

Title:

Toward a Culture of Safety: Optimizing Intrapartum Fetal Assessment and Management Through an Interprofessional Approach

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Abstract Summary:

The purpose of this project is to evaluate the impact of an inter-professional educational intervention on perceptions of knowledge gain and safety outcomes specific to intrapartum fetal assessment.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Describe healthcare professionals’ perceptions of their knowledge related to the National Institute of Child Health and Human Development Workshop report on Electronic Fetal Monitoring (NICHD)	Present analysis of an interactive online learning tool given to study participants
Discuss impact of inter-professional educational intervention on knowledge and skill scores	Present pre and post evaluation results on perception of knowledge and skills related to NICHD definitions, components of ongoing fetal assessment, algorithm for management of category II tracings, factors that can contribute to patient harm, components and benefits of SBAR communication.
Discuss impact of intervention on unexpected NICU admits	Present comparison of pre and post intervention on unexpected NICU admissions
Interpret pre and post intervention employee engagement survey as it applies to patient safety	Present data on intervention effect specific to pre and post staff engagement surveys

Abstract Text:

Intrapartum electronic fetal monitoring (EFM) has been an essential component of the intrapartum landscape for decades. Not only has the technology been available since the late 1970s, its use is widespread. In the U.S., it is estimated that every year nearly 3,500,000 women undergo electronic fetal surveillance during labor, making it one of the most common procedures laboring women experience.

Despite the prevalence and experience with EFM, several areas of concern exist. In 1997, and then again in 2008, the National Institute of Child Health and Human Development (NICHD) clarified and standardized definitions of fetal heart rate patterns and proposed categories of fetal patterns. However inconsistent application of those definitions continues among obstetric team members. Additionally, professional organizations such as the Association of Women's Health, Obstetric and Neonatal Nursing (AWHONN), American Congress of Obstetricians and Gynecologists (ACOG), Society for Maternal Fetal Medicine (SMFM) and others have endorsed the 2008 NICHD document, competencies, position statements, and practice bulletins regarding the use of electronic fetal monitoring. Yet, issues with communication and assessment have been consistently linked as contributory factors in perinatal sentinel events. It is estimated that every year over 4000 births have adverse outcomes that might have been preventable, most of these occurring during intrapartum period.

In 1993, when AWHONN launched the first nationally standardized EFM curriculum, perinatal nurses embraced the new product with enthusiasm and high hopes for a more consistent approach. In fact in 2015, 15,000 nurses attended the AWHONN Intermediate Fetal Monitoring Course. On the other hand, physician engagement was a very different story. In that same year only 168 physicians participated. During residency, both obstetric and family medicine have required curriculum specific to FHR monitoring. Nonetheless, it is not in the form of a widely accepted standardized course. To add, contrasted with courses that cover complex patient care situations that depend on highly performing teams such as Advance Cardiac Life Support and Neonatal Resuscitation, inter-professional intrapartum fetal assessment education is inconsistent at best. Acknowledging these issues, several larger health care organizations have begun to require both obstetric providers and nurses learn the application, interpretation, and management of intrapartum fetal assessment from a shared platform. Strikingly, most birthing facilities do not require ongoing fetal monitoring competency of all team members or inter-professional learning.

Aim/Goal/Purpose statement

The purpose of this project is to evaluate the impact of an inter-professional educational intervention on perceptions of knowledge gain and safety outcomes specific to intrapartum fetal assessment.

Methods

A pre-posttest design was employed for this project. The intervention entailed an inter-professional educational session coupled with a social learning platform. All maternal-child providers and nurses (RNs) were invited to participate. With a social learning tool, participants were given an author-developed questionnaire of seven questions specific to the NICHD nomenclature immediately prior to the educational session. The educational session was designed to be interactive through use of audience participatory technology and also included real-live case scenarios. Participant perceptions of knowledge and skill on fetal monitoring terminology, components of an intrapartum fetal assessment, factors contributing to potential patient harm, and components of SBAR communication were collected pre and post intervention. In total, six knowledge areas were assessed pre and post. Ongoing project effectiveness was evaluated by analysis of the incidence of unexpected neonatal intensive care admissions before and after the intervention. Finally, using an employee engagement survey, specific elements of a culture of safety were compared pre and post intervention. Descriptive and inferential analyses were conducted on the data collected.

Results

One hundred and thirty-one participants engaged in the intervention. 65% were labor and delivery RNs; 15% were residents/fellows; 7% were staff physicians; and 4% were advanced practice nurses. Of all respondents, 49% had zero to three years of experience, 27% had 3-6 years, 8% 6-9 years and with 38% reporting nine years or more. From the questionnaire administered via the social learning tool, the question answered correctly most frequently was related to the definition of category I tracings with 64% of respondents being correct. The question with the least frequently correct responses was the definition of tachysystole with only a 19% correct response rate. Family medicine physicians as a group did not do as well compared to labor and delivery nursing. However, there was no

other significant variation in groups. For the educational intervention, results of the pre and post intervention evaluation demonstrated a significant impact with small to large effect sizes in all six of the domains evaluated – Definitions of essential elements of an intrapartum fetal assessment ($p < .005$, small effect .11); Components of a comprehensive fetal assessment ($p < .005$, large effect .47); Algorithm for management of category II tracings ($p < .005$, medium effect .15); Factors that contribute to potential or real harm in labor and delivery units ($p < .005$, small-medium effect .13); SBAR communication ($p < .005$, medium effect .23); SBAR benefits ($p < .005$, small effect .11). Lastly, there was a 43.7% decrease in the number of unexpected NICU admits from January to April 2016 as compared to the same period 2017. The results of the employee engagement survey results are still pending.

Conclusions

While it is impossible to contribute this kind of change to this intervention alone, the commitment to developing highly reliable teams, improved recognition, management and communication of fetal status changes could potentially be a contributing factor. These findings underscore the continued need for both initial and ongoing education that is rooted in professional standards and competencies. Additionally, obstacles to understanding and using standardized fetal monitoring language and assessment among the obstetrical team need to be addressed. Lastly, it is paramount that we gain insight into barriers of provider engagement in inter-professional fetal monitoring education, safety and quality. More work is needed to address how to effectively engage healthcare professionals in inter-professional education to optimize and standardize intrapartum fetal assessment, interpretation, and management.