

# Actual Pressure Ulcer Awareness of a Person in Charge of Pressure Ulcer Management

Ji-Hoon Choi<sup>1</sup>, Cheong-Hwan Lim<sup>2</sup>, Sung-Hun Jeong<sup>3</sup>

<sup>1</sup>Doctor, <sup>2</sup>Professor, Dept. of Health Care, Hanseo University, 46, Hanseo 1-ro, Haemi-myeon, Seosan-si, Chungcheongnam-do, Rep. of Korea, <sup>3</sup>Doctor, Dept. of Radiology, Seosan Jungang General Hospital, Suseoksanupro, Chungcheongnam-do, Rep. of Korea

## Abstract

**Background/Objectives:** The aging population due to increases of average life expectancy elderly population is perceived a serious problem in the medical sector. The objective of this study was to determine the degree of awareness of pressure ulcer in nurses in charge of pressure ulcer management in medical institutions and to provide basic data for setting guidelines.

**Method/Statistical Analysis:** A survey and analysis were conducted on 40 nurses in charge of nursing care at a nursing hospital. The survey tool was developed by quoting a pressure ulcer prevention management tool developed by Moore and Price. The survey was conducted in a face-to-face manner, explaining the purpose of the study directly. A total of five questions are recognized as pressure ulcer management, and the reliability is Cronbach's  $\alpha = .785$  and consisted of a five-point Likert scale. The general characteristics are gender, age, work experience, Education, and hospital size of nursing hospital, with total five questions and reliability being Cronbach's  $\alpha = .654$ .

**Findings:** "How much do you know about the pressure ulcer?" showed the highest 'Yes' of 30%. In the pressure ulcer management knowledge section, "Do you know about changing your bed posture at least every two hours?" showed the highest 'very yes' of 82.5%. "Do you know the standard of management when a pressure ulcer occurs?" showed 45.0% of 'Yes' and "Do you know the factors involved in the pressure ulcer?" with 47.5%. "Do you know about the relationship between humidity and temperature among the factors involved in the pressure ulcer?" showed 57.5% (23).

**Improvements/Applications:** The results of this study show the degree of pressure ulcer management by nursing hospital nurses in charge of the pressure ulcer management. Knowledge of the pressure ulcers was high, but low awareness of the factors involved in the management standards emerged. It is expected that this data will be used as basic data for setting up education and management measures for the management of the pressure ulcers in the future.

**Keywords:** Pressure ulcer, pressure ulcer management awareness, nurse, nursing hospital, pressure ulcer prevention.

---

## Corresponding Author:

**Cheong-Hwan Lim**

Professor, Dept. of Health Care, Hanseo University,  
46, Hanseo 1-ro, Haemi-myeon, Seosan-si,  
Chungcheongnam-do, 31962, Rep. of Korea  
e-mail: lch116@hanseo.ac.kr

## Introduction

With increase of the average life expectancy, the number of senior citizens in Korea is also increased. Currently, there are 7,684,919 senior citizens aged 65 years or older in Korea, accounting for 14.9% of the total population<sup>[1]</sup>. Older adults are at higher risk of

developing pressure ulcer even under small external pressures<sup>[2]</sup>, with a high percentage of muscles, having chronic diseases, and physical conditions such as sensory disorders. Baths are defined as ulcers caused by chronic or repetitive pressure on bone projections or soft tissues, causing problems in blood circulation locally due to a reduction in oxygen supply and nutrient delivery to the area<sup>[3]</sup>. With respect to the aging population, the number of elderly patients with various diseases in medical institutions is increasing and the number of high-risk patients with pressure ulcers is expected to increase. Among various health factors of the elderly admitted to the nursing home, pressure ulcer is a frequent condition. Proper treatment after the onset of pressure ulcer is important. Its prevention is very important<sup>[4]</sup>. Older adults are often impaired by cognitive function and lack of mobility, resulting in lower self-power. In addition, their skin's sensory function is degraded, making them vulnerable to the development of pressure ulcer<sup>[5]</sup>.

In the study by Lee Min-jeong (2010), 45 percent of the hospitalized patients who had pressure ulcers, 10 percent of the elderly nursing homes, and 10 percent of the households in general hospitals were found to have pressure ulcers. In addition, the time of the menopause was 47% within four days of hospitalization<sup>[6]</sup> and Lim Kyung-choon (1995) on average took 5.6 days after hospitalization<sup>[7]</sup>. In order to prevent pressure ulcers, systematic and active nursing care should be implemented immediately after hospitalization. Although all medical personnel are required to participate in the management of the pressure ulcer, especially since the nurse plays a central role in the management of the pressure ulcer, keeping an eye on the risk factors of the pressure ulcer and performing the pressure ulcer care directly<sup>[8,9]</sup>.

Much of the care of patients is now managed by medical institutions, away from caregivers. Various pressure ulcer nursing method and their effects have been presented in various research or educational literature. However, in actual medical institutions, basic physical change method, number of times, dressing method according to the level of the pressure ulcer, and materials used vary by department. Sometimes nursing care is being performed without knowing the theoretically exact basis. Thus, it is important to understand the care knowledge of pressure ulcer management personnel so that their knowledge of the pressure ulcer management personnel can be improved and accurate management can be implemented.

Most of preceding studies have tried to verify the effectiveness of preventive interventions such as change of body position or massage. However, studies on nursing knowledge or mediating nursing by nurses in charge of pressure ulcer managements are insufficient<sup>[10]</sup>. If the importance of pressure ulcer therapy is recognized by a clinical nurse, pressure ulcer care could be improved<sup>[11]</sup>. However, even if nurses in nursing hospitals have low knowledge of it, their active attitude toward it is an important predictor in preventing pressure ulcer<sup>[12]</sup>. To increase the performance for the prevention of pressure ulcer, knowledge of pressure ulcer prevention and management consciousness of pressure ulcer nursing are very important. Thus, it is important to increase the performance of pressure ulcer nursing.

Therefore, the objective of this study was to determine the degree of awareness of pressure ulcer in nurses in charge of pressure ulcer management in medical institutions and to provide basic data for setting guidelines.

## Method

**Subject:** The research targets were selected three nursing hospitals in U-city, Korea and conducted a survey on the recognition of pressure ulcer management by a nursing care nurse who directly manages patients at a nursing home. A total of 60 copies of questionnaire were distributed and 45 (66.6%) were recovered. After excluding 5 with insufficient response, a total of 40 were finally analyzed.

**Method:** The questionnaire used in this study was approved by the Institutional Bioethics Committee (MJH 2019-03-003-006). It was a questionnaire developed by researchers with modifications to the pressure ulcer prevention performance tool developed by Moore and Price. After researchers directly explained survey questions to nursing care nurses at nursing homes, they received consent from study subjects and conducted the survey.

A total of five questions were recognized for the management of pressure ulcers in this study. Its reliability had Cronbach's  $\alpha$  of .785. It was evaluated with a five-point Likert scale. General characteristics were gender, age, work experience, academic background, and the hospital bed size of the medical institution, with a total of five questions for reliability. Its Cronbach's  $\alpha$  was .654.

Data analysis was performed using IBM SPSS Statistics, Version 23 to correlate with frequency analysis. Statistical significance was within the range of 95% ( $p < 0.05$ ).

### Result

**Population and Social Characteristics of the Subjects:** [Table 1] The subjects of this study were a total of 40 bedside nurses in three nursing hospitals in U city. Nurses in charge of bed sores were examined in 20 patients (50%) in hospital A, 10 patients (25%) in hospital B and 10 patients (25%) in hospital C. The most common age group was 45-54 years old with 16 patients (40%), and 35-44 years old with 14 patients (35%). In terms of educational background, university graduates had the most 32 students (80%). Work experience was 15 (37.5%) in 10-19 years and 20-29 years respectively.

**Management awareness of bedsores:** [Table 2] The management recognition level of the person in charge of the pressure ulcer management is analyzed.

In response to “How much do you know about the pressure ulcer?” showed 52.5% (21 person) say “very yes” and 30.0% (12 person) say “yes”.

“Do you know about changing your bed posture at least every two hours?” showed 82.5% (33 person) for “Very yes”, 17.5% (7 person) for “Yes”

“Do you know the standard of management when a pressure ulcer occurs?” showed 45 percent (18 person), 42.5% (17 person) for “Very yes” and 12.5 percent in “ordinary” (5 person).

“Do you know the factors involved in the pressure ulcer?” showed 47.5 percent of “very yes” (19 person), 35.0% of “yes” (14 person), and 17.5% of “ordinary” (7 person).

“Do you know about the relationship between humidity and temperature among the factors involved in the pressure ulcer?” showed 57.5% in “yes” (23 person), 17.5% in “very yes”(7 person), 22.5 percent in “ordinary” (9 person) and 2.5 percent in “no” (1 person).

**Correlation between Demographic Sociology and Pressure Recognition:** [Table 3] The correlation between demographic characteristics and pressure ulcer management awareness showed a static correlation of “Do you know about changing bed rest every two hours at least?” ( $r = .348, p < .05$ ). “Do you know the

standard of management when a pressure ulcer occurs?” showed a static correlation ( $r = .357, p < .05$ ). “How much do you know about the pressure ulcer?” showed a static correlation ( $r = .406, p < .05$ ). “Do you know about the relationship between humidity and temperature among the factors involved in the pressure ulcer?” showed a static correlation ( $r = .418, p < .05$ ).

**Table 1. Demographic characteristics (N = 40)**

Section		N	%
Hospital	A Hospital	20	50.0
	B Hospital	10	25.0
	C Hospital	10	25.0
Age	under 25 years of age	1	2.5
	25 years old-34 years old	7	17.5
	35 years old-44 years old	14	35.0
	45 years old-54 years old	16	40.0
	55 years old or older	2	5.0
Education	College graduate	3	7.5
	University Graduation	32	80.0
	Master’s degree	5	12.5
Work experience	5 years or less	1	2.5
	5 to 9 years	7	17.5
	10 to 19 years	15	37.5
	20 to 29 years	15	37.5
	More than 30 years	2	5.0

**Table 2. Management awareness of pressure ulcers (N = 40)**

Section		N	%
How much do you know about the pressure ulcer?	Very yes	21	52.5
	Yes	12	30.0
	Ordinary	6	15.0
	No	1	2.5
	Not at all	0	0
Do you know about changing bed rest every two hours at least?	Very yes	33	82.5
	Yes	7	17.5
	Ordinary	0	0
	No	0	0
	Not at all	0	0
Do you know the standard of management when a pressure ulcer occurs?	Very yes	18	45.5
	Yes	17	42.5
	Ordinary	5	12.5
	No	0	0
	Not at all	0	0

Section		N	%
Do you know the factors involved in the pressure ulcer?	Very yes	19	47.5
	Yes	14	35.0
	Ordinary	7	17.5
	No	0	0
	Not at all	0	0
Do you know about the relationship between humidity and temperature among the factors involved in the pressure ulcer?	Very yes	7	17.5
	Yes	23	57.5
	Ordinary	9	22.5
	No	1	2.5
	Not at all	0	0

**Table 3. Correlation between Demographic Sociology and Cognitive Pressure Recognition**

	a	b	c	d	e	f	g	h
a	1							
b	.890**	1						
c	.343*	.349*	1					
d	.020	.060	.299	1				
e	.068	.019	.348*	.424**	1			
f	.017	0.195	.357*	.614**	.218	1		
g	.011	.151	.406**	.494**	.185	.883**	1	
h	.036	.040	.418**	.275	.216	.433**	.391**	1

\*p<.05, \*\*p<.001, a: Age., b: Work experience., c: Education., d: How much do you know about the pressure ulcer?, e: Do you know about changing bed rest every two hours at least?, f: Do you know the standard of management when a pressure ulcer occurs., g: Do you know the factors involved in the pressure ulcer?, h: Do you know about the relationship between humidity and temperature among the factors involved in the pressure ulcer?

**Discussion**

The purpose of this study was to improve the quality of patient care including bed sores prevention and ultimately improve the quality of nursing care by analyzing the pressure of bed sores in nursing hospital.

In demographic characteristics of study subjects, nurses in charge of patients with pressure sores graduated most from university which showed positive correlation with pressure management awareness. Nurses aged between 20 and 29 years had the most work experience. In this study, the total work experience of more than 10 years was 80.0%, and in the study of Kim Mi-young (2016), 36.2%<sup>[13]</sup> were more than 10 years and 24.9%<sup>[14]</sup> were found to be working experience. It is highly confident because of its experience and understanding of patient care, and it will be able to show self-efficacy and stable nursing as shown by Kim Yeon-jung's<sup>[15]</sup>. The ages were 45-54 years old, and as the results of the

study by Roh Kyung-min and Myung-sook Lee (2016) showed that the higher the age, the more career, and the lower the turnover to other organizations<sup>[16]</sup>. It is considered to be.

Demographic characteristics and bed sore management awareness showed a positive correlation. The higher the results and position of Song Sung Sook (2017), the higher the quality of nursing services and the analysis of bed sore nursing was high due to the nature of being dedicated to nursing work with attention and responsibility from the manager's position<sup>[17]</sup>.

In the management awareness of nurses with pressure sores, Kwon Eun-sook (2005) showed that there was a significant difference in the management awareness of nursing home care by the characteristics of the subjects depending on the place of work and interest in bedsores<sup>[18]</sup>. There were significant differences according to the environment<sup>[19]</sup>. The necessity of regular education was consistent with the results of the questionnaire according to the management guidelines and programs for patients with pressure sores in medical institutions. Therefore, it is necessary to develop qualitative efforts for nursing care by developing programs to increase education and nursing capacity.

**Conclusion**

In this study, the conclusions of the study on the condition of bed sore management awareness of bed sore management were as follows.

First. In terms of demographic characteristics, the age of nurses in charge of patients with pressure ulcers was the highest in 45 to 54 years, and the academic background was the highest in college. Nurses showed the most work experience between 20 and 29.

Second, the level of awareness of the pressure ulcer management was high, but low awareness of the factors involved in the management standards appeared.

Third, academic background showed awareness of pressure ulcer management and static correlation.

As such, the results of this study are expected to be used as basic data for the establishment of education and management guidelines, by analyzing the effects of the pressure ulcer management by the person in charge of the pressure ulcer management at the nursing home by identifying the degree of the pressure ulcer management.

**Ethical Clearance:** Not required

**Source of Funding:** Self

**Conflict of Interest:** Nil

### References

1. National Statistical Office, Major Population Indicators (Sex Ratio, Population Growth Rate, Population Structure, Dependence, etc.). 2019.
2. K. Kroger, W. Niebel, L. Maier, J. Stausberg, V. Gerber and A. Schwarzkopf. "Prevalence of pressure ulcers in hospitalized patients in Germany" Federal Statistical office Gerontology, 2009; 55(3):281-287.
3. NPUAP and EPUAP, 2009
4. Jo EH, Kim HS, Lee SJ. A Study on the Knowledge of Nurses, Performance and Preventive Practice of Pressure Ulcer among Nurses in Long-Term Care Hospital, Journal of the Korea Contents Association. 2015;15(8):356-365.
5. Raju T. "Prevention and management of Pressure ulcers" Missouri Medicine, 2007 Mar;104(1):52-57.
6. Lee. MJ. A Study on Risk Factors of Pressure Sores in the Elderly Hospitalized by Geriatric Hospital[Master Thesis]. Department of Nursing, Graduate School, University of Ewha Womans; 2010.
7. Lim. KC. Effect of posture change, including 30-degree positioning, on prevention of pressure sores[Master Thesis]. University of Seoul National; 1996.
8. Hibbs. P. The economics of pressure ulcer prevention Action against pressure sores. Nursing Times, 1998 Aug; 1(3):32-38.
9. Kim JH. A study on bed sore knowledge nursing practice of intensive care unit nurse and the occurrence of bed sore[Master Thesis]. University of Kwandong; 2005.
10. Choi EH. Effect of 30-degree Position Change on Bed Sores in Intensive Care Units. [Master Thesis]. University of Chung-ang; 1997
11. Yang NY, Moon SY. Perceived Importance, Educational Needs, Knowledge and Performance Concerning Pressure Ulcer Care by Clinical Nurses. Korean Journal of Adult Nursing, 2009;21(1):95-104.
12. Demarré L, Vanderwee K, Defloor T, Verhaeghe S, Schoonhoven L, Beeckman D. Pressure ulcers: knowledge and attitude of nurses and nursing assistants in Belgian nursing homes. Journal of Clinical Nursing, 2012 May;21(9-10):1425-1434.
13. Kim MY. Nurse Turnover Costs: A Medium-sized Hospital Case. Asia-pacific Journal of Multimedia Services Convergent with Art, Humanities, and Sociology. 2016 Aug;6(8):41-49
14. Son MS. Relationships of Nursing Organizational Culture to Nurses' Self-efficacy and Empowerment[Master Thesis]. University of Pusan Catholic; 2012.
15. Kim YJ. Influential factors associated with Nursing Competency of Nurses in Long-term care hospitals[Master Thesis]. University of Kosin; 2017.
16. Noh KM, Yoo MS. Effects of Workplace Spirituality and Organizational Citizenship Behavior on Nursing Performance. Journal of Korean academy of nursing administration, 2016 Mar;22(3):251-259
17. Song SS. Effects of Emotional Intelligence, Communicative Competence, and Self-leadership on Nursing Competence among Nurses[Master Thesis]. University of Gong Ju; 2017.
18. Kwon ES. A study on the hospital nurses' knowledge, perception and performance of pressure ulcer care[Master Thesis]. University of Hanyang; 2005.
19. Jin ES. Knowledge, Performance, and Awareness of Importance on Pressure Ulcer Care Among Nurses at a General Hospital[Master Thesis]. University of Yonsei; 2009.