

Relationship between the Pre and Post Evidence-based Education and Training (EBET) Interventions Provided to Direct Care Nursing Staff with Hospital Acquired Pressure Injuries (HAPI) Prevalence Rates

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Abstract

This is a quality improvement study to analyze the relationship between the pre and post evidence-based education and training (EBET) interventions provided to direct care nursing staff and hospital acquired pressure injury (HAPI) prevalence rates. The Iowa Model of evidence-based practice provides the framework for this study. The Iowa Model of evidence-based practice focuses on organizational collaboration of the team to outline the knowledge transformation and execute the research into clinical evidence-based practice [5]. Training sessions were conducted from October 2018 to April 2019 for direct care nursing staff to identify the risk factors, prevention and management strategies for HAPI. This study used the HAPI prevalence rate data of 20 adult inpatient units and four pediatric inpatient units from July and September 2018 (pre-intervention) and May and June 2019 (post-intervention). Prevalence rate data was retrieved from the National Database for Nursing Quality Indicators (NDNQI) program. There was a significant decrease in the HAPI rates in 2019 for adult -0.89, pediatric -0.44 and overall hospital total -0.77 as compared to 2018.

Keywords: Evidence-Based Education and Training (EBET); Hospital Acquired Pressure Injuries (HAPI); National Database for Nursing Quality Indicators (NDNQI)

Introduction

Nursing quality care indicators, such as hospital-acquired pressure injuries (HAPIs), are measurable metrics used to evaluate patient healthcare outcomes. Applying evidence-based education and training (EBET) into bedside clinical practice has been a challenge for nurses. It is important to understand the risk factors that contribute to the development of HAPIs, such as etiology, skin assessment, positioning, and nutrition, and to identify strategies necessary to prevent them [1].

Background

As a Measurable quality of care indicator, the occurrence of HAPIs is a concern for health care organizations. HAPI rates directly indicate the outcome of nursing care services provided to patients during hospitalization. In order to organize and aim operational efficiency

and sustainable policies/guidelines to reduce HAPI rates, health care organizations must recognize the clinical practices that influence the implementation and execution of the policies and guidelines [4].

Problem statement

HAPI is a patient healthcare outcome that influences patient satisfaction with nursing care services in an inpatient hospital setting. In healthcare organizations, nursing care services are accountable for the development of HAPIs and responsible for taking steps to help decrease the prevalence rate [6]. Decreasing the prevalence rate for HAPIs in an inpatient hospital setting requires a multifaceted educational approach and an interdisciplinary support system. Researchers have revealed that EBET and awareness of pressure injury prevention and treatments influence the HAPI rate. According to the Wound, Ostomy, & Continence Nurses Society [WOCN] (2016), there are numerous clinical practice, interdisciplinary approaches, and EBET sessions for HAPI treatment and prevention. This study will help to assess the pre-intervention and post-intervention effect of EBET to direct care staff (including: registered nurses (RN), certified nursing assistant (CNA), Clinical Nurse Specialist (CNS) and Nurse Specialists (NS)) on the HAPI prevalence rate.

Purpose of the Study

The purpose of the study is to explore the relationship between the pre-intervention and post-intervention effect of EBET to nursing staff, as mentioned above, on the HAPI prevalence rate. The EBET provides the knowledge and tools to direct care staff to identify the risk factors, to prevent, and to manage HAPI.

Goal of the Study

The goal of this project is to investigate the relationship between the EBET provided to direct care staff including: registered nurses (RN), certified nursing assistants (CNA), Clinical Nurse Specialists (CNS) and Nurse Specialists (NS) to identify the risk factors, to prevent, and to manage HAPI and to evaluate the effects on the HAPI prevalence rate in a tertiary care hospital.

Research Questions

Is there a significant relationship between the pre and post evidence-based education and training (EBET) interventions provided to direct care nursing staff with hospital acquired pressure injury (HAPI) prevalence rates?

Ho 1. There is no significant relationship between the pre-intervention and post-intervention effect of EBET provided to direct care staff including registered nurses (RN), certified nursing assistant (CNA), Clinical Nurse Specialist (CNS) and Nurse Specialists (NS) to identify the risk factors, prevent, and manage HAPI on the HAPIs prevalence rate.

Ho 2. There is a significant relationship between the pre-intervention and post-intervention effect of EBET provided to direct care staff including registered nurses (RN), certified nursing assistant (CNA), Clinical Nurse Specialist (CNS) and Nurse Specialists to identify the risk factors, prevent, and manage HAPI on the HAPIs prevalence rate.

Framework

The Iowa Model of evidence-based practice provide the framework for this study. The Iowa Model of evidence-based practice focuses on organizational collaboration of the team work to outline the knowledge transformation and execute the research into clinical evidence-based practice [5].

Methods

This is a quality improvement study that used a retrospective analysis of archival data collected, using the current national target HAPI prevalence rate data. The HAPI prevalence rate data of 20 adult inpatient units and four pediatric inpatient units from July to September 2018 (pre-intervention) and May to June 2019 (post -intervention). Prevalence rate data was retrieved from the National Database for

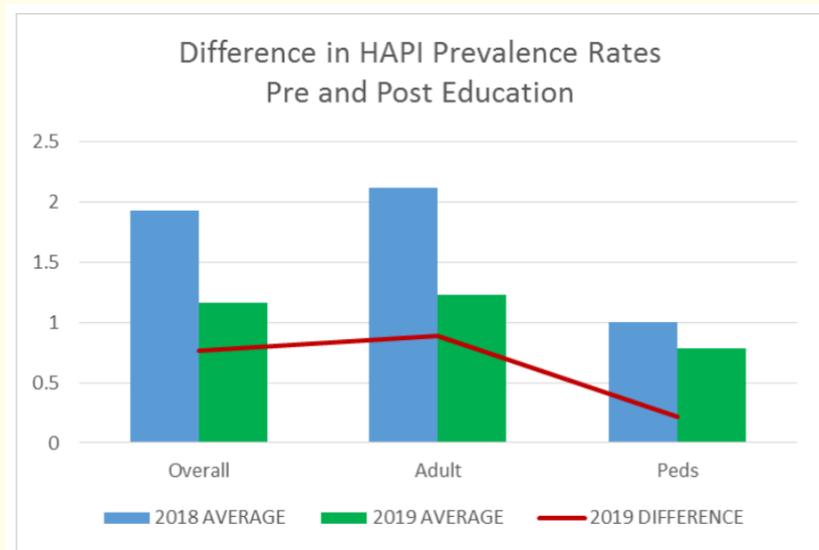
Relationship between the Pre and Post Evidence-based Education and Training (EBET) Interventions Provided to Direct Care Nursing Staff with Hospital Acquired Pressure Injuries (HAPI) Prevalence Rates

Nursing Quality Indicators (NDNQI) program. Training sessions were conducted from October 2018 to April 2019 for direct care nursing staff. Direct care nursing staff including registered nurses (RN), certified nursing assistant (CNA), Clinical Nurse Specialist (CNS) and Nurse Specialists (NS) to identify the risk factors, prevention and management strategies for HAPI. The EBET program consisted of multiple 2 hour education sessions provided to groups of 5-25 direct care staff focusing on:

- Pressure injury staging
- Pressure injury prevention
- Pressure injury risk factors
- Pressure injury nursing interventions
- Risk factor assessment
- Moisture associated skin damage
- Types of wounds
- Electronic medical record documentation
- Therapeutic surfaces and devices.

Result

HAPI rates for adult and pediatric inpatient units were calculated for July and September 2018 (pre-intervention) and May and June 2019 (post-intervention). There was a significant decrease in the HAPI prevalence rates in 2019 for adult -0.89, pediatric -0.44 and overall hospital total -0.77 as compared to 2018.



There was a significant increase in the EBET knowledge among RN by 17% (pre-test 70% and post-test 87%). There was a significant increase in the EBET knowledge among CNA by 14% (pre-test 83% and post-test 97%).

Education classes ran from October 2018 - April 2019			
Direct care nursing staff	Average pretest grade in percentage	Average post-test grade in percentage	Average difference in grades in percentage
Registered nurses (RN) n = 221	70	80	17
Clinical assistance (CNA) n = 83	83	90	14

Discussion

This study is retrospective in nature and used a retrospective analysis of archival data collected as a separate sample, pretest–post-test, quasi-experimental design to assess the relationship between the pre-intervention and post-intervention effect of EBET provided to direct care staff. EBET education provided to direct care staff increased the attention to HAPI care in the in-patient units. This resulted in an increase in the quality of HAPI care and decrease in the HAPI prevalence rate. As previous studies have shown, increased vigilance to pressure injury care results in a decrease in HAPI prevalence rates [3]. According to Kneece, Botham, & Scheurer [2], at an academic medical center, HAPI prevalence rates fall with the introduction of education bundles and pressure injury prevention (PIP) interventions. Wound Care certified nurses, CNSs and nurse specialists are the champions whose primary role is to provide EBET education to direct care staff, and can contribute to programs to improve HAPI rates by conducting chart audits, and coordinating the HAPI prevalence rate surveys to monitor the effectiveness of prevention interventions.

Limitation of the Study

This study is limited to two months pre and post EBET sessions. The August 2018 HAPI prevalence rate was not collected related to a hospital emergency staffing issue. RN (inclusive of RN, CNS, NS) and CNA knowledge level was examined only by pre-test and post-test. The use of an academic center limited the generalizability of the findings. Further study is recommended to examine nursing staff pre and post knowledge on HAPI and nursing staff education level.

Conclusion

This study used a retrospective analysis of archival data collected as a separate sample, pretest-posttest, quasi-experimental design to assess the relationship of to assess the relationship between the pre-intervention and post-intervention effect of EBET provided to direct care staff. There was a significant decrease in the HAPI prevalence rates in 2019 for adult, pediatric and overall hospital total as compared to 2018. There was a significant increase in the EBET knowledge of the nursing staff (inclusive of RNs, CNSs, NSs and CNAs) when comparing the pre- and post-testing. Ongoing direct care staff and champion education should continue to demonstrate a significant increase in knowledge about pressure injury prevention.

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Conflict of Interest

The authors declare there are no conflicts of interest.

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