Assessment of Knowledge, Awareness, and Attitudes Towards Pertussis and Pertussis Immunization

Strategies in Post-Partum Mothers

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Background

The incidence of Bordetella pertussis infections has been increasing in North America and other regions; possible explanations include waning immunity, suboptimal immunization schedules, and rates. Pregnant women carry the highest morbidity, the majority of pertussis-related deaths happen among infants <2 months of age, prior to receipt of initial infant immunization. Two proposed strategies for the protection of infants too young to be vaccinated include vaccination of pregnant women in the 3rd trimester and cocooning, where all household contacts of a newborn are vaccinated in order to prevent transmission to the child. The level of knowledge and understanding by pregnant women about pertussis and its risks associated with pertussis infection, as well as the safety profile of the vaccine.

Methods

Participants were recruited at two obstetrical centers in Winnipeg in Aug 2012 and Jun-Aug 2013. All postpartum mothers were approached for the study. Exclusion criteria: mothers whose child was ill, and mothers who participated a 19 item questionnaire based on the Health Belief Model: demographics (7 questions), knowledge about pertussis (5 questions), beliefs and attitudes towards pertussis immunizations, and willingness to participate in third-trimester or mother only post-partum immunization (5 questions). Educational component with local inpatient pediatric pertussis data, to assess whether better education may affect participants’ responses. Survey results were analyzed using Pearson’s chi-squared test for independence where applicable.

Background and Objectives

o Only 5% of women reported discussing pertussis with their physician or midwife during their pregnancy despite 98% of maternal health care had prenatal care
o 63% of mothers in the high knowledge group (scores 4-6) were willing to receive a Tdap booster post-partum, compared to 46% of mothers in the low knowledge group (scores 0-3) (p = 0.037)

Knowledge

- Of 29 participants who at first disagreed with the statement “I would consider 3rd trimester vaccination,” 17 (59%) changed their minds after being asked to reflect on the statements
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Conclusions

1. A large proportion of post-partum mothers have limited knowledge regarding pertussis & its prevention strategies
2. There is a correlation between baseline knowledge and intent to vaccinate
3. Numerous opportunities exist in primary care or obstetrical visits for guidance and education
4. After receiving pertussis education, most post-partum mothers were amenable to at least one of the proposed strategies, with cocooning being the most preferred
5. Any of the proposed protective strategies would likely benefit from an educational campaign to increase patient awareness and buy-in

Figure 1: Assessment of knowledge regarding pertussis, pertussis infections and their consequences. (n=143)

Figure 2: Maternal preferences regarding proposed protective measures after receiving information regarding pertussis. (n=143)

Table 1: Demographic characteristics of interviewed women (n = 143)

<table>
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<tr>
<th>Age</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45-49</th>
<th>50 or over</th>
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<tbody>
<tr>
<td>%</td>
<td>16%</td>
<td>18%</td>
<td>24%</td>
<td>33%</td>
<td>15%</td>
<td>2%</td>
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<th>Education completed</th>
<th>Bachelor High</th>
<th>College High School</th>
<th>College</th>
<th>Diploma</th>
<th>Proficiency</th>
<th>Source of prenatal care</th>
<th>Tdap received Tdap booster</th>
<th>Tdap received prenatal care from a family physician</th>
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<td>26%</td>
<td>31%</td>
<td>11%</td>
<td>31%</td>
<td>68%</td>
<td>2%</td>
<td>0%</td>
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References