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Barriers to Breastfeeding among Rural Women in the United States

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Kimberly Aschbrenner and Disa Lubker Cornish “Barriers to Breastfeeding among Rural Women in the United States”

Abstract

Breastfeeding is well-established as a beneficial practice for both infants and mothers; substantial evidence from a wide variety of international settings supports the positive impacts of breastfeeding. However, a significant proportion of U.S. infants are not fed according to this standard. While poor breastfeeding rates can be found in all parts of the United States, the problem is particularly prevalent among mothers living in rural environments where health outcomes are consistently worse than national averages. Significant differences have been found between urban and rural women in many breastfeeding behavioral outcomes, including consistently lower rates reported among rural populations. The problem is considered so significant that the Centers for Disease Control and Prevention (CDC) specifically recommend rural mothers as one of the priority groups that should be targeted with breastfeeding promotion programs. It is important to consider what health education strategies have been used to successfully improve breastfeeding outcomes and how they might be incorporated into programming specific to rural populations. The most successful approaches are those that also incorporate participant interaction and an emphasis on building maternal confidence. Health educators should also make efforts to adapt existing prenatal and breastfeeding education programs to include elements that are known to improve breastfeeding outcomes. In addition to program implementation efforts, there are also numerous ways in which health educators can advocate for changes that would promote breastfeeding in rural areas. While there are many potential advocacy topics, some are more pertinent to the needs of rural populations than others. This commentary expands on these issues from an epidemiological and socio-cultural perspective and addresses possible health promotion and health education strategies that could work to reduce this important health disparity.

1. Decisions related to infant feeding are among the most important choices to be made by new mothers, and perhaps no other element of newborn care provokes as much emotional reaction as whether or not to breastfeed. It is simultaneously perceived as both the most natural and most challenging option, but it has been well-established as a beneficial practice for both mothers and

infants [1, 2]. This is due in large part to the fact that breast milk consists of a combination of proteins, fats, carbohydrates, and vitamins that is unique to humans and cannot be found in any other form of animal milk or milk substitute. The composition facilitates easy digestion, neural development, and vitamin and mineral absorption, and many of the elements also provide non-nutritive benefits related to the development of an infant's immune system. Furthermore, the ratio of individual components changes to meet the specific needs of a child at different points in time [1, 3]. In addition to providing essential nutrition, breast milk also serves as a protective factor for many potential threats to the health of children throughout their lifespan [2].

2. The benefits associated with breastfeeding are considered so valuable that it is the recommended feeding method for mothers and infants worldwide. The World Health Organization (WHO) [4] states that infants should be exclusively breastfed for the first six months of life with no other food or liquids introduced into their diet. In the United States, six months of exclusive breastfeeding is also recommended by the American Academy of Pediatrics (AAP) [1]. However, a significant proportion of U.S. infants are not fed according to this standard. Nearly 75% of mothers initiated breastfeeding in 2010, but only 44% continued to provide any breast milk to infants at six months of age with less than 15% exclusively breastfeeding at six months [5].

3. A variety of factors influence breastfeeding overall, for women in both urban and rural settings. Research has consistently demonstrated that breastfeeding rates increase with maternal age, educational achievement, and socioeconomic status [6-11]. Other maternal characteristics, including WIC participation, maternal obesity and smoking, cesarean delivery, and being unmarried, are negatively associated with breastfeeding outcomes [6, 8, 9, 12, 13].

4. While poor breastfeeding rates can be found in all parts of the United States, the problem is particularly prevalent among mothers living in rural environments where health outcomes are consistently worse than national averages. Significant differences have been found between urban and rural women in many breastfeeding behavioral outcomes, including consistently lower rates reported among rural populations [14, 15]. There are many different factors that contribute to poor breastfeeding outcomes ranging from maternal characteristics to societal influences and the health care system [8, 11, 13, 16]. Each of these elements can serve as either a positive force or a barrier depending on how they relate to a certain woman [8, 13, 17]. Mothers in rural areas face challenges related to isolation, availability of services and providers, and hospital practices that are not prevalent in more urbanized areas of the country [18-21]. The problem is considered so significant that the Centers for Disease Control and Prevention (CDC) [22] specifically recommend rural mothers as one of the priority groups that should be targeted with breastfeeding promotion programs.

5. Many of the maternal characteristics most strongly associated with poor breastfeeding outcomes are particularly prevalent among rural women. The overall age structure of rural populations is older than that of the general U.S. population, but the women who are giving birth tend to be younger in rural areas than urban. A greater percentage of rural mothers give birth

before the age of 20 and between the ages of 20-34 while more urban mothers are over the age of 35 [14]. Similarly, Kozhimannil [19] found that 52.9% of mothers giving birth in rural hospitals were less than 25 years of age compared to only 37.5% of those delivering in urban hospitals. This difference may be significantly related to differences in breastfeeding outcomes as it has been well-established that the odds of breastfeeding initiation increase with maternal age [14].

6. A similar relationship exists between breastfeeding initiation rates and maternal education and income. Mothers with only a high school diploma are 55% less likely to initiate breastfeeding than women with a college education, and the gap is even larger (64%) among mothers with less than a high school education [14]. Rural women are less likely than their urban counterparts to attain a college or advanced degree [14]. Breastfeeding is also negatively associated with lower income and higher poverty, and rural women are much more likely to have a low socioeconomic status than urban mothers [13, 14, 23, 24]. This issue extends beyond individual women to impact entire rural communities because lower overall income among residents produces a small local tax base [25]. As a result, rural towns, cities, and counties have less potential funding available for programs and services that promote breastfeeding and support breastfeeding mothers.

7. A potential barrier to breastfeeding almost entirely unique to rural populations is a lack of physical access to health care resources. Access to services, including maternal and infant care, is often cited as one of the highest priority needs for the health of rural populations [23]. The availability of fewer resources impacts breastfeeding in multiple ways, including how women are informed and educated. Many rural women seek and receive breastfeeding guidance from non-medical sources that are potentially unreliable because the types of local resources that provide support for mothers do not exist in their area [26,27].

8. Possibly the most important effect of uneven access and distribution is the increased distance that rural residents must travel to reach health care services. Eighty-seven percent of the general population has access to maternity care within a 30-minute drive, and over 97% have such services available within a 60-minute drive [21]. However, these proportions decrease drastically in rural locations. According to the American College of Obstetrics and Gynecologists (ACOG) [28], less than half of all rural women have access to a hospital providing perinatal care located within a 30-minute drive of their home. This disparity becomes even more evident when travel distances between metropolitan, rural, and isolated areas are considered. Services are available within thirty minutes for 93.4% of metropolitan women compared to 49.8% of rural woman and 28.8% of women living in the most isolated rural areas (ACOG, 2014; Rayburn et al., 2012). Extending availability to a 60-minute drive time improves the outlook for all locations, but significant geographic differences remain. Access to perinatal services within one hour for metropolitan, rural, and isolated areas is 99.0%, 87.6%, and 78.7% respectively [21, 28].

9. Increased travel times are important to breastfeeding because distance is associated with maternal and infant health outcomes. Adverse outcomes associated with prolonged travel include a greater likelihood of interventions during delivery and increased rates of both NICU

admissions and infant mortality [\[29,30\]](#). Each of these outcomes is in turn related to a reduced likelihood of breastfeeding and lower breastfeeding rates overall.

10. It is important to consider what health education strategies have been used to successfully improve breastfeeding outcomes and how they might be incorporated into programming specific to rural populations. Interventions that focus only on knowledge and the technical aspects of breastfeeding are not likely to significantly improve behavioral outcomes [\[31\]](#). The most successful approaches are those that also incorporate participant interaction and an emphasis on building maternal confidence [\[31-33\]](#). Many studies have shown that continuous support techniques incorporating multiple educational methods, strengthening intentions, and building confidence lead to improvements in breastfeeding initiation, duration, and exclusivity [\[34-36\]](#). There are also numerous features of these intervention approaches that lend support to their potential effectiveness in a rural setting [\[37-39\]](#). Interventions such as these are relatively cost-effective and easily accessible for participants, so they are often implemented successfully among low-income and disparate groups of women [\[40-42\]](#). Rural communities also often have their own cultural environment, so similar techniques could likely be used to target rural mothers who may feel geographically or socially isolated from traditional sources of breastfeeding care and support.

11. Identifying the effective characteristics of existing interventions enables health educators to assess how those strategies can be adapted to overcome barriers and implemented to improve breastfeeding outcomes for rural mothers and infants. While more research into rural breastfeeding is needed, the existing body of research does provide some guidance as to what practices health educators can implement with expectations of success. The overall priority should be to focus on factors that can be modified through intervention. While demographic variables have strong relationships with behaviors, there is often very little that can be done to alter those characteristics [\[8, 13, 14\]](#). Health professionals should instead focus their efforts on areas where they can produce the greatest amount of change, including actions related to both breastfeeding promotion programming and advocacy.

12. Health educators should also make efforts to adapt existing prenatal and breastfeeding education programs to include elements that are known to improve breastfeeding outcomes. One of the most basic steps that can be taken is to encourage the participation of members of a mother's support system. The attitudes of partners and family members have a significant influence on a woman's breastfeeding decisions, and involving them in the education process can increase the likelihood that this influence will favor breastfeeding [\[16, 17\]](#). There are also important content components that should be added to these programs if they are not currently included. Providing women with information about the benefits of breast milk and the feeding requirements of newborns can help improve maternal attitudes and alleviate concerns over low milk supply and infant nutrition [\[11, 43\]](#). The inclusion of this information can also help reduce the risk of early termination by encouraging women to commit to and plan for prolonged breastfeeding prior to giving birth [\[44\]](#).

13. In addition to program implementation efforts, there are also numerous ways in which health educators can advocate for changes that would promote breastfeeding in rural areas. While there are many potential advocacy topics, some are more pertinent to the needs of rural populations than others. One issue that presents a significant barrier is the lower income of rural populations and the related risks of mothers returning to work and infants attending daycare [9, 45]. In order to reduce the negative impact of these characteristics on breastfeeding outcomes, health educators should advocate for paid family leave, childcare provider training, and policies supportive of breastfeeding in workplaces and daycare facilities.

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