Increasing Long-term Breastfeeding with Nursing Interventions in the Early Postpartum Period: Systematic Review

by

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Abstract

The fact that long-term breastfeeding rates in the U.S. are substandard and detrimental to public health has been recognized by the Center for Disease Control, the Surgeon General and the Department of Health and Human Services. National attention is focused on the need for evidence-based maternity care practices to support breastfeeding in U.S. hospitals. The purpose of this systematic review was to identify maternity care practices that are associated with long-term breastfeeding. A search of Academic Search Premier, CINHAL Plus, Medline, Pub Med and Cochrane Library databases identified 11 scholarly articles that met the inclusion criteria. The search was limited to mothers in the early postpartum period in a hospital setting in the years 2000 and 2015, focused on Baby-Friendly Hospital Initiative and the Ten Steps to Successful Breastfeeding. Data for preterm, small for gestational age and ill infants was excluded. The purpose of this review is to answer the question: what nursing practices in the early postpartum period are associated with increased breastfeeding duration for healthy, full-term infants. The odds ratio for each included study was analyzed to determine maternity care practices most associated with long-term breastfeeding. The most effective interventions were initiating breastfeeding within the first hour, giving the newborn only breast milk and breastfeeding on demand. When the mother experienced multiple interventions, a significant dose effect was found. During the early postpartum period, mothers has increased odds of long-term breastfeeding, if the nursing staff implemented the Ten Steps to Successful Breastfeeding.
Introduction


Problem Statement

National directives to improve breastfeeding rates have failed to meet public health officials’ recommendations for duration and exclusivity. The Healthy People 2020 objective calls for 80 percent of mothers to initiate breastfeeding, 60 percent to continue breastfeeding for six months and 34 percent to continue for a year (U.S. Dept of Health and Human Services, 2010). American mothers are initiating breastfeeding are the targeted rate, but fall short for duration and exclusivity. In the most recent NIS data, less than 50 percent of mothers are giving any breast milk and less than 20 percent are exclusively breastfeeding at six months (CDC, 2015). Given the brevity of breastfeeding in the U.S. and national public health priorities, healthcare professionals must advocate for evidence-based practices, be stronger supporters of breastfeeding and be more involved in helping mothers to succeed in breastfeeding.

Purpose Statement

In the early postpartum days, nurses are the most instrumental factors in preparing, educating, encouraging and supporting women to breastfeed and are the key in assisting with
initiation and the continuation of breastfeeding. Establishing standards of nursing practice, the Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN, 2014) position statement proclaims for all nurses to support, protect and promote breastfeeding as the ideal and normative method for feeding infants. The purpose of this research was to identify what nursing practices are associated with long-term breastfeeding. In this review, the author answers the question; what nursing practices in the early postpartum period are associated with increased breastfeeding duration for healthy, full-term infants.

**Significance of Study**

Hospital practices positively affect breastfeeding duration and exclusivity throughout the first year of life, but the quality of breastfeeding care in the America is poor. The CDC (2008) survey of U.S. maternity facilities found poor observance with evidence-based practices. Nurses must be empowered to implement evidence-based practices in the early postpartum days. The national goals for improving health are just words without widespread change in nursing practice.

Universally, the American Academy of Pediatrics (2012), the World Health Organization (2016), the Center for Disease Control and Prevention (2013) and United Nations International Children’s Emergency Fund (2015) and the U.S. Department of Health and Human Services have established specific hospital protocols. Creating awareness among healthcare professionals and empowering nurses to implement change, this review identified evidence-based nursing practices to foster improved breastfeeding support.

Breastfeeding support through evidence-based practice is a key strategy to reduce infant mortality and morbidity. Presenting breastfeeding as an effective clinical intervention to clients, nurse’s perception of human milk should be equal to medications to control high blood pressure
and vaccines for infectious diseases (Brenner & Buescher, 2011). In order to increase breastfeeding duration in the community and avoid adverse outcomes, the nurse must consistently deliver to each client the most effective practices. The detrimental consequences of early breastfeeding cessation and formula feeding are well researched.

Short and long-term cost for mothers, babies and society are associated with early cessation of breastfeeding. Bartlick, Stuebe, Shealy, Walker, & Grummer-Strawn (2009) affirm that breastfeeding significantly predicts health outcomes for both mothers and children. In fact, formula-fed babies are ill more often and more seriously. Kramer and Kakuma (2012) conducted a systematic review of optimal duration of exclusive breastfeeding; these experts concluded that infants who are exclusively breastfeed for six months versus partially breastfeed for three or four months experienced less morbidity from gastrointestinal infections without growth deficits in developing and developed countries. Components of human milk have medicinal qualities that have a profound role in infant survival and health (Ballard & Morrow, 2013). Human milk is not just the gold standard for newborn nutrition; it is the only source of bioactive factors for infants. Reducing gastrointestinal infection rates is just one of the benefits of supporting long-term breastfeeding.

Improving breastfeeding duration is positively associated with an extensive list of preventable childhood illnesses. Ip, Chung, Chew, Magula, DeVine, et al (2007) determined that early termination of breastfeeding increases infants’ risks for childhood obesity, gastroenteritis, necrotizing enterocolitis, leukemia, otitis media, severe lower respiratory infections, sudden infant death syndrome (SIDS), insulin-dependent and adult-onset diabetes. Breastfeeding prevents illness and death from illness. Worldwide, optimal breastfeeding practices could prevent up to 12% (800,000) deaths of children under five each year (Black, Victora, Walker,
The benefits of breastfeeding are extended to the mother. Ip et al (2007) confirm that women who stop breastfeeding or never breastfeed have higher rates of breast and ovarian cancers, adult-onset diabetes, and postpartum depression. Additionally, society pays a high price when infants are not given human milk. In 1999, Ball deduced that each infant that is not breastfed incurs more health care costs in the first year compared with those who are exclusively breastfed for 3 months; the U.S. inflation calculator (2016) approximates that cost to be $682 per child. Increasing breastfeeding rates from current levels to those recommended by the U.S. Surgeon General would save America at least $3.6 billion in medical expenses for these three childhood illnesses; otitis media, gastroenteritis, and necrotizing enterocolitis (Weimer, 2001). Many of the effects of breastfeeding are dose-dependent; increasing breastfeeding duration can have a significant impact on long-term public health.

Researchers have confirmed a dose-dependent relationship between human milk and health. Newborns breastfed for less than 4 weeks are 5 times more likely to die of SIDS than children breastfed for more than 16 weeks (Alm, Wennergren, Norvenius et al, 2002). Obesity is epidemic in America: the early cessation of breastfeeding and the introduction of formula leads to obesity. In fact, infants who are breastfed for two months or less are almost four times more likely than babies who are breastfed for more than a year to be obese by age five (Gillman, Rifas-Shiman, Camargo, et al, 2001). Without the bioactive elements of human milk, there is a higher risk for childhood cancer. Infants who breastfed for six months or less are almost three times more likely to contract a lymphoid malignancy than babies who breastfed longer than six months (Bener, Denic, & Galadari, 2001). The cost of human life demands attention and accountability among health care professionals to implement evidence-based practice.
Literature Review

Search Strategy

Published research studies were accessed via Academic Search Premier, CINHAL Plus, Medline, PubMed and Cochrane Library databases. The search was carried out with the key words ‘breastfeeding’, ‘hospital practices’ and ‘breastfeeding promotion/ duration.’ English language, peer-review and date restrictions of 16 years were employed. Of the 117 articles found, only 11 met the inclusion criteria. The author identified studies that examined the effects of hospital practices on breastfeeding outcomes. All interventions were delivered to mothers in the early postpartum period in a hospital setting in a developed country. All studies with interventions for preterm infants and babies admitted to the Neonatal Intensive Care Unit were excluded.

Public health officials recognize that infant survival is dependent on exclusive breastfeeding, yet breastfeeding rates are not measuring up to national standards. Quality maternity care practices are not employed consistently leading to disparities in breastfeeding rates in the U.S. With the rate of exclusive breastfeeding at six months less than 20 percent, health care professionals need to examine their current practices and re-focus their interventions to include research-based strategies.

The literature review will address two areas of research related to the low breastfeeding rates and current hospital infant feeding practices. In the first section, research studies related to the impact of the Baby-friendly hospital designation will be addressed. In the second section, research studies related to the impact of the Ten Steps of Successful Breastfeeding will be addressed.
Baby-friendly hospital designation.

In the early 90’s, the WHO (2016) and UNICEF introduced the Baby-Friendly Hospital Initiative (BFHI) as a worldwide endeavor to implement practices that protect, promote and support breastfeeding. Facilities designated as a Baby-friendly are set apart as providing an optimal level of care for breastfeeding mothers. Kramer, Aboud, Mironova, Vanilovich, Platt et al (2008) purported to assess whether prolonged and exclusive breastfeeding improves children’s cognitive ability at age 6.5 years in the largest randomized trial of human lactation. In order to conduct high quality ethical research, the investigators used a random control trial of 17,046 healthy breastfed infants from 31 maternity hospitals in the Republic of Belarus. This study used an experimental breastfeeding promotion intervention based on the BFHI, then analyzed the effectiveness. The control maternity hospitals made no change to standard care practices. Statistical significant differences in breastfeeding duration were found between the group receiving the BFHI experimental intervention and the control group. In fact, 72.7 % of the experimental group compared to 60.0% of the control group was breastfeeding at 3 months, 49.8% of the experimental group compared to 36.1% was breastfeeding at 6 months, 36.1% of the experimental group compared to 24.4% was breastfeeding at 9 months, and 19.7% of the experimental group compared to 11.4% was breastfeeding at 12 months (Kramer, 2008). In addition, the prevalence of exclusive breastfeeding (defined as no foods or liquids other than breast milk) was 7 times higher in the experimental group as compared with the control group at 3 months. This study implies that BFHI practices increase exclusive breastfeeding at age 3 months and a significantly higher prevalence of any breastfeeding at all ages up to and including 12 months. The major limitation of this study is not related to the finding of increased breastfeeding rates, but to the authors proposed cognitive improvements findings. Although the
breastfeeding appears causal in increasing cognitive function, the confounding factor of physical and social interaction during breastfeeding is not addressed. The authors disclose that it is still unclear whether the observed cognitive benefits of breastfeeding are due to some constituent of breast milk or are related to the inherent close bodily and mutual interactions of the mother and child while breastfeeding. Additional research has been completed to investigate Baby-friendly designation.

Brodribb, Kruske, Miller (2013) planned to find out if BFHI designation or hospital care practices affected the one month and four month breastfeeding rates. The authors surveyed 6,752 women in Australia for the retrospective cohort study on maternal, infant and hospital characteristics including infant feeding outcomes. The breastfeeding initiation rates in BFHI designated facilities were similar to nonaccredited hospitals. The authors found that women who delivered in BFHI designated facilities had significantly lower odds (adjusted odds ratio 0.72, 95% confidence interval 0.58–0.90) of breastfeeding at one month than those who gave birth at non-BFHI accredited hospitals. BFHI status did not change the odds of breastfeeding at four months. The authors identified four in-hospital practices that made a significant difference: 1) early skin-to-skin contact, 2) breastfeeding within the first hour, 3) feeding on demand, and 4) no in-hospital formula supplementation. Women who experienced all four of these hospital practices had higher odds of breastfeeding at 1 month (adjusted odds ratio 2.20, 95% confidence interval 1.78–2.71) and 4 months (adjusted odds ratio 2.93, 95% confidence interval 2.40–3.60) than women who experienced fewer than four. Brodribb, Kruske, Miller (2013) concluded that when breastfeeding initiation rates are high and evidence-based practices that support breastfeeding are common within the hospital environment, BFHI designation has not effect on
the duration of exclusive or any breastfeeding rates. The major limitation of this study is the low response rate and the dependence on maternal recall. Other researchers have studied BFHI.

Hawkins, Stern, Baum, Gillman (2014) conducted a quasi-experimental study using data from the Pregnancy Risk Assessment Monitoring System (PRAMS). A collaborative surveillance project between the CDC and the state Department of Health and Human Services, PRAMS uses standardized questionnaires across various states. In order to study compliance with the BFHI protocols and to evaluate the effect of BFHI on breastfeeding initiation and duration, the authors analyzed survey results in Maine from 2004 to 2008 according to maternal education level. After exclusion criteria, the final sample included 915 women who gave birth at BFHI designated facilities and 1,099 women who delivered at nonaccredited BFHI hospitals. The BFHI breastfeeding practices were defined as 1) no pacifier use, 2) breastfeeding within the first hour, 3) rooming-in, 4) no in-hospital formula supplementation, 5) information about breastfeeding, 6) help learning to breastfeed, and 7) feeding on-demand. The authors found that only 34.6% of mothers from BFHI designated hospitals reported experiencing all seven BFHI breastfeeding practices, compared to 27.1% of mothers from non BFHI facilities. Giving birth in non-BFHI facilities, mothers were twice as likely to report receiving a gift pack with formula than mothers who gave birth in BFHI facilities. Although, BFHI designation increased breastfeeding initiation by 8.6% (adjusted coefficient, 0.086 [95% CI, 0.01 to 0.16]) among mothers with lower education, there was no effect of the BFHI designation on breastfeeding initiation or duration rates among mothers with higher education. Of the seven BFHI practices, each additional breastfeeding practice was associated with an average increase in breastfeeding initiation of 16.2% (adjusted coefficient, 0.162 [95% CI, 0.15 to 0.18]). The practice of receiving a gift pack with formula was associated with an average decrease in breastfeeding
initiation of 11.3% (adjusted coefficient, $-0.113$ [95% CI, $-0.15$ to $-0.08$]). The authors reported similar patterns for breastfeeding duration. Hawkins et al (2014) concluded that women in Maine are experiencing six to seven breastfeeding practices regardless of BFHI status, but BFHI compliance is low. Increasing compliance of BFHI practices will have a larger impact on breastfeeding rates and potentially reduce socioeconomic disparities in breastfeeding.

The research literature indicates that women who give birth in facilities with Baby-friendly designation are not guaranteed to experience evidence-based practices. Many hospitals struggle to maintain compliance. When patients experienced multiple interventions related to BFHI, exclusive breastfeeding rates increase significantly for the first three months and any breastfeeding rates increased for up to 12 months. In addition to BFHI designation, research studies on the Ten Steps to Successful Breastfeeding pertain to this review.

**Ten Steps to Successful Breastfeeding.**

The Ten Steps to Successful Breastfeeding is the foundation of the WHO (2016) and UNICEF Baby friendly Hospital Initiative. Each step is necessary for successful maternity care practices. A dose-dependent relationship exists for the Ten Steps. The WHO (2016) confirms that implementing each step (Table 1) by itself does have some effect, but implementing all of them together has a greater effect. Vis versa, omitting one or more steps will limit the impact on breastfeeding success. Several key studies examining nursing interventions related to the Ten Steps will be discussed.

Table 1

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<tr>
<th>Ten Steps to Successful Breastfeeding (WHO, 2016)</th>
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<td>1. Have a written breastfeeding policy that is communicated to all health care staff.</td>
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<td>2. Train all health care staff in skills necessary to implement this policy.</td>
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<tr>
<td>3. Inform all pregnant women about the benefits and management of breastfeeding.</td>
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4. Help mothers initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation.
6. Give newborn infants only breast milk, unless medically indicated.
7. Practice rooming-in—allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand
9. Give no artificial teats or pacifiers to breastfeeding infants.
10. Foster breastfeeding support groups and refer mothers to them upon discharge.

Sampling 4,614 lactating women, Gau (2004) used a quasi-experimental approach to evaluate the impact of the Ten Steps to Successful Breastfeeding in Taipei, China. The three-year study was conducted in 12 hospitals from 2000 to 2002. The experimental intervention included the Baby-friendly hospital Initiative training programs and questionnaires on breastfeeding duration, knowledge, attitude, and demographic data. None of the hospitals attained the Baby-friendly designation. Descriptive statistics were generated to sample characteristics and variables of interest. More than half of the participants reported that breastfeeding information provided by medical personnel, especially nurses prevailed over all other sources. Women in the experimental group scored higher in breastfeeding knowledge and had a more positive attitude than the control group. The exclusive and any breastfeeding rates were higher in the experimental group during hospitalization, at two weeks, at one month and at two months when compared to the control group. The author concluded that breastfeeding initiation and duration were directly proportional to breastfeeding knowledge and breastfeeding attitude. The limitations of this study include logistical and cultural challenges to implementing all Ten Steps and the short follow-up time of two months. Additional studies have examined the implementation of the Ten Steps to Successful Breastfeeding.
Dulon, Kersting and Bender (2003) researched the breastfeeding practices of non BFHI hospitals and to examine the influence of breastfeeding promotion on long-term breastfeeding success based on the *Ten Steps to Successful Breastfeeding* between March and May 1997. To study breastfeeding practices in non BFHI facilities, a survey was distributed to 177 randomly chosen maternity hospitals in Germany. Staff familiar with the breastfeeding routines completed the questionnaire on breastfeeding promotion practices. Each facility received a breastfeeding promotion index of low or high. A low breastfeeding promotion index was defined as a facility that fulfilled fewer than five of the *Ten Steps*. To examine the influence of breastfeeding promotion on long-term breastfeeding, the author randomly sampled 1,487 mother-infant pairs of German origin for this cross-sectional survey during the same period. The women were surveyed by mail at the end of the 2nd, 4th, 6th, 9th and 12th months to obtain information on breastfeeding and infant nutrition. The authors analyzed maternal variables, demographic information and breastfeeding duration. The outcome variables were short-term or long-term breastfeeding. Short-term breastfeeding was classified as less than four months. Dulon, Kersting and Bender (2003) concluded that delivering in a hospital with a low breastfeeding promotion index was associated with an increased risk of short-term breastfeeding [odds ratio (OR) 1.24]. The association was stronger if the mother was less than 25 years old (OR 3.34) or had less than 10 years of schooling (OR 2.81). These results imply that the implementation of greater than five of the *Ten Steps* is positively associated with longer breastfeeding duration. The limits of this study include low participation rate of hospitals and mothers. The self-reported data of the hospital staff could be biased with overestimation of good practices. Additional studies have examined the implementation of the *Ten Steps to Successful Breastfeeding* in relation to maternal factors.
Murray, Ricketts and Dellaport (2007) resolved to study the effects of hospital practices on breastfeeding duration and whether the effects differed based on maternal socioeconomic status. The PRAMS data of all Colorado mothers from 2002 to 2003 was analyzed to determine the breastfeeding duration rates in relation to the Ten Steps. After exclusion criteria, 2,172 mothers completed the questionnaire at two and four months after delivery. Birth certificate data was added to the PRAMS data set. The five specific hospital practices defined by this study were 1) breastfeeding within the first hour, 2) breast milk only, 3) infant rooming-in, 4) no pacifier use, and 5) receipt of a telephone number for use after discharge. The authors identified these maternal risk factors for early cessation of breastfeeding; black, young (15-19 yrs old), and had less than a high school education. Adjusting for confounding factors, two-thirds (68%; 95% CI: 61–75) of mothers who experienced all five steps were still breastfeeding at 16 weeks compared with only one-half (53%; 95% CI: 49–56) of those who did not. Murray, Ricketts and Dellaport (2007) concluded that mothers who experienced these five hospital practices included in the Ten Steps had improved breastfeeding duration independent of maternal socioeconomic status.

The research literature indicates that women who give birth in facilities implementing the Ten Steps to Successful Breastfeeding experienced increased duration of breastfeeding. Even when patients experienced just five or six of the Ten Steps, their rate of exclusive breastfeeding increases significantly for the first four months. The Ten Steps are effective hospital practices regardless of certain maternal risk factors for early cessation of breastfeeding.

Theory for behavior change

According to Javadi, Kadkhodaee, Yaghoubi, Maroufi and Shams (2013), the theory of planned behavior (TPB) is a well-validated behavioral decision-making model used to
calculate social and health behaviors (p. 52). In the TPB, Ajzen (1991) proposes that behavioral, normative and control beliefs affect the way humans act. Behavioral beliefs are in relation to the likely outcomes of the behavior and the evaluations of these outcomes (Ajzen, 1991). Normative beliefs are about the standard expectations of others and motivation to comply with these expectations (Ajzen, 1991). Control beliefs are concerning the presence of factors that may help or inhibit performance of the behavior and the perceived power of these factors (Ajzen, 1991).

After completing the review, it is the author’s hope to propose new standards of evidence-based nursing practices. Empowering nurses with information, this review will influence the behavioral, normative, and control beliefs. Javadi et al (2013) found that normative beliefs had the greatest influence on nurse’s intention to implement changes. The findings will be authoritative to show a standard expectation and motivate change in the nurse’s behavior. The TPB was used to frame the discussion and recommendations relative to behavior change in nursing practice with respect to breastfeeding support.
Methods

In order to answer what nursing practices affect breastfeeding duration and to test the
hypothesis, the author used a systematic review study design. A systematic review is appropriate
for this research question. In order to find the most effective practices for nurses to implement in
the early postpartum days, a systematic review of current literature with a quantitative analysis of
each intervention was completed.

Inclusion and exclusion criteria

Finding studies on evidence-based maternity care practices, the author included
publications in English, published in various developed countries with study populations of
healthy, full-term infants and hospital practices implemented by nurses in the early postpartum
period. All studies were conducted from 2000 to 2015. The inclusion and exclusion criteria for
this systematic review are listed in Table 2.

Search strategies described for a systematic literature review (Boland, Cherry & Dickson,
2013) from Academic Search Premier, CINAHL and Cochrane Central Register databases were
conducted. Specific search terms were used for each database. The author searched all
databases from year 2000 until the end of May 2016. The search terms included for each
database were breastfeeding/and Infant feeding/or Promotion/or Duration/or Hospital practices
the Baby Friendly Hospital Initiative or the Ten Steps to Breastfeeding Success (see Table 2).

Table 2

<table>
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<th>Inclusion Criteria</th>
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<tr>
<td>Breastfeeding</td>
<td>Peer-reviewed</td>
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<tr>
<td>Breastfeeding promotion</td>
<td>Published articles</td>
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<td>Breastfeeding duration</td>
<td>Developed countries</td>
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<td>Infant feeding</td>
<td>Healthy full-term newborns</td>
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<td>Hospital practices</td>
<td>Early postpartum period</td>
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Data analysis plan

Quantitative data from the selected research studies was extracted to identify the interventions that had the most impact on long-term breastfeeding. The percentage of mothers whom breastfed long-term was compared with the control (standard care) and after the intervention (evidence-based maternity care practices). Additionally, the odds ratio from each study was examined to identify the specific maternity care practices that increased the odds of long-term breastfeeding. Finally, the odds ratios were analyzed for the dose effect of multiple maternity care practices. Only interventions with statistical significance are recommended for changes in nursing practices.
Results

Data Collection

Utilizing a computer-based search and assistance from Concordia University Library services in May and June of 2016, the author identified electronic and hard-copy articles from Academic Search Premier, CINAHL and Cochrane Central Register databases. Combinations of the following keywords were used in the search: breastfeeding, breastfeeding promotion and duration, infant feeding, hospital practices, Baby-friendly Hospital Initiative and the *Ten Steps to Successful Breastfeeding*.

The initial search with inclusion and exclusion criteria elicited 103 articles after duplicates were removed (see Figure 1). After the exclusion of the unsuitable articles based on the above-mentioned criteria, 69 abstracts were subject to scrutiny, leaving 37 full texts to review. Twenty-six articles were eliminated at this stage due to unavailable full-text, wrong population, insufficient data, wrong intervention, wrong outcomes, poor quality and not peer-reviewed. Eleven quantitative articles are included in this systematic review.
Figure 1. Flow chart representing the search results with inclusion and exclusion criteria

Inclusion and Exclusion Criteria

The review was limited to published, peer-reviewed articles available in English. The studies not conducted in a developed country were excluded. All included studies were conducted in North America, South America, Asia, Europe and Australia. Studies were excluded on premature or ill newborns, interventions not performed in the early postpartum period and non-nursing interventions. The literature search yielded a wide range of studies; a quality assessment was completed on each included article. This systematic review analyzed
eleven studies that met all inclusion and exclusion criteria. In Table 3, all included articles are listed with study details, intervention, study outcomes and quality score.

Table 3

**Included Studies and Outcomes**

<table>
<thead>
<tr>
<th>Study Details</th>
<th>Intervention</th>
<th>Primary Outcomes</th>
<th>Quality Score</th>
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<tbody>
<tr>
<td><strong>Ahlawalia (2012) USA</strong>&lt;br&gt;Design: Cohort n=23,356&lt;br&gt;Population: women birthing live-born infant</td>
<td>MCPs and BF duration at 10 weeks</td>
<td>MCPs ↑ BF duration at 10 weeks&lt;br&gt;MCPs were: initiating BF within the first hour, giving newborn breast milk only, BF on demand</td>
<td>6/6</td>
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<tr>
<td><strong>Braun (2003) Brazil</strong>&lt;br&gt;Design: Cohort n=437&lt;br&gt;Population: women birthing non-twin, healthy infants</td>
<td>MCPs and EBF &amp; BF duration at 1, 2, 4 &amp; 6 months</td>
<td>MCPs ↑ EBF &amp; BF duration at 1, 2, 4 &amp; 6 months&lt;br&gt;MCPs were: BFHI implementation</td>
<td>5/6</td>
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<tr>
<td><strong>Brodrrib  (2013) Australia</strong>&lt;br&gt;Design: Cohort n=6,752&lt;br&gt;Population: women birthing live-born infant</td>
<td>MCPs &amp; EBF/BF duration at 1 &amp; 4 months. BFHI designation &amp; EBF/ BF duration</td>
<td>MCPs ↑ odds of BF at 1 &amp; 4 month. MCPs were: early skin-to-skin contact, BF in the 1st hour, room-in &amp; no supplement. BFHI designation ↓ odds of BF at 1 month; no change in odds at 4 months; no change in odds of EBF at 1 or 4 months</td>
<td>5/6</td>
</tr>
<tr>
<td><strong>DiGirolamo (2008) USA</strong>&lt;br&gt;Design: Cohort n=1,085&lt;br&gt;Population: women birthing non-twin, healthy infant</td>
<td>MCPs and BF duration at 6 weeks</td>
<td>MCPs ↑ the odds of BF at 6 weeks.&lt;br&gt;MCPs were: BF in 1st hour, only breast milk given &amp; no pacifiers. MCPs dose effect.</td>
<td>6/6</td>
</tr>
<tr>
<td><strong>Dulon (2003) Germany</strong>&lt;br&gt;Design: Cohort n=1,487&lt;br&gt;Population: mother birthing healthy, full-term infant</td>
<td>MCPs and BF/ EBF duration at 2, 4, 6, 9 and 12 months</td>
<td>MCPs ↑ the odds of EBF at 4 &amp; 6 months. MCPs were: room-in, BF in first hour, educate mothers, providing a BF support number after discharge &amp; only breast milk given</td>
<td>4/6</td>
</tr>
<tr>
<td><strong>Gau (2004) China</strong>&lt;br&gt;Design: Quasi-experimental n=4,614&lt;br&gt;Population: BF women</td>
<td>MCPs and BF duration at 2 wks, 1 &amp; 2 mths</td>
<td>MCPs ↑ the odds of the EBF &amp; BF rates at 2 weeks, 1 &amp; 2 months. MCPs were: Lactation Intervention Program based on Ten Steps to Successful Breastfeeding</td>
<td>6/6</td>
</tr>
<tr>
<td><strong>Hawkins (2014) USA</strong>&lt;br&gt;Design: Quasi-experimental n=2,014&lt;br&gt;Population: women birthing live-born infant</td>
<td>MCPs and EBF/BF duration beyond 4 weeks; BFHI designation and EBF/BF duration</td>
<td>MCPs ↑ odds of EBF and BF duration beyond 4 weeks. MCPs were: BF in first hour, only breast milk given, room-in, educate/assist mom, no pacifier. MCP (formula gift pack) ↓ BF duration at 4 weeks. BFHI designation had no effect on BF duration beyond 4 weeks.</td>
<td>6/6</td>
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<tr>
<td><strong>Kramer (2008) Belarus</strong>&lt;br&gt;Design: RCT n=17,046&lt;br&gt;Population: mother birthing healthy, full-term infant</td>
<td>MCPs and BF duration at 3, 6, 9 &amp; 12 months</td>
<td>MCPs ↑ the odds of EBF at 3 months and ↑ odds of BF at 3, 6, 9 &amp; 12 months. MCPs were: BF promotion intervention based on the Ten Steps to Successful BF</td>
<td>5/5</td>
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<tr>
<th>Murray (2007) USA</th>
<th>MCPs and BF duration at 4, 8, 13 &amp; 17 weeks. MCPs were; BF in the first hour after birth, breast milk only, room-in, no pacifier use, and providing a BF support number after discharge.</th>
<th>5/6</th>
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<tr>
<td>Design: Cohort n=2,172</td>
<td>Population: mother birthing healthy, full-term infant</td>
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<tr>
<td>Oaiya (2016) USA</td>
<td>MCPs ↑ EBF &amp; BF duration at 4 &amp; 8 weeks. MCPs were BF in first hour, only breast milk given, room-in, no pacifier &amp; no supplements.</td>
<td>6/6</td>
</tr>
<tr>
<td>Design: Cohort n=1,325</td>
<td>Population: Adolescent mothers who BF</td>
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<tr>
<td>Perrine (2012) USA</td>
<td>MCPs ↑ EBF duration at 2 mths. MCPs were BF in first hour, only breast milk given, BF on demand, &amp; no pacifier</td>
<td>6/6</td>
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<tr>
<td>Design: Cohort n=1457</td>
<td>Population: mothers birthing healthy, full-term infants</td>
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<tr>
<th>MCPs, Maternity Care Practices</th>
<th>EBF, Exclusive Breastfeeding</th>
<th>BFHI, Baby Friendly Hospital Initiative</th>
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### Results

**Baby-friendly Hospital Designation.** Brodribb et al (2013) and Hawkins et al (2014) found that women who delivered in BFHI designated facilities either had significantly lower odds (adjusted odds ratio 0.72, 95% confidence interval 0.58–0.90) of breastfeeding at one month than those who gave birth at non-BFHI accredited hospitals or had no effect on the odds. Additionally, BFHI status did not change the odds of breastfeeding at four months.

**Ten Steps to Successful Breastfeeding.** Of the 11 included studies, five articles provided data that more mothers breastfed long-term after experiencing the evidence-based maternity care practices defined by the *Ten Steps*. Braun et al (2003), Dulon et al (2003), Gau (2004), Kramer et al (2008) and Murray et al (2007) found a significant increase in the number mothers still breastfeeding after 2, 3 and 4 months as compared to mothers receiving standard care practices (see Table 4). Although the percentages vary from study to study, they all show a statistically significant change in relation to the *Ten Steps*. 

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**Notes:**

1. BFHI: Baby Friendly Hospital Initiative
2. BF: Breastfeeding
3. EBF: Exclusive Breastfeeding
4. BFHI: Baby Friendly Hospital Initiative
Table 4

Results of Included Studies with Long-term Breastfeeding Percentages

<table>
<thead>
<tr>
<th>Author</th>
<th>Quality Score</th>
<th>Intervention</th>
<th>Measures</th>
<th>Results</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braun</td>
<td>5/6</td>
<td>MCPs and EBF &amp; BF duration at 1, 2, 4 &amp; 6 mths</td>
<td>BF at 4 mths SC 68%, MCPs 84%</td>
<td>MCPs ↑ EBF &amp; BF duration at 1, 2, 4 &amp; 6 mths</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Dulon</td>
<td>4/6</td>
<td>MCPs and BF/ EBF duration at 2, 4, 6, 9 &amp; 12 mths</td>
<td>BF 4 mths SC 42%, MCPs 50%</td>
<td>MCPs ↑ the odds of BF at 4 &amp; 6 months</td>
<td>P&lt;0.005</td>
</tr>
<tr>
<td>Gau</td>
<td>6/6</td>
<td>MCPs and BF duration at 2 wks, 1 &amp; 2 mths</td>
<td>BF 2 mths SC 7%, MCPs 21%</td>
<td>MCPs ↑ the odds of BF at 2 weeks, 1 &amp; 2 mths</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Kramer</td>
<td>5/5</td>
<td>MCPs and EBF/BF duration at 3, 6, 9 &amp; 12 months</td>
<td>BF 3 mths SC 60%, MCP 72%</td>
<td>MCPs ↑ odds of BF at 3, 6, 9 &amp; 12 months</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Murray</td>
<td>5/6</td>
<td>MCPs and BF duration at 4, 8, 13 &amp; 17 wks</td>
<td>BF 17 wks SC 53%, MCPs 68%</td>
<td>MCPs ↑ BF duration at 4, 8, 13 &amp; 17 weeks</td>
<td>P&lt;0.001</td>
</tr>
</tbody>
</table>

EBF, Exclusive Breastfeeding  BF, Breastfeeding  MCPs, Maternity Care Practices  SC, Standard Care

In Figure 2, the author has created a bar graph to display the finding of the studies from Table 4. The standard care practices are the control in each study. The maternity care practices related to the Ten Steps to Successful Breastfeeding are the intervention. Each study found a statistically significance change in the percentage of mothers still breastfeeding more than eight weeks who experienced evidence-based maternity care practices in the early postpartum days.
Specific Practices Increased Odds of Long-Term Breastfeeding. Several studies measured the odds ratio for long-term breastfeeding among mothers who experienced specific maternity care practices. Ahluwalia et al (2012), Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) all agree that breastfeeding in the first hour significantly increased the odds that a mother would still be breastfeeding at two months (see Table 5). Brodribb et al (2013) found these mothers were still breastfeeding at four months. Additionally, DiGirolamo et al (2008) found breastfeeding in the first hour decreased the odds of early termination of breastfeeding (less than six weeks).

In addition to breastfeeding in the first hour, Ahluwalia et al (2012), Olaiya et al (2016) and Perrine et al (2012) found that giving newborns only breast milk increases the odds of long-
term breastfeeding up to eight weeks (see Table 5). DiGirolamo et al (2008) confirmed that giving only breast milk decreased the odds of early termination of breastfeeding.

The third maternity care practice found to increase the odds of long-term breastfeeding was breastfeeding on demand. As opposed to scheduling the newborn to eat every 3 to 4 hours, mothers are encouraged to offer the breast every time a newborn exhibits feeding cues or to feed on-demand. Ahluwalia et al (2012), Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) found increased odds of long-term breastfeeding (up to 8 weeks) for mothers who were encouraged to breastfeed on demand (see Table 5). Brodribb et al (2013) found mothers still breastfeeding at four months who practiced on-demand feeding in the hospital. DiGirolamo et al (2008) confirmed that on-demand breastfeeding decreased the odds of early termination of breastfeeding.

Table 5

Results of Included Studies with Adjusted Prevalence Ratios for Long-term Breastfeeding

<table>
<thead>
<tr>
<th>Author</th>
<th>Quality Score</th>
<th>Intervention</th>
<th>Measures</th>
<th>Results</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahluwalia (2012)</td>
<td>6/6</td>
<td>MCPs &amp; BF duration at ≥10 weeks</td>
<td>BF ≥10 weeks MCP- BF HR OR 1.29 (1.16-1.45) MCP-BM only OR 2.40 (2.15-2.68) MCP- OD OR 1.23 (1.08-1.40)</td>
<td>MCPs ↑ BF duration at ≥10 weeks OR 1.29 (1.16-1.45)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Brodribb (2013)</td>
<td>5/6</td>
<td>MCPs and BF duration at 4 months</td>
<td>BF 4 mths MCP-BF HR OR 1.36 (1.17-1.59) MCP- OD OR 1.47 (1.25-1.72) Dose Effect of MCPs 3 and 4 OR 1.45 (1.18-1.79) OR 1.88 (1.66-2.19)</td>
<td>MCPs ↑ the odds of BF at 4 months OR 1.36 (1.17-1.59)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>DiGirolamo (2008)</td>
<td>6/6</td>
<td>MCPs and BF termination &lt;6 weeks</td>
<td>BF&lt;6 weeks MCP- BF HR OR 0.57 (0.39-0.65) MCP-BM only OR 0.35 (0.27-0.47) MCP- OD</td>
<td>MCPs ↓ the odds of early termination of BF &lt; 6 weeks OR 0.57 (0.39-0.65)</td>
<td>P&lt;0.05</td>
</tr>
</tbody>
</table>
### Dose Effect of Maternity Care Practices

When mothers experienced at least three evidence-based maternity care practices, their odds of long-term breastfeeding increased.

Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) confirmed a dose effect with maternity care practices at two and four months (see Table 5). All three studies agreed that bundling evidence-based maternity care practices increased the odds of long-term breastfeeding. In fact, the odds of long-term breastfeeding increased with each additional maternity care practice that a mother experienced. Brodribb et al (2013) found that three practices produced an OR 1.45(1.18-1.79) and four practices produced an OR 1.88(1.66-2.19). Perrine et al (2012) found similar odds with three practices the odds ratio was 1.1 (0.7-1.8), with four practices the odds ratio increased to 1.5 (0.9-2.5). Additionally, Perrine et al (2012) found that five practices

| **Olaiya (2016)** | **6/6** | MCPs and BF duration at ≥8 weeks | BF at ≥ 8 weeks | MCP-BF HR OR 1.42(1.12-1.82)  
MCP-BM only OR 1.57(1.27-1.95)  
MCP-OD OR 1.70(1.23-2.35)  
Dose effect of MCPs 3, 4, 5 OR 3.24(1.38-7.57)  
OR 2.97(1.38-7.03)  
OR 3.68(1.55-8.73)  
Dose effect found with 3, 4 and 5 MCPs | MCPs ↑ odds of BF at ≥8 weeks.  
P<0.001 |
| **Perrine (2012)** | **6/6** | MCPs and EBF Duration at 2 mths | BF at 2 mths | MCP-BF HR OR 1.4(1.1-1.9)  
MCP-BM only OR 2.5(1.9-3.2)  
MCP-OD OR 1.1(0.9-1.4)  
Dose effect of MCP 3, 4, 5 and 6 OR 1.1(0.7-1.8)  
OR 1.5(0.9-2.5)  
OR 2.1(1.3-3.5)  
OR 2.7(1.5-4.8)  
Dose effect found with 3, 4, 5 and 6 MCPs | MCPs ↑ odds of EBF At 2 mths  
P<0.001 |

**EBF, Exclusive Breastfeeding**  
**BF, Breastfeeding**  
**MCPs, Maternity Care Practices**  
**SC, Standard Care**  
**BF HR, Breastfeed in first hour**  
**BM only, Infant only given breast milk in the hospital**  
**OD, breastfed on-demand**

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OD, breastfed on-demand
increased the odds to 2.1 (1.3-3.5) and six practices increased the odds to 2.7 (1.5-4.8). Olaiya et al (2016) found the greatest increase in odds with three practices having an odds ratio of 3.24 (1.38-7.57), four practices having an odds ratio 2.97 (1.38-7.03) and five practices having an odds ratio 3.68(1.55-8.73).

In Figures 3 and 4, the author created forest plots to represent the study findings for dose effect when maternity care practices are bundled. Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) found that mothers who experienced at least three maternity care practices had increased odds of long-term breastfeeding as compared to the control group that experienced standard care (see Figure 3). Additionally, Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) found increased odds ratio for mothers who experienced at least four maternity care practices as compared to the control group that experienced standard care (see Figure 4).

Figure 3: Odds ratios showing the dose effect when three maternity care practices are bundled.
Figure 4: Odds ratios showing the dose effect when four maternity care practices are bundled.
Discussion

This review consisted of 11 research articles published from the U.S., Brazil, China, Australia, Germany and Belarus between the years of 2003 and 2016, centering on hospital care practices and breastfeeding duration and articles that described the Baby-Friendly Hospital Initiative or the Ten Steps to Success Breastfeeding. The studies were all quantitative. The researchers used various study designs including randomized control trial, quasi-experimental and cohort. The majority of the studies focused on breastfeeding duration, but some on initiation rates, on exclusive breastfeeding rates and on maternal reported support.

In the studies, both the Baby-Friendly Hospital Initiative (BFHI) designation and the Ten Steps to Successful Breastfeeding were used as variables in relation to breastfeeding duration. Investigators used the WHO/UNICEF (2016) accreditation to define a facility with BFHI designation. On the other hand, the specific maternity care practices extracted from the included studies were defined by the WHO/UNICEF’s Ten Steps to Successful Breastfeeding (see Table 1). Both interventions consisted of maternity care practices that were implemented by hospital nursing staff.

In order to understand the attitudes, subjective norms and perceived behavior control of nursing staff in relation to changes in maternity care practices, the theory of planned behavior (TPB) was previously used (Swanson & Power, 2004). TPB is a well-validated behavioral decision-making model (Javadi et al, 2013). The three hallmarks of TPB are behavioral, control and normative beliefs. Behavioral beliefs are in relation to the likely outcomes of the behavior and the evaluations of these outcomes (Ajzen, 1991). Control beliefs are concerning the presence of factors that may help or inhibit performance of the behavior and the perceived power of these factors (Ajzen, 1991). Normative beliefs are about the standard expectations of others.
and motivation to comply with these expectations (Ajzen, 1991). In a hospital setting, the nursing leadership and national hospital accrediting agencies define the standard expectations, evaluate the nurse’s performance and analyze patient satisfaction ratings. A nurse’s compliance with standards of practice is based on normative, control and behavioral beliefs. Javadi et al (2013) found that normative beliefs had the greatest influence on nurse’s intention to implement changes. Implementing evidence-based changes and discovering the nurse’s motivation to execute change is paramount to increasing breastfeeding rates through the BFHI designation or the *Ten Steps to Successful Breastfeeding*.

**Baby-Friendly Hospital Initiative (BFHI) designation**

Two of the included studies evaluated the effect of BFHI designation on breastfeeding duration. Brodbribb et al (2013) found that BFHI designation decreased the odds of breastfeeding at one month and found no change in odds at four months. Additionally, they found no change in odds of exclusive breastfeeding at one or four months. Hawkins et al (2014) concluded that BFHI designation had no effect on breastfeeding duration beyond 4 weeks. Even after adjusting for other factors associated with early termination of breastfeeding, both studies contradicted the widely held conclusion that BFHI designation improves breastfeeding rates. These study results are in contrast to most other studies assessing the impact of BFHI designation (Philipp, Malone, Cimo & Merewood, 2003; Philipp, Merewood, Miller et al, 2001; Merewood, Mehta, Chamberlain, Philipp et al. 2005). Hospitals with the prestigious BFHI designation are not guaranteed to be effective at increase breastfeeding duration in their community.

Nurses are the hands and feet of hospital protocols. BFHI designation is only as effective as the staff’s compliance with the BFHI prescribed practices. Hawkins et al (2014) found that
34.6% of the mothers in BFHI designated facilities experienced seven of the BFHI practices as compared to 27.1% of mothers in non-BFHI hospitals. Mothers experience BFHI practices in non-BFHI facilities. Although, more mothers at BFHI facilities reported experiencing seven of the BFHI practices, the compliance with many BFHI practices was not optimal (Hawkins et al, 2014). Relying on BFHI designation is not effective. These findings weaken the view that BFHI designation has a significant long-term impact on breastfeeding rates. Nursing leadership needs to maintain compliance with the prescribed maternity care practices of *Ten Steps to Successful Breastfeeding*.

**Ten Steps to Successful Breastfeeding (Maternity Care Practices)**

All eleven of the included studies analyzed the impact of maternity care practices associated with the Ten Steps to Successful Breastfeeding in relation to breastfeeding duration. Of the Ten Steps (see Table 1), seven maternity care practices are nurse-driven; providing information about the benefits and management of breastfeeding, helping mothers with early initiation of breastfeeding, giving infants no food or drink other than breast milk, showing mothers how to breastfeed, encouraging breastfeeding on demand, giving no pacifiers and referring mothers to breastfeeding support after discharge. Each included study found specific practices that increased the odds of long-term (greater than six weeks) breastfeeding.

Of the seven maternity care practices defined as nurse-driven, researchers found three that were highly associated with increased breastfeeding duration. Ahluwalia et al (2012), Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) found that helping mothers with early initiation of breastfeeding increased the odds of long-term breastfeeding (OR 1.1 to 1.9, \(P<0.001\)). Giving infants no food or drink other than breast milk increased the odds of long-term breastfeeding in the Ahluwalia et al (2012), Olaiya et al (2016) and Perrine et al (2012)
studies (OR 1.27 to 3.2, \( P<0.001 \)). In addition to early breastfeeding, Ahluwalia et al (2012), Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) all agreed that encouraging breastfeeding on demand was also associated with long-term breastfeeding rates (OR 0.9 to 1.72, \( P<0.001 \)). DiGirolamo et al (2008) evaluated the odds of early (before 6 weeks) cessation of breastfeeding in relation to the *Ten Steps to Successful Breastfeeding*. Confirming the findings of the other researchers, DiGirolamo et al (2008) found more than 30% of mothers stopped breastfeeding before six weeks, if they did not experience any of the nurse-driven maternity care practices. The mothers in the DiGirolamo et al (2008) study who experienced zero maternity care practices were 13 times more likely to stop breastfeeding early as compared to mothers who experienced six maternity care practices. These findings strengthen the view the *Ten Steps to Successful Breastfeeding* have a long-term impact on breastfeeding. Each practice was found to be effective, but bundling practices increased the overall effect.

**Dose Effect of Maternity Care Practices**

Increasing the odds of long-term breastfeeding and reducing the odds of early cessation of breastfeeding is the key to effective maternity care practices. Researchers found a dose effect relationship between the total number of maternity care practices experiences and the women’s odds of breastfeeding long-term. Brodribb et al (2013), Olaiya et al (2016) and Perrine et al (2012) found that women who encountered at least three of the maternity care practices had increased odds of breastfeeding for more than 6 weeks (OR 1.1 to 7.57, \( P<0.001 \)). Reporting at least four maternity care practices, the odd ratio of long-term breastfeeding was to 0.9 to 7.03, with a \( P<0.001 \) (Brodribb et al, 2013, Olaiya et al, 2016, Perrine et al, 2012). Olaiya et al (2016) and Perrine et al (2012) reported the odds of long-term breastfeeding with five maternity care practices as 1.3 to 8.73, \( P<0.001 \). These findings support the conclusions of numerous other
studies (WHO, 1998, Tarrant et al, 2011, Asole et al, 2009, DiGirolamo et al, 2008, Beake et al, 2012, Forster et al, 2007). These findings strengthen the view that a dose effect exists with the maternity care practices as defined by the *Ten Steps to Successful Breastfeeding*. In order to interpret the finding accurately, the limitations of the studies are identified.

**Limitations**

Limitations of the included studies can reduce the generalizability of the study findings. Some of the potential biases in this review include recall, confounding and publication. Seven of the included studies collected data via surveys. Relying on maternal recall for maternity care practices and feeding data, these studies were able to reduce bias by collecting data on regular and frequent intervals. Four of the included studies countered this limitation by correlating the survey data with birth certificate or hospital records. All of the included studies contacted participants that did not respond in a timely manner. Three of the included studies utilized data from high quality national surveys database called PRAM. The response rate for each included study was adequate, promotes the studies validity and generalizability.

Outcome variables can be limited by demographic confounding factors. Each included study accounted for maternal characteristics known to be problematic for breastfeeding duration like parity, age, education, working-status and previous breastfeeding experience. Additionally, each selected study adjusted for infant variables that reduce breastfeeding duration like gestational age, illness, admission to intensive care and weight. Studies that did not adjust for these variables were excluded. Analysis of all included studies in this review utilized adjusted odds ratios for the listed confounding factors, therefore increasing validity and generalizability.

Consisting of only published studies, this review may show publication bias. The author found numerous current on-going studies in the study registry at clinical trials.gov (2016).
Unfortunately, none of the studies met inclusion criteria for this review. The validity and generalizability of the results was minimally affected by this limitation. This review found several effective maternity care practices. The findings are consistent with results in the literature that adds confidence to the outcomes of this review. In contrast, this review did not agree with published literature on the effectiveness of Baby-friendly designation, leaving room for future research.
Recommendations

In the analysis of the limitations of this review, the author recognized several recommendations for future research. This review contradicted other studies finding about BFHI designation. In order to understanding and measure compliance with BFHI protocols, future research is needed to evaluate an assessment tool for quality improvement and to discern the lack of conformity among nurses. BFHI protocols are not the only area in need of more research. In regard to maternity care practices, the author recommends nurses utilize these finding to implement evidence-based care for their community. Additionally, more research is needed to find interventions for special populations like adolescent mothers and premature infants.

Expanding the finding of this review, nurses need to be empowered to implement evidence-based practices, collect data and publish their findings. For example, an interdisciplinary team in Finland developed clinical practice guidelines for breastfeeding support (Nursing Research Foundation, 2010). Collaborating with physicians, midwives, public health professionals and lactation consultants, nurses can to be involved in improving policies and protocols to support breastfeeding mothers. Research in the community of choice leads to best practices for a specific population. Discovering specific maternity care practices that support and increase breastfeeding duration, nurses can tailor their care to the patient demographic in their neighborhood. When nurses use evidence-based maternity care practices consistently, breastfeeding rates increase and public health improves.

Implications for social change

Equipped with the knowledge of breastfeeding benefits and ways to support a new mother, hospital personnel can advocate for social change one mother at a time. In Norway in the seventies, the majority of mothers fed their infants artificial formula. Today, 99 percent of
Norwegian mothers’ breastfeed in the hospital and 80 percent are still nursing their infants at six months (Alvarez, 2003). In Norway and other Scandinavian countries, breastfeeding support became a public health priority and gradually the culture changed. Changing our national attitude is the first step to changing our national behavior. Healthcare professionals’ attitudes and behaviors influence the health behaviors of the nation. With this power to influence, nurses can be the element of change needed to make the U.S. a healthier place to live.

Conclusion

This review re-iterates the American Academy of Pediatrics (2012), the World Health Organization (2016), the Center for Disease Control and Prevention (2013) and United Nations International Children’s Emergency Fund (2015) and the U.S. Department of Health and Human Services (2011) edict to improve public health with increased rates of long-term breastfeeding. The results show concern for the reliance on Baby-friendly designation and the lack of compliance to evidence-based practices. Reinforcing recommendations from numerous studies, the Ten Steps to Successful Breastfeeding are the most effective maternity care practices, especially when bundled. AWHONN (2014) has established the role of postpartum nurses as key to preparing, educating, encouraging and supporting women to breastfeed. As this review has shown, nurse-driven maternity care practices significantly increase the odds of long-term breastfeeding. Long-term breastfeeding significantly improves the health of the community. In order to achieve a healthy community, nursing leadership needs to provide on-going training, support nurse-driven protocols and maintain compliance with evidence-based practice standards.
References


