

Prevention of Pressure Ulcer, Nurses Knowledge and Practice in Selected Hospitals in Lucknow

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Abstract: This paper presents an overview on prevention of pressure ulcer, nurses knowledge and practice in selected hospitals in Lucknow.

Keywords: Pressure ulcer

1. Introduction

Pressure ulcers, also known as bedsores, are localized damage to the skin and/or underlying tissue that usually occur over a bony prominence as a result of usually long-term pressure, or pressure in combination with shear or friction. The most common sites are the skin overlying the sacrum, coccyx, heels, and hips, though other sites can be affected, such as the elbows, knees, ankles, back of shoulders, or the back of the cranium. Pressure ulcers occur due to pressure applied to soft tissue resulting in completely or partially obstructed blood flow to the soft tissue. Shear is also a cause, as it can pull on blood vessels that feed the skin. Pressure ulcers most commonly develop in individuals who are not moving about, such as those who are on chronic bedrest or consistently use a wheelchair. It is widely believed that other factors can influence the tolerance of skin for pressure and shear, thereby increasing the risk of pressure ulcer development. These factors are protein-calorie malnutrition, microclimate (skin wetness caused by sweating or incontinence), diseases that reduce blood flow to the skin, such as arteriosclerosis, or diseases that reduce the sensation in the skin, such as paralysis or neuropathy. The healing of pressure ulcers may be slowed by the age of the person, medical conditions (such as arteriosclerosis, diabetes or infection), smoking or medications such as anti-inflammatory drugs.

Although often prevented and treatable if detected early, pressure ulcers can be very difficult to prevent in critically ill people, frail elders and individuals with impaired mobility such as wheelchair users (especially where spinal injury is involved). Primary prevention is to redistribute pressure by regularly turning the person. The benefit of turning to avoid further sores is well documented since at least the 19th century. In addition to turning and re-positioning the person in the bed or wheelchair, eating a balanced diet with adequate protein and keeping the skin free from exposure to urine and stool is very important.

The rate of pressure ulcers in hospital settings is high; the prevalence in Indian hospitals ranges from 8.3% to 23%, and the prevalence is 26% in Canadian healthcare settings. In 2013, there were 29,000 documented deaths from pressure ulcers globally, up from 14,000 deaths in 2014. In Lucknow there is lack of evidence on nurses' knowledge and practice of pressure ulcer prevention. Therefore, this study set out to assess the level of nurses' knowledge and practice on prevention of pressure ulcer and thereby generate appropriate information that can be used by program managers and stakeholders in the prevention and interventions of pressure ulcer.

2. Methodology

The sample size was determined by using single population proportion formula with the assumption of: 50 % proportion, 95 % confidence level and 5 % margin of error. Given that the source population was less than 10,000 correction formula was used and 5 % non-response was added, making the final sample size 200. Since the total number of nurses working in the hospital was 261, the study involved all of them to increase the power of the study.

A. Data collection tool and procedure

Data were collected using a structured and pretested self-administered questionnaire. The questionnaire and the consent form were prepared in English. Participants were asked 31 knowledge based and 31 practice based questions to assess their level of knowledge and practice towards prevention of pressure ulcer. The researcher collected the data as per the schedule. The overall supervision was carried out by the research supervisor. A pre-test was conducted using 6 % of the questionnaire on nurses who were working in Career Medical college. Appropriate modifications were made after analyzing the pretest result before the actual data collection.

The appropriateness of the instrument was measured through a pre-testing exercise, and the constraining factors were rectified. Prior to applying the survey instrument, the researchers engaged different expert reviewers as subject matter specialists at Career Medical College Hospital to evaluate and finalize the instrument. Regarding to the reliability, the study used Cronbach's coefficient alpha to measure consistency,

complementarily and correlation coefficient. To generate the Cronbach's alpha results, validation of the instrument was conducted through a pilot study and the results obtained had an overall Cronbach's alpha of $(r) = 0.67$.

3. Results

Nearly half (54.4 %) of the nurses had good knowledge; similarly, 48.4 % of them had good practice on prevention of pressure ulcer. Educational status [Adjusted Odds Ratio (AOR)=2.4, 95 % CI (1.39-4.15)], work experience [AOR = 4.8, 95 % CI (1.31-10.62)] and having formal training [AOR = 4.1, 95 % CI (1.29-9.92)] were significantly associated with knowledge on prevention of pressure ulcer. While, satisfaction with nursing leadership [AOR = 1.9, 95 % CI (1.04-3.82)], staff shortage [AOR = 0.07, 95 % CI (0.03-0.13)] and inadequate facilities and equipment [AOR = 0.4, 95 % CI (0.19-0.83)] were found to be significantly associated with the practice on prevention of pressure ulcer.

4. Discussion

Prevention of pressure ulcers is an indicator of quality of care. Nursing care has a major effect on pressure ulcer development and prevention. Hence, Pressure ulcers are a major nurse-sensitive outcome. In this study, 54.4 % of the participants were found to be knowledgeable. While substantial proportions 45.6 % were not, this is inadequate. Because, as they are nurses working in recognized teaching referral hospital, and are expected to be well experienced, this level of knowledge is below the anticipated. The finding of this study is comparable with other studies conducted in different parts of the world. In a study conducted in Turkey the mean score of correct answer was 48.85 %. and the study conducted in Belgian hospital revealed that the mean knowledge score was 49.7 %.

Respondent's level of education was found to be significantly associated with knowledge of pressure ulcer prevention. This finding is in line with the study conducted in Sweden among registered nurses and licensed practicum nurses in which the registered nurses' score was significantly higher than those of the licensed practicum nurses. Respondents with work experience of 11-20 years had good knowledge when compared to those with work experience of ≤ 10 years. Similar finding was reported in study conducted in Nigeria; where years of experience were significantly associated with clinical practice and knowledge.

Staff shortage is one of the factors associated to nurse's practice in prevention of pressure ulcer. This study also favored the above claim in which, respondent's practice of pressure ulcer prevention was found to be poor which was less than 50 %. Similarly, study conducted in England showed that, majority of the nurses reported lack of staff and time as barrier to implement effective care practices related to prevention of pressure ulcer. The poor practice can be explained by the fact that; shortage of nursing staff limits the working time available

for each patient's care.

In this study more than three fourth of nurses did not use a risk assessment scale. Similarly, the study conducted in Sydney found that 79 % of the nurses did not use any assessment tool to identify patients with at risk of pressure ulcer [. This can be explained by lack of evidence based nursing practice and in-service training on prevention of pressure ulcer. Respondents who were satisfied with the nursing leadership had good practice as compared to those who were not. Possible reason for this result might be nurses who are satisfied with the nursing leadership are happier on their working environment, so that they are motivated to invest all their knowledge and experiences on practices related to prevention of pressure ulcer.

Inadequate facilities and equipment's in the workplace were associated with poor practice on prevention of pressure ulcer. This might be due to the fact that limited access to adequate facilities and equipment's may hinder nurse's motivation and ability to prevent patients from developing pressure ulcer. Using a self-reported questionnaire to examine the nurses' practice towards prevention of pressure ulcer was the main limitation of this study.

5. Conclusion

Knowledge and practice of the nurses regarding prevention of pressure ulcer was found to be inadequate. Having higher educational status, attending formal training and being experienced were positively associated with knowledge; while shortage of facilities and equipment's, dissatisfaction with nursing leadership and inadequate staff number showed negative association with practice of nurse's pressure ulcer prevention. In-service training and upgrading courses are some of the important steps to improve nurses' knowledge and practice on prevention of ulcer pressure.

References

- [1] Eckman KL. The prevalence of dermal ulcers among persons in the U.S. who have died. *Decubitus*. 1989;2:36-40.
- [2] Russo CA, Elixhauser A. Healthcare Cost and Utilization Project. Rockville, MD: Agency for Healthcare Research and Quality; Apr, 2006. Hospitalizations related to pressure sores, 2003. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb3.pdf>.
- [3] U.S. hospital errors continue to rise. http://news.yahoo.com/s/hsn/20070402/hl_hsn/ushospitalerrorscontinuetorise.
- [4] Nightingale F. Notes on nursing. Philadelphia: Lippincott; p. 1859.
- [5] Bliss MR, Thomas JM. A basis for future action: applying clinical findings of trials on pressure-relieving supports to practice: kinetic treatment table versus "normal" bed with two-hourly turning. *Prof Nurse*. 1993;8:726, 728, 730.
- [6] Bolton LL, van Rijswijk L, Shaffer FA. Quality wound care equals cost-effective wound care: a clinical model. *Adv Skin Wound Care*. 1997;10(4):33-8.
- [7] Lyder C, Grady J, Mathur D, et. al. Preventing pressure ulcers in Connecticut hospitals using the plan-do-study-act model for quality improvement. *Jt Comm J Qual Patient Saf*. 2004;30:205-14.
- [8] Panel on the Prediction and Prevention of Pressure Ulcers in Adults. Pressure ulcers in adults: prediction and prevention Clinical Practice Guideline No 3. Rockville, MD: Agency for Health Care Policy and Research; 1992. AHCPR Publication No 92-0047.

- [9] Campell K, Teague L, Hurd T, et al. Health policy and the delivery of evidence-based wound care using regional wound teams. *Health Manage Forum*. 2006;19(2):16–21.
- [10] Cuddigan J, Berlowitz DR, Ayello EA. Pressure ulcers in America: prevalence, incidence, and implications for the future. Reston VA: National Pressure Ulcer Advisory Panel; 2001.
- [11] Langemo DK, Olson B, Hunter S, et al. Incidence of pressure sores in acute care, rehabilitation, extended care, home health, and hospice in one locale. *Decubitus*. 1989;4(3):25–26. 28–30. Passim.
- [12] Lyder CH, Preston J, Grady J, et al. Quality of care for hospitalized Medicare patients at risk for pressure ulcers. *Arch Intern Med*. 2001;161:1549–54.
- [13] Bergstrom N, Braden B. A prospective study of pressure sore risk among institutionalized elderly. *J Am Geriatr Soc*. 1992;40:747–58.