Breastfeeding Education for Adolescent Mothers

Emily Osgood
St. John Fisher College, emihurd@gmail.com

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Abstract
Purpose: The WHO, AAP, and DHHS recommend exclusive breastfeeding for the first six months of life and continued supplementary breastfeeding until two years of age. Breastfeeding initiation and duration rates are low worldwide, particularly among the adolescent population. The national initiation rate for teen mothers is only 43%, as compared to their adult counterparts at 73.9%; and at six months, only 19% of those teenagers were still breastfeeding.

The objective of this research project is to develop a prenatal educational program geared toward the adolescent population at a local community hospital.

Study Design and Methods: This breastfeeding educational program was developed using extensive research and literature review. Expert review was obtained from the following individuals: an advanced practice care provider in women's health, a lactation consultant, and an expert in adolescent education. An online survey was used for the expert reviewers to provide feedback and evaluate the project. Participation is voluntary and confidentiality was maintained. The program was modified based on feedback from the expert reviewers. The website aimed at adolescent patient education will be made available to health care providers at a local community hospital and its affiliated OB/GYN offices.

Results: Current research and literature shows that educational programs increase breastfeeding intention, initiation, and duration rates.

Clinical Implications: The implications for this practice are improved birth and parenting satisfaction experiences, improved maternal and infant overall health, and decreased long term health care costs.

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Breastfeeding Education for Adolescent Mothers

By

Emily Osgood, RN, BSN

Submitted in partial fulfillment of the requirements for the degree

Master’s in Advanced Practice Nursing

Supervised by Dr. Christine Nelson-Tuttle

The author declares no conflict of interest.

Wegmans School of Nursing

St. John Fisher College

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Callouts and Keywords

Callouts

- Breastfeeding has a significant impact on the immediate and long-term health and wellbeing of mothers and babies, and therefore, on the local community, the nation, and the world as well.
- Currently, breastfeeding rates are well below the Healthy People 2020 target.
- Breastfeeding rates for mothers in the adolescent population are among the lowest worldwide.
- Regional teen breastfeeding rates are comparable to national rates and continue to fall short of national recommendations.
- It is the goal of this research project to improve local teen breastfeeding rates by implementing an educational program at a small community hospital.

Keywords

- Breastfeeding
- Adolescent mothers
- Maternal-infant health
- Health education
Abstract

**Purpose:** The WHO, AAP, and DHHS recommend exclusive breastfeeding for the first six months of life and continued supplementary breastfeeding until two years of age. Breastfeeding initiation and duration rates are low worldwide, particularly among the adolescent population. The national initiation rate for teen mothers is only 43%, as compared to their adult counterparts at 73.9%; and at six months, only 19% of those teenagers were still breastfeeding.

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Breastfeeding Education for Adolescent Mothers

Introduction

The United States has the highest rate of adolescent pregnancy and delivery among all developed countries ("Trends in Teen," 2013). The World Health Organization (WHO) stated, “About 16 million women 15–19 years old give birth each year, about 11% of all births worldwide” (“Maternal, Newborn, Child,” 2013). In 2011, the Centers for Disease Control and Prevention (CDC) reported teen mothers gave birth to 329,797 infants in the United States alone. These numbers cause concern among health care professionals and community members alike, and are a topic of significant discussion among the individuals and organizations who are working hard to increase breastfeeding rates across America ("Breastfeeding Report Card," 2013).

The WHO, American Academy of Pediatrics (AAP), and Department of Health and Human Services (DHHS) recommend exclusive breastfeeding for the first six months of an infant’s life and continued supplementary breastfeeding until the child is two years of age (Eidelman & Schandler, 2012; "Infant and Young," 2013; “Maternal, Infant,” 2013). Breastfeeding has many well-documented health and economic benefits (Walsh et al., 2008). According to the WHO, breast milk gives an infant all of the necessary nutrients for normal, healthy physical and psychological development (“Maternal, Infant,” 2013).

Breastfeeding is particularly important for adolescent mothers. Some of the population-specific reasons for this include: increased risk for maternal-infant detachment complications, increased risk for delivery of preterm or small for gestational age (SGA) infants, and increased risk for economic disparities (Grassley & Sauls, 2012; Nelson, 2009). Breastfeeding is a topic that has been discussed across cultures, age groups, economic statuses, and geographical
locations. Yet, globally, nationally, and even locally, breastfeeding initiation and duration rates are low, particularly for the teen populace (Grassley & Sauls, 2012).

**Background and Significance**

The low rates of breastfeeding are a major public health concern despite the well-documented health and economic benefits (Giles et al., 2010; Grassley & Sauls, 2012). Breastfeeding can significantly decrease the risk of many common childhood diseases, including acute otitis media by 50% and obesity by 32% (Grassley & Sauls, 2012). According to Grassley and Sauls (2012), breastfeeding can also reduce the risk of diarrhea and pneumonia, the two leading causes of infant mortality across the globe.

Breastfeeding promotes maternal-infant bonding as well. This is an important benefit for all mothers, but especially for teen moms who are at risk for increased detachment (Grassley & Sauls, 2012; Nelson, 2009). According to Nelson (2009), adolescent mothers are more likely to deliver preterm and SGA infants, which—studies have shown—have better weight and developmental outcomes when fed breast milk over formula. Maternal benefits to breastfeeding, as described by the WHO, include an effective form of birth control, a decreased risk for breast and ovarian cancers later in life, a decreased risk for obesity, and improved glucose/insulin control in diabetic mothers ("Infant and Young," 2013).

Beyond the maternal and infant health rewards, the financial, economic, and social benefits to breastfeeding are also significant. The actual cost of purchasing formula is $54 to $198 per month, depending on the brand ("Breastfeeding vs. Bottle," 2013). This expense excludes the cost of necessary accessories such as bottles and nipples. In contrast, there are no monetary costs required to breastfeed an infant.
On a larger scale, formula feeding one infant for the first year can cost between $331 and $475 in health care expenses above those costs spent by breastfeeding families during the same time frame (Ball & Wright, 1999). Bonyata (2011) stated that at least $3.6 billion would be saved annually on health care costs alone if the entire population of the US met the Healthy People 2020 targets.

The Surgeon General reported that if 90 percent of the US populace followed the national objectives for breastfeeding initiation and duration, the nation would save $13 billion every year from a combination of the health care expenses, the actual costs of formula, and the costs associated with premature death of formula fed infants (“Maternal, Infant,” 2013). The WHO expanded upon this staggering statistic by stating that if each infant were breastfed according to the United States’ Healthy People 2020 guidelines, the lives of approximately 220,000 children would be saved each and every year globally ("Infant and Young," 2013).

Ninety-eight percent of women worldwide are physically able to provide breast milk for their children (Giles et al., 2010). However, actual breastfeeding rates fall extremely short of that statistic. A national report by the WHO in 2007 states that the breastfeeding initiation rate in the United States is 73.9%, and the duration rate for exclusively breastfeeding at six months of age is 14.1% ("Infant and Young," 2013). New York State achieved a slightly higher average on initiating breastfeeding, with a rate of 76.4% ("Infant and Young," 2013). However, the state duration rate at six months was reported at a mere 9.6% ("Infant and Young," 2013). The New York State Department of Health reported a regional rate of breastfeeding initiation at 77.8% based on the average from four local Rochester hospitals in 2011 ("Monroe County Hospitals,” 2013). The data for local duration rates at six months post delivery is currently unavailable. The above data is representative of women from all age groups.
There are far fewer reports that depict the breastfeeding rates of adolescent mothers alone. Grassley and Sauls (2012) state that the national initiation rate for adolescent mothers is only 43%, a significantly lower rate than their adult counterparts. In 2006, the National Health and Nutrition Examination Survey (NHANES) reported that at six months, only 19% of those teenagers were still breastfeeding (Wambach et al., 2011).

The Department of Health and Human Services, through the Healthy People 2020 campaign, has set long-term breastfeeding targets for the US. The Healthy People 2020 objective for national breastfeeding initiation rates is 81.9%, a 10.6% increase from the Healthy People 2010 goal. The current aim for exclusive breastfeeding at six months of age is 25.5%, an astounding 80.8% increase from the previous target (“Maternal, Infant,” 2013). These numbers currently accentuate the fact that adolescent moms initiate breastfeeding significantly less than adult mothers.

**Impact of Education on Breastfeeding**

There has been significant research describing the benefits of education programs on breastfeeding rates. There is increasing research within the adolescent population specifically due to the lower breastfeeding rates among that group. Walsh, Moseley, and Jackson (2008) studied the effects of an educational program among adolescent students. The students were surveyed before and after the educational classroom activity regarding their intentions to breastfeed. The results showed that teens were more inclined to initiate breastfeeding after the educational activity.

Wambach et al. (2011) demonstrated positive results in actual breastfeeding rates among teens, not just their intent to breastfeed. The researchers developed a lactation consultant-peer counseling educational intervention designed for adolescent mothers. The teens were interviewed
and given surveys and the results showed that a lactation consultant-peer counseling educational intervention positively influenced breastfeeding duration rates among the participants.

According to Erikson’s Developmental Theory, despite the commonality of pregnancy, adolescents and adults are in two separate developmental stages (Erikson & Erikson, 1997). Therefore, the educational programs designed for adult mothers can be difficult for adolescents to comprehend, making them ineffective at promoting breastfeeding.

Giles, Connor, McClenahan, and Mallet (2010), explored adolescents’ motivations to breastfeed in order to develop a more effective teaching tool. High school students were surveyed regarding their reasons for infant-feeding choices, and it was found that those who had previous exposure to breastfeeding mothers and those who knew they had been breastfed themselves reported greater intent to breastfeed or encourage their partners to breastfeed in the future.

**Purpose**

The purpose of this research project is to develop a prenatal educational program geared toward the adolescent population at a local community hospital.

**Study Design and Methods**

The researcher-developed breastfeeding educational program was created using extensive research and literature review. Empirical evidence that has been published regarding influences on breastfeeding initiation and duration in adolescent mothers was systematically reviewed, analyzed, and synthesized using a clearly delineated literature search with specific inclusion criteria. Key words used in the comprehensive literature search were: adolescents, breastfeeding, influences, and teens. The databases searched were CINAHL, ProQuest Nursing Journals,
PubMed @ Fisher, and Sage Journals. The inclusion criteria for the search were: published in the English language, full-text primary source, adolescents as primary population, and research done between 2000 and the present time. Guided by Garrard’s 2007 matrix method, construction and analysis of a literature matrix was performed for each article that met the inclusion criteria.

Commonalities noted included: perceived benefits of breastfeeding, perceived problems, and people who were influential in the teen’s decision to breastfeed or formula feed (Hannon et al., 2000). Perceived benefits included maternal and infant health advantages and increased maternal-infant bonding, while perceived problems were pain, public exposure, and concerns regarding logistics of breastfeeding with the return to school or work. Influential people included the adolescent’s mother, partner, and health care professionals. Other factors that influence a teen’s decision to breastfeed are having been breastfed as an infant, previous breastfeeding exposure, social norms, increased breastfeeding knowledge, increased prenatal attitude scores, and social and professional support and encouragement. Factors influencing adolescent breastfeeding duration included increased prenatal and postnatal confidence scores, increased support and encouragement, and having participated in a promotional breastfeeding intervention prenatally (Giles et al., 2010; Mossman et al., 2008; Swanson et al., 2006; Walsh et al., 2008; Wambach et al., 2011).

The information gained from the literature review and analysis guided the construction of the educational program designed to promote breastfeeding among local adolescent mothers. To most effectively obtain the attention of the target population, an interactive website with mobile device formatting was created. Information was given at an age appropriate reading level on the following topics: benefits of breastfeeding, basic information regarding milk production, positioning and latching, common challenges associated with breastfeeding, pumping and milk
storage, tips for returning to school or work, and resources for adolescent mothers to find further information or support. Readability for the website was evaluated using the Fry Readability Formula and expert review. The Fry Readability Formula uses the average number of syllables and sentences per 100 words and plots this information in a graph format to display the corresponding US grade level. The educational website’s readability score is 8, meaning that the text is understood by an average 8th grade student. This is a typical readability level used in information distributed by large institutions with a diversely educated population and is appropriate for the targeted adolescent population (“The Fry Graph,” n.d.).

Expert review was obtained via online surveys (see Appendix E) from the following individuals: an advanced practice care provider in women’s health, a lactation consultant, and an expert in adolescent education. The program was modified based on suggestions from the expert reviewers. The educational website aimed at adolescent patient education will be made available to health care providers at a local community hospital and its affiliated OB/GYN offices. An online survey was used for the expert reviewers to provide feedback and evaluate the project. Participation among the expert reviewers was voluntary and confidentiality will be maintained.

**Results**

Current research from the literature review and analysis shows that educational programs increase breastfeeding intention, initiation, and duration rates, validating the production of the project website. Experts in the field were surveyed to analyze specific aspects of the website, including content, educational materials, and participant perspective. The reviewers completed a Likert survey that included open-ended questions to allow for free text suggestions for improvement. Feedback from these surveys was reviewed and the results were placed into tables for analysis (see Appendices A-C). The following suggestions were made by the expert
reviewers in the free text portion: increase the font one size for ease of use, correct a grammatical error, and add a picture of a mother breastfeeding in public to help promote normalcy among a suggestive population. After considering these recommendations, the website was updated to include all of the suggestions.

**Clinical Nursing Implications**

The implications for this practice are improved birth and parenting satisfaction experiences, improved maternal and infant overall health, and decreased long term health care costs. Research shows that adolescents who feel supported by health care providers and have access to breastfeeding education and information are more likely to initiate and continue breastfeeding their infants. This website can be used by adolescent mothers, their families and friends, and health care providers alike as a resource for breastfeeding information.
### Table 1

**Expert Review for Content**

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Disagree nor Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content of the educational program is appropriate and useful to the target audience.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The amount of content of the educational program is appropriate and useful to the target audience.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The presentation style of the content is appropriate for this topic.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideas for improvement:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** The value of X is defined as the expert reviewer’s response to each survey question.

Excellent website. Very informative and well put together. Only suggestion - maybe make the font one size larger.
### Table 2

*Expert Review for Participant Experience*

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The topic of this educational program is useful and appropriate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The content of this educational program is appropriate (neither too simple nor too detailed).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The presentation of the educational program was easy to understand.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The method of the presentation was appropriate for the content and easy to use.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The content of the presentation was not offensive culturally, ethnically, or religiously.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Ideas for improvement: There is a minor typo on the positioning and latching page. Look at the fifth bullet under signs of a good latch.

*Note:* The value of X is defined as the expert reviewer’s response to each survey question.
### Table 3

**Expert Review for Educational Presentation**

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The presentation method of the educational program is appropriate and useful to the target audience.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The amount of content of the educational program is appropriate and useful to the target audience.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The presentation style of the content is appropriate for this topic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The content of the educational program is appropriate and useful to the target audience.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The content of the presentation will not offend participants in regards to their cultural, ethnic and/or religious beliefs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Ideas for improvement:** Add a picture of a mother breastfeeding discreetly in public, this is often a concern for younger mothers and a photo may be helpful with a caption about public breastfeeding.

*Note.* The value of X is defined as the expert reviewer’s response to each survey question.
Appendix D

Dr./Mr./Mrs. Xxx Xxxx
123 East Avenue
Rochester, NY 12345

Dear Dr./Mr./Mrs. Xxx Xxxx,

I am writing to you in my capacity as a Family Nurse Practitioner student at St. John Fisher College. I am currently creating an educational program to enhance adolescent breastfeeding in the local community. I am writing to ask whether you would be willing to act as an expert reviewer for the (content, educational, participant) portion of this project.

As an expert reviewer, you would be asked to examine the (content, educational, participant) portion of the program and provide your feedback for quality improvement. At the bottom of this page I have provided you with the web links to the program for review and assessment form to fill out and return to me at your earliest convenience.

I appreciate your time and consideration in this matter and I do very much hope that you will be able to accept this invitation. If you have further questions please feel free to contact me via email at: eao07262@sjfc.edu.

Sincerely,

Emily Osgood, RN BSN

This link will take you to the educational program for your review:
http://beautifulbabyhealthybaby.weebly.com

This link will take you to the survey to evaluate the educational portion of the program:
https://www.surveymonkey.com/
Expert review for content:

1. The content of the educational program is appropriate and useful to the target audience.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

2. The amount of content of the educational program is appropriate and useful to the target audience.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

3. The presentation style of the content is appropriate for this topic.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

Ideas for improvement: ______________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
Expert review for educational presentation:

1. The presentation method of the educational program is appropriate and useful to the target audience.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

2. The amount of content of the educational program is appropriate and useful to the target audience.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

3. The presentation style of the content is appropriate for this topic.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

4. The content of the educational program is appropriate and useful to the target audience.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

5. The content of the presentation will not offend participants in regards to their cultural, ethnic and/or religious beliefs.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

Ideas for improvement: ______________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
Expert review for participant experience:

1. The topic of this presentation educational program is useful and appropriate.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

2. The content of this presentation educational program is appropriate (neither too simple or too detailed).
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

3. The presentation of the educational program was easy to understand.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

4. The method of the presentation was appropriate for the content and easy to use.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

5. The content of the presentation was not offensive culturally, ethnically and/or religiously.
   a. Strongly disagree
   b. Disagree
   c. Neither disagree or agree
   d. Agree
   e. Strongly Agree

Ideas for improvement: ______________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
References


