

Original Research Article

Epidemiological and Clinical Characteristics of Patients with Pressure Ulcers in Butembo, Democratic Republic of the Congo

ABSTRACT

Background: Pressure Ulcers constitute a real public health problem. The objective of this study was to determine the epidemiological and clinical characteristics of patients with pressure ulcers in Butembo.

Methods: This was a prospective descriptive cross-sectional study from September 2016 to February 2017, carried out at the Matanda hospital and Cliniques Universitaires du Graben in Butembo, Province of North-Kivu, Democratic Republic of the Congo.

Results: Among 762 patients hospitalized in the surgery department of Matanda hospital and Cliniques Universitaires du Graben, 33 had pressure ulcers i.e a prevalence of 4.3%. Among them, there were 19 males and 14 females with mean age of 46.2 years. The mean time of appearance of pressure ulcers was 26.6 days; 75.8% of pressure ulcers were developed in hospital. 19 cases (57.6%) had second-degree pressure ulcers; sacral localization was the most recorded with 51.5% or 17 cases. 9 patients out of 33 or 27.3% who had pressure ulcers had a traumatic neurological deficit as well as those with disabling medical conditions.

Conclusion: Pressure ulcers remain a real public health problem in our community. They concern any patient, regardless of age or gender. Special attention should be paid to patients with conditions that lead to prolonged bed rest.

Key words: pressure ulcers, epidemiological, clinical, Butembo.

INTRODUCTION

The pressure ulcer or bedsore is a spontaneously developing sore at the level of the support areas in hospitalized and bedridden patients, most often elderly, with a deteriorated general state and reduced mobility and sensitivity. Its impact on quality of life is important because it causes pain and discomfort and restricts patients' daily activities [1].

Even if the quality of life of the patient suffering from pressure ulcers and the psycho-social consequences of the pressure ulcer are poorly known today, the pressure ulcer must be considered as a heavy and debilitating disease for the patient [2].

Literature reports that the prevalence and incidence of pressure ulcer vary from one country to another one [3]. In the United States, the prevalence reported is 3 to 14% in institutions hosting acute patients [4]. In Canada in 2007, during a 6-month pilot phase in an acute care facility, the prevalence of pressure ulcers was 15.2% [5]. In Ethiopia, a study conducted in December 2014 on factors associated with bedsore in hospitalized patients found a prevalence of 16.8% [6]. In a study conducted in Teaching hospitals in Nigeria in 2013, a prevalence of 3.22% was reported [7]. This situation is not far from what is found in South Africa where a prevalence ranging from 2.7 to 42.7% reported in orthopedic services by Shorney in 2014 [8]. In Kenya, the prevalence of pressure ulcers varies between 4.2% and 68% respectively in internal medicine and surgery [9].

Up to now, there is no available data on pressure ulcers in the Democratic Republic of the Congo (DRC) whereas healthcare providers are facing this problem in their practice. Therefore, this study aims to determine the epidemiological and clinical characteristics of patients with pressure ulcers in Butembo, Eastern DRC.

MATERIAL AND METHODS

1. Site of study

This study was carried out at the Matanda hospital and Cliniques Universitaires du Graben in Butembo, Province of North-Kivu, Democratic Republic of the Congo.

2. Population

Our study population consisted of 762 patients hospitalized in the department of Surgery, in two health structures in the City: Matanda Hospital and Cliniques Universitaires du Graben. The choice of these health institutions was based on the criterion of attendance of patients but also on the fact that they are taken as teaching hospitals. The sample consisted of 33 patients with pressure ulcers. The information was collected in the different registers of the surgery department and patients' health files.

3. Methods

This was a prospective descriptive cross-sectional study covering a period from September 2016 to February 2017. Were included in our study; all patients of all ages admitted to hospital for pressure ulcers and those who presented pressure ulcers during their hospitalization in our study period. The following socio-demographic parameters were studied: age; sex; profession; place of occurrence. Clinical parameters included:

- Causal illness :
 - a. Traumatic neurological deficits [paraplegia on vertebromedullary traumatism, Horse tail syndrome]
 - b. Disabling Medical Conditions [Diabetic Coma, Hepatic Cirrhosis, Heart Failure, Encephalitis, Kahler's Disease, Lyell's Syndrome, Hypocalcemia]
 - c. Prolonged bed rest for musculoskeletal disorders [femur fracture, leg amputation for diabetic gangrene, myositis of the thigh]
 - d. Disabling surgical conditions [peritonitis, bowel obstruction, thoracic tumor mass]

e. Neuropsychiatric disorders [Psychosis, Alzheimer's]

- Degree of pressure ulcer
- Number of injuries
- Time of occurrence
- Appearance and Location(s) of the pressure ulcer.

Data were processed using EPI INFO software, version 3.5.4.

Ethical consideration

Respect for anonymity in collecting information about patients and the overall presentation of our results has made our study exempt from any ethical problem.

RESULTS

During our study period, 762 patients were hospitalized in the surgical ward, and among them 33 had pressure sores, a prevalence of 4.3%.

1. Sociodemographic characteristics of patients with pressure ulcers

The male sex predominated with 57.6% (a sex ratio of 1.36); the average age was 46.2 years with a minimum of 7 years and a maximum of 86 years; the farming profession was mostly concerned first with 51.6% of all recorded cases; 75.8% of pressure ulcers had developed during hospitalization (Table 1).

2. Basic medical conditions, appearance and time of onset of pressure ulcers

The basic diseases presented by these patients were dominated by neurologic and traumatic neuropathy with 9 cases out of 33 patients (27.3% of pressure ulcers), and those with disabling medical conditions (27.3%). The second degree was more represented (57.6%) regardless of the number of pressure ulcers in the same patient. Pressure ulcers appeared within 21 to 40 days in 17 patients out of 33 (51.5%) with a mean time of occurrence of 26.6 days; the minimum being 2 days and the maximum 120 days. 25 out of 33 patients (75.8%) had clean ulcers (Table 2).

3. Number and location of pressure ulcers

The pressure ulcers had a unique location in 15 cases (45.5%) and multiple in 18 cases (54.5%). In single locations, gluteal and sacral pressure ulcers predominated (30.3% and 27.3%, respectively), whereas in multiple locations, trochanteric pressure ulcers were the most common (15.2%). Overall, the sacral location was found in 15 patients (45.5%), the gluteal location in 13 patients (39.4%), trochanteric in 11 patients (33.3%) and lumbar in two patients (6.1%) (Table 3).

DISCUSSION

1. Prevalence of pressure ulcers

This study showed that the prevalence of pressure ulcers was 4.3%, for 33 patients with pressure ulcers out of a total of 762 patients hospitalized in surgery have been recorded. This prevalence is higher than the one found by the International Prevalence Measurement of Care Problems (IPMCP) which found 3% among hospitalized patients in Swiss hospitals with stage 2, 3 and 4 pressure ulcers and 2.6% in social medical institutions [10]. Our prevalence is lower than that found by Defloor in a study of the prevalence of pressure ulcers in Belgian hospitals in 2008, which is 12.1% [11]. Our result could be explained by the fact that we worked in only two structures and this for a very short period compared to IPMCP and Defloor.

2. Sociodemographic characteristics of patients with pressure ulcers

Our study found that the male sex was predominant (57.6%) compared to the female sex (42.4%) with a sex ratio of 1.36 in favor of the male sex. This predominance is found in the 2015 Bredesen study in Norway. He found 44.1% of women and 55.8% of men with a sex ratio F / M of 0.8 [12]. In Egypt, Samah found, in 2013, a distribution of 56% of men and 44% of women with pressure ulcers [13].

In our study, the mean age was 46.2 years with a minimum of 7 years and a maximum of 86 years. In China, Jiang, in a multicenter study of the incidence, risk factors for pressure ulcers in hospitalized patients in 2014, found that 42% of patients were aged between 40 and 69 years [14]. But our prevalence is lower than that of Briggs in the United Kingdom in 2013, which estimated the average age at 65.8 years [16]. This result would be explained by the fact that the studies of other authors focused on the elderly while ours included any patient carrying pressure ulcer whatever his age.

3. Basic medical conditions, appearance and time of onset of pressure ulcers

The basic medical conditions that caused pressure ulcers were dominated by a neurological and traumatic deficit with 9 out of 33 patients (27.3% of pressure ulcers) and those with disabling medical conditions (Table 2). The second degree was more represented (57.6%) regardless the number of bedsores in the same patient. pressure ulcers occurred in 21 to 40 days in 17 out of 33 patients, or 51.5% with an average of 26.6 days, the minimum being 2 days and the maximum 120 days. This interval would be very concerned because the majority of our patients had pathologies that exposed them more to remain motionless, a factor at the base of the rapid development of pressure ulcers.

4. Location, number and degree and pressure ulcers

Sacral localization was most concerned, followed by gluteal and trochanteric localization (Table 3). These results are similar to those of Jiang et al. who found that the 2nd degree was in first position with 35.82%, followed by the 1st degree with 28.68%, then came the third (12.68%) and fourth degree (12.99%) [14]. Similarly, in Japan, the predominant location found in the Igarashi study in 2013 was the sacral location with 60.5%, followed by the trochanteric with 15.7%, then the heel with 9.7 % [16]. Stevenson et al. They also reported that the sacral location was the most common (33.9%) followed by the heel with 25.9% and the buttock of 27.3% [17].

CONCLUSION

Pressure ulcers remain a real public health problem in our community. They concern any patient, whatever the age or sex. The pathologies that favor the occurrence of pressure sores are dominated by traumatic neurological deficit and by disabling medical conditions. The most relevant localization is the sacral region followed by the gluteal and trochanteric regions. Multiple locations are found in about one-quarter of patients. Particular attention should be paid to patients with pathologies that cause prolonged bed rest.

Table 1. Distribution of patients with pressure ulcers by socio-demographic characteristics

Variables	Number, N=33	%
Sex		
Male	19	57.5
Female	14	42.5
Age class (in years)		
≤20	6	18.2
21 - 40	7	21.2
41 - 60	9	27.3
61 - 80	9	27.3
81 - 100	2	6.1
Profession		
Farmer	17	51.6
Without function	7	21.2
Pupils / teacher	6	18.1
Shopkeeper / Taximan / Electrician	3	9.1
Location of occurrence		
In the course of hospitalization	25	75.8
At home	8	24.2

Table 2. Distribution of patients with pressure ulcers by basic medical condition, degree, time of occurrence and aspect of pressure ulcers

Variables	Number, N=33	%
Basic medical conditions		
Traumatic Neurological Deficits	9	27.3
Disabling medical conditions	9	27.3
Extended bed rest for musculoskeletal	8	24.2

condition		
Disabling surgical conditions	4	12.1
Neuropsychiatric disorders	3	9.1
Degree		
First	6	18.2
Second	19	57.6
Third	5	15.1
Fourth	3	9.1
Time of occurrence of pressure ulcers(in days)		
≤20	12	36.4
21 - 40	17	51.5
41 - 60	2	6.1
61 - 80	1	3.0
81-100	0	0
101 - 120	1	3.0
Aspect of the pressure ulcer		
Clean	25	75.8
Necrotic	8	24.2

164

165

166

167 **Table 3. Distribution of pressure ulcers according to their number and their location**

Localisations (region)	Number of pressure ulcers			
	Unique	Multiple	TOTAL	
	Number, n=15	Number, n=18	Number, N=33	%
Unique				
Gluteal	5	5	10	30.3
Sacral	9	0	9	27.3
Trochanteric	1	5	6	18.1
Multiple				
Sacral + trochanteric	0	3	3	9.1
Gluteal + Trochanterian	0	2	2	6.1
Sacral + lumbar	0	2	2	6.1
Sacral + buttocks	0	1	1	1.0

168

REFERENCES

1. Van Durme T, Bouzegta N, Defloor T, Gobert M. Pressure Ulcer Mapping: Mesure de la prévalence des escarres dans les hôpitaux belges. IV^e congrès mondial des infirmières et infirmiers francophones du SIDIIEF. Marrakech, Maroc ; du 07/06/2009 au 11/06/2009.
2. Conférence de consensus. Prévention et traitement des escarres de l'adulte et du sujet âgé. Hôpital Européen Georges-Pompidou – Paris ; Jeudi 15 et vendredi 16 novembre 2001. Accès:<http://nosobase.chu-lyon.fr/recommandations/aphp/2001-escarres-court-APHP.pdf>
3. Langemo DK, Black J & the National Pressure Ulcer Advisory Panel. Pressure Ulcers in Individuals Receiving Palliative Care: A National Pressure Ulcer Advisory Panel White Paper. *Advances in Skin & Wound Care* 2010;23(2),59-72.
4. Langemo DK, Black J & the National Pressure Ulcer Advisory Panel. Pressure Ulcers in Individuals Receiving Palliative Care: A National Pressure Ulcer Advisory Panel White Paper. *Advances in Skin & Wound Care* 2010;23(2),59-72. Accès:<http://www.ncbi.nlm.nih.gov/pubmed/17874603>.
5. Orsted HL, Rosenthal S. Pressure ulcer awareness program pilot. Overview of pilot project. *Wound Care Canada* 2007;5(1):40-6.
6. Gedamu H, Hailu M, Amano A. Prevalence and Associated Factors of Pressure Ulcer among hospitalized patients at Felegehiwot Referral Hospital, Bahir Dar, Ethiopia. *Advances in Nursing* 2014; Article ID 767358. Accès: <http://dx.doi.org/10.1155/2014/767358>
7. Adegoke B, Odole A, Akindele L, Akinpelu A. Pressure ulcer prevalence among hospitalized adults in university hospitals in South-west Nigeria. *Wound Practice and research* 2013; 21(3):128-34.
8. Shorney RH. Pressure ulcers through the eyes of the -Department of Health (UK). Pressure Ulcer Summit, 2014.
9. Nthumba P. PRESSURE ULCERS in referral hospital in Kenya. Accès:<http://paacs.net/wp-content/uploads/downloads/2013/03/chapter-17-pressure-ulcers.pdf>
10. International Prevalence Measurement of Care Problem. (2011). 20092010 At a glance. Accès:[http://www.lpzum.eu/media/text/home/Brochure_LPZ_20092010_At%20a%20glance_21x21_v09%20\(2\).pdf](http://www.lpzum.eu/media/text/home/Brochure_LPZ_20092010_At%20a%20glance_21x21_v09%20(2).pdf)

- 202 11. Defloor T, Bouzegta N, Beeckman D, Vanderwee K, Gobert M, Durme V. Etude
203 de la prévalence des escarres dans les hôpitaux belges. *Projet Pressure UlcerMapping*,
204 2008,103p.
- 205 12. Doley J, Mallampalli A, Sandberg M. Nutrition management for the patient requiring
206 prolonged mechanical ventilation. *Nutrition in Clinical Practice* 2011 Jun;26(3):232-
207 41.
- 208 13. Samah SS. Predicting pressure ulcer risk: a study of the predictive validity of the
209 Braden scale at different health care settings. *Journal of American Science* 2013;
210 9(6):515-523
- 211 14. Jiang Q, Li X, Qu X, The incidence, risk factors and characteristics of pressure ulcers
212 in hospitalized patients in China. *International Journal of Clinical and Experimental*
213 *Pathology* 2014; 7(5):2587-2594.
- 214 15. Briggs M, Collinson M, Wilson L, Rivers C, McGinnis E, Dealey C *et al*, The
215 prevalence of pain at pressure areas and pressure ulcers in hospitalised patients. *BMC*
216 *Nursing* 2013; 12(1):19.
- 217 16. Igarashi A, Yamamoto-Mitani N, Gushiken Y, Takai Y, Tanaka M, Okamoto Y.
218 Prevalence and incidence of pressure ulcers in Japanese long-term-care hospitals.
219 *Archives of Gerontology and Geriatrics* 2013; 56:220-6.
- 220 17. Stevenson R, Collinson M, Henderson V, Wilson L, Dealey C, McGinnis E. *et al*. The
221 prevalence of pressure ulcers in community settings: An observational study.
222 *International Journal of Nursing Studies* 2013;50:1550-7.
- 223