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## Research Article



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## Knowledge and Attitude of Nursing Students on the Prevention of Pressure Ulcers

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### Abstract

Pressure ulcers (PU) are still a serious complication of immobility and a source of frustration for healthcare providers. Until now, the rate of occurrence and prevalence are alarmingly high. Nurses' knowledge and attitudes play a critical role in prevention of PU. The purpose of this study was to find out the level of knowledge and attitudes of final-year nursing students towards prevention of PU. A quantitative, exploratory cross-sectional design was used with fifty final-year students being recruited at random using a simple random sample technique. The tool had three sections: socio-demographic data of nursing students, PUKAT (Pressure Ulcer Knowledge Assessment Tool), and APuP (Attitudes towards Pressure Ulcers Prevention tool). According to the findings of this study, the average knowledge score of final year nursing students was 48.7% (Mean = 14.85; SD=6.01). Only 18 (36%) nurses got a score of 60% or above on the PUKAT assessment instrument, which is regarded as satisfactory. Though there was a positive attitude prevailed among final year nursing students on prevention of PU, only 44 % of responders (n = 22) attained the satisfactory score. Also, there was a moderate correlation between knowledge and attitude of the nursing students on prevention of PU.

**Keywords:** Knowledge, Attitude, Nursing Students, Prevention, Pressure Ulcers

## Introduction

Pressure ulcers are still the most common complication of long-term hospitalization, especially when there is a lack of nourishment, increased moisture on the skin (e.g., incontinence), extended pressure, and a lack of sensory stimulation<sup>1</sup>. Pressure ulcers raise hospitalization costs, increase patient morbidity and death, and contribute to the spread of infection in hospitals.

Pressure ulcers are caused by a combination of intrinsic and extrinsic variables, with one key extrinsic element being healthcare providers' lack of knowledge and practice (Bliss, 1990). Pressure ulcers are now widely recognized as one of the five most common causes of patient injury and an avoidable patient safety issue. In addition, it's becoming more often used as a measure of the quality of care delivered by health-care institutions<sup>2, 3, 4</sup>. A higher prevalence of pressure ulcers was caused by a lack of or insufficient knowledge and practice, as well as a negative attitude among nurses (Ayello & Meaney, 2003).

Since the twentieth century, pressure ulcers have been recognized as one of the most costly and physically devastating problems. Pressure ulcer pain and discomfort hinder rehabilitation, extend sickness and discharge time, and contribute to disability and mortality. As a result of the increased demand for supplies and nursing hours, health-care prices have skyrocketed<sup>5</sup>. Furthermore, billions of dollars are spent globally on the prevention and treatment of pressure ulcer in patients with long hospital stays<sup>6</sup>. The expense of treating a pressure ulcer is projected to be 2.5 times higher than the cost of preventing one.

According to a review of the literature, nurses' knowledge on prevention of pressure ulcers is lacking, which is reflected in their practices, since they do not follow best practice standards<sup>7</sup>. According to a study conducted in Sweden on nurses' knowledge and application of existing pressure ulcer prevention recommendations, the majority of them had insufficient expertise<sup>8</sup>.

Similarly, a research in a Belgian hospital found that nurses' awareness of pressure ulcer prophylaxis was lacking<sup>9</sup>. Nurses' poor understanding and practice play a substantial role in the increased occurrence of pressure ulcers<sup>10</sup>.

The presence or absence of pressure ulcers has traditionally been recognized a performance indicator of good nursing care and overall patient well-being. As a result, pressure ulcer prevention is a top nursing priority. The capacity to locate or identify vulnerable clients will aid in the prevention of pressure ulcers. Hence, this study was undertaken to assess the knowledge and attitude of final year nursing students, who were undergoing the internship, on the prevention of pressure ulcers. Because the final year students are the prospective full time nurses and their knowledge and attitude towards prevention of pressure ulcers will significantly improve the quality of nursing care.

## Materials and Methods

This study was conducted using a quantitative exploratory cross-sectional design. The participants were selected from two nursing colleges, who were in the final year and undergoing the internship training. Fifty students were randomly selected using simple random sampling technique. The tool consisted for 3 sections including socio – demographic variables of the nursing students, PUKAT (Pressure Ulcer Knowledge Assessment Tool) and APuP (Attitudes towards Pressure Ulcers Prevention tool).

The PUKAT assessment instrument consisted of 26 questions organized into six pressure ulcer prevention domains: (1) etiology and development, (2) classification and observation, (3) nutrition, (4) risk assessment, (5) reduction of pressure and tearing, and (6) reduction of pressure and shearing duration with the maximum score of 26 and 60% as satisfactory score.

The 13 items in the APuP are divided into five domains: (1) personal competency to prevent pressure ulcers, (2) impact of pressure ulcer prevention, (3) impact of pressure ulcers, (4) responsibility for pressure ulcer prevention, and (5) confidence in the effectiveness of prevention (with 1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). The overall score was 52, with a satisfactory mean score of 75%.

The data was collected after the ethical approval from the institutional ethical committee and consent from the participants. The collected data

was analysed using descriptive and inferential statistics.

## Results and Discussion

The sample's average age was  $21.4 \pm 0.91$  years. The majority of the participants (76%) were female and having training in medical, surgical, ICU and orthopaedic departments (36% 26%, 20% and 18%, respectively). Table 1 summarizes the demographic features of the participants. Most of the students received the PU related knowledge from internet other than their nursing curriculum.

**Table 1: Distribution of demographic characteristics of the nursing students**

Demographic characteristics	N	%
<b>Mean age in years with SD</b>	21.4 ± 0.91	
<b>Gender</b>		
Male	12	24
Female	38	76
<b>Type of ward currently working</b>		
Orthopaedic	9	18
Surgical	13	26
ICU	10	20
Medical	18	36
<b>Previous PU knowledge except Nursing Curriculum</b>		
Peer review	8	16
Internet	31	62
External course	11	22

**Table 2: Distribution of knowledge of the nursing students on PU**

Knowledge on PU	%	M/SD	Max. Score
Etiology and development	41.2	2.75/0.89	6
Classification and observation	47.6	2.57/1.02	5
Nutrition	67.5	0.71/0.23	1
Risk assessment	51.4	0.81/0.47	2
Education of the magnitude of pressure and tearing	44.5	3.72/1.19	7
Education of the magnitude of pressure and tearing	46.0	2.19/1.23	7
Reduction of the duration of pressure and shearing	57.6	2.1/0.98	5
Total Knowledge	48.7	14.85/6.01	26

Data analysis of this study (Table 2), revealed that the average knowledge score of the final year nursing students was 48.7 % (Mean = 14.85; SD=6.01). Nutrition was the most effective group domain (67.5%), while etiology and development was the least successful (41.2%) Only 18 (36%) nursing students scored 60% which was considered as the satisfactory score as per PUKAT assessment instrument. Similar study findings were reported by the study by Grešš Halász B et al.,(2021)<sup>11</sup> on nurses' knowledge and attitudes towards prevention of pressure ulcers showed insufficiencies in the knowledge and

attitudes of nurses towards PU prevention. Pressure ulcers are still a preventable problem all over the world. Despite advances in technology and the quick development of preventive techniques, pressure ulcers remain a serious health issue with a high fatality rate. The prevalence of pressure ulcers is a good predictor of quality of nursing care. It appears that nursing students lack adequate knowledge on PU prevention. It is the need of the hour that the nurses should be given frequent educational and practice sessions on PU prevention.

**Table 3: Distribution of attitude of the nursing students on PU**

Attitude towards PU	%	M/SD	Max. Score
1. Personal competency to prevent pressure ulcers	58.7	7.52/2.97	12
2. Impact of pressure ulcer prevention	66.5	7.85/2.87	12
3. Impact of pressure ulcers	63.56	8.08/3.21	12
4. Responsibility of pressure ulcer prevention	69.1	5.53/2.01	8
5. Confidence in the effectiveness of prevention	65.8	5.26/1.91	8
Total Attitude	64.9	25.24/10.93	52

According to the table 3, positive attitudes prevailed among final year nursing students on prevention of PU. However, the mean score was 64.9% (M = 25.24; SD 10.93), which fell short of the 75 percent threshold specified by the APuP instrument. Only 44 percent of responders (n = 22) attained this threshold. The mean results for all five domain groups were between 58 and 69 percent. Few studies show similar findings in which the attitude level of nurses were moderate towards prevention of PU<sup>12, 13, 14</sup>.

According to the correlation coefficient statistics, there was a positive moderate association between knowledge and attitude ( $r = 0.414$ ,  $p = 0.05$ ) among the nursing students about pressure ulcer prevention. Similar study findings were reported in a study by Islam, S., Sae-Sia, W., & Khupantavee, N. (2014)<sup>15</sup> on knowledge, attitude, and practice on pressure ulcer prevention among nurses in Bangladesh. The study findings show

that the knowledge was not related with their attitude ( $r = .14$ ,  $p > .05$ ) on pressure ulcer prevention.

Regarding the demographic characteristics of the final year nursing students, none of the variables had significant association with their level of knowledge as well as attitude. In contrast with the present study, a study by Nuru, N., Zewdu, F., Amsalu, S. et al.,(2015)<sup>12</sup> show that level of education, length of work experience and formal training on prevention of pressure ulcer were found to have significant effect on nurses' knowledge regarding prevention of pressure ulcer. To explore the association, an expanded study may be required. The prevention of pressure ulcers is a promising indicator of the quality of care. Nursing care has a significant impact on the development and prevention of pressure ulcers.

Hence, some of the essential methods to be employed to improve nurses' knowledge and practice related pressure ulcer prevention including in-service training, upgrading courses, and assuring the availability of the necessary facilities and equipment.

## Conclusion

The knowledge of nursing students about how to prevent pressure ulcers was very low, whereas their attitudes were moderate. Between knowledge and attitude, there was a moderately significant relationship. These findings could be attributable to a lack of up-to-date knowledge and proper training in pressure ulcer prevention. Nursing students, in particular, require further continuing education, refresher courses, and training programs on pressure ulcer prevention in order to integrate their knowledge, attitude, and practice.

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