



Recognizing Early Warning Signs for Patient Safety: Study in Pakistan's Tertiary Care Hospital



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Abstract

Introduction: It is not uncommon for hospitalized patients to exhibit early warning signs before deteriorating. Clinical deterioration can happen at any point in a patient's illness, or care process. Nurses are expected to have skills to enable them to assess precisely the severity of deterioration, as nurses are the first to encounter the patients. In keeping views we as team have develop module on Recognition of Early Warning signs for Nurses to assess their knowledge, educate them and reassess their knowledge.

Purpose: We want to assess the knowledge about early warning signs in our staff nurses then educate them and reassess to see their knowledge improvement.

Study design, material & method: A quasi-experimental pre-posttest design was used to achieve the aim of the study. Pre-test for participants were conducted to assess base line knowledge. Interactive lectures were done by experts. Than hands on workshop arranged in which case scenarios were discussed in groups. To assess the effectiveness of educational module same post test were given. In the end qualitative analysis were also done for reflective writing for individual personalized learning.

Results: The overall compared result shows that the average pre and post scores was significant. Pretest mean score was 6.47(3.15) and it improves in Post Test 11.66(2.58). P value is less than 0.01. This shows that the average pre and post scores for education module were significant. The analysis shows that the workshop was effective in improving the knowledge of Nurses.

Conclusion: After this module implementation, we achieved better results in posttests. The key message from this report is continuous education and emphasis on recognizing early warning signs has brought improvement in nurse's knowledge and self-confidence.

Introduction

Early detection and prevention of patient deterioration is a key aspect of a patient's multidisciplinary assessment [1]. Nurses are expected to have skills to enable them to assess precisely the severity of deterioration, as nurses are the first to encounter the patients [2]. It is not uncommon for hospitalized patients to exhibit early warning signs before deteriorating [3] Clinical deterioration can happen at any point in a patient's illness, or care process, but patients are particularly vulnerable after surgery and during recovery from a critical illness. Many patients who suffer cardiopulmonary arrests show signs of deterioration during the 24 hours before the arrest and "it has been estimated that approximately 23,000 in-hospital cardiac arrests in the UK could be avoided each year with better care" by NHS 2012 Royal College of Physicians 2012 [4] The National Patient Safety Agency (NPSA) launched the fifth Patient Safety Observatory report "safer care for the acutely ill patient: learning from serious incidents" in which 'deterioration' was identified as a key theme [5]. Claims on improving the knowledge of ward nurses by training them to monitor and analyses various data's. For example, educational programs like Acute Life-threatening Events-Recognition and

Treatment course. In keeping views we as team have develop module on Recognition of Early Warning sign for Nurses to assess their knowledge.

Purpose

We want to assess the knowledge about early warning signs in our staff nurses then educate them and reassess to see their knowledge improvement.

Study Design, Material & Method

A quasi-experimental pre-post test design was used to achieve the aim of the study. Pre-test for participants were conducted to assess base line knowledge. Interactive lectures were done by experts on Introduction to Early Warning Signs & Respiratory Assessment, Hemodynamic Monitoring, Post op Assessment (PACU), Importance of Documentation, Drains & Urine output for early recognition of patient's deteriorations. 2 specific role plays were also prepared one related to surgery specialty and one related to medicine specialty. Debriefing with discussion done & queries were resolve on spot. Later on small group activity was arranged in which 6 different case scenarios were given to all in a group of

10. For group working, a mentor was assigned for each group. They have worked on scenario and present case study in front of panel of experts [6]. Case based discussion took place and all queries were answered by Panellist.

Recommendations and conclusion were done by team. Participants were encouraged to asked questions rather than assuming things. For key information and take home message, handout were also prepared and given to all participants. Key messages about patient safety and early detection were pasted on notice board in all wards for continuous reinforcement. To assess the effectiveness same post test were given to all participants. In the end qualitative analysis were also done by reflective writing for individual personalized learning. In reflective writing we have asked to write learning outcome from this course & how will you act differently after this course [7]. Participants have shared their learning and we have analysis it in results part.

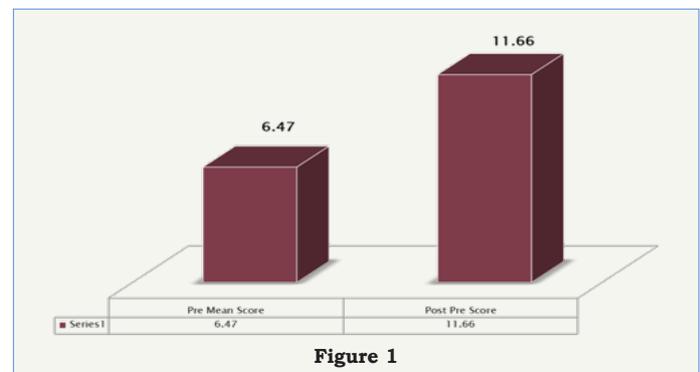
Result

Pre-test was conducted to assess base line knowledge of staff. Paper comprises of MCQs-40% on nursing assessment, 30% on drug dose calculation and 30% on nursing documentation. For the purpose of descriptive analysis, mean and standard deviation was calculated for the continuous variables. Frequencies and percentages were reported for the categorical variables. In the inferential analysis, paired t- test was used. The overall compared result shows that the average pre and post scores were significant. Pre-test mean score was 6.47(3.15) and it improves in Post Test 11.66(2.58). P value is less than 0.01. This shows that the average pre and post scores for education module were significant. The analysis shows that the workshop was effective in improving the knowledge of Nurses. Reflective writing was also shows that this training enhances staff knowledge.

In reflective writing Question has been asked from participants to assess the learning that what you learn from this session. Few statements of the participants were as follows. Response shared by staff nurses "I got new information from this session about the importance of vital sign and early warning sign which may cause cardiac arrest, hypoglycemia and other severe complains and I am also learned from this session, no ignorance of complains of patient because the ignorance of little complain of patient becomes very risky for your patient.", "I learn what to do first in Emergency situation and How to manage emergency condition in words", "I have learned a lot of new knowledge such as recognizing the Early Warning Sign of deterioration and also the Post Anesthesia care unit and Importance of the Documentation. I learned about the 6th vitals. Speaker shares some knowledge about Urine Output or I/O charting."

"By the end of session I have learned the Early Warning Sign and Measurement of overall body Assessment and its intervention to increase the survival rate of patient condition and After Demonstration to enhance my skill." Furthermore, another question which were asked from participant was how you will work differently from now onwards. Responses from participants were "I

will assess all early warning sign in my ward and upgraded to my all duty staffs. "This session early warning sign is very important and useful. This session improved my knowledge." "After this work shop I will try my best to maintain appropriate documentation, take a vital sign and note the deterioration for taken action. By attending this much information lecture and workshop, I will practice all my knowledge and skills and article things to identify early warning signs and prioritize patient need and make quick intervention according to signs to save patient life and prevent him/her from deteriorating and manage patient timely before he goes to worse condition to save a patient's life and reduce patient stay in or prevent from going ICU or HDU, improve recovery." Another participant shared that "I am very much proud to be here in this learning session Figure 1. It was very much informative rich in Knowledge and nursing skills. Especially I am not as much able that I can identify early warning signs and can take quick necessary action by doing this. I can save many life and prevent my patient being deteriorated or to save him/her to go in ICU / HDU."



Discussion

Six physiological parameters form the basis of the scoring system have highlighted during workshop. Which were Respiratory rate, Oxygen saturations, Temperature, Blood pressure, Pulse rate & urine output. Following strategies were used for awareness. Case scenarios discussions take place in groups of 5 staff nurse. 1 mentor was present for discussion. They have prepare presentation in groups. According to Andrews & Waterman [8] The Early Warning Score leads to successful referral of patients by providing an agreed framework for assessment, increasing confidence in the use of medical language and empowering nurses. This study has also shows improvement in nurse's knowledge as shared in posttest and reflective writing. We can hope to see good impact on patient care improvement Nurses are expected to have skills to enable them to assess precisely the severity of deterioration, as nurses are the first to encounter the patients [2].

Early identification is important to reduce mortality, avoidable morbidity, and length of stay and associated healthcare costs. By closely monitoring changes in physiological observations, deteriorating patients are more likely to be identified before a serious adverse event occurs. This role should effectively be played by the assign nurse. Andrews & Waterman [5] suggest same "It is also essential that nurses and nursing students are supported in its use and in developing confidence in using medical language

by continued emphasis on physiology and pathophysiology in the nursing curriculum.” Nurses are recommended to attend courses on acute life threatening events recognition and treatment and to develop further simulation exercises in both pre and post registration courses, which may foster EWS process and improve patients’ outcome [4].

Conclusion

After this module implementation, we achieved better results in post tests. The key message from this report is continuous education and emphasis on recognizing early warning signs has brought improvement in nurse’s knowledge. As participants were free to ask question from experts at any time, it boost their self-confidence which improves in communication among health care team. It also plays vital role in enlightening patient’s safety and quality care.

Recommendation

We comprehend that the majority of the nurses have moderate level of knowledge. Furthermore the finding of the study have created a platform for nursing leaders, to start a comprehensive training program in order to improve patient safety and clinical outcomes for acutely ill patients in our hospitals and treatment decisions can be taking timely to improve patient recovery. These type of training session should be a part of ongoing training for nurses and all health care professionals, for team work which, improves communication and build confidence.

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