Reducing Post-Partum Hemorrhage in a Community Hospital by Utilizing an Obstetric Hemorrhage: Patient Safety Bundle

- Tempest Pyram
- Touro University Nevada
- DNPV-767
- Project team: Tracey Johnson-Glover DNP, MSN Ed, RN
- Denise Zabriskie DNP, RN, ACUE, WCC
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Project Aim/Project Question

- The aim of this project was to reduce maternal morbidity and mortality after childbirth as evident by a decline in incidents of PPH by utilizing the OHPSB
- In a Community Hospital, will implementation of an OHPSB compared to current practice reduce the risk of maternal morbidity and mortality over a 4–5-week period?

Overview

- Postpartum hemorrhage (PPH) is an obstetric emergency that contributes to numerous occurrences of maternal morbidity and mortality.
- Hemorrhage is a leading cause of maternal death, counting for over a quarter of all maternal deaths globally (Tsolakidis et al., 2021).
- As a result of Joint Commission's recommendations, The Council of Patient Safety in Women's Health Care (CPSWHC)' have developed an Obstetric Hemorrhage Patient Safety Bundle (OHPSB).

Significance

- Nursing professionals will benefit from this project since it enhances standards of care while treating postpartum patients.
- The OHPSB employs evidence-based practice (EBP) to detect and manage the patients' risk for PPH and to treat the PPH if needed, using a standardized protocol to enhance patient safety.
- It is important to the nursing profession in a larger sense because it employs EBP and guidelines to adopt preventive, cost-effective, and patient-centered treatments to enhance patient care outcomes.

Practice Site

- The project site is a labor and delivery unit within a local community hospital located in the east Flatbush neighborhood of Brooklyn, New York.
- The hospital has over 627 beds and is well known for being a level 1 trauma center. It is in a low to middle socioeconomic neighborhood, which encompasses diverse populations such as African Americans and migrants from around the world.
- The project site is affiliated with the State University of New York, Downstate College of Medicine.
- The institution accepts a number of insurances, including Medicaid, Medicare, and private insurances, and the majority of patients have Medicaid managed insurance plans.

DNP Problem/Purpose Statement

- Early identification of PPH is a growing challenge in the local community hospital because current practice guidelines are not strictly adhered to. In obstetrics, reliable blood loss measurement, identification of risk factors, and prompt detection of postpartum hemorrhage remain important challenges (Andrikopoulou & D'Alton, 2019).
- There is strong data pointing to significant clinical gaps between current and actual practices (Jiranee et., .2021). Surveys taken from practicing registered nurses from the community hospital illustrate recognition of postpartum hemorrhage after the patient was deemed stable and for transfer to step-down care.
- Current practice at the community hospital includes estimation of blood loss which plays a significant factor in delayed recognition of PPH. Another factor is lack of education and reinforcement of current evidence base practice. The OHPSB serves to optimize the quality of care and deliver on the Joint Commission's latest guidelines. It includes performance of risk assessments, quantification of blood loss, and actively managing the third stage of labor.

Project Objectives

- To reduce the incident of maternal morbidity and mortality by promoting early identification and management of Postpartum hemorrhage with utilization of the OHPSB
- Implement multidisciplinary staff education to the OHPSB.
- Assess staff proficiency and OHPSB compliance utilizing pre and posttest

Review of Literature

The project themes enforce delayed recognition, identification, and timely intervention as attributing factors to PPH and the importance of standardization of care.

The link between many variables such as insufficient performance of risk assessments and estimation of blood loss provided adequate grounds for postpartum hemorrhage's frequency in the community hospital.

The Joint Commission as well as the selected articles suggest PPH can be positively impacted by standardizing care, hence the creation of the obstetrical hemorrhage patient safety bundle.

Theoretical Model: The Donabedian Model

Avedis Donabedian formulated the theory for assessing quality of care that is versatile enough to be used in a range of circumstances.

The model is constructed on three interconnected concepts: care structures and clinical outcomes, all in which will be crucial to implementing the OHPSB.

The Donabedian Model was created with functionality in mind so that it may be used in a variety of contexts. To improve the flow or interchange of information or patients, the model may be used to make structural and procedural changes inside any healthcare service unit.

The theoretical framework may be extended to systems and practices, which include detection and treatment of complications with the goal of reducing morbidity and mortality.

Donabedian Framework cont.'d

The Donabedian Framework can be incorporated at the project site to evaluate the quality of care while integrating progression mechanisms across general practice, as a framework for better health outcomes and care quality from the project site standpoint.

Because it assesses healthcare systems and implements solution using a multidimensional approach, the framework is extremely relevant to the project location.

By enhancing multidisciplinary communications and workers' perception of quality of treatment, improvements in structure and process have the potential to improve healthcare outcomes

Project Study Design

Thus, the data collected does reflect only short-term improvements. Long term results could not be measured but would potentially hold interest for the stakeholders.

The short timeframe also impacted how data was collected to measure reduced diagnosis of PPH in relation to the OHPSB.

The reduction in the diagnosis of PPH was monitored only during the implementation period and compared with the diagnosis of PPH data collected only one month prior to implementation.

This data collection method only produced a snapshot of data, not necessarily a cause-and-effect relationship between protocol usage and reducing PPH at the project site.

Discussion of Implementation

The project execution took five weeks and achieved all three objectives: an evidence-based OHPSB was used, which was tailored to the demands of the project site, and the project was completed on time.

Prior to implementing the OHPSB, interdisciplinary staff members were educated and trained in accordance with established procedures.

The OHPSB was used to assess the competence and compliance of the staff. Participant compliance was measured by chart audit each week to determine if reinforcement or reeducation was necessary.

Discussion of Implementation cont.'d

A discernible shift in compliance, with a significant increase in compliance from week two to week five demonstrating a favorable trend.

The engagement of stakeholders and project lead in reinforcement and reeducation was shown to be associated with an increase in compliance.

The project question was answered as evidenced by a decrease in the diagnosis of PPH was seen as a result of a general improvement in compliance with the bundle. This revealed, the educational intervention was associated with a decrease in the rate of PPH cases.

The most often reported cause for non-compliance by participants was a lack of time to complete the necessary paperwork with patients during their scheduled sessions.

Implementation cont.'d

The participation of all members of the project site was critical to the successful implementation of the OHPSB.

In addition to complex organizational challenges, including activity modifications, interdisciplinary engagement, and interaction adjustments, implementing the OHPSB at the project site resulted in significant positive outcomes which include an increase in knowledge of participants from 60 -100%, improvement in compliance, and the reduction in the diagnosis of PPH.

The OHPSB benefits may also be critical in potential financial savings. When women are diagnosed with PPH, provider productivity is increased by performing emergent care such as frequent examinations, implementation of additional therapies, and prolonged hospital stays in order to properly treat people who have encountered the adverse event which can be extremely costly.

Anticipated Obstacles

- It was anticipated by the project lead that obstacles would arise in converting current practice to best practice even though the OHPSB has a great deal of promise for standardizing the quality of care at the project site.
- Obstacles included difficulty in changing the present practice paradigm because of opposition and criticism from colleagues, as well as a lack of confidence in evidence or research.
- However, none of these obstacles were noted during implementation. It was also anticipated by the project lead that implementing the OHPSB at the project site would enable all healthcare personnel to feel and function as valuable members of the treatment team.
- A collaborative team approach proved more effective in hastening the adoption of the OHPSB, which proved to enhance PPH results even more.

Evaluation

Pretest-nine participants scored between 60 and 68.4. Fourteen participants scored between 68.4 and 76.8. Twelve participants score between 76.8 and 85.2.

Posttest-seven participants had scores between 80 and 88.4. Eleven participants received scores ranging from 88.4 to 96.8. Seventeen participants scored between 96.8 and 100 points.

A paired t-test is used when we are concerned with the consistency or inconsistency between two variables for the same matter (Kim, 2015).

Evaluation cont.'d

The results indicate the mean for the Pretest is 70.8571428, and for the Posttest, it is 92.85714. If the p-value is smaller than the significance threshold, the difference between means is statistically significant and should continue with the two-tailed outcome (Wilkerson, 2008).

To determine the findings, use P(T<=t) two-tail, which is the p-value for the two-tailed variant of the t-test.

The null hypothesis may be rejected because the p-value (1.48338E-16) is smaller than the conventional significance threshold of 0.05 (95% confidence level). The Posttest mean is bigger than the Pretest mean, to be precise.

Evaluation

As a result of the projects implementation the diagnosis of PPH declined from 20 % to 15% over the five-week period. The project question, “In a Community Hospital, will implementation of an OHPSB compared to current practice reduce the risk of maternal morbidity and mortality over a 4–5-week period?” was addressed.

The project implementation clearly demonstrated early identification, prevention, and management of PPH to the nature of lowering the rates of maternal morbidity and mortality.

Across the board, compliance reached a high point in week five, with 17 out of 20 compliant charts, or an 85 percent compliance rate. Between week two and week 5, there was a continuous rise in the number of participants which demonstrated chart compliance (Figure 3).

The average weekly total chart compliance rate remained average, with a mean compliance rate of 11.25 out of 20 audited charts every week, or a weekly compliance rate of 56.25 percent on average, according to the data.

Dissemination

- The outcomes of the project were communicated to the stakeholders in person beginning in the fifth week of the project's implementation phase.
- The results of the audit were discussed with each participant personally, and suggestions for improvement were made based on their input.
- Areas that require more remediation include reinforcement using QBL, completion of risk assessments, and completion of documentation. The enhanced collaboration between participants and the patients identified as moderate to high risk for PPH was positively received by all.

Dissemination

- As a result, the current document can be presented PPH conferences and events by liaising with the community hospital's communication team (NIHR, 2019).
- Additionally, several channels can be used to address the information dissemination and ensure the message reaches the target audience, including websites, social media, reports to funders, and physical meetings with the stakeholders.
- The project will be disseminated with a digital poster presentation. The stakeholders will be provided with official information on the project. In addition to the project being uploaded to the DNP repository, it will also be presented orally to members of the TUN faculty and peers via virtual meeting.

Conclusion

- The implementation of an OHPSB at a community hospital as part of a quality improvement initiative had the overarching goal of reducing the number of women who experienced postpartum hemorrhage. In addition to this, the project lead wanted to incorporate preventative evaluations and a procedure that was based on quality research in order to assist participants with decision making and therapeutic interventions that would potentially lead to a reduction in the risk of postpartum hemorrhage. All objectives for this DNP project was successfully accomplished.
- The risk of postpartum hemorrhage can be reduced, and preventative measures can be taken, provided that one follows the most recent recommendations and EBR. Although postpartum hemorrhage can never be completely avoided, it is possible to enhance the care of patients who present with risk by increasing provider competence, implementing collaborative measures, and adding procedures.
- In general, the OHPSB helped participants become more compliant, competent, and confident in their treatment of patients who had a risk for postpartum hemorrhage. Participants applied risk assessments more accurately, and the OHPSB assisted with overall management by providing a protocol and raising participants' levels of awareness.

References

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