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Prevalence of Pressure Ulcer and Associated Factors among Home Health Care Patients at King Abdullah Medical City, Makkah Al-Mukarramah, Saudi Arabia, a 2022-Cross-Sectional Study

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Abstract

Pressure ulcers (PU), are the degradation of skin and underlying tissue in localized areas, most often the sacrum.Aim: To determine the prevalence of PU in home health care patients and associated risk factors to improve the related care processes.Methods: Cross-sectional study was conducted for one month. doctors and nurses trained and visited HHC patientsThe team inspected the patients' skin from head to toe. The PU site was identified on the data collection sheet using NPUAP classification system and Braden Scale Score.Results: 175 patients from Home Health Care patients at King Abdullah Medical City in Makkah, with a mean of age 69.55±14.9, were included. 20 patients (11.4

Index terms—

1 I. INTRODUCTION

Pressure ulcers (PU) are the destruction of skin and underlying tissue of localized areas usually present in a bony prominence. [1] Pressure ulcer locations differ; The most common site of ulcers is acquired while the patient is lying in bed; sacrum, trochanters, heels, and feet; [2,3] The leading cause of PU is applying pressure externally for an extended period. The main risk factor for PU is immobility. [4] Patients with comorbidities are associated with high-risk for developing PU. [2] Studies showed that old age, morbid obese, dehydration, are risk for getting PU. [5] II.

2 AIM OF WORK

This study sought to determine the prevalence of PU in home healthcare patients and associated risk factors to improve the related care processes.

3 III. . METHODS

4 Study design

A Cross-sectional study

5 London Journal of Medical and Health Research

Using an online sample size calculator from www.roasoft.com.The sample size was 174, setting a confidence level (Cl) of 95% and a sampling error of 5%.

6 Sample technique

By reviewing the patients' data recorded in Home Health Care (HHC) department at KAMC, each patient was coded by number starting from the number (1, 2, 3) and so on. Then, using a stratified sampling technique, patients were divided according to their living areas West, East, North, and South. Randomly forty-four patients were chosen from each area using the online website Research Randomizer®.

7 Data collection tools

The data collection sheet was designed in English with a cover letter coded by number to ensure confidentiality, and the consent paper signed by patients or their caregivers. These were linked to the patient's name and MRN in a separate identification log sheet which will be kept in a safe, locked place.

Based on the literature review, the authors developed a data collection sheet that contains three major parts; the first one is about patient demographic data, the Second part describes possible factors associated with bed sores, and the third part is validating instruments, including Braden scale and Pressure ulcer staging scale.

8 Study procedure

A cross-sectional study was conducted over one month after obtaining KAMC Intuitional Review Board approval. Every patient was chosen randomly to be visited within one month of the scheduled visit to HHC patients. Patients or their caregivers signed the consent form during the HHC visit.

The data collection team included doctors and nurses that visit HHC patients, trained to use the data collection tool. Before conducting the study, an educational session on the NPUAP classification system and Braden Scale score was given to the team that visit home health care patients. The team inspected the patients' skin from head to toe when visiting. The PU site was identified on the data collection sheet by drawing a circle over the relevant area in the body figure.

At the end of the visiting day, the primary investigator collected the data collection sheets and kept them secure.

9 Statistical Analysis Plan

SPSS software was used for statistical analysis. In addition, a statistician was recruited for the statistical analysis of this study.

10 Ethical part & confidentiality

? Ethical approval was sought from KAMC IRB.

? The patients were included in the study after signing the informed consent form. ? If vulnerable groups could not decide, consent was taken from the next of kin.

? All information remains confidential and not be accessed except for scientific research.

? Acknowledgments for the team, helpers, and facilitators indicating their role in the research process.

11 Conflict of Interest, Incentive, and Payment

The research participants did not receive any payments, reimbursement of expenses, or any

12 :

The factors associated with PU prevalence were age (P=0.015) and gender (P= 0.019). However, living area and weight did not significantly affect PU prevalence (P>0.05)

13 V. DISCUSSION

Bedsores, also called ulcers, are areas of localized pressure injury to the skin and surrounding tissue. [6] PU causes ischemia, necrobiosis, and tissue necrosis; This approach leads to painful and sluggish pressure ulcer healing. [7] Pressure ulcers are a major issue in hospitals, homes, and communities. The development of a pressure ulcer is complex and multidimensional. Pressure ulcers provide an additional co-morbid risk in critically sick physiologically challenged patients. sacrum was the most often afflicted location, accounting for 44% of all cases, followed by the buttocks (15%), the heel (15%), and the trochanter (4%). Moreover, the prevalence rate of first, second, third, and fourth-stage pressure ulcers was 45%, 4%, and 4%, respectively. [11] The majority of patients were at Minimal risk (37.1%) or Mild risk (33.7%) of PU, 14.9% of patients were at Moderate risk of PU, while 9.7% of patients were at high risk of PU, and 4.6% were at Very high risk of PU. Sprigle et al. (2020) investigated the risk of pressure ulcers (PU) in people with mobility disabilities. They discovered that while the vast majority of people were at high risk of PU, roughly 25% were at moderate or low risk. [12] Our findings indicated that the factors associated with PU prevalence were age (P=0.015) and gender (P= 0.019). However, living area and weight had not a significant effect on PU prevalence (P>0.05), mobility (P= 0.009), and Braden risk (P=0.002). However, our results showed that co-morbidities such as peripheral neuropathy or DM did not significantly (P> 0.05) associate with PU prevalence among the included patients. In a similar

study, Akram et al. (2022) showed that bed sores were associated with age, socioeconomic status, educational status, length, immobility, chronic kidney disease, obesity, diabetes mellitus, and history of hypertension, stroke, or heart disease. [13] Arba et al. (2020) discovered that patients older than fifty-three years, residing in rural areas, and being bedridden were variables related to bedsore development in Southern Ethiopia. [14] In addition, Liao et al. (2019) reported that pressure sores in acute ischemic stroke patients were associated with advanced age, immobility, being unmarried, low hemoglobin, significant neurological and a history of diabetes mellitus, and peripheral vascular disease. [15]

14 VI. CONCLUSION

The practice guidelines-based the prevalence of pressure ulcers during hospitalization remains high (80%). [8] The frequency of acquired pressure ulcers was highest in patients in the intensive care unit (ICU), ranging from 14% to 42% of all hospitalized patients. Pressure ulcers are also linked to fatality. Several studies found that elderly people with pressure ulcers died at a rate of up to 60% within a year of being discharged from the hospital. [9] This study sought to evaluate the prevalence of PU in home healthcare patients and associated risk factors to improve the related care processes. One hundred seventy-five patients from Home Health Care patients at King Abdullah Medical City in Makkah Al-Mukarramah, with a mean of age 69.55±14.9, were included in this study. The majority of patients were older than 60 years old. 55.4% of patients were females. Out of 175 patients, 20 (11.4%) had bed sores (pressure ulcers). Out of 20 patients who had PU, 4 (20%) had an infection, and 1 (5%) had an Infection& osteomyelitis. The most common site of PU was Buttocks and sacral (50%), followed by left trochanter (25%), Right trochanter (15%), and heel (20%), then posterior upper thigh, shoulder, Left posterior leg and ankle (1%). The majority of patients had Un-stageable PU (12), 10 patients had the second stage of PU, 6 patients had the third stage, and 5 patients had first-stage PU.

Similarly, Sifir et al. (2022) investigated the prevalence of bed sores and the variables that contribute to them in rehabilitated patients in medical and surgical wards at Yekatit 12 Hospital Medical College. A total of 7 bedsores were found in 226 patients, with a frequency rate of 3.0, suggesting a low prevalence. [10] In addition, a systematic review by Borojeny et al. (2020) showed that the incidence rate of pressure ulcers was 12% [11] . In our study, the most common site of PU was Buttocks and sacral (50%), followed by the left trochanter (25%), Right trochanter (15%), and heel (20%), then the posterior upper thigh, shoulder, Left posterior leg and ankle (1%). The majority of patients had Un-stageable PU (12), 10 patients had the second stage of PU, 6 patients had the third stage, and 5 patients had first-stage PU. Borojeny et al. (2020) reported that the prevalence. However, place of residence, weight,

Figure 1:

ABSTRACT

Introduction: Pressure ulcers (PU), are the degradation of skin and underlying tissue in localized areas, most often the sacrum. was identified on the data collection sheet using NPUAP classification system and Braden Scale Score.
Results: 175 patients from Home Health Care patients at King Abdullah Medical City in Makkah, with a mean of age 69.55±14.9, were included. 20 patients (11.4%) had PU. The most common site of PU was Buttocks and sacral (50%), least were Left posterior leg and ankle (1%). According to The Braden Scale risk, the majority of patients were at Minimal risk (37.1%) or Mild risk (33.7%) of PU, while 9.7% of patients were at high risk of PU, and 4.6% were at Very high risk of PU. The factors associated with PU prevalence were age (P= 0.015), gender (P= 0.019), mobility (P= 0.009), and Braden scale risk (P= 0.002). However, living area, weight, and presence of co-morbidities such as peripheral neuropathy or DM did not significantly (P> 0.05) associate with PU prevalence among the included patients.

Aim: To determine the prevalence of PU in home health care patients and associated risk factors to improve the related care processes.Methods: cross-sectional study was conducted for one month. doctors and nurses trained and visited HHC patientsThe team inspected the patients' skin from head to toe. The PU site

Buttocks and sacrum were the most prevalent PU locations. Age, gender, mobility, and Braden risk significantly influence PU prevalence.

1

Study Population
Inclusion criteria
? All home health care Patients at KAMC
? Adult Males and females
? All nationalities
Exclusion Criteria
? Pediatric patients
? Patient with medical device-related pressure injuries
Sample size
The total number of HHC patients at KAMC is 315 patients.

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Figure 3: Table 1 :

2

N=20 %

Left posterior leg and ankle (1%). The majority of patients had Un-stageable PU(12), and 10 patients had the second stage PU, 6 patients had a third stage, 5 patients had first-stage PU. London Journal of Medical and Health Research 15 33 © 2023 Great] Britain Journals Press Volume 23 | Issue 8 | Compilation 1.0 Prevalence of Pressure Ulcer and Associated Factors among Home Health Care Patients at King Abdullah Medical City, Makkah Al-Mukarramah, Saudi Arabia, 2022 a Cross Sectional Study

Figure 4: Table 2 :

3

Frequency	Number	Percent
Minimal risk	65	37.1
Mild	59	33.7
Moderate	26	14.9
High risk	17	9.7
Very high risk	8	4.6

The majority of patients were at Minimal risk (37.1%) or Mild risk (33.7%) of PU, 14.9% of patients were at Moderate risk of PU, while 9.7% of patients were at high risk of PU, and 4.6% we at Very high risk of PU.

Figure 5: Table 3

4

	Presence of PU	
		P Value
No		Yes

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Figure 6: Table 4 :

5

	Presence of Bed sores	
		P value
No		Yes

Figure 7: Table 5 :

6

shows that mobility (P= 0.009) and Braden risk (P=0.002) were significant factors associated
with PU among the studied patients

Figure 8: Table 6

6

	Presence of Bed sores	
		P value
	No	Yes
Peripheral	22	3
		0.923
Neuropathy	88.0%	12.0%
	92	9
DM		0.221
	91.1%	8.9%

Figure 9: Table 6 :

6

shows that the presence of co-morbidities such as peripheral neuropathy or DM did not significantly (P> 0.05) associate with PU prevalence among the included patients.

Figure 10: Table 6

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