

IMPLEMENTING AN EVIDENCE- BASED EDUCATIONAL PROGRAM ON THE IMPORTANCE OF BREASTFEEDING TO WOMEN IN THEIR THIRD TRIMESTER OF PREGNANCY

Andrea Harrow

DNP, MSN, RN
Chatham University ,
Pittsburgh, Pennsylvania
6115 Duke Trail Lane
Sugarland, Texas 77479
281-732-3361 Cellular
amh42365@yahoo.com

ABSTRACT

Every hour of every day, almost 500 new mothers across the United States face the same decision: how to feed their newborns (Galson, 2009). Breastfeeding is recommended by the American Academy of Pediatrics Work Group on Breastfeeding, which affirms exclusive breastfeeding provides ideal nutrition that is sufficient to support optimal growth and development for approximately the first 6 months of life (Schlickau & Wilson, 2005). Evidence suggests that breastfeeding decreases risks for many diseases in infants and mothers. From virtually all infants being breastfed in 1950, the prevalence of breastfeeding at hospital discharge declined to a low of 25% in 1967, rebounding to hover at around 64% by 1998(Weimer, 2001). The World Health Organization, American Academy of Pediatrics, and Center for Disease Control identified the lack of education that mothers receive pertaining to breastfeeding.

In attempt to become a recognized baby-friendly hospital, one hospital identified a lack of education provided to their expecting mothers. The breastfeeding rate was below the national average. In an attempt to increase their current breastfeeding rate an evidence based breastfeeding educational program was implemented to expecting mothers. The education was provided to mothers during their childbirth class and on the Ante-partum Unit of the hospital. The education was presented in the form of a handout and video. The participants were required to complete a pretest and posttest to evaluate their knowledge and attitude of breastfeeding. This article will discuss the process used for the implementation and evaluation of an evidenced based breastfeeding education program to mothers in their third trimester of pregnancy using the Bandura's Social Learning Theory as a guiding framework.

Introduction

Every hour of every day, almost 500 new mothers across the United States face the same decision: how to feed their newborns (Galson, 2009). Breastfeeding is recommended by the American Academy of Pediatrics Work Group on Breastfeeding, which affirms exclusive breastfeeding provides ideal nutrition that is sufficient to support optimal growth and development for approximately the first 6 months of life (Schlickau & Wilson, 2005). Evidence suggests that breastfeeding decreases risks for many diseases in infants and mothers. In children, breastfeeding has been associated with a reduction in the risk for acute otitis media, nonspecific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, childhood leukemia, and the sudden infant death syndrome (Chung, Yu, Raman, Trikalinos, DeVine, & Lau, 2008). According to the American Academy of Pediatrics (AAP), some of the obstacles to initiation and continuation of breastfeeding include insufficient prenatal education about breastfeeding, disruptive maternity care practices, and lack of family and broad societal support (Chung, et. al., 2008.).

In addition to the benefits that breastfeeding have on the baby, there many are benefits to the mother as well. Benefits of breastfeeding for the mother include the following: increased levels of oxytocin, resulting in less post-partum bleeding and rapid involution; earlier return to pregnant weight; delayed resumption of ovulation resulting in increased child spacing; improved post-partum bone postmenopausal period; and reduction in risk of ovarian cancer and premenopausal breast cancer (Schlickau & Wilson, 2005).

Healthcare providers play a key role in disseminating this knowledge to expectant mothers. The dissemination of knowledge about breastfeeding is accomplished through effective interventions. The interventions include education and support to mothers. The effectiveness of interventions to encourage and support breastfeeding was last considered in 2003 by the U.S. Preventive Services Task Force (USPSTF). According to the AAP, the results from the USPSTF indicated that the combination of education plus support may be more effective than support alone for initiation and short-term duration of breastfeeding (Chung, et. al., 2008).

Background

Although breastfeeding is not a new concept, mothers are still choosing not to breastfeed their babies. From virtually all infants being breastfed in 1950, the prevalence of breastfeeding at hospital discharge declined to a low of 25% in 1967, rebounding to hover at around 64% by 1998(Weimer, 2001.p.116). According to the National Health and Medical Research Council (NHMRC), breast milk provides the baby with the perfect nutrition of fats, carbohydrates, proteins, vitamins and minerals (2003). Breast milk not only provides they baby with the best nutritional value but it also provides them with the best immunological coverage as well (NHMRC, 2003). A newborn does not yet have a mature immune system and is often unable to develop an effective immune response. Babies are generally protected by the antibodies they receive through the placenta before birth and through their mother's breast milk after birth (Jackson & Nazar, 2006). These antibodies will be the same ones that are circulating in the mother's system, which will include antibodies to the microorganisms in the mother's home environment and other places she frequents. Therefore, babies generally develop antibodies to the germs in their own homes.

There are also socioeconomic and culture differences amongst mothers who choose to breastfeed. According to the Center for Disease Control (CDC), the morbidity and mortality report (MMWR) conducted a study of the children who are breast fed and how long they are breast fed. The report describes the results of that analysis, which indicated that 71.5% of non-Hispanic white children were ever breastfed compared

with 50.1% of non-Hispanic black children (CDC, 2004). Among those ever breastfed, 53.9% of non-Hispanic white and 43.2% of non-Hispanic black children continued breastfeeding until at least age 6 months (CDC, 2004). There are also differences in socioeconomic status as well. According to the CDC, disparities between black and white children existed within most socioeconomic subgroups studied (2004).

Breastfeeding has also been shown to support the long term effects on brain development as evidence by the achievement of developmental milestones. The proportion of infants who mastered the specific milestones increased consistently with increasing duration of breastfeeding (Vestergaard, Obel, Henriksen, Sørensen, Skajaa, & Ostergaard,1999). The longer a baby is breast-fed, the greater the benefits to his or her Intelligence Quotient (IQ).

Breastfeeding promotes health and helps to prevent disease. In July 2012, the World Health Organization (WHO) released a statement about the 10 facts on breastfeeding. One of the facts states that breastfeeding is one of the most effective ways to ensure child's health and survival. Optimal breastfeeding together with complementary feeding help prevent malnutrition and can save about a million children's lives (WHO, 2012). Breastfeeding has also shown to reduce the risk of sudden infant death syndrome (Vennemann, Bajanowski, Brinkmann, Jorch, Yücesan, Sauerland, & Mitchell, 2009).

There are economic costs associated with the decision to breastfeed or formula feed. According to the Economic Research Service Food Assistance and Nutrition Research Report, drawing on epidemiological studies that relate breastfeeding to the risk of otitis media, gastroenteritis, and necrotizing enterocolitis, and estimates of treatment costs, the author estimates that an increase in breastfeeding rates from the 1998 levels (64% at hospital discharge and 29% at 6 months) to the Surgeon General's targets (75% at discharge and 50% at 6 months), would save a minimum of \$3.6 billion (Weimer, 2001.p.116).

In healthcare, providers generally wait until after the baby is born to educate and instruct mothers about breastfeeding. During the post-partum period the mother can experience emotional turbulence while adjusting to a newborn, which complicate breastfeeding making it frustrating for the mother when the baby does not latch on or suck well. Most mothers usually turn to the bottle to satisfy the baby or do not ever attempt to breast feed. Early education is essential to the success of breastfeeding. To increase the mother's knowledge of breastfeeding, the implementation of an educational program about breastfeeding while the mother is in her third trimester of pregnancy can provide her with the resources to make an informed decision. Health facilities that support breastfeeding - by making trained breastfeeding counselors available to new mothers - encourage higher rates of the practice (WHO, 2011).

Purpose of Project

The purpose of the project was to provide breastfeeding education to mothers in their third trimester. The education is provided to the mother prior to delivery so she can make an informed decision on how she chooses to feed her baby. The education provided increased the mother's knowledge and attitude towards breastfeeding: therefore she is more likely to breastfeed her baby. The project consisted of a pre-test, an educational intervention, and a post-test. Mothers and nurses were the participants in this educational program.

Methods

No human risk was identified for this capstone project. Participants were recruited on a voluntary basis. The Internal Review Board (IRB) submission was a standard proposal submitted to the hospital IRB committee. The hospital IRB approval for the implementation of the capstone was received on May 1, 2013.

Practice Setting/ Population

The evidence-based practice change project was implemented at a large not-for profit hospital which is a part of a large healthcare system in Houston, Texas. The hospital is licensed for 397 beds and delivered over 10,000 babies in 2012. The target population included mothers who have not previously breastfed; however previous history of breastfeeding was not excluded from the evaluation of the program. Participants on the antepartum unit consisted of mother's who were currently in their third trimester of pregnancy. The nurses consisted of experienced postpartum and nursery nurses with an average tenure of 10 years.

A convenience sample of 148 participants was used for the project; 98 of the participants were mothers. The sample consisted of 50 mothers from the child birth class, 48 mothers from the antepartum unit, and 50 staff nurses from the postpartum and nursery unit. Demographics collected on the mothers were age, marital status, race, and level of education. Mother's age ranged from 16 to 42 with the average age of 30 (Table 1). The marital statuses of the mothers were 25 % single, 70 % married, and 5 % with a significant other. The race of the mothers was 26 % African American, 16 % Asian, 32 % Caucasian, 21 % Hispanic and 5% other. Education level of the mothers ranged from high school to graduate degrees. 16% had graduate degrees, 56% were college educated, 22% stated they had some college, and 6% had high school diplomas. There was a question that asked if the mother had previously breastfed; 74% had not previously breastfeed.

Implementation Steps

Phase one of the implementation consisted of breastfeeding educational classes identified on the childbirth class agenda and the course was listed on the hospital web site. Prenatal participants received a cover letter explaining the project along with a pre and post-test. Participants were then asked to complete a pre-test consisting of knowledge base, attitude base, and two identifying the mother's intention of breastfeeding. A presentation along with a video on breastfeeding was presented to the class. Participants were then asked to complete a post-test.

Antepartum mothers received an explanation of the program and were asked to consent to the educational offering by the reviewer. Antepartum mothers were then asked to complete a pre-test on knowledge, attitude, and intention of breastfeeding. Antepartum mothers received the same educational presentation and video as the mothers in the childbirth class from the reviewer. Antepartum mothers were then asked to complete a post-test. Pre-test and post-test contained the same questions on knowledge, attitude, and intention. Educational offerings lasted approximately one hour and 30 minutes.

Phase two consisted of education for postpartum and nursery nurses. The postpartum and nursery nurses were asked to complete a pre-test on their knowledge and attitude of breastfeeding. After the pre-test was completed they received the presentation and were asked to watch a video that was geared towards the caregiver. Nurses were then asked to complete a post-test on knowledge and attitude of breastfeeding. The pre-test and post-test contained the same questions. The education was offered by the reviewer in a conference room located on the post-partum unit. The educational offering lasted approximately one hour.

Plan for Evaluation

The reviewer developed a pre/post-test based on the World Health Organization's information and recommendations for breastfeeding (WHO, 2011). The pre/post-test questions were developed to measure knowledge, attitude, and intention. Knowledge and attitude were measured before and after the mothers participated in an educational program on breastfeeding. Knowledge increase was evidenced by any increase in the group mean post-test scores when compared with the group mean pre-test scores. Attitude increase was evidenced by any increase in the group mean post-test responses when compared with the group mean pre-test responses. Knowledge and attitude of the staff nurses were measured by a group mean comparing post-test scores to pre-test scores. There were two additional questions ascertaining the mother's intent to breastfeed her baby.

Outcomes of the Project

Effectiveness of project

Mother's experienced an increase in knowledge and attitude about breastfeeding and the number of mothers intending to breastfeed increased. The highest possible score on the knowledge questions was 100%. There were five mothers who scored 100% on pre-test; all of them had previously breastfed. The groups mean scores on the knowledge pre-test was 57%. The groups mean scores on the knowledge post-test was 88%. This represents a 15.4% increase in the mother's knowledge post-intervention. The groups mean response on attitude towards breastfeeding was 83% agreeable pre-intervention and 95% agreeable post-intervention. This represents an 11% increase in the mother's attitude towards breastfeeding. Table 2 represents the group mean of mothers' knowledge and attitude scores pre and post-intervention.

Assessing the effectiveness of this educational intervention, the questions on the mother's intent to breastfeed were evaluated. The percentage of mother's who stated they intended to breastfeed their babies were 56% pre-intervention. Post-intervention increased to 84% of the mother's responding that they intended to breastfeed their baby. This represents a 15% increase in mother's choosing to breastfeed their baby.

Results of the staff nurse scores were favorable. The highest possible score on the knowledge questions was 100%. There were 15 staff nurses who scored 100% on pre-test; all of them had previously received breastfeeding education. Groups mean scores on the knowledge pre-test was 85%. Groups mean scores on the knowledge post-test was 98%. This represents a 12% increase in the nurses' knowledge post-intervention. Groups mean response on attitude towards breastfeeding was 83% agreeable pre-intervention and 95% agreeable post-intervention. This represents an 11% increase in staff's attitude towards breastfeeding.

Limitations of projects

The availability of resources was an identified limitation of this project. There was only one educational video for teaching. This limited the number of educational classes that the reviewer could provide. Another limitation was the amount of time required to educate mothers on the antepartum unit. One-on-one education rather than in a group setting requires an increase in project time making it difficult for all the mothers to participate in the survey. The lack of classroom space to accommodate a large number of participants at the hospital was a limitation. The numbers of offerings were increased to accommodate all of the staff. Offerings increased from two classes to four classes.

Public Policy

Personal knowledge and flexible environment were the most significant sub concepts for women making emancipated decisions (Wittmann-Price, 2006). This evidence-based educational program increased the mother's personal knowledge of breastfeeding. Most mothers find it hard to return to work and breastfeed their babies. A flexible environment is needed in the work place to accommodate breastfeeding mothers. Breastfeeding mothers require a private place and flexible schedule that allows them to frequently pump their breast. The Patient Protection and Affordable Care Act (also known as Health Care Reform), amended the Fair Labor Standards Act (FLSA), or federal wage and hour law. This requirement supports an environment allowing mothers to return to work and continue breastfeeding. According the United States Breastfeeding Committee (USBC), there are currently forty-five states that have laws allowing mothers to breastfeed in public and twenty-four states have laws addressing breastfeeding in the workplace (2012). This amendment of the FLSA is the first federal law addressing breastfeeding and the workplace. The government recognizes that most women will discontinue breastfeeding because they have to return to work. The amendment encourages an environment that supports the continuation of breastfeeding by working mothers.

Conclusion

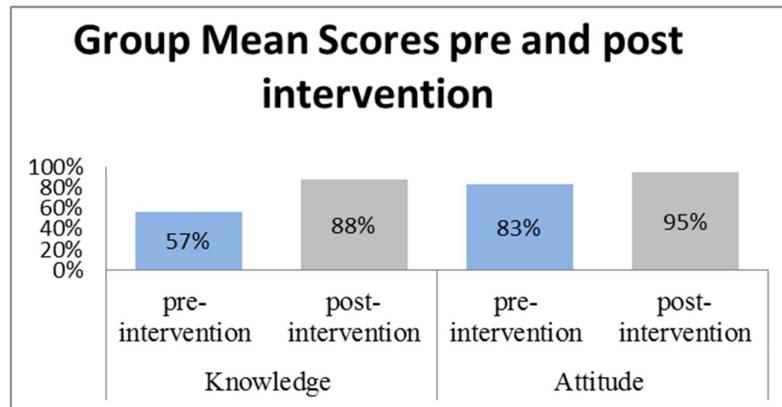
Breast milk is proven to be the best nutrition for babies. There are many health benefits to both mother and baby. Mothers require education and support to successfully breastfeed their babies. Providing mothers with an educational program on the importance of breastfeeding clearly impacts her level of knowledge and decision to breastfeed. Prior to the evidence-based practice change mothers received their breastfeeding education post-delivery. Education and support from healthcare providers are necessary for a mother to choose to breastfeed their baby. Nurses had not received any formal breastfeeding education prior to the practice change. Increasing the nurses' knowledge of breastfeeding provides mothers with support on their decision to breastfeed. The goal of evidence-based practice change is to improve patient outcomes and quality of care. The goal of the project was achieved through the increased knowledge and attitude toward breastfeeding resulting in more mothers intending to breastfeed their baby. Advanced practice nurses will be instrumental in implementing evidence-base practice changes in the clinical setting. Implementation of evidence-based practice changes impacts health care policies around the world.

Table 1

Mothers' Age (n=98)

Age	Frequency	Percent
16 to 25 years	15	15
25 to 30 years	31	32
31 to 36 years	28	29
37 to 42 years	24	24

Table 2



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