The Influence of Nursing Labor Support on the Reduction of Cesarean Sections

Cheryl Bellamy

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Henry Ford Hospital
9/23/2021
Project Committee

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McAuley School of Nursing
Associate Professor

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Detroit, Michigan
What is Labor Support?

• The intentional human interaction between a perinatal nurse and the laboring woman that assists with positive coping during the process of labor & birth.

• Recorded events in nearly all societies throughout the ages, display laboring women being helped & comforted, in a manner often referred to as “mothering the mother”.

• Continuous labor & delivery support:
  • One of the approaches to reduce cesarean birth rates.
  • Increases the woman’s access to nonmedical interventions during labor.
  • Has a patient-centered focus of treating the laboring woman with: KINDNESS, RESPECT, DIGNITY, & CULTURAL SENSITIVITY.

• Dimensions of Labor Support:
  • Emotional Support
  • Tangible/Physical Support
  • Informational Support
  • Advocacy

Adams and Sauls, 2014; Sauls, 2004; Simpkin, 2004; Butts and Rich, 2020; AWHONN, 2019
## Project Purpose

### Primary Objective

Incorporate a Hands-On Labor Support Class for Labor & Delivery nurses to:

- Enhance skills and knowledge of labor support techniques utilized during the first and second stage of labor.
- Reduce Nulliparous, Term, Singleton, Vertex (NTSV) Cesarean Birth Rate.
- Reduce Total cesarean section rate.

### Secondary Objective

To compare birth beliefs of L&D nurses related to birth practice before and after attending the hands-on Labor Support Class.

- Theory of Planned Behavior (TPB). Selected to explore the links between beliefs of labor nurses and their birth practice behavior.
- Links an individual’s personal beliefs as predictors of their behavior (intensions/actions), and answers the question: *"Why do we do what we do and act the way we act?"* 

Ajzen, 1991
Project Description: 3-Components

1. An interactive 8-hour hands-on labor support class aimed at merging:
   - Contextual (mind) learning focusing on “why” & “when”.
   - Kinesthetic (hand/body) learning focusing on “what” & “how”.

2. Staff Survey: Intrapartum Nurse’s Beliefs Related to Birth Practice by Ellise D. Adams, PhD, CNM

3. The overall all process improvement strategies will enhance/clarify current knowledge, develop new techniques, provide latest information, and increase confidence in the care of laboring women thus influencing birth outcomes and impacting:
   - Nulliparous, Term, Singleton, Vertex (NTSV) Cesarean Birth Rate
   - Total Cesarean Section Rate
Methods

Study Design: Descriptive Mixed-Method Design

Quantitative Measures

1. Total cesarean section (C/S) rates.

   C/S & NTSV data collection:
   • Pre-intervention: April 2019 & May 2019
   • Post-intervention: January & February 2020

3. Additional quantitative measures included use of the IPNBBP survey tool to analyze nurse beliefs related to normal birth in comparison to medicalized birth.

Qualitative Measures

Use of the IPNBBP tool included thematic analysis of two-open ended questions about the individual nurses’ beliefs related birth practice.


2. Post-intervention IPNBBP survey sample period occurred two months after last labor support class: March 1, 2020 – March 31, 2020.
Intervention: Labor Support Class

1. Labor Support and Management Lecture (lecture/video)
2. An interactive 8-hour hands-on labor support class aimed at merging:
   • Contextual (mind) learning focusing on “why” & “when”.
   • Kinesthetic (hand/body) learning focusing on “what” & “how”.
3. Maternal positioning in and out of birthing bed
4. Breathing techniques
5. Peanut balls
6. Birthing balls
7. Aromatherapy (4-essential oils)
8. Music therapy
9. Massage
10. Ambulation
11. Hydrotherapy (shower/tub)
12. Robozo
13. Delayed pushing in the second stage of labor
14. Use of the coping scale in assessing discomfort in labor
15. Birth Affirmations
16. What is YOUR WHY?
## Results, Section 1: IPNBBP Survey, Quantitative Data-Intrapartum Nurse Experience

<table>
<thead>
<tr>
<th>Labor Support Class Items</th>
<th>Pre (N-69)</th>
<th>Post (N-34)</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Unmedicated Vaginal Birth</td>
<td>67 (97.10%)</td>
<td>34 (100%)</td>
<td>2.9%</td>
</tr>
<tr>
<td>2. Ambulation for Labor</td>
<td>65 (94.2%)</td>
<td>33 (97.06%)</td>
<td>2.86%</td>
</tr>
<tr>
<td>3. Intermittent Fetal Monitoring</td>
<td>66 (95.65%)</td>
<td>34 (100%)</td>
<td>4.35%</td>
</tr>
<tr>
<td>4. Laboring Down</td>
<td>69 (100%)</td>
<td>34 (100%)</td>
<td>no change</td>
</tr>
<tr>
<td>5. Use of breathing &amp; relaxation techniques</td>
<td>65 (94.2%)</td>
<td>34 (100%)</td>
<td>5.8%</td>
</tr>
<tr>
<td>6. Hydrotherapy</td>
<td>26 (37.68%)</td>
<td>14 (41.18%)</td>
<td>3.5%</td>
</tr>
<tr>
<td>7. Encouraging Upright Positioning during labor &amp; birth</td>
<td>59 (85.51%)</td>
<td>30 (88.24%)</td>
<td>2.73%</td>
</tr>
</tbody>
</table>
## Results, Section 2: Quantitative IPNBBP Survey Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>P-value</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>0.3209</td>
<td>No significant statistical difference</td>
</tr>
<tr>
<td>Medicalized Birth Scores</td>
<td>0.0510</td>
<td>(marginal significance noted)</td>
</tr>
<tr>
<td>Normal Birth Scores</td>
<td>0.5439</td>
<td>No significant statistical difference</td>
</tr>
</tbody>
</table>
Results: Section 3, IPNBBP Survey Qualitative Data

Questions:
1. According to my birth beliefs r/t birth practice, the birth process is:
2. According to my birth beliefs r/t birth practice, my role as an intrapartum nurse in the birth process is:

Top 5 Pre/Post Themes
1. Support (89)
2. Safety (73)
3. Natural/normal (48)
4. Teach/educate (47)
5. Helping (35)
## Results: Quantitative Total C/S & NTSV C/S Rate

<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>April 2019</td>
<td>May 2019</td>
</tr>
<tr>
<td><strong>Total Deliveries</strong></td>
<td>197</td>
<td>250</td>
</tr>
<tr>
<td><strong>Total C/S Rate</strong></td>
<td>27.9% (n=55)</td>
<td>29.2% (n=73)</td>
</tr>
<tr>
<td><strong>Average C/S Rate</strong></td>
<td><strong>28.55%</strong></td>
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<tr>
<td><strong>NTSV C/S Rate</strong></td>
<td>24%</td>
<td>19%</td>
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<tr>
<td><strong>Average NTSV Rate</strong></td>
<td><strong>21.5%</strong></td>
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</table>

**% Difference Pre-Post**

- **Total C/S**: 3.9% higher
- **NTSV C/S**: 1% Lower
## Clinical Implications

### Hands-on Labor Support Class
- 31-Intrapartum nurse experience items assessed.

### Intrapartum Nurse’s Beliefs Related to Birth Practice Survey
- Comparison of normal birth to medicalized birth.
- 28-items

- Overall, the nurses beliefs (pre & post) are more closely associated with elements of a normal birth.
- The post survey results significantly changed to fall more narrowly within the range of normal birth.

### Overall all process improvement strategies will enhance/clarify current knowledge, develop new techniques, provide latest information, and increase confidence in the care of laboring women thus influencing birth outcomes and impacting.
- **Nulliparous, Term, Singleton, Vertex (NTSV) Cesarean Birth Rate**
- **Total Cesarean Section Rate**

### Results
- 7-intrapartum nurse experience items included in training.
- Experience with all items, except for laboring down, increased **2.73%-5.8%** comparing pre- and post-intervention.
- NTSV cesarean rate decreased by 1%
- Total C/S rate increased by 3.9%
- It takes time & continued evaluation to see changes.
- Ongoing education of entire clinical team.
<table>
<thead>
<tr>
<th></th>
<th>Pre-Intervention</th>
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<th>Intervention</th>
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<th>Post-Intervention</th>
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<tbody>
<tr>
<td></td>
<td>Medicalized Birth</td>
<td>Normal Birth</td>
<td>Labor Support Class</td>
<td>Medicalized Birth</td>
<td>Normal Birth</td>
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<td>105</td>
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**Data Analysis**

**Results**

**Quantitative Score Distribution**

- **Tool Range**
  - Normal Birth: 68-102
  - Medicalized Birth: 11-33

- **Participant Range**

- **Participant Mean score**

- **Labor Support Class**
  - Normal Birth: 29
  - Medicalized Birth: 84.13
  - Post-Intervention: 47.62
  - Post-Intervention: 86.06
Barriers/Limitations

• COVID-19 Impact
  • Post intervention survey (January 2020/February 2020)
  • C/S data collection
  • NTSV cesarean birth data collection
  • Data analysis pause due to biostats critical focus on COVID-19 research
• Length of time to complete survey
• Inability to provide an electronic survey (IT barriers)
• Pre & post participation as aggregate data (Limitations)
Impact

• **Obstetrics Initiative (OBI)** is a Collaborative Quality Initiative (CQI) funded by Blue Cross Blue Shield of Michigan/Blue Care Network. It is comprised of 75 Michigan maternity hospitals.

• The first initiative is supporting physiologic vaginal birth and safely lowering the cesarean delivery rate among low-risk (for cesarean delivery) patients.

• The author’s project used as the foundation to develop **Moving our Mamas (MOMs) Labor Support Toolkit** for the 75-participating birthing in the state of MI.

  - **Planning/Development**: Q3 2020/Q4 2020. **Go-live**: Q1 2021

    **Phase 1**: Pre-learning: What is Labor Support/RN Role? (self directed learning)

    - **Phase 2**: Facilitated virtual class: What/Why Labor Support?

    - **Phase 3**: Facilitated Hands-on Labor Support Techniques at individual sites: How?

• Team: HFHS, Ascension Health, Munson Health Care, University of Michigan, OBI)

  • Developed Labor Support Training video, Tip Sheet, Train the Trainer Class, Sample CE App.)

• Expansion/continuation of labor support research (data tool & hands-on class)
Sustainability

- Continuing to track total C/S and NTSV cesarean birth rates
- Annual RN Staff Education
- New Hire Orientation for OB RNs
- **Childbirth Education (CBE) Class Instructors** The labor support techniques taught in the class can be utilized to enhance the education provided to parents in the CBE Class.

**Labor Support Grant/Funding:**

- PI received $900 HFHS Nursing Research Grant for project.
- HFHS received a $5000 grant modeled after PI’s project from the Obstetrics Initiative (OBI) to provide labor support education/training for the health system.
- MOMs Planning Team received $8000 sponsorship from BCBS to develop a teaching/learning labor support video

**Moving our Mamas (MOMs) Labor Support Training** (https://www.obstetricsinitiative.org/labor-support-training)

- HFHS and the State of Michigan OBI participating hospitals (~75)
- Possible expansion to other states.

- Conference presentations
- Journal Publication
- Collaboration with other clinicians
Take Home Message

• A personal set of beliefs related to birth practice establishes accountability to peers, patients, and society at large while also providing meaning to the work of the perinatal nurse within the context of the birth environment.

• Labor support education and training can:
  • increase nurse beliefs related to normal birth in comparison to medicalized birth.
  • enhance the maternal, newborn, family, and clinician birth experience and outcomes.
Acknowledgements

• HFH Labor & Delivery Nurses
• Support System (husband, children, siblings, family, friends)
  • Dr. Lori Glenn, UDM/Elikem Amable, CNM, HFH
  • HFH & HFHS Nursing Leadership Team & OB Providers
  • Co-facilitators (Wendy, Mesha, Kate)
  • HFH Biostatistics (Ed Peterson & Kylie Springer)
  • UDM-DNP Faculty (Dr. Burson, Dr. Rouen, & all instructors)
  • HFHS DNP Cohort (#WGT): Dr. Edith Combs, Dr. Mary Echols, Dr. Cathy Draus, Dr. Jeanette Tanafranca, Dr. Noel Koller-Ditto, Dr. Taylor Brazelton, Gina Aquino
• Nursing Colleagues
• Obstetrics Initiative
• Moving our Mamas (MOMs) Labor Support Team
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Thank You!
Questions?

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