Abstract

The feeding method that parents choose for their infant may have an impact on the development of the infant’s respiratory system. It is important for all expecting mothers and fathers to know how breastfeeding their infant has long-life benefits to their respiratory health in comparison to formula feeding. This Evidence-based Practice (EBP) project focuses on how different feeding methods in infancy affects one’s chances of developing asthma during childhood. Although all mothers have a unified goal of feeding their baby to promote growth, it is the nurse’s responsibility to educate these families on the best method for feeding and how different feeding methods during infancy can affect the infant’s health for the rest of their lives. Research found that exclusive breastmilk feeding during the first six months of life can decrease the risk of asthma development. We recommend that education regarding these findings be implemented into prenatal and postnatal care.

Methods/EBP

This EBP project formed a PICO question that is used for research. A PICO question is a tool for creating evidence-based questions that include the population, intervention, comparison, and outcomes. The PICO questions to be answered in this research is: in infants and adolescents (P), what is the effect of breastfeeding (I) compared to formula feeding (C) on prevalence of asthma (O) in children?

Databases accessed from The Pennsylvania State University library were: CINAHL, PubMed, NCBI, and NLM, narrowing the search between 2012 and 2022. When searching for articles relevant to our PICO question, keywords used were breastfeeding, formula feed, infant feeding method, childhood asthma, respiratory disease, wheezing, autoimmune, and allergy. Guidelines from Grove & Gray (2019) were used to analyze the findings. A total of ten studies were chosen, seven quantitative and three qualitative studies were used. One study was used to show the effects of breastfeeding of respiratory function. All ten studies had sufficient evidence pertaining to the issue of infant feeding methods and asthma prevalence.

Results

In the ten articles that we analyzed, there was a common conclusion that infants who were breastfed had a decreased chance of developing asthma. Specifically, infants that were breastfed for three months had a decreased risk of wheezing at six months by 50%. Furthermore, if an infant was fed for 12 months, there was a 32% decreased risk in these symptoms (Harvey et al., 2021). However, it was noted that there was a varied opinion on whether breastfeeding over six months has an additional effect or not. While it is better to exclusively breastfeed, several studies mentioned that any breastfeeding helps to reduce the risk of asthma or infant wheezing.

It was established that the earlier that formula was introduced to an infant, the higher the risk of developing asthma or respiratory symptoms. Infants who were exclusively formula fed had 15.8% asthma prevalence compared to those who were breastfed with only an 8.8% asthma prevalence (Klopp et al., 2017). Many studies stated that the effects of breastfeeding on the respiratory system later in life are still unknown.

Conclusions

Based on the evidence, it can be concluded that infants who are exclusively breast fed, compared to those who are formula fed, have a lower risk of developing asthma. Even children who have a family history of respiratory issues had a lower chance of developing this condition if they were breastfed. Exclusive breastfeeding should continue throughout the first six months of life for maximum protection according to the majority of studies. However, continuing to breastfeed past six months of life showed less of an additional benefit in reducing asthma. Mothers who are concerned about their child’s risk of asthma may want to consider breastfeeding over formula feeding.

Recommendations

Using the findings from our articles, one recommendation for the nursing practice is that more education about breastfeeding should be required for patients. More education before discharge will help new mothers understand the advantages of breastfeeding and allow patients to make an educated decision on how to feed their baby. We suggest that the nursing department should require nurses to use EBP protocol to support patients about breastfeeding before discharge.

We suggest that further nursing research should be done to determine the effects of breastfeeding in longer term ranges, like adolescence and even young adults. Cohort studies with larger sample sizes and larger regions that the studies are held will help increase the credibility of these future studies. As part of the student nurses’ education, curriculum should include the benefits of breastfeeding. This should be promoted not only for its nutritional value, but also antibodies that can help prevent asthma in children.

Summary of Literature Review

<table>
<thead>
<tr>
<th>Study</th>
<th>Question</th>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Does breastfeeding reduce the risk of asthma?</td>
<td>Infant</td>
<td>Breastfeeding</td>
<td>Formula feeding</td>
<td>Decreased risk of wheezing</td>
<td>Cross-sectional study</td>
</tr>
<tr>
<td>2.</td>
<td>Is exclusive breastfeeding better than partial breastfeeding?</td>
<td>Adolescent</td>
<td>Exclusive breastfeeding</td>
<td>Partial breastfeeding</td>
<td>Reduced asthma prevalence</td>
<td>Cohort study</td>
</tr>
<tr>
<td>3.</td>
<td>How does breastfeeding affect the immune system?</td>
<td>Child</td>
<td>Breastfeeding</td>
<td>Formula feeding</td>
<td>Increased immune response</td>
<td>Longitudinal study</td>
</tr>
</tbody>
</table>

Overall Evidence Synthesis

Breastfeeding has been shown to decrease the risk of asthma in children. It is recommended that mothers breastfeed their infants for at least six months to reduce the risk of asthma. Further research is needed to determine the long-term effects of breastfeeding on respiratory health.

References