Perceptions of collaboration and satisfaction about care decisions between fetal monitor certified and non-certified health care providers

Joanne McDowl, DNP, RNC-OB, C-EFM
Fetal Monitoring

- Developed in the 1960’s (Parer & King, 2000)
- Goal was to identify hypoxia in the fetus (Simpson & Knox, 2000)
- Initial education regarding fetal monitoring was given by manufacturers of the machine (Schmidt, 2000)
- Practitioners then passed their knowledge on to newer practitioners (Schmidt, 2000)
Fetal Monitoring

Problems

- Practitioners developed their own language
- Practitioners developed their own interventions in relation to what they saw on the monitor
- Interdisciplinary communication suffered since practitioners did not understand what other practitioners were telling them
Patient Safety

- Institute of Medicine released its report on medical errors in 1999.
- Fetal heart rate monitoring was a common factor in 77% of cases of poor outcome.
Patient Safety

- Competency in fetal monitoring interpretation was a factor.
- Hierarchy, intimidation and poor communication impeded teamwork which was a major factor in adverse outcomes.

Recommendations of JCAHO & IHI

- Team training
- Development of protocols and guidelines
- Interdisciplinary education
- Ensuring competency in EFM Interpretation
- Clear communication

Interdisciplinary team met in 1999
- Goal was to establish one language related to EFM
- NICHD terminology poorly adopted across country
- Inconsistencies with EFM interpretation persist
Interdisciplinary Collaboration

- **Shared responsibility** (Baggs & Schmitt, 1988)
- **Shared decision making** (Baggs, 1994)
- **Common goal** (Stichler, 2003)
- **Collaboration requires acknowledgment and valuing of team members’ knowledge and expertise** (Coeling & Cukr, 2000; Weiss & Davis, 1985)
Statement of the Problem

- Interdisciplinary collaboration improves patient outcomes  (Baggs, Ryan, Phelps, Richeson, & Johnson, 1992)
- Interdisciplinary collaboration requires communication  (Casanova, Day, Dorpat, Hendricks, Theis, & Wiesman, 2003)
- Communication requires speaking the same language  (Simpson, 2004)
- Lack of standardized definitions regarding fetal heart rate interpretation leads to miscommunication and disagreement among perinatal team members  (Parer & King, 2000)
Background

Perinatal safety is dependent on professional caregivers’ knowledge, skill, and collaboration.
Positive patient outcomes have been linked to collaboration among caregivers.
Collaboration requires cooperation and communication.
Communication requires a common understanding of events and vocabulary.
To improve collaboration between nurses and physicians at one institution in the Northeastern United States all perinatal staff were required to complete an interdisciplinary electronic fetal monitor (EFM) strip interpretation course, and obtain certification from the National Certification Corporation.
Purpose of the study

The purpose of the study was to compare EFM certified perinatal care providers’ perceptions of collaboration and satisfaction about care decisions to providers who have not obtained EFM certification.
Significance to Nursing

- Knowledge and use of same terminology would improve communication
- Communication is an attribute of collaboration
- Collaboration among perinatal caregivers would decrease adverse perinatal outcomes
Research Questions

What are the perceptions of collaboration in making care decisions based on EFM strip interpretation between certified and non-certified healthcare providers?

What are the perceptions of satisfaction with care decisions based on EFM strip interpretation between certified and non-certified healthcare providers?

What are the perceptions of collaboration and satisfaction with care decisions based on EFM interpretation between physicians and nurses?
Donabedian’s Model for Assessing Quality of Care

Structure

Interdisciplinary Education

NCC Certification

Process

Increased perceptions of collaboration and satisfaction with care decisions

Design

A descriptive comparative study

Setting: The labor and delivery units of two tertiary medical centers with like populations and staff.

Sampling: Physicians and nurses with more than one year experience in labor and delivery.

One institution requires National Certification Corporation certification in FHR interpretation, the other does not
Participants were asked to complete a demographic sheet.

Perceptions of collaboration and satisfaction were measured with the Collaboration and Satisfaction About Care Decision Questionnaire.
Content Validity

Baggs’ instrument was used in the literature for intensive care units.

Content validity for use in the delivery room setting was obtained by a review of the tool by a panel of experts in fetal monitoring and collaboration.
Data Management

Data was analyzed using SPSS 16. Score obtained for the critical attributes of collaboration.
Score for how much collaboration was perceived.
Satisfaction score obtained for two questions on satisfaction.
Two tailed independent t tests were utilized to calculate differences in perceptions of collaboration between certified and non-certified healthcare providers.
Results

- Mean scores for attributes of collaboration, global question regarding how much collaboration, and satisfaction with care decisions fell above the middle of the range of possible scores
- Physician mean scores were slightly higher than Registered Nurses
- Certified providers scores slightly higher than non certified providers
<table>
<thead>
<tr>
<th>Study Group</th>
<th>N</th>
<th>Collaboration Attribute (M ± SD)</th>
<th>Global Collaboration (M ± SD)</th>
<th>Satisfaction about Care Decisions (M ± SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN</td>
<td>57</td>
<td>4.45 ± 1.38</td>
<td>4.50 ± 1.46</td>
<td>4.77 ± 1.50</td>
</tr>
<tr>
<td>MD</td>
<td>21</td>
<td>4.77 ± 1.45</td>
<td>5.33 ± 1.06</td>
<td>5.40 ± 1.22</td>
</tr>
<tr>
<td>Certified</td>
<td>45</td>
<td>4.64 ± 1.32</td>
<td>4.82 ± 1.33</td>
<td>5.12 ± 1.31</td>
</tr>
<tr>
<td>Non Certified</td>
<td>33</td>
<td>4.40 ± 1.51</td>
<td>4.60 ± 1.51</td>
<td>4.69 ± 1.61</td>
</tr>
<tr>
<td>Certified RN</td>
<td>34</td>
<td>4.62 ± 1.34</td>
<td>4.70 ± 1.38</td>
<td>4.98 ± 1.42</td>
</tr>
<tr>
<td>Non Certified RN</td>
<td>23</td>
<td>4.21 ± 1.43</td>
<td>4.21 ± 1.56</td>
<td>4.45 ± 1.59</td>
</tr>
<tr>
<td>Certified MD</td>
<td>11</td>
<td>4.71 ± 1.31</td>
<td>5.18 ± 1.00</td>
<td>5.54 ± .789</td>
</tr>
<tr>
<td>Non Certified MD</td>
<td>10</td>
<td>4.85 ± 1.67</td>
<td>5.50 ± .97</td>
<td>5.25 ± 1.60</td>
</tr>
</tbody>
</table>
Results

- Study groups were divided into RN and MD, certified and non-certified, certified and non-certified MD, certified and non-certified RN, certified RN and MD, non-certified RN and MD.
- Two tailed independent t tests were not significant.
- Multiple regressions were not significant for certification predicting attributes, amount of collaboration and satisfaction.
Multiple regressions were not significant for position predicting attributes of collaboration or satisfaction, however were significant in predicting how much collaboration for physicians.

If participants are physicians, score for how much collaboration are expected to increase by .825 units.
<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Attributes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.140</td>
<td>.482</td>
</tr>
<tr>
<td>Provider</td>
<td>.319</td>
<td>.359</td>
</tr>
<tr>
<td>Collaboration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.684</td>
<td>.471</td>
</tr>
<tr>
<td>Provider</td>
<td>.825</td>
<td>.350</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.139</td>
<td>.492</td>
</tr>
<tr>
<td>Provider</td>
<td>.633</td>
<td>.366</td>
</tr>
</tbody>
</table>
Significance of the Study

EFM strip interpretation is the responsibility of all healthcare providers caring for laboring women.

Collaboration is an important tool for patient safety.

It is important for healthcare providers develop methods of increasing collaboration.

Certification indicates that providers have passed an exam based on one set of standards.
Limitations

- Small sample size
- More nurses responded than physicians
- Purposive sample from two institutions with similar labor and delivery units
- Similarities between perinatal care providers
Future Research

Effect of different variables on collaboration and satisfaction with care decisions (age, education, experience)

Different methods to increase collaboration (interdisciplinary strip interpretation rounds, ongoing interdisciplinary education)

Clearly define collaboration
Conclusion

- Interdisciplinary collaboration is an important tool in providing patient safety
- Results of this study do not support certification as a method of increasing collaboration
- Caregivers need to continue to search for methods that do increase collaboration
References


