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The Benefits and Challenges of Breastfeeding

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Abstract

As stated by the Natural Resources Defense Council, the United States has one of the lowest rates of breastfeeding in the industrialized world, and one of the highest rates of infant mortality. Healthy People 2030 has a target goal projected for 42.4% of infants to exclusively breastfeed through six months and 54.1% of infants to breastfeed through twelve months of age. Breast feeding is a low cost prevention measure for improving health as it is protective against respiratory diseases, gastrointestinal illness and decreases the likelihood of SIDS. Mothers receive psychological and health benefits including a reduction in ovarian, uterine, endometrial, and premenopausal breast cancer. If new parents as well as the general public were educated on the health benefits of breastfeeding, less government money would be spent on treatment of preventable diseases/conditions. New mothers are often faced with many challenges after giving birth, breastfeeding being one of those. With the government passing new laws to support mothers, breastfeeding can become more normalized and socially accepted. Additionally, with further educational initiatives, mothers will feel supported when barriers may present.

Introduction

Gardner stated, "The phrase 'breast is best' is familiar to most of us. It's short, catchy, memorable and indisputable" [1]. Although breast feeding has been recognized as one of the key determinants in one's future health, many women do not breastfeed their babies past the first few months [2]. In several studies, the average length of time a mother breastfed was 11.4 weeks [3]. Babies who were born to middle class, non-Hispanic White women in their 30's were most likely to be breastfed for six months or longer, while those born to low income Black women in their 20's were more likely to be bottle fed.

There are so many unrecognized benefits to breastfeeding, not only for the baby and mother, but for the economy as well. Numerous studies have found breastfeeding to be protective against infant and childhood obesity, diabetes, and many other chronic health conditions. If people are made more aware of this knowledge, positive attitudes toward breastfeeding will be formed leading to higher rates of initiation among first-time mothers [3]. The Baby-Friendly Hospital Initiative is crucial in supporting women who deliver in their facilities and has been associated with meeting exclusive breastfeeding goals [5]. There have also been new laws put into effect allowing mothers more frequent breaks and a private space to express their milk.

Many factors aid in low success rates of breastfeeding, which include personal and/or social issues. Nursing in public is often conveyed as socially unacceptable and may discourage women from breastfeeding past the newborn stage or outside of the privacy of their own home [2]. By increasing the nation's breastfeeding rates, the risk of obesity, many types of cancer, allergies, asthma, diabetes, and a number of other chronic health conditions could be dramatically reduced [2]. It is important to understand that prenatal education alone is not enough to promote and sustain breastfeeding; intervention beyond education is required [3].

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Health benefits for child and mother

According to Phillips [5], breastfeeding is the most important decision new parents can make pertaining to the health and well-being of an infant. The American Academy of Pediatrics recommends that the minimum duration of exclusive breastfeeding be six months but that optimally breastfeeding should continue for at least one-year while introducing appropriate complementary foods [6]. The US Department of Health and Human Services [7], found that 83.1% of infants have been breastfed, but the percentage quickly declines for within three months to 45.3% of infants being exclusively breastfed. On average, mothers breastfed for only 11.4 weeks [3].

Healthy People provides ten-year national objectives for improving the health of all Americans and have established benchmarks and monitored progress over time to encourage collaboration, guide individuals toward more informed health decisions, and measure the impact of prevention activities. Although the US is a leader amongst developed countries, it is ranked 30th in life expectancy and has some of the most substantial health inequities [8]. Healthy People 2030 objectives for breastfeeding are as follows: 42.4% of infants to exclusively breastfeed through six months and 54.1% of infants to breastfeed through twelve months of age [9]. Because of its many benefits to children's health, breastfeeding has been deemed the preferred method of infant nutrition by the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, and the American Academy of Family Physicians [6].

Many of the diseases that shorten life expectancy are chronic illnesses, which with proper education may be avoided, leading to improved quality of life and prolonged life expectancy Breastfeeding is associated with many benefits for children as well as mothers. It is an effective, low cost prevention strategy for improving health [10].

Evidence shows that breastfeeding is protective against infectious diseases such as upper and lower respiratory tract infections, gastrointestinal illnesses, and otitis media during the infant period and beyond [11]. Breastfeeding is linked with a 36% reduction in Sudden Infant Death Syndrome (SIDS) and it is estimated that breastfeeding would reduce infant mortality by 13% worldwide [12]. Childhood leukemia, ear infections, childhood obesity, and diabetes mellitus have also shown to be reduced in breastfed babies [10]. Additionally, children are exposed to a variety of flavors through breast milk. This can help to explain why children who are breastfed had an increased consumption of fruits and vegetables later in life [13]. Research shows those who were breastfed for 12 months or longer were likelier to consume vegetables, although there was no association with consumption of fruit [13].

Breastfeeding strengthens the immune system. Human milk contains immunoglobulins, leukocytes, and the bifidus factor, which helps guard the newborn against several types of bacteria and other harmful organisms [14]. In nursing, the mother passes antibodies to the child, which helps the child resist diseases and help improve the normal immune responses to certain vaccines [15]. Nursing children also have a decreased risk of acute infections and have been found to be better protected against asthma and allergies [6,11].

Along with health benefits, children also benefit psychologically. Exclusive and early breastfeeding supports brain development, improves cognitive performance, and is associated with better educational achievement at age five [16]. One researcher found that breast-fed children were, on average, more mature, assertive, and secure with themselves as they developed [15].

Mothers also receive psychological and health benefits from breastfeeding. There is a physical and emotional connection between a mother and her baby [17]. Breastfeeding promotes physiological recovery from pregnancy, specifically allowing new mothers to forget the agony they went through during labor and to enjoy their new baby [18]. Breastfeeding enhances the bonding of the mother-infant dyad. It seems to increase levels of oxytocin immediately following childbirth, resulting in less postpartum bleeding and more rapid uterine involution (when the uterus transforms from that of a pregnant woman to a non-pregnant woman) [18]. Moreover, increased levels of oxytocin among breastfeeding mothers are associated with decreased levels of stress and negative mood following childbirth [6].

In opposition, mothers who do not breastfeed have slower post-delivery recuperation times, tend to suffer from increased stress and postpartum blood loss, show less success in terms of uterine involution, and have an early return to fertility [19]. If a mother can successfully breastfeed for at least six months or longer, there is a reduction in ovarian, uterine, endometrial, and premenopausal breast cancer [6]. One review showed the risk of breast cancer decreased by 24% for women who lactated a total of two or more years [15].The Lancet Series on breastfeeding reported this is equivalent to 20,000 deaths of mothers each year just from breastfeeding [20]. A decrease in developing osteoporosis later in life was also noted.

Physical benefits are also very important for a mother. After gaining pregnancy weight and delivering a baby, mothers lack personal time and can get become very exhausted. Lactation requires an additional 500-640 calories per day, and breastfeeding can help to burn those extra calories [11]. When lactation occurs, calories are being burned increasing the amount of weight loss. Women who proceed to nurse, protect themselves against being pregnant too soon. This is shown to be a form of birth control that is 98% effective [15]. On the contrary, if a woman does become pregnant while nursing, she must stop immediately due to the increased risk of going into preterm labor.

Current economic benefits and issues of breastfed infants

Breastfeeding is a low-cost feeding method that reduces health-care costs. Exclusive breastfeeding increases the benefits related to the health, growth and development of infants [19]. Galtrystated, "an inadequately fed infant is a cost to the health system, to the education system (due to brain development) and to society generally" [21]. Although Americans know the many benefits of breastfeeding, rates in the United States are lower than in most nations [22]. The Lancet Series on Breastfeeding estimated that more than 800,000 child deaths globally and cognitive losses totaling over $3 billion per year were attributed to not adhering to breastfeeding recommendations and exposure to breastmilk substitutes [23].

On average, $2 billion per year is spent by families on breastmilk substitutes such as formula. This equates to $1,200-$1,500 or more for a baby's first year [24].The global mean price for a container of formula is $18.74. With this estimate, to feed a child with economy formula for the first two years of life, it would cost on average over 6.1% of a household's wages [23]. This is significantly higher for low income families. The Special

Supplemental Nutrition Program for Women, Infants and Children (WIC), a federal assistance program, provided between 57% and 68% of all infant formula sold in the United States, suggesting that the program may be at least partially responsible for the low rates of breastfeeding [25]. In 2022, WIC served about 6.3 million participants, 39% of all infants in the United States. Additionally, this program totaled $5.7 billion in fiscal year 2022 [26]. Because formula is so expensive, it is not surprising that mothers sometimes dilute the mixture to save money [14]. This can cause the child severe health issues if they are not receiving enough formula and too much water additive. Healthcare claims also increase, which leads to decreased productivity at work and more days missed in order to care for the sick child. The absenteeism rate for mothers of formula feeding infants was found to be more than twice as often as mothers of breastfed infants [27].

There are several high-cost maternal diseases that are impacted by breastfeeding. These include breast cancer, ovarian cancer, cardiovascular disease, and type 2 diabetes, which are all costing our country billions of dollars a year and many thousands of deaths [28]. Along with maternal disease, there are several diseases and conditions children could avoid if breastfed for the first six months of life, therefore saving our country billions of dollars. Private and government insurers pay a minimum of $3.6 billion each year to treat diseases and conditions preventable by breastfeeding [24]. For example, treatment for childhood pneumonia is $697 million each year, and childhood diarrhea is estimated to cost the US $196 million [23] five deaths from SIDS could be prevented and $58.8 million saved if the breastfeeding rates increased [10].

One study showed those who received longer durations of breast milk had a 2.6-point increase in IQ scores over those who received milk substitutes [20]. Studies have also shown that illnesses and death from bacteria are associated with feeding powdered infant formula due to it not being sterile [24]. Although not quantifiable in monetary terms, environmental costs are building up. Breast milk is a “natural, renewable food” that is environmentally safe and produced and delivered to the consumer without pollution, unnecessary packaging, or waste [20]. Breast milk substitutes need energy to manufacture, material for packaging, fuel for transport distribution and water, and cleaning agents for preparation and use. In the US, 550 million cans, 86,000 tons of metal, and 364,000 tons of paper used to package the product end up in landfills annually [20].

Support and promotion of breastfeeding

Equity in breastfeeding is access to support that allows all women to meet their breastfeeding goals, from any class, community, race/ethnicity, sexuality, ability, etc. Equity crosses all levels of the socio-ecological model, is family-centered, and is transdisciplinary. Breastfeeding equity will lead to better health equity across the life course [29].

Making breastfeeding the norm requires that public health initiatives are supported by an effective partnership between governmental and non-governmental agencies, hospitals and health-care providers, health professionals, community-based organizations, employers, and trade unions [19]. If all of these forms of extra support are utilized, studies have shown there is an increase of the duration of exclusive breastfeeding at six months [30].

New mothers need access to trained individuals with established relationships in the health care community who are flexible enough to meet their needs outside of traditional work hours and locations, and provide consistent information [7]. This can include primary physicians, pediatricians, lactation consultants, or nurses [31]. Because questions can arise at any time and answers are wanted instantly, more than 86% of mothers said they looked toward the internet as a resource after consulting with lactation consultants or nurses [32]. As physicians treat the family, they are also in a unique position to impact what happens when new mothers leave the hospital. Studies have shown that 75% of mothers are breastfeeding when they leave the hospital, but the percentage then plummets by the time they are in the office for a return visit [33].

The World Bank’s Investment Framework for Nutrition estimated that $5.7 billion in additional financing is needed from 2016 to 2025 to scale up breastfeeding promotion interventions across low- and middle-income countries [23]. Educational programs can provide support and change negative perceptions [19]. These educational groups can be found through the hospital or a local la leche league. Roughly 91% of hospitals reported providing prenatal breastfeeding education classes and 87% reported teaching mothers breastfeeding techniques [34]. While breastfeeding is considered a natural skill, some mothers may need education and guidance. Providing accurate information can help prepare mothers for breastfeeding [7]. Group classes would alleviate strain on the mother, but it has also been shown to decrease the frequency of low birth weight infants and healthcare costs associated with high risk pregnancies [6]. With this support, early breastfeeding rates increased and no breastfeeding rates at birth decreased. Combined individual and group counseling appeared to be superior to individual or group counseling alone [35].

Positive contributors to breastfeeding are focused on social relationships [36]. When mothers were surveyed, there was a consistency of answers stating that family members, friends, boyfriends, and co-workers strongly influenced whether a mother should begin or continue to breastfeed [36]. Families can establish a postpartum support system to provide new mothers time and space allowing them a breastfeeding relationship with their child.

Because breastfeeding has become such a debatable topic, laws had to be put into place in order to protect a mother’s rights. These laws were coded into five categories: (1) employers are encouraged or required to provide break time and private space for breastfeeding employees; (2) employers are prohibited from discriminating against breastfeeding employees; (3) breastfeeding is permitted in any public or private location; (4) breastfeeding is exempt from public indecency laws; and (5) breastfeeding women are exempt from any jury duty [37]. All fifty states, the District of Columbia, Puerto Rico and the Virgin Islands have laws that allow women to breastfeed in any public or private location [38].

In order to protect mothers and infants, protection against discrimination for lactation and the expression of breast milk in the workplace as well as requirements for accommodating these mothers is protected by the Pregnancy Discrimination Act [39].There is also Family and Medical Leave (FMLA) which allows both mothers and fathers to take the first 12 weeks off when a child is born or adopted. This provides the parents time to bond and adjust to their new life, but also to encourage mothers to continue breastfeeding. The most difficult aspect of FMLA is the

12 weeks is unpaid and the employee must have worked 1,250 hours in the previous year before obtaining leave [39].

The Affordable Care Act (ACA) of 2010 includes workplace related provisions to address breastfeeding barriers among working mothers. This amendment requires employers to provide reasonable break time and a private place for breastfeeding mothers to use a pump during the work day for at least one year postpartum. Employers with fewer than 50 employees can file for exemption if they prove that it causes a hardship to their business [40]. Efforts to implement these accommodations will improve access to breast milk for all infants, especially those from families and communities that experience greater challenges in achieving optimal health and well-being [40].

When a mother returns to work, there are several factors that may influence a mother to continue to breastfeed. Some of these include duration of time taken off, employers' efforts to support lactation, space or equipment provided, or a lactation program through the company. Ideally, supportive employers designate a private room solely for expressing milk, which includes things like a lockable door, electric breast pumps, a sink, a refrigerator, comfortable chairs, soft lighting, and a footstool [6]. With this being offered, several success stories of companies supporting employees have emerged [4]. Along with a private room, a woman must get an adequate number of breaks of sufficient duration throughout the day for expressing milk. In addition to the time required to express the milk, the break must be sufficiently long enough for the woman to prepare the milk for storage and re-dress herself to return to work [6].

The workplace adopting practices to make breastfeeding easier on new mothers, hospital have also set rules and regulations. WHO and UNICEF launched the Baby-friendly Hospital Initiative to motivate facilities providing maternity and newborn services to protect, promote and support breastfeeding. In order to be designated as "Baby-Friendly" in the US, a hospital must implement the Ten Steps to Successful Breastfeeding, follow the International Code of Marketing of Breastmilk Substitutes, and pass an on-site assessment conducted by Baby-Friendly Hospital Initiative [41]. Nationally, there are 600 birthing facilities that are Baby-Friendly designated, representing 28% of the nation's births [42].

Research indicates that the majority of adolescent mothers want to breastfeed, with a proportion of those making the decision to breastfeed late in their pregnancy or during their delivery and hospitalization [43]. Almost all these mothers agreed that breastfeeding should be initiated within the first hour of the babies' life, although 10% of women were unaware of the right moment to start [19]. Infants born in a baby friendly hospital were more likely to be breastfed for a longer time than were those born in non-baby –friendly facilities [43]. One study performed at a BFHI accredited hospital found that breast feeding initiation increased by 3.8% among mothers with lower education [44].

On an individual level, mothers need to establish realistic expectations of breastfeeding [36]. This includes the time it takes to sit and nurse the child, time associated with pumping and cleaning the supplies, and the pain that will be present for the first several weeks. Mothers who were breastfeeding for the first time reported not knowing what questions to ask, and they perceived educators and health-care professionals who proactively anticipated their needs as crucial to their breastfeeding success, particularly in the beginning [5].

Clinicians, employers, and policymakers should work together with pregnant women and mothers to prioritize workplace support for mothers who choose to breastfeed. Monitoring the compliance in the hospitals is imperative for promoting the optimal effects of the BFHI [41].

Common obstacles affecting breastfeeding

Barriers to breastfeeding can be separated into five different categories. These include individual, interpersonal, community, organizational, and policy [36]. Many difficulties in the first few weeks are normal, but can make breastfeeding harder to continue. Lactation is a time-sensitive physiologic process, and experiences in the first hours and days after birth affect a mother's ability to continue nursing after leaving the hospital [34]. One survey suggested that when babies reach a certain age, the mother weans them for different reasons. The most common reasons for stopping breast feeding before four weeks were sore nipples, insufficient milk production and the infants' breastfeeding difficulty [45]. At nine months women also noted that breastfeeding interfered with their social life, causing them to wean their baby [45].

Coping with lifestyle changes, shifts in priorities, difficulties in role transitions, diminished breastfeeding self-confidence, and knowledge deficits in regard to breastfeeding provided many obstacles for the breastfeeding mothers in the first few weeks after discharge [5]. Studies have shown that mothers often felt overwhelmed due to not having enough opportunity to communicate with other breastfeeding mothers [7]. Another common concern was that breastfeeding made the mother the exclusive provider of their child's nutrition, which is a tremendous responsibility [5]. It was stated that breastfeeding was one of the most challenging experiences of a mother's life thus far. Those who were successful spoke of it as an empowering and exhilarating experience [5].

Mothers have several barriers, but individual barriers may be the hardest to overcome. These include a history of sexual abuse, history of or current substance abuse, use of prescription medications, lack of confidence, or traumatic birth experiences [36]. Some mothers do not trust their body to make enough milk to provide for their child, there is a lack of time due to other children, they feel pressured making it more stressful, or it simply takes too much effort [36].

As stated before, it is crucial to have a support system starting before childbirth and continuing on. The absence of a supportive family breastfeeding culture and negative social attitudes are major barriers to breastfeeding and are more pronounced in lower income communities [46]. If a new mother is living in a transient living situation, this can make it difficult. A lack of a social support system from family and friends to assist with meals, house cleaning, errands, and childcare are more burdens that some new mothers can face [36].

Other barriers faced by new mothers are health professionals not having proper education or training [7]. Fewer than half of hospitals reported routinely keeping healthy infants with their mothers throughout their hospital stay, which is against the 10 steps to successful breastfeeding guidelines [34]. By doing this, mothers are unable to become familiar with their babies' hunger cues. Training for at least three days with a course including practical sessions and counselling skills is effective in changing hospital practices, knowledge of healthcare workers, and breastfeeding rates [47]. Unfortunately, healthcare profes-

sionals' knowledge is always considered below standards when tested [47]. Without family support and proper professional knowledge, a mother can face many obstacles that could easily be prevented.

The *Call to* Action initiative stated one of the most significant barriers to breastfeeding is returning to work. Although laws protect the right for mothers to pump at work, only 25% of companies had lactation programs or made accommodations for lactating mothers. Mothers may also experience pressure from co-workers or supervisors to not take a break to express breast milk, and breaks do not allow sufficient time for expression [39].

There are several maternal and community misconceptions of breastfeeding, such as insufficient breast milk and lack of satiety in the baby, or that breastfeeding causes maternal weight gain or breast sagging. High-risk pregnancies, assisted delivery, long hospital stays, maternal illness, and preterm, ill, or low-birth weight newborns can result in breastfeeding starting later [36]. This only makes breastfeeding harder for the mother, but hospitals can assist to ensure breastfeeding occurs as soon as possible. Another misconception is that maternal milk can be harmful in certain situations such as grief, maternal illness, or pregnancy. Mothers also complained of breastfeeding being painful, resulting in sleep deprivation and exhaustion [6]. Some personal issues mothers can face when first starting to breastfeed can be pain, sore nipples, bleeding nipples, uncertainty of an adequate milk supply, fatigue, or latch issues [5].

By failing to address breastfeeding challenges and conveying that extended breastfeeding or nursing in public is abnormal or obscene, these depictions reinforce myths about the ease of breastfeeding and may discourage women from breastfeeding past the newborn phase, and outside of the privacy of their homes [2].

Social media has a huge impact on breastfeeding and can sway a mother or family member's opinion. Kousaie [39] stated, "In 2012, *Time Magazine* had the nation buzzing about breastfeeding when the cover read "Are You Mom Enough?" with a mother breastfeeding her three-year-old son, who was standing on a chair to reach his mother's breast". Advertisements state that babies need more than just breastmilk to achieve optimal health and sustenance, and they emphasize how closely the chemical composition of infant formula resembled that of breastmilk [19]. Also, the distribution of formula company sponsored gift bags has been identified as a particularly concerning practice that reduces breastfeeding duration and exclusivity [31].

Having a newborn born at a Baby-Friendly hospital has shown to have slightly higher birth costs than those hospitals not designated Baby-Friendly. This is due to implementing maternity care practices to support breastfeeding by providing training on lactation for staff and paying for the formula at full cost [41]. As part of the Baby Friendly initiative, hospital has been discouraged from distributing formula samples [2]. One specific initiative is for them to pay market price for infant formula [48]. According to a study performed by Tarrant et al., 2015, after this initiative was implemented, breastfeeding initiation within the first hour increased from 28.7% to 45% and in-hospital exclusive breastfeeding rates increased from 17.9% to 41.4% [48]. Mothers indicated perseverance, flexibility, and persistence were crucial to breastfeeding continuation [5].

Conclusion

Breastfeeding is a challenging, yet rewarding experience for a mother and her child.

Many health- related illnesses can be avoided if breastfeeding occurs for the first year of life. A mother's risk for getting breast cancer is reduced by 24% if she is able to lactate for two or more years. The child is also shown to have psychological improvement, with improved cognitive function, and a higher maturity level.

The economy is also benefiting in many ways. Breastfeeding is a low-cost feeding method that also reduces health care costs. Billions of dollars are spent on formula or milk substitutes each year, with more than half of those costs being supported through the government. Productivity at work decreases, and healthcare claims increase due to the amount of illnesses with the child.

Everyone can help support a mother and her infant, and this can be made easier through the way social media portrays breastfeeding. Laws have been established in order to protect and encourage mothers to breastfeed. WHO and UNICEF have also created an initiative in hospitals that allow mothers to receive more support.

There are several barriers that can deter a mother from choosing to breastfeed her child. These can include personal, social, or health issues. By failing to recognize obstacles associated with breastfeeding, mothers may get very discouraged past the newborn phase and convert to formula feeding. Ultimately, a mother has the right to choose whether she wants or is able to breastfeed or not, but the benefits strongly outweigh the negative aspects.

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