Development of the Obstetric Falls Risk Assessment System to Improve Patient Safety

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Background

- Pregnancy places the hospitalized woman at risk for falls when attempting to ambulate

- Existing tools focus on geriatric or general Medical-Surgical patients (Myers, 2003)
  - Morse Falls Score
    - Most widely used because well researched
    - Excluded the obstetric patient population (Morse et al., 1989)

- No fall risk assessment tools exist for hospitalized obstetric patients
Purpose

- To develop and implement a falls risk assessment tool for hospitalized obstetric patients, called the *Obstetric Falls Risk Assessment System (OFRAS)*

- To evaluate the validity and reliability of the OFRAS tool
Methods

• Phase I: Develop and Implement a Guideline of Care for Assessing the Risk of Falls Among Perinatal Patients

• Phase II: Develop, Implement and Evaluate the OFRAS Tool

• Phase III: Determine the Validity and Reliability of the OFRAS Tool
Phase I: Developing a Fall Prevention Guideline

National Patient Safety Goal #9:

*Reduce the risk of patient harm resulting from falls*

- Appropriate for population, settings and services provided
- Interventions to reduce the patient’s fall risk factors
- Educate staff, patients and families
- Evaluate to determine effectiveness
Phase I: Identifying Obstetric Fall Risk Factors

- Post general or regional anesthesia
- Post prolonged bedrest
- Large blood loss or postpartum hemorrhage
- Medication regimen
  - Tocolytics (nifedipine)
  - Anti-hypertensives
  - Narcotic analgesics
  - Sleep aids
- Elimination variances
  - Urination frequency or urgency
- Anemia
- Fatigue
- History of fall during pregnancy
  - Change in center of gravity
  - Gait changes
- Visual Impairment
Phase I: Perinatal Falls Assessment Guideline

• Identify fall risk factors for the obstetric patient

• Guideline relies on nursing judgment to determine fall risk

• Interventions focus on assisting the patient to the bathroom
  
  – 37% of inpatient falls occur during ambulation for toileting needs (Hitcho et al., 2004)
Phase I: Results
Guideline Implementation

- Moved to Ronald Reagan UCLA Hospital June 2008
- Completed staff training of new perinatal falls assessment guideline May 2009
Phase II: Decision to Develop a Obstetric Fall Risk Tool

• Clinical Judgment vs. Fall Risk Tools
  – Vassallo et al., 2008
    • Clinical judgment higher specificity
    • Clinical judgment lower sensitivity
  – Myers et al., 2003
    • Comparable sensitivity for clinical judgment and tools
    • Nurses with less experience had lower accuracy
**Phase II: Organization**

- **Obstetric Falls Task Force**
  - Team included Staff RN, Unit Manager, Assistant Manager
  - Weekly to Bi-weekly meetings

- **Obstetric Falls Committee**
  - Collaborated with the director UCLA Evidenced Based Practice and researcher from UCLA School of Nursing
  - Monthly to Quarterly meetings
Phase II: Development of the OFRAS Tool

Obstetric risk factors stratified into categories:

1. Cardiovascular
2. Postpartum hemorrhage
3. Medication
4. Motor/activity
5. Neurological function
6. Prior history
### Phase II: OFRAS Sample Scoring Table

<table>
<thead>
<tr>
<th>OB Fall Risk Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prior History</strong></td>
<td></td>
</tr>
<tr>
<td>Hx of falls in last trimester</td>
<td>(2)</td>
</tr>
<tr>
<td>Visual Impairment</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-eclampsia</td>
<td>(2)</td>
</tr>
<tr>
<td>Positive Orthostatic vital signs</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Postpartum Hemorrhage</strong></td>
<td></td>
</tr>
<tr>
<td>QBL NSVD 1000 to 1500ml</td>
<td>(2)</td>
</tr>
<tr>
<td>QBL &gt; 1500ml</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Medication</strong></td>
<td></td>
</tr>
<tr>
<td>IV/IM Narcotics w/in 30 mins</td>
<td>(1)</td>
</tr>
<tr>
<td><strong>Neurofunction/Anesthesia</strong></td>
<td></td>
</tr>
<tr>
<td>Anesthesia &lt; 3 hours</td>
<td>(3)</td>
</tr>
<tr>
<td>PP recovery start &lt; 3 hours</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Motor/Activity</strong></td>
<td></td>
</tr>
<tr>
<td>Unable to bend knee or move one or both LE</td>
<td>(3)</td>
</tr>
</tbody>
</table>

**Fall Risk Score** (only highest score for each category applies) 0-18
Phase II: Evaluation of the OFRAS Tool

• Applied OFRAS tool retrospectively to 7 obstetric patient falls and 14 near miss falls

• Modifications made to OFRAS tool based upon the retrospective review:
  – Hemorrhage
  – Vulnerable 3 hour post delivery time frame
  – Motor/sensory assessment post anesthesia
Phase II: Implementation of OFRAS

- Implementation of the OFRAS tool into perinatal EMR
  - Flowsheets
  - Patient Education
  - Care Plans

- Update current and educate new staff to improve inter-rater reliability
  - Case studies presented

- Staff feedback
  - Huddle
  - Clinical RN III Quarterly Preceptor Workshop
Phase II: Nursing Guideline Revision

- OFRAS score 0-2: low fall risk

- OFRAS score 3-4: appears sensitive to predict moderate fall risk
  - Assist to bathroom until score is 0-2

- OFRAS score > 5: appears sensitive to predict high fall risk
  - Delay ambulation
  - Consider alternate voiding methods
Phase III: Future Plans

Determine Validity & Reliability for the OFRAS Tool

• Retrospective analysis of 100 epiduralized obstetric patients using OFRAS tool
  – Test for sensitivity in measuring the patient’s readiness to ambulate after regional anesthesia

• Prospective data collection using OFRAS tool
  – Test for reliability, validity and sensitivity
  – Expand to multi centers
Acknowledgements

Research Team:
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Perinatal Nursing Staff