Among the five UPMC sites in the region, overall induction rates range from 35-45% of patients. At all sites, various induction methods are utilized which require the patient to be hospitalized until delivery. This induction process will last on average 1-2 days, requiring a greater number of RN staff to care for the patient, along with increased cost associated with the hospital admission. With a large number of women who decide to have an induction of labor (IOL), it is important that healthcare professionals have the option to send women home after the induction method has been placed to increase satisfaction.

**Methods of Literature Search Using John’s Hopkins Model for EBP**

<table>
<thead>
<tr>
<th>Search Engines Used</th>
<th>PubMed, CINAHL, Cochrane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search Terms &amp; Filters Used</td>
<td>Labor induction, balloon catheter, labor, pre-induction, cervical ripening, outpatient, induction of labor Filters: published 2015-2020</td>
</tr>
</tbody>
</table>

### Background and Significance

In a pregnant patient undergoing low-risk cervical ripening, does an outpatient cervical ripening balloon lead to a lower cesarean section rate and increased women’s satisfaction compared to inpatient inductions utilizing the same method?

### PICO

- **In**: pregnant patient undergoing low-risk cervical ripening
- **Com**: an outpatient cervical ripening balloon
- **Ex**: lead to a lower cesarean section rate and increased women’s satisfaction
- **Out**: compared to inpatient inductions utilizing the same method

### Summary of Findings from Literature Review

#### C-Section Rates

- Outpatient (OP) groups had lower C-section rates (3%) for failed induction of labor than IP (17%) ($p=0.02$) (Policiano et al., 2017)
- Nulliparous women in the IP group delivered more infants through C-section (19%) d/t fetal distress than nulliparous women in the OP group (9.6%) with a $p$-value of 0.007 (Kruit et al., 2016)

#### Maternal Satisfaction

- Increased maternal satisfaction when patients experienced OP induction of labor (Alfirevic et al., 2020; Beckman et al., 2019; Kruit et al., 2016.)

### Strengths and Limitations of Evidence

<table>
<thead>
<tr>
<th>Author</th>
<th>Strengths</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kruit et al. (2016)</td>
<td>Studied multiparous and nulliparous women separately.</td>
<td>Satisfaction questionnaire was only given to those in the outpatient group</td>
</tr>
<tr>
<td>Policiano et al. (2017)</td>
<td>Statistical analysis using t-test and Chi-squared for C-section rates</td>
<td>No randomization to groups</td>
</tr>
<tr>
<td>Alfirevic et al. (2020)</td>
<td>Large population, Rigorous search</td>
<td>Evidence reported as being “very low certainty”</td>
</tr>
<tr>
<td>Beckmann et al. (2019)</td>
<td>This study had a diverse population, including 8 maternity hospitals across Australia</td>
<td>Evidence presented was not randomized</td>
</tr>
</tbody>
</table>

### Future Research and Recommendations

- A pilot study is recommended to look deeper into maternal satisfaction of cervical balloon IOL in the outpatient setting
- Conduct a study where both OP and IP groups are compared using the same method of induction (cervical balloon catheters)
- Cost-Benefit Analysis in regards to safety, patient satisfaction, provider buy-in and cost effectiveness (such as less beds and less staffing needs)

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