Frequency of Risk Factors of Pressure Ulcers in Geriatric Population in Lahore, Pakistan

Ali Asad Naeem1, Sana Batool2, Komal Fatima3 and Rabeea Riaz4
1Department of Physiotherapy, CMH Lahore Medical College & Institute of Dentistry, Lahore, Pakistan
2University institute of physical therapy, University of Lahore, Lahore Pakistan
3Cosme Studio Clinic, Lahore, Pakistan
4Wapda Teaching Hospital Complex, Lahore, Pakistan

Key Words: Pressure Ulcers, Geriatrics, Bed Ridden, Prevalence, Risk Factors

How to Cite:
Naeem, A. A., Batool, S., Fatima, K., & Riaz, R. (2020). Frequency of Risk Factors of Pressure Ulcers in Geriatric Population in Lahore, Pakistan. THE THERAPIST (Journal of Therapies &amp; Rehabilitation Sciences), 1(1). https://doi.org/10.54393/tt.v1i1.4

Corresponding author:
Sana Batool,
University institute of physical therapy,
University of Lahore, Lahore Pakistan
sana.fizza@gmail.com

ABSTRACT
The prevalence of pressure ulcers has turned out to be across the board, particularly in critically ill bedridden patients, especially in the geriatrics population. Along with their condition, poor level of nutrition, increased, moisture, low mobility and constant shear friction forces acting upon their body lead to the development of pressure ulcers. Lack of proper care from nursing staff, as well as attendants, will contribute more to this. Hence, the aim of this study was to find the prevalence of pressure ulcers in older bedridden patients. Objective: To find out the prevalence of pressure ulcers in the geriatric population in Lahore, Pakistan. Method: A cross-sectional survey was conducted. The examination was completed between April and July on 180 patients. A cross-sectional survey was done to gather data through a questionnaire to discover the incidence of pressure ulcers in the geriatric population in Lahore. Collected data was statistically entered by SPSS ver. (21.0) software. Results: The study included 180 subjects. Out of 277 subjects, 46 (25.67%) had severe risk, 17 (9.4%) had high risk, 25 (13.9%) had moderate risk, 30 (16.7) had and finally, 62 (34.4) had no risk of developing pressure sores. Conclusion: The study concluded that increased moisture low mobility poor nutrition and continued friction and shear forces lead to the development of pressure ulcers.

INTRODUCTION
A pressure ulcer occurs by supported pressure applied to the skin and underlying tissue, as well as grinding applied to both surfaces. All lesion caused by sustained pressure applied to the skin or fundamental tissue leads to progressive degeneration [1]. People with spinal cord injuries are more prone to develop pressure ulcers, which are a misjudged issue in medical care [1,2]. As soon as immobility-induced pressure on bony prominences begins, pressure ulcers will form.

Prevalence figures serve as quality indicators, which can aid in the evaluation of institutional care policies [3]. Pressure ulcers are an issue in acute care facilities as well as in other countries. International health care publications report incidence rates as high as 11% when it comes to hospitalized patients, as well as prevalence rates of 3% to 22% [4]. There were 280,000 pressure ulcers reported in hospital stays in 1993, and 11 years later there were 455,000 ulcers reported [5]. However, prU development could hurt a person's physical, emotional, social, and mental health [6].

The prevalence and occurrence of pressure ulcers in long-term care facilities have been studied in a few Brazilian epidemiological studies [7,8] and one hospital [9]. The incidence rates are higher in critical care patients (incidence 5.2%-20% and prevalence 14.4%) [10]. Patients prone to developing pressure ulcers caused by their long hospital stays were studied, along with their diseases and nutritional status, to determine which were at greatest risk for mortality. Patients who died developed pressure ulcers after their long hospital stays [11].

The Annual prevalence research conducted in Victoria, Australia, in-between 2003 and 2006 revealed pressure ulcers had a prevalence rate of 17.6% to 26.5% overall and 14.9% to 47.7% [12]. The reason of this study it’s to acknowledge the

The Therapist Vol.1 Issue 1 Jan-Jun 2020
Copyright © 2020, The Therapist, Published by Crosslinks International Publishers
This work is licensed under a Creative Common Attribute 4.0 International License
probability of obtaining Pressure Ulcers in geriatric Subjects with hip fractures [13]. Many professionals also agree that it may be impossible to eradicate PrUs in the terminally ill because of the numerous risk factors and comorbid conditions [14].

There is evidence that the sequence of events resulting in pressure ulcers may be initiated after only a few hours of immobility-induced pressure [15]. The empirical data supporting the validity of PU risk assessment scale scores is weak, according to Langemo, Diane K, et al., and the resultant scores contain various amounts of measurement error. There was no evidence of a clinical impact from the use of these scales. When such tools are used in clinical practice, these difficulties should be thoroughly considered. Because PU risk is so closely linked to overall health and the severity of sickness, it's debatable whether completing additional standardized PU risk measures is truly necessary. The use of PU risk scales as a quality measure for care activities is illogical [17].

According to Catherine VanGilder et al., aggressive preventative care is critical for the prevention of pressure ulcers and may necessitate significant, but frequently scarce, resources. Management may make educated decisions about where to focus resources and prevention efforts by knowing which units within a facility have the greatest pressure ulcer incidence [16].

METHODS
A cross-sectional study was conducted. Its sample size was calculated by formula \( n = \left( Z^2 * p (1- p) \right)/e^2 \). The calculated sample size was 180. Data was collected from different intensive care units of hospitals in Lahore in a duration of 3 months. Inclusion criteria was recent deliveries, age more than 30, ladies having more than 2 babies and exclusion criteria was any recent trauma, radiculopathy, or any systemic diseases. The data was an analysis by using SPSS (Statistics Package for Social Sciences). The significant level was set as 0.05.

RESULTS
The minimum percentage of moisture is 1.00 and maximum percentage is 4.00 and mean and the standard deviation is 2.4333 ± 1.05756.
The minimum percentage of activity is 1.00 and the maximum percentage is 4.00 and the mean and the standard deviation is 2.4667 ± 1.13551.
The minimum percentage of Friction and shear is 1.00 and maximum percentage is 4.00 and mean and standard deviation is 1.9944 ± 0.83564.
The minimum percentage of Interpretation is 1.00 and maximum percentage is 5.00 and mean and standard deviation is 3.2500 ± 1.61652.

| Valid     | \( Z^2 \) * \( p (1- p) \) | \( e \)²    |
|-----------|-----------------------------|-------------|
|           | \( (Z^2 * p (1- p))/e^2 \) |             |

Table 1: Distribution of patients according to moisture exposure

The table 1 shows out of 180, 46 were constantly moist, 42 were moist, 60 were occasionally moist and 32 were rarely moist. The table 2 shows that out of 180 subjects, 72 were bedfast, 82 were able to walk occasionally and 26 were able to walk frequently.

| Valid     | Frequency | Percent |
|-----------|-----------|---------|
| Bedfast   | 63        | 35.0    |
| walk occasionally | 87   | 48.3    |
| walks frequently   | 30    | 16.7    |
| Total               | 180    | 100.0   |

Table 2: Distribution of patients according to mobility
Friction and shear

| Problems                  | Frequency | Percent |
|---------------------------|-----------|---------|
| Problems                  | 63        | 35.0    |
| potential problems        | 55        | 30.6    |
| no apparent problem       | 62        | 34.4    |
| Total                     | 180       | 100.0   |

Table 3: Distribution of patients according to problems of Friction and shear

The table 3 shows that out of 180 subjects 63 had friction and shear problems, 55 had positional friction and shear problems and 62 had no apparent problems.

| Interpretations | Frequency | Percent |
|-----------------|-----------|---------|
| Severe          | 46        | 25.6    |
| High            | 17        | 9.4     |
| Moderate        | 25        | 13.9    |
| Mild            | 30        | 16.7    |
| None            | 62        | 34.4    |
| Total           | 180       | 100.0   |

Table 4: Interpretations

So according to the Braden scale from left to right, it has risk scaling from 23 to 6, 23 being no risk and 6 has the severe risk. So according to the research conducted 46 subjects lie on 6 to 9 which is severe. 17 subjects lie on 10 to 12 which is high risk. 25 subjects lie on 13 and 14 which is moderate risk. 30 subjects lie on 15, 16, 17, 18 which is a mild risk and finally 62 subjects lie on 19 to 23 which is no risk.

DISCUSSION

As indicated by my investigation if the body has expanded dampness, less versatility, and expanded grating and shear compels these variables will build up the expanded odds of pressure ulcers. Expanded dampness is because of urinary incontinence, fecal incontinence and expanded sweat will prompt such conditions on the body which increments bacterial development and later on contamination. In my investigations, I have seen expanded contact and shear powers are available in light of the fact that low level of versatility and no action by the subject. The patients who are laid up can't change sides every now and again and because of the carelessness of medical caretakers and orderly will prompt regular pressure on hard prominences and the territories which are as often as possible reached with a base of mattress prompts pressure ulcer.

A low Braden Scale score, age >70 years, and a diagnosis of diabetes, according to Slowikowski GC, 2010 and Gerri C, et al., 2020, may speak to clinically significant pressure ulcer risk factors in the surgical concentrated care population, and patients with these components may benefit from more forceful preventive care [18,19]. Furthermore, additional psychometric testing is required before the Surgical ICU Pressure Ulcer Risk Assessment scale can be recommended for use in examination or practice settings. My assessment revealed that moisture and touch are the primary causes of pressure ulcers.

Lindgren M, et al., 2005, dissected the hazard variables of pressure ulcers in patients experiencing surgery (2005) in this exploration he watched 41 quiet who develop pressure ulcers in the observational period [20]. Those patient which develop pressure ulcers were elderly patient which had less weight and had low BMI levels. In the observational period, more ladies develop pressure ulcers than men. In my exploration, I have watched that most subjects had less sustenance which prompts extraordinary pressure reduction and because of poor nourishment and low mobility circulation is also compromised.
CONCLUSIONS:

The prevalence of pressure ulcers in the geriatric population was determined to be 25.6.7 percent severe risk, 9.4 percent high risk, 13.9 percent moderate risk, 16.7 percent had, and lastly, 34.4 percent had no risk of getting pressure ulcers.

REFERENCES

1. Houwing RH. Pressure Ulcer or Decubitus: clinical and etiological aspects: Utrecht University; 2007. doi: 10.1111/j.1540-9740.2007.06357.x.
2. Thein H-H, Gomes T, Krahn MD and Wodchis WP. Health status utilities and the impact of pressure ulcers in long-term care residents in Ontario. Quality of life research. 2010;19(1):81-9. doi: 10.1007/s11136-009-9563-2.
3. Bours GJ, Halfens RJ, Candel MJ, Grol RT and Abu-Saad HH. A pressure ulcer audit and feedback project across multi-hospital settings in the Netherlands. International Journal for Quality in Health Care. 2004;16(3):211-8. doi: 10.1093/intqhc/mzh034
4. Keller PB, Wille J, van Ramshorst B and van der Werken C. Pressure ulcers in intensive carepatients: a review of risks and prevention. Intensive care medicine. 2002;28(10):1379-88. doi: 10.1007/s00134-002-1487-z.
5. Russo CA, Elixhauser A. Hospitalizations in the Elderly Population, 2003: Statistical Brief #6. 2006 May. In: Healthcare Cost and Utilization Project (HCUP) Statistical Briefs [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2006. doi: 10.1590/s0104-11692007000500012.
6. Spilsbury K, Nelson A, Cullum N, Iglesias C, Nixon J and Mason S. Pressure ulcers and their treatment and effects on quality of life: hospital inpatient perspectives. Journal of advanced nursing. 2007;57(5):494-504. doi: 10.1111/j.1365-2648.2006.04140.x.
7. Souza DMSTd and Santos VLCdG. Risk factors for pressure ulcer development in institutionalized elderly. Revista latino-americana de enfermagem. 2007;15(5):958-64. doi: 10.1590/s0104-11692007000500012.
8. Chacon JMF, Blanes L, Hochman B and Ferreira LM. Prevalence of pressure ulcers among the elderly living in long-stay institutions in São Paulo. Sao Paulo Medical Journal. 2009;127(4):211-5. doi: 10.1590/s1516-3180200900000006.
9. Brunet Rogenski NM and Conceição de Gouveia Santos VL. Estudo sobre a incidência de úlceras por pressão em um hospital universitário. Revista latino-americana de enfermagem. 2005;13(4). doi: 10.1590/s0104-11692005000400003.
10. De Laat E, Schoonhoven L, Pickpers P, Verbeek A and van Achterberg T. Epidemiology, risk and prevention of pressure ulcers in critically ill patients: a literature review. Journal of wound care. 2006;15(6):269. doi: 10.12968/jowc.2006.15.6.26920.
11. Gallagher P, Barry P, Hartigan I, McCluskey P, O'Connor K and O'Connor M. Prevalence of pressure ulcers in three university teaching hospitals in Ireland. Journal of Tissue Viability. 2008;17(4):103-9. doi: 10.1016/j.jtv.2007.12.001.
12. Elliott R, McKinley S and Fox V. Quality improvement program to reduce the prevalence of pressure ulcers in an intensive care unit. American journal of critical care. 2008;17(4):328-34. doi: 10.1111/j.1478-5153.2007.00249.x.
13. Baumgarten M, Margolis D, Berlin JA, Strom BL, Garino J and Kagan SH et al. Risk factors for pressure ulcers among elderly hip fracture patients. Wound repair and regeneration. 2003;11(2):96-103. doi: 10.1046/j.1524-475x.2003.11204.x.
14. Naylor W. Part 1: Symptom control in the management of fungating wounds. World Wide Wounds. 2002.
15. Defloor T, De Bacquer D and Grypdonck MH. The effect of various combinations of turning and pressure reducing devices on the incidence of pressure ulcers. International journal of nursing studies. 2005;42(1):37-46. doi: 10.1016/j.ijnurstu.2004.05.013.
16. Catherine VanGilder M, Amlung S, Harrison P and Meyer S. Results of the 2008–2009 International Pressure Ulcer Prevalence™ Survey and a 3-year, acute care, unit-specific analysis. Ostomy Wound Management. 2009;55(11):39-45. doi: 10.1186/s12912-021-00616-0.

17. Black JM, Edsberg LE, Baharestani MM, Langemo D, Goldberg M and McNichol L et al. Pressure ulcers: avoidable or unavoidable? Results of the national pressure ulcer advisory panel consensus conference. Ostomy-Wound Management. 2011;57(2):24 doi: 10.1542/peds.2006- 0206.

18. Slowikowski GC and Funk M. Factors associated with pressure ulcers in patients in a surgical intensive care unit. J Wound Ostomy Continence Nurs. 2010 Nov-Dec;37(6):619-26. doi: 10.1097/WON.0b013e3181f90a34.

19. Gerri C, McCarthy A, Alanis-Lobato G, Demtschenko A, Bruneau A and Loubersac S et al. Initiation of a conserved trophectoderm program in human, cow and mouse embryos. Nature. 2020 Nov;587(7834):443-447. doi: 10.1038/s41586-020-2759-x.

20. Lindgren and Margareta et al. Pressure ulcer risk factors in patients undergoing surgery. Journal of advanced nursing 50.6 (2005):605-612.