



***Knowledge, Attitude and practice among Nurses regarding prevention of pressure ulcer in Allied Hospital Faisalabad.***

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**ABSTARCT:**

**Introduction:** The injuries to skin or blister formation is called pressure ulcer (PU) or bed sore or pressure sore, primarily due to prolong unbalanced pressure on skin. About 70% of PU in older adults age more than 65 years. Young population with neuromuscular disorders, long term bedbound problems such as spinal cord problems, lower limbs disabilities etc. may develop PU. Nurses have key role in patient care and disease management. Quality nursing care can reduce the disease morbidity and mortality rate. Knowledge, attitude and practice of nurses about bedsore prevention necessary in health care settings.

**Material and method:** A descriptive cross sectional study design was used to assess the knowledge and practice regarding bedsore prevention. Data was collected through Questionnaire developed after search from multiple sources and literature review. The questionnaire and consent form were in English. Questionnaire had 50% knowledge based questions and 50% practice based questions, to assess the level of knowledge and practice towards Pressure Ulcer. The collected data was analyzed by using SPS software version 21.

**Results:** There are six dimensions of pressure ulcer prevention and care, it

includes risk assessment, mechanical load on bony prominence, nutritional deficiency, friction, inappropriate moisture and incontinence, nurses have a little knowledge on six dimensions and factors affecting on pressure ulcer. Only 26.3 nurses have knowledge about nutritional effects on bed ridden patients. Nurses had experience more than 10 years are found more knowledgeable and skillful in comparison nurses had knowledge less than 10 years.

**Conclusion:** lack of knowledge, heavy work load, shortage of nurses, shortage of equipment's are the main barriers, while highly educated, nurses with experience more than 10 years are efficient in Pressure Ulcer patient care.

**Key Words:** Pressure ulcer patient, Decubitus Ulcer, Bedridden, Bony prominence, incontinence. Neuropathy

**Introduction**

The injuries to skin or blister formation is called pressure ulcer or bed sore or pressure sore, primarily due to prolong unbalanced pressure on skin. This is most common due to bedridden, setting on wheel chair for long time period. Blood supply reduces to that area which causes sensation loss of that area of skin. PU recognized as one of the five most common

*causes of harm of patient and controllable problem of patient. It is described as most common discomfort and complication in recent years.*

*About 70% of PU in older adults age more than 65 years. Young population with neuromuscular disorders, long term bedbound problems such as spinal cord problems, lower limbs disabilities etc. may develop PU. In United State about 60,000 patients have Pressure Ulcer complications annually. It cost about \$ 70- \$160 per patient per year and 9 – 11 billion dollars cost only on PU treatment. The prevalence of PU varies from country to country, Norway 17%, Denmark 16%, Irish 16%, United Kingdom 10%, India 9.4 %, and Pakistan 8.4% of all cases.*

*There are multiple risk factors of development of bedsore such as age above 65, Spinal cord injuries, immobility, inadequate hydration and nutrition, circulatory problems, comorbidities, neuromuscular disorders, sensory motor loss and long term Intensive Care Unit treatments.*

*Nurses have key role in patient care and disease management. Quality nursing care can reduce the disease morbidity and mortality rate. Knowledge, attitude and practice of nurses about bedsore prevention necessary in health care settings. The prevention of pressure ulcer is multidisciplinary responsibilities, usually nurses play important role in PU care. Nurses play vital role in PU prevention and treatment. If nurses fail to provide bedsore care it enhances the burden of disease and cost. According to international literature, nurses have poor knowledge about Pressure Ulcer prevention and treatment. A study is*

*conducted on pressure ulcer in Belgian hospital Sweden, nurses have deficiency in knowledge and practice. Due to inadequate knowledge, attitude and practice among nurses significantly increase in prevalence of Pressure Ulcer. Another studies conducted in John Hopkins hospital USA, 91.5% had inadequate knowledge to pressure ulcer prevention. About 89.5% nurses have a little knowledge about bedsore care and prevention in Dessie Referral Hospital, Northeast Ethiopia. Nurses have a little knowledge about bedsore progression and prevention in Holy Family Hospital, Islamabad. Studies shows that only 45% nurses have sufficient knowledge about bed cases care and infection prevention.*

*In Pakistan (district Faisalabad), there is lack of evidence on nurses knowledge, attitude and practice on pressure ulcer prevention. Therefore, a study design to assess the knowledge, attitude and practice on pressure ulcer care and prevention, to improve the quality care and bedsore prevention and intervention.*

### **Material and Method**

#### **Study design:**

*A non-experimental cross sectional descriptive study design was used to assess the knowledge and practice regarding bedsore prevention.*

#### **Study Setting;**

*The research is carried out in tertiary care 1500 beds hospital spread over 27 wards/units, located on Jail road Faisalabad, Pakistan. It has facilities of Intensive care unit, high dependency unit, neurology unit and chronic diabetic unit. Where long term stay of patients and need*

*for pressure ulcer care. Hospital setting have research center, nursing college and training center. There are 1000 nurses working in allied hospital Faisalabad. Data was collected from nurses working in intensive care units and high dependency units, because hospital acquired Pressure Ulcer cases commonly from High dependency units, where long term patient care required.*

#### ***Samples and sampling technique:***

*Samples was collected from nurses working in Intensive Care Unit, High Dependency Units, and neurology department. The sample size was determined by using single population proportion formula. It was assumed about 20% of total population. There was 95% of confidence interval used and 5% margin of error. The source population was 1000, correction formula was used. After calculation of non-response form, final collected samples was 200.*

#### ***Data collection tools and procedure:***

*Data was collected through Questionnaire developed after search from multiple sources and literature review. The questionnaire and consent form were in English. Questionnaire had 50% knowledge based questions and 50% practice based questions, to assess the level of knowledge and practice towards Pressure Ulcer. Data was collected from registered nurses, midwives were excluded. Consent was taken after explaining the questionnaire to bedside nurses. Data quality assurance under supervision by principal investigator. 300 questionnaire copies were distributed. 146 responses collected initially, than 54 responses collected from remaining staff. The retrieved copies of questionnaire*

*responses were treated with confidentiality after receiving from staff.*

#### ***Data Analysis:***

*The collected data was analyzed by using SPS software version 21. Confidence of interval was 95%, and p-value less than 0.05. Statistics of frequencies were calculated, along with percentages of each question. Chi-square test was used to assess the dependent and independent variables.*

#### ***Operational Definitions***

##### ***Pressure Ulcer:***

*A Lesion or blister on skin or underlying tissue due to unrelieved pressure on skin or bony prominence for more than 3 hours.*

##### ***Good Knowledge:***

*Nurses have knowledge score more than 20 right answer out of 25 were considered with good knowledge. Nurses score less than 15 consider poor knowledge about pressure ulcer prevention and care.*

##### ***Ethical consideration:***

*Ethical approval was obtained from Aziz Fatima Ethical Review Committee of department of nursing. A formal request form was submitted, than proposal presentation was present in front of Ethical Review Board of Aziz Fatima Medical & Nursing College. Ethical approval latter was received from ERC.*

##### ***Results:***

##### ***Demographic data of nurses:***

*There were 300 professional nurses invited for response, 200 nurses fully participated in study. Response rate was 66.6%. All staff nurses were females, as very low seats for male in Government hospitals. The mean*

age of participants was 30.20 with minimum 21 and maximum 59 year. Most of the participants was diploma holder about n=192 and small proportion was bachelors in Nursing n=7. None was Master in nursing among participant n=00. Nurses who have counted for experience more than 10 years were 20.2 %, while majority had experience less than 10 years in nursing profession. 80.5% nurses reported, they didn't receive any training or special education on Pressure Ulcer, they didn't read any article or literature on bedsore. 20.5% received training and literature on Pressure Ulcer. Majority of the participant working in critical care areas such as Intensive Care Units, High dependency units, neurology departments and medical units. Only 5 responses were collected from surgical units.

**Nurses Knowledge and Attitude:**

Half of the nurses respond negatively on pressure ulcer care and prevention. More than half of nurses n=120 reported nurses shortage, about three quarter nurses reported workload, and 90% nurses reported inadequate facilities provided by hospital. Less than half nurses had good knowledge about Pressure Ulcer care. Only 10% n=20.2 nurses use appropriate care for bedsore. There are six dimensions of pressure ulcer prevention and care, it includes risk assessment, mechanical load on bony prominence, nutritional deficiency, friction, inappropriate moisture and

incontinence, nurses have a little knowledge on six dimensions and factors affecting on pressure ulcer. Only 26.3 nurses have knowledge about nutritional effects on bed ridden patients. (Table=2)

**Nurses practice regarding Pressure Ulcer preventions:**

There were eleven questions regarding nursing practice in routine on bed ulcer. Standard deviation SD= 4.5) shows that less than half nurses (40.9 %) have good practice in bedsore care and its prevention, whereas remaining (59.1%) shows poor performance practice in Pressure Ulcer prevention and care. 68.6% were agree, massage on bony prominence areas reduces the Pressure Ulcer incidence.

**Nurses knowledge regarding associated factors in Pressure Ulcer.**

Work experience, level of education, special training on pressure ulcer and critical care specialization have significant impact on knowledge, attitude and practice regarding pressure ulcer prevention. Nurses had experience more than 10 years are found more knowledgeable and skillful in comparison nurses had knowledge less than 10 years. Nurses with Bachelor degree holder had 4.5 times knowledge about bedsore care in comparison diploma nurses. Most of the nurses were married n=174 (87.4%), and had less interest in further learning on patient care (table= 1).

Table =2

Sr. no	Questions	Strongly agree N (%)	Agree N (%)	Neutral N (%)	Disagree N (%)	Strongly Disagree N (%)
1	Pressure ulcer causes serious illness	49.5	30.8	5.1	14.6	00

	<i>such as septic shock, respiratory failure and acute renal failure etc.</i>					
2	<i>Braden Scale used for assessment and grading of pressure ulcer.</i>	50.5	31.3	5.1	13.6	00
3	<i>Skin over bony prominence is more prone to develop pressure ulcer.</i>	51.0	26.3	5.6	17.2	00
4	<i>Chronic bedridden and wheelchair user are more on risk to develop pressure ulcer.</i>	47.0	28.8	3.0	21.2	00
5	<i>Completely or partially obstructed blood flow to soft tissue lead to formation of pressure ulcers</i>	54.0	20.2	5.6	20.2	00
6	<i>Neuropathy and paralysis Cause pressure ulcer by reducing the sensitivity of skin.</i>	52.5	21.7	1.5	22.2	0.5
7	<i>Risk of pressure ulcer is increased by skin wetness (e.g. urine incontinence, stool and sweating etc).</i>	50.5	22.7	4.0	15.7	7.1
8	<i>2nd Stage of pressure ulcer is involvement of muscle, bone and connective tissue.</i>	46.3	27.3	4.5	17.2	4.5
9	<i>Frequent repositioning of patient and wrinkle free bed sheet prevent pressure ulcer.</i>	45.5	33.8	5.1	15.4	0.3
10	<i>Hydra colloid dressing is used for patients of pressure ulcer.</i>	37.4	33.8	5.6	18.2	5.1
11	<i>Saline water used to clean the wounds of pressure ulcer.</i>	40.4	34.8	9.6	15.2	0.2
12	<i>Anti-inflammatory drugs delay the healing process of pressure ulcer wound.</i>	43.4	32.8	7.1	16.0	0.7
13	<i>Ripples mattress and cushion have no role in prevention of pressure ulcer.</i>	35.9	24.2	5.1	21.2	13.6
14	<i>Proper skin care and adequate nutrition prevent pressure ulcer.</i>	49.0	26.3	4.5	20.2	00
15	<i>Best wound care by debridement and dressing faster the healing process of pressure ulcer.</i>	46.0	29.8	7.6	16.7	00
16	<i>Friction occur when moving patient up in bed.</i>	45.5	30.8	5.6	17.7	00
17	<i>Placement of pillow under patient's leg help in prevention of bedsore</i>	47.5	27.3	5.1	20.2	00
18	<i>For proper repositioning protocol, turning schedule should be written and</i>	49.5	28.3	4.0	18.2	0.2

	<i>placed on bedside of patients.</i>					
19	<i>Massage over bony prominences help in prevention of pressure ulcer</i>	43.3	25.3	5.6	25.3	0.6
20	<i>Dragging the patient during repositioning don't cause pressure ulcer</i> □.	38.4	29.3	4.5	20.7	7.1
21	<i>Turn the patient position every two hours to prevent bedsore</i>	47.5	30.3	7.1	15.2	00
22	<i>While cleansing of skin paying more attention to pressure points help in prevention of bedsore</i>	47.5	25.8	6.6	20.2	00
23	<i>Every patient on admission in hospital should be assessed for development of pressure.</i>	39.4	26.3	6.1	28.3	00
24	<i>Education program may decrease the ratio of Development of pressure ulcer.</i>	44.4	28.3	7.1	20.2	00
25	<i>Head elevation should be 30 degree consistent with medical condition</i>	35.4	26.2	6.1	16.2	16.2

## Discussion

The result of this cross sectional studies explored the nurse's attitude, knowledge and practice towards PU prevention in Allied Hospital, Faisalabad. Staff nurses had reported barriers to practice due to shortage of nurses, lack of proper training on PU, unavailability of proper equipment's and shortage of time due to bundles of responsibilities. All these factors contributing to prevent positive attitude towards nursing care and pressure ulcer preventive measures. Heavy workload, shortage of staff are major identified barriers in nursing practice, but other factors such as lack of training sessions, shortage of equipment's also contributing negatively on practice performance.

The KAP (knowledge, attitude and practice) explained individual performance of nurses working in different departments. The more

knowledge about pressure ulcer, the more positive attitude towards patient care and PU preventing measures, ultimately patient will receive adequate care. This paper shows that educated nurses have positive attitude towards patients' care, thus special training and higher education in nursing more valuable for quality care in hospitals. There is need for male nurses on paralyzed male patients for PU prevention and bed cases care. According to Etafa et al (2018) nurses' shortage decreases the quality care of patients. Current studies by Nuru et al, were observed that years of clinical work experience and level of education directly effected on patients care in bedsore preventions. Dildar et al, found male nurses work more efficiently than female nurses in critical care units.

According to this study, about 80% nurses are willing to give proper decubitus ulcer care through proper positioning 2 hourly and wrinkle free dry bed sheet. More than

*40% nurses had adequate knowledge about bedsore prevention. About 75% nurses reported absence of proper guidelines for PUP care. This also shows negative behavior of nurses towards decubitus ulcer care, 27.3% shows less interest in education programs for Pressure Ulcer preventions. 67.7% nurses were agree dragging of patient during repositioning doesn't causes Pressure Ulcer. Nurse's practices were balanced diet (49.2%), repositioning (79.3%), hydra colloid dressing (71.2%), use of ripple mattress (60.1%) and use of normal saline for wound wash (75.2%) included in pressure ulcer prevention.*

**Conclusion:**

*The attitude of nurses towards Pressure Ulcer care was negative. The study also found some barrier to administer proper practice. Shortage of nurse, shortage of equipment's, heavy work load, lack of adequate knowledge, lack of training programs are most common barriers. Nurses with bachelor degree have and nurses with work experience more than 10 years had positive attitude towards decubitus ulcer.*

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