

# THE LINK BETWEEN BREASTFEEDING PRACTICES AND BREAST CANCER; A BIOCULTURAL ANALYSIS

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At the present time, early detection of breast cancer is widely promoted as the optimal way to decrease breast cancer diagnosis in spite of the fact that decades of published scientific data indicates that breastfeeding protects women from a wide-range of invasive and non-invasive breast cancers (American Academy of Pediatrics, (APA) 2012; Ing, Petrakis, & Ho, 1997; Lipworth, Bailey, & Trichopoulos, 2000; United States Department of Health and Human Services (HHS), 2011). Although compendious national and international efforts have been aimed at educating the public regarding breast cancer prevention, very little has been published in reference to the specific types of breastfeeding behaviors that protect women from developing breast cancer. In the paper presented here, the history of breastfeeding will be discussed, and historical and cultural alterations in maternal feeding practices will be examined in depth. In addition, the lactational mechanisms that protect women from developing breast cancer will be presented, and ways to increase breastfeeding initiation and duration rates across diverse populations will be provided.

## Introduction

While it is certain that breast cancer is a heterogeneous disease with complex risk factors and divergent biologic markers, scientific data confirms that breastfeeding has been found to protect women from various forms of cancers of the breast (Kwan, Bernard, Kroenze, Factor, Habel, Weltzien, Castillo, Gunderson, Maxfield, Stijleman, Langholz, Queensberry, Kushi, Sweeny, & Caan, 2015). Breast cancer accounts for 15% of all cancer deaths worldwide among females, and both breast cancer diagnosis and mortality rates are most common in highly developed nations. The countries with the highest rates of breast cancer are the United States, Australia, and parts of Western Europe. Conversely, the lowest rates of breast cancer diagnoses and deaths occur on the Asian and African continents (Torre, Bray, Siegal, Ferlay, Lortet-Tieulent, & Jamal, 2015).

The continent of Africa reports 23 cases of breast cancer per 100,000 women while Asia reports 21 cases per 100,000 women. The United States reports more than triple the breast cancer rates in Asia and Africa with 101 per 100,000 women being diagnosed with breast cancer each year (Porter, 2008; Surgeon General's Perspective, 2014). Data confirms that breastfeeding rates are highly correlated with breast cancer incidence in both developed and underdeveloped nations across the globe. The United States consistently reports one of the lowest breastfeeding initiation and duration rates in the world in tandem with one of the highest rates of breast cancer (HHS, 2011; Stolzer, 2014).

With regard to racial differences in the United States of America, data indicates that African American women consistently report the highest rates of breast cancer diagnosis and death, and also report the lowest rates of breastfeeding initiation and duration in America. Conversely, Asian American women report the highest rates of breastfeeding initiation and duration and the lowest incidences of breast cancer diagnosis and death (HHS, 2011; Printz, 2015). According to governmental data, "breastfeeding rates for African American infants are 50% lower than those for white infants at birth, age six months and age 12 months, even when controlling for the family's income or educational level" (HHS, 2011, p. 7).

The Surgeon General of the United States has stated unequivocally that if disease rates are to significantly decrease, breastfeeding rates must increase across diverse populations. In addition, the Surgeon General has referred to breastfeeding as one of the most important contributors to infant and women's health outcomes (2011). With regard to breastfeeding rates in America, approximately 75% of all American women breastfeed at least once. However, of the 75% of American women who initiate breastfeeding, only 33% exclusively breastfed for three months, and only 13% of those are exclusively breastfeeding at six months (HHS, 2011). According to the Surgeon General (2014), these low rates of exclusive and extended breastfeeds have major implications for public health including increasing maternal breast cancer rates and increasing direct medical costs by 2.2 billion dollars annually in the United States (IARC, 2008; Surgeon General's Perspectives, 2014).

Regardless of race, socioeconomic status, or educational attainment, breastfeeding statistics in the United States are not encouraging. Currently, the majority of breastfed infants in America are supplemented with formula in spite of the fact that formula supplementation has been found to decrease maternal milk supply and overall breastfeeding success (HHS, 2011; Stolzer & Hossain, 2014). Beginning in the 1950's, formula feeding has been the norm in the United States regardless of the fact that decades of published scientific

data documents that formula feeding causes a wide variety of chronic illness and disease in both women and children – including maternal breast cancer (Alqaisiya, 2014; HHS, 2011; Stolzer, 2014).

Because of the significant protective factors breastfeeding provides for women and children, global initiatives have been implemented in order to increase breastfeeding initiation and duration. In 1991, The World Health Organization and the United Nations Children’s Fund (UNICEF) developed the “Baby Friendly Hospital Initiative” that included 10 steps to facilitate successful breastfeeding. Although compendious effort has been put forth to increase breastfeeding initiation and duration in America, less than 8% of births in the U.S. occur in hospitals that implement the Baby Friendly Hospital Initiative (Surgeon General, 2014).

The United States of America is the richest, most educated country that has ever existed on planet earth, yet despite numerous governmental programs, advanced educational attainment, and economic advantage, the United States continues to report one of the lowest breastfeeding initiation and duration rates in the world and the highest incidence of breast cancer diagnosis (HHS, 2011; Porter, 2008; Torre, *et al.*, 2015).

### **Protective Effects of Breastfeeding**

Decades of epidemiological data has demonstrated that specific breastfeeding behaviors significantly reduces breast cancer diagnosis and death in females (Anderson, Schwab, & Martinez, 2014; Greenberg, Clapp, Burke, Willet, & McMahon, 1994; HHS, 2011; Zidi, Kharrat, Sebai, Zidi, Yahia, Bouaziz, Rifi, Mezlini, & Rizzo, 2016). Scientific data indicates that long-term breastfeeding reduces menstrual cycles over the life-course, thus significantly reducing cumulative exposure to potentially dangerous endogenous hormones. Breastfeeding also increases the distinction of ductal cells rendering the cells less susceptible to mutation (Kwan, *et al.*, 2015; Russo & Russo, 2004). In addition, published data indicates that breastfeeding inhibits the formation of specific cancer causing carcinogens via the mammary ducts (Gonzalez-Sistal, Baltasar-Sanchez, Menendez, Arias, & Ruibal, 2016; Kwan, *et al.*, 2015)

Researchers have identified several factors that explain the protective lactational mechanisms which prevent breast cancer in women. These protective mechanisms include; distinct hormonal changes as evidenced by a reduction of endogenous progesterone and estrogen levels, increased maturation of ductal cells contained within the breast which decreases various carcinogens, increased prolactin levels, and breast tissue differentiation (Kwan, *et al.*, 2015; Lipworth, Bailey & Trichopoulos, 2000).

Awatef (2009) and colleagues established that breastfeeding protects against breast cancer by suppressing ovulation, reducing the concentration of toxic organochlorines in the breast, and by positively transforming growth factor- $\beta$  which is a hormonally regulated growth factor that is present in human breast cancer cells.

During the 1960's, Shaefer documented that breast cancer was extremely rare in the Inuit tribe in Canada where long-term breastfeeding is practiced universally (i.e., three years or more). According to Shaefer's seminal work, only one case of breast cancer was detected in an Inuit woman during the 1960's. Schaefer reported that the incidence of breast cancer in Inuit women was 0.6 per 100,000 per annum or an age adjusted incidence of 1.3 per 100,000 population per year. Shaefer noted in the 1960's that breast cancer diagnoses were rising in parts of Canada, Japan, and Greenland and attributed this rise to "either the decrease in the duration of breastfeeding or its complete elimination- a result of assimilation by western cultures" (p. 625).

During the 1970's, Ing and Colleagues published a study analyzing women in Hong Kong where cultural custom dictated that women nurse solely from the right breast. Ing's data revealed that for postmenopausal women in their sample, breast cancer rates were significantly higher in the unsuckled breast (Ing, Ho & Petrakis, 1977). Ing and colleagues groundbreaking research is indeed the ideal prototype of a controlled study as no confounding variables were possible in this specific population as the only measurable difference detected was that the right breast was suckled and the left breast was not (Ing, *et al.*, 1997; Stolzer, 2015).

The literature clearly documents that breastfeeding protects women from developing cancer of the breast (AAP, 2012; Gonzalez-Sistal, *et al.*, 2016; HHS, 2011; Ing, *et al.*, 1997; Kwat, *et al.*, 2015). However, because of cultural bias, and inadequate operational definitions of the term "breastfeeding," many studies conducted in the past have not taken into account duration of breastfeeding when exploring the link between breast cancer and breastfeeding (Labbok & Krasovec, 1990; Micozzi, 1995).

Although the duration of breastfeeding is not controlled for in many studies examining the relationship between breast cancer and breastfeeding, there exists published data that documents a significant correlation between the duration of breastfeeding and breast cancer risk. Zheng (2000) documented that breastfeeding for two or more years reduces a woman's risk of developing breast cancer by 50%. Zheng and colleagues detected a significant relationship between length of breastfeeding and breast cancer and concluded that the longer a woman breastfeeds, the more protected she is against developing

breast cancer. According to Zheng, breastfeeding long term (i.e. long than two years), significantly reduces breast cancer diagnosis in both premenopausal and postmenopausal women (Zheng, Duan, Liu, Zhang, Wang, Chen, Zhang & Owens, 2000).

Kotsopoulos (2012) found that when analyzing the specific form of BRCA1 breast cancer, breastfeeding for 12 months or longer was associated with a 32% reduction in the risk of developing BRCA1 for women 50 years of age and younger. Kotsopoulos and colleagues also reported that this protective effect was also evident in women 50 years of age and older, but due to the limited number of women in this sample who breastfed for longer than one year, the association between breastfeeding and breast cancer (BRCA1) did not achieve statistical significance (2012).

Researchers have ascertained that decreases in breastfeeding initiation and duration have increased breast cancer rates not only in highly developed nations such as the United States, but also in low and middle income countries (Lambertini, Santoro, Del Mastro, Nguyen, Livraghi, Ugolini, Peccatori, & Azim, 2016; Lipworth *et al.*, 2000; Peto, 2001). The literature documents that the longer a woman breastfeeds, the more protected she is against various strains of breast cancers (Awatef, *et al.*, 2009; Lee, Kim, Song, & Yoon, 2003). De Silva (2010) concluded that prolonged breastfeeding significantly reduces the risk of breast cancer, and that a dose-response specific relationship exists (i.e., the determinate protective mechanisms associated with breastfeeding are dependent on the duration of breastfeeding throughout the woman's life course).

Huos (2008) case-controlled data demonstrated that breast cancer risk decreased by 7% for every year of breastfeeding regardless of menopausal status. In addition, Yuan and colleagues concluded that even when other risk factors are present such as obesity, advancing age, first degree relative with breast cancer, or early age of menarche, breastfeeding is significantly associated with a reduction in breast cancer (Yuan, Yu, Ross, Gao, & Henderson, 1988).

While the epidemiological evidence suggests there are several risk factors for developing cancer of the breast (i.e., reproductive factors, age, overweight or obesity, physical inactivity, hormonal replacement therapy, and alcohol consumption), researchers have documented that one of the most statistically significant risks for developing female breast cancer is breastfeeding for short durations or not breastfeeding at all during the life course (Awatef, *et al.*, 2009; DeSantis, Siegal, Badi & Jemal, 2011; Kwan, *et al.*, 2015; Shaefer, 1969).

Breastfeeding is a multifaceted variable that has been found to be highly correlated with specific cultural norms (Dettwyler, 1995). Evolutionary

biologists have postulated that human beings create and maintain particular cultural customs that may or may not be congruent with their bioevolutionary heritage. Breastfeeding is a distinct mammalian characteristic, yet the decision of whether to allow this biological process to continue is dictated by particular cultural customs and these customs change dramatically over time (Stuart-Macadam, 1995). For millions of years, exclusive and long-term breastfeeding was considered to be an integral component of the maternal experience. However, over the last 100 years monumental shifts have occurred with regard to breastfeeding practices in humans – particularly in highly developed nations (Micozzi, 1995). In the following sections, historical alterations in breastfeeding practices will be discussed.

### **Breastfeeding: A Historical Review**

Since the beginning of the Mesozoic Era, mammals have sustained their young through the process of lactation (Ben Shaul, 1962). Throughout evolutionary time, human mothers have sustained their human offspring with milk secreted from their breasts. “Throughout our evolutionary history, the mother-child relationship has been forged and sustained by the breastfeeding link. The millions of years of intimate contact between mothers and children consequent on breastfeeding have resulted in what is basically a physiologic interdependence – each relying on the other for optimum functioning of the various physiological processes” (Stuart-Macadam, 1995, p. 7).

Prehistoric breastfeeding patterns have been established in human populations by combining ethnological findings and archaeological evidence. Sillen and Smith concluded that early human beings began the introduction of foods other than human milk between 1.5 and two years using strontium-calcium ratios of juvenile skeletons. This range indicated that for prehistoric humans, weaning was not an abrupt life change, but rather a gradual transitional process (Sillen & Smith, 1984; Stuart-Macadam, 1995).

The earliest known historical records regarding breastfeeding can be dated to approximately 3,000 B.C. and include material, epigraphic, and pictorial records (Fildes, 1981; Stuart-Macadam, 1995). These records were located in the area that included Mesopotamia, Levant, and Egypt. Evidence suggests that children living in these ancient societies were breastfed for three years or longer. Ancient Hebrew children were weaned around three years of age, as were the majority of Egyptian children (Stuart-Macadam, 1995).

Throughout the vast majority of human history, mothers exclusively breastfed their children for extended periods of time (Fildes, 1986; Stuart-Macadam, 1995). As cultures stratified with each advancing century, and later,

as the Industrial Revolution emerged, monumental changes in maternal feeding practices occurred, particularly in the most highly developed nations (Fildes, 1986; Stuart-Macadam, 1995).

Until the early 1900's, the vast majority of mothers across the globe practiced exclusive and long term breastfeeding (Fildes, 1981; Palmer, 1991). In 1900, 97% of all children in the United States were breastfed; weaning at the turn of the century occurred between two and four years of age (Dettwyler, 1995). Currently in the United States, less than 13% of infants are exclusively breastfed for six months (Surgeon General, 2014). According to published data, the reasons given for early breastfeeding cessation are; difficulty with infants latching on, painful breastfeeding, concern about sufficient milk production, and insufficient weight gain in newborns. However, according to the Surgeon General of the United States, these problems are not insurmountable, and can be generally overcome with scientifically validated support and management (2014).

### **The Sexualization of the Female Breast**

No discussion regarding the low incidence of breastfeeding in the western world would be complete unless it included an analysis of how the sexualization of the female breast has impacted breastfeeding initiation and duration rates across time and across cultures. In western cultures, female breasts are perceived as innately sexual by both males and females (Jelliffe & Jelliffe, 1978). Biologically, female mammals have breasts in order to ensure the survival of their offspring. However, particular groups of humans have constructed and maintained distinct perceptions of the female breast that vary considerably from culture to culture (Palmer, 1991; Stuart-Macadam, 1995).

Anthropologists have hypothesized that breasts are not inherently erotic in the mammalian species as data has demonstrated that attaching sexual significance to female breasts is not practiced universally among humans (Dettwyler, 1995; Ford & Beach, 1951). Ford & Beach's ground breaking study analyzed 190 cultures across the globe. Of the 190 cultures studied, only 13 reported that female breasts were sexually stimulating. The same 13 cultures reported that female breast were part of the sexual act, either as a precursor to sexual intercourse, or as part of the copulatory act. However, 177 of the 190 cultures analyzed reported female breasts were not viewed as sexually erotic and no sexual significance was attached to female breasts (Ford & Beach, 1951).

Dettwyler (1995) postulated that in every human culture, specific parts of the female anatomy have been sexualized as evidenced by historical foot-

binding practices in Asia, and elongated neck rings in certain regions of Africa. However, data reveals that the female mammary glands are not innately sexual in the human species, nor in any other mammal (Anderson, 1983; Ford & Beach, 1951).

Anthropologists have suggested that the western view of the female breast in modern times has been shaped by culturally constructed belief systems which have impacted the breastfeeding relationship. These belief systems include the assumption that the function of a woman's breast is innately sexual (i.e., for man's sexual gratification) and that breastfeeding, if it must be done, is only appropriate for very young infants and must be carried out in private (Dettwyler, 1995).

The sexualization of the female breast has become the norm in many western cultures, and as a result of this overt sexualization, breastfeeding has decreased dramatically over historical time (Palmer, 1991). Every human society has constructed particular perceptions regarding the female breast, and these perceptions dictate if they are regarded as practical, functional life sustainers of children, or if the breasts are regarded as sexual appendages whose primary purpose is to attract sexual attention (Dettwyler, 1995).

Breastfeeding is a primordial, biological function that has ensured the survival of the mammalian species throughout evolutionary time (Anderson, 1983; Ben Shaul, 1962). However, with regard to humans, specific cultural mandates dictate if the female breast is or is not, sexually erotic, and these culturally constructed mandates provide the cultural basis for restricting or promoting specific breastfeeding behaviors (Palmer, 1991). Although it is impossible to quantify the impact of the sexualization of the female breast with regard to cross cultural breastfeeding rates, the impact is hypothesized to be substantial (Palmer, 1991; Stuart-Macadam, 1995).

In addition to the sexualization of the female breast, other factors correlated with the low incidence of breastfeeding initiation and duration include; 1. lack of breastfeeding role models 2. lack of physician breastfeeding education 3. the distribution of free formula via WIC clinics, physician offices, and hospitals 4. maternal leave policies 5. hospital policies and procedures 6. advice from family and friends 7. the media and 8. cultural norms (Freed, Clark, Curtis, & Sorenson, 1995; HHS, 2011; Stolzer, 2005; Stuart-Macadam & Dettwyler, 1995).

### **Future Directions**

While at the present time, early detection of breast cancer is touted as the primary way to protect women against breast cancer, mounting scientific



evidence suggests that exclusive and long-term breastfeeding could actually prevent the onset of the disease (Collaborative Group, 2002; Kwan, *et al.*, 2015; Zidi, *et al.*, 2016). According to the published data, if women exclusively breastfed for six months, an estimated 25,000 cases of breast cancer would be prevented each year in western cultures. Furthermore, if each child was breastfed for two years or longer, approximately 50,000 cases of breast cancer could be prevented in those countries with the highest rates of breast cancer (e.g., western cultures) (Collaborative Group, 2002). Data indicates if women in western cultures practiced exclusive and long term breastfeeding (two years or longer), it is estimated that the incidence of breast cancer by age 70 would be reduced by approximately 50% in highly developed nations (Collaborative Groups, 2002; Kwan, *et al.*, 2015; Zheng, *et al.*, 2000).

Decades of epidemiological data patently demonstrates that exclusive and long term breastfeeding protects women from developing breast cancer (Connor, Visvanathan, Baumgartner, Baumgartner, Boone, Hines, Wolff, John, & Slattery, 2016; Ing, *et al.*, 1977; Kvale, 1992; Kwan, *et al.*, 2015). The data is published, the results have been made public, yet western cultures continue to report the lowest rates of breastfeeding initiation and duration, and as a result, the highest incidence of breast cancer diagnosis and death (HHS, 2011; Lipworth, *et al.*, 2000; Zheng, *et al.*, 2000). Scientific data incontrovertibly indicates that in order to decrease breast cancer, breastfeeding rates must increase exponentially across diverse populations (AAP, 2012; Connor, *et al.*, 2016; HHS, 2011; Printz, 2015).

Scholars from various fields have suggested that if we are serious in our collective endeavor to significantly reduce breast cancer incidence and mortality rates, compendious changes must be implemented at both the micro and macro levels. Proposed changes include:

- Demand that cancer prevention websites such as “WebMD”, “The National Cancer Institute”, and “Making Strides Against Breast Cancer” inform the public that exclusive and long-term breastfeeding protects women from developing breast cancer.
- Develop comprehensive public service announcements that inform the public that formula-feeding increases the risk of developing breast cancer (HHS, 2011; Stolzer, 2015).
- Initiate a national breastfeeding promotion campaign detailing the association between breastfeeding and breast cancer reduction (Stolzer, 2015).
- Require the manufacturers of formula to include warning labels that inform consumers that use of their product increases breast cancer risk (Walker, 1993).

- Improve physician residency training in the area of human lactation (Freed, *et al.*, 1995; Stolzer & Hossain, 2014).
- Demand continuing breastfeeding education for physicians who work primarily with women (i.e., obstetricians, gynecologists, pediatricians, and general practitioners) (AAP, 2012).
- Promote specific hospital procedures that encourage and facilitate breastfeeding (AAP, 2012).
- Demand that researchers implement precise and consistent definitions of breastfeeding as it relates to breast cancer incidence so that valid and reliable analysis can occur (Labbok & Krasovec, 1990).
- Demand that physicians inform women in writing that formula feeding increases the risks of maternal breast cancer (HHS, 2011).
- Provide government funding for the initiation and maintenance of breastfeeding support groups (HHS, 2011).
- Offer free breastfeeding classes for mothers underscoring the protective role that breastfeeding plays in the prevention of diseases such as maternal breast cancer (HHS, 2011).
- Establish 24 hour breastfeeding hotlines staffed by knowledgeable staff persons (HHS, 2011).
- Design and implement community based programs to educate fathers and grandparents about the critical role that breastfeeding plays in decreasing infant mortality and various diseases such as breast cancer in maternal populations (HHS, 2011).
- Enact federal policies that encourage and facilitate exclusive and long-term breastfeeding (i.e., extended paid maternal leave, guaranteed maternal leave, job reinstatement, flexible work schedules, flextime, part-time, job sharing, and other maternal leave options) (Baumslag & Michels, 1995; HHS, 2011).
- Enact federal policies that allow women access to their children during the work day (HHS, 2011).
- Provide national leadership on the promotion of breastfeeding (HHS, 2011).
- Improve breastfeeding content in undergraduate and graduate education for **all** health care professionals (Freed, 1995; HHS, 2011).
- Increase federal and state funding of high quality research documenting the association between breastfeeding and breast cancer (AAP, 2012).

- Inform the public that pacifier and/or formula supplementation significantly decreases the probability of breastfeeding success (HHS, 2011; Stolzer & Hossain, 2014).
- Enact federal policies that would prohibit the distribution of free formula via hospitals and physician offices (a practice that has been shown to significantly decrease breastfeeding initiation and duration) (HHS, 2011).
- Forbid the practice of advertising formula in physician offices, hospitals, and medical journals as use of this product significantly increases maternal breast cancer (as well as a plethora of additional maternal and infant diseases) (AAP, 2012; Stolzer & Hossain, 2014).
- Demand that the federal WIC program offer comprehensive education programs for mothers highlighting the risks associated with formula use (including maternal breast cancer) (HSS, 2011; Stolzer, 2014).
- Reexamine culturally constructed dictates that define the female breast solely as a sexual entity (Dettwyler, 1995; Stolzer, 2014).

## Conclusion

Breast cancer risk is certainly a complex issue directly related to both biological and cultural factors (Micozzi, 1995; Zheng, *et al.*, 2000). The dramatic variations of breast cancer incidence and death reported across the globe indicate that more in-depth research is needed in order to fully understand the multifarious complexities associated with the specific cellular mutations that cause female breast cancer (Micozzi, 1995; Zheng, *et al.*, 2000).

However, if breast cancer rates are to significantly decrease across diverse populations, future research designs must include precise and consistent definitions of specific breastfeeding behaviors so that scientifically valid analyses can occur (HHS, 2011; Micozzi, 1995; Zheng, *et al.*, 2000). Mounting scientific evidence suggests that it is specific breastfeeding behaviors (i.e., exclusive breastfeeding, nursing on demand, nursing during nighttime hours, and extended nursing) that protect women from developing cancer of the breast (Kwan, *et al.*, 2015; Lambertini, *et al.*, 2016; Micozzi, 1995; Zheng, *et al.*, 2000). It is imperative that women are informed not only of the protective nature of breastfeeding in reducing breast cancer diagnosis and death, but are also informed that exclusive and long term breastfeeding provides the most statistically significant protection against developing cancer of the breast (HHS, 2011; Ing, *et al.*, 1977; Zheng, *et al.*, 2000).

In order to decrease the incidence of breast cancer, wide sweeping changes must be implemented at the familial, medical, institutional, governmental, and cultural levels (AAP, 2012; HHS, 2011). We can no longer afford to ignore the role that breastfeeding plays in preventing breast cancer. The time has come to demand improvements in medical education concerning the protective effects of exclusive and long term breastfeeding as data indicates that physicians play a significant role in determining particular maternal feeding practices (AAP, 2012; Freed, 1995; HHS, 2011).

Lastly, if the objective is to decrease breast cancer, public education concerning the link between breastfeeding and breast cancer must be increased, funding for research must be provided, federal policies must be enacted that encourage and facilitate exclusive and long-term breastfeeding, and cultural ideologies that restrict exclusive and long-term breastfeeding must be reexamined (Dettwyler, 1995; HHS, 2011; Stolzer & Hossain, 2006). While there has been progress in increasing breast cancer awareness, there remains a significant challenge to educate the public regarding the link between breast cancer and breastfeeding. Collectively, we can make a significant difference in promoting and supporting breastfeeding, and in doing so, decrease breast cancer incidence exponentially.

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