exudate and the wound base is closed for a score value of 7 means that the length x width of 8.0 cm2 there is no exudate and the tissue type is closed. This is in accordance with the theory (Kottner et al., 2019) if there is redness (erythema) but not pale, in localized areas it usually appears above the protruding bone, dark skin does not look dark but different from the surrounding color, in areas that experience stage 1 pressure sores and feel pain, hard, warmer than the surrounding skin.

In gender demographics, the male pressure sore group was 14 respondents (46.7%) and the female gender was 16 people (53.3%). This is the same as other studies say (Studi et al., 2017) patients with pressure sores were mostly female 25 respondents (57%) in the male sex as many as 19 respondents (43%). According to theory (Rizema, 2015) menopause in women results in a

decrease in estrogen hormone levels where the hormone functions to maintain the thickness of the skin epidermis so that the skin becomes prone to ulceration. Based on the results of the research questionnaire in the field, it was found that the dominant pressure sores occurred in female patients.

In demographics with the age of respondents in the pressure sore group, the age of those who experienced pressure sores at a minimum age of 49 years and a maximum age of 86 years with an average value of 63.30 and a std.deviation of 9.900. Based on the results of the research questionnaire in the field, it was found that the average patient who experienced pressure sores in the average age range of 63 years was in accordance with the theory presented (Yuliati & Munte, 2022) which states that patients aged> 60 years have a risk of pressure sores of 22.3 times Elderly patients have a high risk of pressure sores because skin and tissue changes will occur making the skin less tolerant of pressure and friction.

Based on the results of the research questionnaire in the field, it was found that on average in patients with a range of 6 days of length of stay, the cause of the length of stay in the surgical inpatient room and ICU was due to several factors such as complications or infection of the operating wound and the type of disease suffered by the patient and, the observation results that as many as 9 patients had pressure sores with a length of stay of up to 16 days. Whereas in patients who do not have pressure sores the length of care is dominant for 1-3 days. The results of this study are reinforced by the theory (Purwanto, 2016) which says that the longer the pressure is applied, it can cause damage to skin integrity such as pressure sores.

In demographics with pressure sores group with a history of not smoking as many as 10 patients (33.3%) and a history of smoking 20 patients (66.7%). The results of this study are reinforced by the theory (Scemons & Elston, 2015) that tobacco use or smoking results in a higher incidence of pressure sores and occurs in a long time for healing.

Based on the results of statistical tests, it shows that there is a significant relationship between mobility factors and the incidence of pressure sores. Based on the results of statistical tests carried out with Chi-Square is 5.718 and Asymp.Sig = 0.017 so it can be said that statistically there is a significant relationship between mobility and the incidence of pressure sores. In line with the theory (Erlina, 2020) that the factor that influences the occurrence of decubitus pressure sores is immobilization when patients have limited movement, they will experience a higher occurrence of decubitus pressure sores.

Based on the results of statistical tests showed that there was a significant relationship between nutritional factors and the incidence of pressure sores. Based on the results of statistical tests conducted with Chi-Square is 9.314 and Asymp.Sig = 0.009 so it can be said that statistically there is a significant relationship between nutritional factors and the incidence of pressure sores. In line with the theory (Potter et al., 2013) that patients who experience poor nutrition often experience muscle atrophy where the tissue that functions as a cushion on the bone becomes less

and malnutrition as a second cause of excessive pressure in etiology, pathogenesis, and non-healing decubitus.

Based on the results of statistical tests showed that there was a significant relationship between the level of awareness factor and the incidence of pressure sores. Based on the results of statistical tests carried out with Chi-Square is 14.829 and Asymp.Sig = 0.002 so it can be said that statistically there is a significant relationship between the level of awareness factor and the incidence of pressure sores. This is in accordance with the theory (Potter et al., 2013) which states that pressure sores are damage to anatomical structures and normal skin function due to external pressure and a decrease in the level of consciousness.

The discussion is written clearly and meets the scientific aspects of merit (elements of what/ how/why and what else). Do not repeat the data in the research results section. This section describes precisely and argumentatively the results of research with relevant theories and previous findings. Emphasize new and important aspects of this research. Discuss the implications of the findings, their limitations, and link observations with other relevant research.

Conclusion

Factors associated with pressure sore risk are mobility, level of consciousness, and nutritional status. Health workers should facilitate physical activity and improve patient nutrition during hospitalization to prevent the incidence of pressure sores.

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Conflict of Interest

All the names involved in this research participated actively.

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