**Knowledge of Pressure Ulcer Prevention Intervention among Nurses of Intensive Care Units at Tertiary Care Hospital, Lahore**

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Abstract

Aim: To assess the knowledge of nurses related to pressure ulcer prevention intervention in intensive care units at tertiary care hospice.

**Background:** In the prevention of pressure ulcer, nurses play an imperative role.

**Design:** A prospective cross-sectional design was used to assess the pressure ulcer prevention knowledge among nurses.

**Methods:** A 10 items questionnaire was adopted to assess nurse’s knowledge those work in intensive care units of tertiary care set up, affianced directly with patient care with different clinical experience.

**Results:** 144 female nurses with different age group and experience, have a low level of knowledge related to pressure ulcer prevention.

**Conclusion:** The results of the current study show that there is a need to improve the knowledge of nurses in intensive care units at the tertiary hospital through education.

***Key Words:*** *Intensive Care Units, knowledge, Pressure Ulcer.*

***Abbreviations:*** *Pressure Ulcer (PU).*

## Introduction

##  Elongate and extensive encumbrance on bony prominences is the cause of localized damage of skin called pressure sore ([Zeb e*t al.*, 2015](#_ENREF_21)). Pressure sore is a mutual and a piercing healthiness disorder of bed bedridden patients ([Uba, Alih, Kever, & Lola, 2015](#_ENREF_17)). All over the world, patients are mediate from pressure ulcer ([Hsu, Tsao, & Sung, 2013](#_ENREF_10)). The first stair of prevention from pressure ulcer is the education of health care providers specially nurses. Awareness among charge nurses indicates a vigorous protagonist in the pervasiveness of pressure ulcer lessening, controlling and preclusion in health care settings ([Levine, Ayello, Zulkowski, & Fogel, 2012](#_ENREF_12)) ([Mohamed & Weheida, 2014](#_ENREF_13)) ([Crumbley & Kane, 2010](#_ENREF_4)).

Where the nurses are trained in pressure ulcer management and risk assessment, there incidence of pressure ulcer is lower in different health care settings ([Andrade *et al.*, 2014](#_ENREF_1)). To enhance the knowledge of nurses and reduce the rate of pressure ulcer among immobilized patients, a significant tool is an educational intervention ([Cox, Roche, & Van Wynen, 2011](#_ENREF_3)). In intensive care units, the prevention of pressure ulcer is the most focused task of nursing care. Across over 5 countries the incidence of pressure ulcer was eighteen percent in different health care setups ([Vanderwee, Clark, Dealey, Gunningberg, & Defloor, 2007](#_ENREF_20)).

Pressure ulcer pieces a domineering role in blowout infection particularly in hospital scenery, upsurge patient injury, death rate and hospitalization. In health care scenery, reduce the number of pressure ulcer is an important component of patient safety goals ([Mohamed & Weheida, 2015](#_ENREF_14)). The expectable price tag of pressure ulcer handling was surpassed eleven billion per annum in the USA ([Gray-Siracusa & Schrier, 2011](#_ENREF_9)). In the prevention of pressure ulcer, nurses play an important role. In clinical sceneries nurses who initial know the sign and symptoms of PU. A health care provider should prearranged instruction for the patient to avoid pressure ([De Meester, Van Bogaert, Clarke, & Bossaert, 2013](#_ENREF_5)).

**Objective**

 To evaluate the knowledge of nurses related to prevention of pressure ulcer in intensive care units at teaching hospital.

**Significance**

 A good tool for conveying information and awareness to the nurses and patient is education ([Bååth, Idvall, Gunningberg, & Hommel, 2014](#_ENREF_2)). Moreover, knowledge regarding pressure ulcer cheap the cost of management, reduce pain ([Smith & Waugh, 2009](#_ENREF_16)). Furthermore, information related to pressure ulcer training, menace assessment, treatment, prevention procedures and documentation are insufficient in nursing care ([Saleh, Qaddumi, & Anthony, 2012](#_ENREF_15)). There was a low level of knowledge, perception of barriers and attitudes of nurses of PU prevention.

**Literature Review**

 In sixteen Belgian health care settings survey was conducted to upgrade nurses’ knowledge related to a pressure ulcer. A cross-sectional multicenter proposal was conducted. During February 2016 to December 2017, an effective and steadfast form used to measure the outcomes. The study outcomes showed that pressure ulcer’s knowledge level was low ([De Meyer, Verhaeghe, Van Hecke, & Beeckman, 2019](#_ENREF_6)).

Another study was accompanied in Maiduguri Teaching Hospital Nigeria to the extent the knowledge of prevention of pressure ulcer. A cross-sectional descriptive was planned to measure the knowledge of nurses; a self-developed and authentic questionnaire instrument was applied and data was collected through it. The outcomes presented low-slung level of practice, attitudes and knowledge of nurses associated to pressure ulcer prevention ([Uba *et al.,* 2015](#_ENREF_17)).

# Methodology

 A prospective cross-sectional design was used amongst nurses of intensive care units to assess the knowledge of prevention of pressure ulcer of tertiary care hospital in Lahore. 144 Staff nurses who are currently working in intensive care units. 10 items questionnaire was adopt to assess the nurse’s knowledge those work in high risk units of tertiary care set up, affianced directly with patient care. This study tool pre tested before intervene on staff nurses.

# Ethical Consideration

 The questionnaire was filled after taking the consent from participants.

# Results

**Demographic Statistics**

**Table 1**

***Demographic Data of Staff Nurses***

|  |  |
| --- | --- |
| **Variables** |  **N (%)** |
| Gender | Females | 144 (100) |
| Age | 20-25 years26-30 years31-35 years36-40 years | 68 (47.2)62 (43.1)12 (8.3) 2 (1.4) |
| Experience | 1- 5 years6-10 years11-15 years16-20 years | 124 (86.1)15 (10.4)1 (0.7) 4 (2.8) |
| Qualification | Diploma Nursing 4 Year BSN 2 year BSN(post RN) | 139 (96.5)3 (2.1)2 (1.4) |

**Interpretation**

*Above table reveals that all 144 candidates were females. 68 participants were in group of 20 years and above,62 participants were age in group 26 years and above, 12 participants were in group of 30 years and above and only 02 nurses were 34 years and above. 124 nurses had five year experience, 15 nurses were having experience six years and greater, only five nurses had more than ten years clinical experience. 139 nurses were only diploma receptacle; three nurses were 4 year Generic nursing and only two nurses were two year post RN.*

**Table 2**

***Frequency Table of Questionnaire***

|  |  |  |
| --- | --- | --- |
|  **Statement** | **Correct N (%)** | **Incorrect N (%)** |
| 1. Does a lack of oxygen cause pressure ulcers?
2. Does moisture cause pressure ulcers?
3. Are obese patients having low risk to develop pressure ulcer than thin patients?
4. Does pressure increase when the skin sticks to the surface?
5. Does friction increase when the skin sticks to the surface?
6. Does shearing increase when the skin sticks to the surface**?**
7. Cansoap increase the risk of pressure ulcers because of dehydration?
8. Does moisture cause pressure ulcers?
9. Is poor nutrition and age devouring no effect on tissue tolerance when the patient has a normal weight?
10. Is there no association between pressure ulcer menace and age?
 |  4%54%74%58%65%65%93%60%45%50% | 140%90%70%86%79%79%51%84%99%94% |

**Interpretation**

*Above table discloses that on questions, causes of pressure ulcer development only (4%) nurses know about that lack of oxygen cause pressure ulcer whereas (140%) nurses not know about this question. In 2nd question, (54%) nurses tell about that moisture is cause of pressure ulcer while (90%) not know. In question of mostly thin patients develop pressure ulcer than the obese (74%) discern about whereas (70%) not discern. (58%) nurses know about that pressure ulcer increases when the skin expose to the surface while (86%) not know about this question. In the statement friction is increase when the skin expose to the surface (65%) participant know about this question but (79%) not know about this question. Shearing increase when the patient’s skin expose to the surface (65%) know about while (79%) not know. In statement soap can increase the pressure ulcer (93%) know about whereas (51%) not know. Moisture cause pressure (60%) nurses know about while (84%) not know. Poor nutrition and age has effect on soft tissue lenience (45%) nurses know about this question, (99%) not know. In last question, there is no association among pressure ulcer peril and age (50%) know about this question but (94%) not know.*

**Table 3**

***Statistical Analyses for Knowledge Score among Nurses***

|  |
| --- |
| **One-Sample Statistics** |
|  | N | Mean | Std. Deviation | Std. Error Mean |
| Nurses total Knowledge before education | 144 | 5.73 | 1.488 | .124 |

|  |
| --- |
| **One-Sample Test** |
|  | Test Value = 95 |
| T | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |
| Lower | Upper |
| Nurses total Knowledge before education | -720.137 | 143 | .000 | -89.271 | -89.52 | -89.03 |

# Interpretations

# *Table 3 findings signify the overall knowledge score on the information base questionnaire correlated to pressure ulcer preventive interventions. To measure the level of knowledge regarding pressure ulcer prevention, 10 questions were asked. The findings suggest that average knowledge of pressure ulcer prevention was 5.73±1.488 out of 10 questions. There was a low level of knowledge among nurses. P value was 0.000 which was < .001 shows a significant result.*

**Discussion**

 The prevalence and controlling of pressure ulcer among immobilized patients is a constant apprehension for nurses. Determinations to thwart pressure ulcer expansion are overwhelmed by contradictions also an overall deficiency of training and guidelines ([El Enein & Zaghloul, 2011](#_ENREF_7)). The present study established the nurses’ knowledge on the preventive approaches of pressure ulcer. The present study stated that nurses have not knowledge of pressure ulcer occurrence and anticipation as shown in results. A similar study was conducted in Jordanian to evaluate the nurse’s knowledge related to pressure ulcer prevention. This was a cross-sectional study design, 194 nurses participated. The result was the squat level of knowledge about pressure ulcer prevention (Qaddumi, & Khawaldeh, 2014). Pressure ulcer training program should be implemented and applied by higher authority in health care settings, especially the charge nurses who worked in high-risk units. This is anticipated to augment the nurse’s knowledge related to pressure ulcer care ([Etafa, Argaw, Gemechu, & Melese, 2018](#_ENREF_8)). To make well-informed decision need competency this comes from education. Nurses with awareness make good clinical suppositions ([Islam, Sae-Sia, & Khupantavee, 2010](#_ENREF_11)). If negative attitudes are linked with insufficient knowledge, will act as a hindrance towards applying pressure ulcer prevention intervention in hospitals ([Van Gaal e*t al.,* 2010](#_ENREF_19)). Insufficient services and equipment in the intensive care unit were concomitant with poor clinical practices on pressure ulcer prevention. Limited access to sufficient facilities may encumber the nurses’ ability and motivation to prevent the patient from emerging pressure ulcer ([Ünver, Fındık, Özkan, & Sürücü, 2017](#_ENREF_18))

**Conclusion**

 Pressure ulcer prevention is one of the utmost significant parts of nurses to patient care in the hospital. The result of this study proposes that intensive care unit nurses in tertiary care hospital were not sufficiently knowledgeable about pressure ulcers. Therefore, there is a need to enhance their knowledge with educational session, seminars, workshops and hands-on practices.

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