

Integrative Literature Review of Factors Related to Breastfeeding in African American Women: Evidence for a Potential Paradigm Shift

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Abstract

Background: Human milk has widespread health benefits for infants, mothers, and society. However, not all populations of women, particularly African American women, engage in human milk feeding at high rates.

Research aim: The purpose of this integrative literature review is twofold: (a) to examine factors that influence low rates of human milk feeding among African American women and (b) to introduce a need for a methodological paradigm shift to develop culturally relevant and effective interventions.

Methods: The authors searched four electronic social science databases for peer-reviewed journal articles pertaining to human milk among African American women published from 1990 to 2015. Both coauthors independently assessed these articles using thematic analysis and validation. The database search yielded 47 peer-reviewed articles.

Results: Three main themes emerged explaining the human milk feeding disparity: (a) the social characteristics of women likely not to feed human milk (e.g., low socioeconomic status, single); (b) women's perceptions of human milk feeding; and (c) the quality of human milk feeding information provided by health care providers (i.e., limited human milk information).

Conclusion: Current literature does include sociohistorical factors that have shaped current norms. Adding sociohistorical frameworks, paying particular attention to the embodied experience of historical trauma, could lead to the development of new evidence-based, culturally sensitive interventions to enhance human milk feeding in the African American community.

Keywords

African American, attitudes, beliefs, Black, bottle feeding, breastfeeding

Introduction

The benefits of human feeding are well documented, and health care providers and policy makers have attempted to increase the human milk feeding rate through education, with recommendations to mothers to sustain human milk feeding for at least 12 months postpartum (Centers for Disease Control and Prevention [CDC], 2013; Green, 2012). However, not all populations of women engage in human milk feeding at the same rates. Despite widespread agreement that the optimal nutrition offered by human milk contributes long-term health benefits, human milk feeding rates differ along racial and ethnic lines (Eidelman et al., 2012; U.S. Department of Health and Human Services [USDHHS], 2011). According to the latest CDC (2013) statistics, although 59% of African American mothers initiate human milk feeding, only 26% continue to feed human milk at 6 months. In

contrast, 75% of non-Hispanic White mothers initiate human milk feeding, and 43% are still human milk feeding at 6 months; for Hispanic mothers, 77% initiate and 48% continue at 6 months (CDC, 2013). African American infants have overall higher morbidity and mortality rates than infants of other races/ethnicities: They are more likely to die during

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infancy and to experience serious health conditions, including diabetes, asthma, and obesity, than infants of any other racial group in the United States (Bartick, Jegier, Green, Schwarz, Reinhold, & Stuebe, 2017; CDC, 2013; Eidelman et al., 2012; Gibbs & Forste, 2014; Khan, Vesel, Bahl, & Martines, 2014; MacDorman & Mathews, 2013; Spencer & Grassley, 2013; USDHHS, Office of Minority Health, 2015). Protection against these conditions has been linked to human milk feeding (Spencer & Grassley, 2013; USDHHS, 2011).

As a result of major human milk feeding education efforts, the human milk feeding rate among African Americans has increased in recent years but continues to lag behind that of other ethnic populations (CDC, 2013). The low rate of African American human milk feeding persists despite recommendations that all babies be fed human milk for at least the 1st year of life unless human milk is contraindicated, and perhaps, a resulting effect is significant lifelong health problems for African Americans from infancy to adulthood (Eidelman et al., 2012; MacDorman & Mathews, 2013; USDHHS, National Institute on Minority Health and Health Disparities, 2015). In fact, suboptimal human milk feeding in African Americans is a significant part of the overall \$3 billion in health care costs attributed to the lack of human milk feeding in the United States (Bartick, Schwarz, Green, Jegier, Reinhold, & Colaizy, 2017). Moreover, human milk feeding is associated with reduced incidence of ovarian and breast cancers and overall improved cancer prognoses after diagnosis among mothers who fed their infants human milk (USDHHS, National Institute on Minority Health and Health Disparities, 2015; Victora et al., 2016).

As a breastfeeding promotion strategy, there has been a recent surge of mother-to-mother breastfeeding support groups in the African American community to increase mother's milk feeding and also instill a sense of camaraderie, building a stronger African American community and infrastructure to support human milk feeding (Green, 2012; Rollins et al., 2016). Despite a growing number of researchers interested in reasons for the low human milk feeding rate among African Americans and methods to increase them, disparities in rates continue to exist (CDC, 2013). Therefore, it is reasonable to explore alternate variables that may influence human milk feeding in African Americans. The purpose of this integrative review is twofold: (a) to synthesize the current literature about human milk feeding among African Americans and (b) to introduce concepts that are underexplored and could lead to more effective public health messaging about the desirability of human milk feeding.

Methods

Design

Literature reviews are conducted when researchers desire to describe and gain comprehensive perspectives of particular phenomena (Whittemore & Knafl, 2005).

Key Messages

- Successful breastfeeding initiatives will be enhanced with culturally sensitive interventions targeting African Americans and their unique collective history.
- Review of the literature identifies factors influencing the breastfeeding disparity among African Americans.
- The potential clinical value of an intervention based on factors unique to African Americans is discussed.
- To address the significant issues of the disproportionately low breastfeeding rate among African Americans, a novel approach for research methodology is postulated.

This literature review followed standards for conducting an integrative literature review guided by Cooper (2009) and Whittemore and Knafl (2005). In addition, a detailed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used with an explanation of why certain articles were excluded (Liberati et al., 2009). The articles reviewed include quantitative, qualitative, and mixed methods, all using diverse designs.

Setting

Peer-reviewed journal articles published from 1990 to 2015 were searched in PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO, and Web of Science, using keywords that probe African American women's attitudes about human milk feeding: African American, Black, human milk feeding, bottle-feeding, attitudes, and beliefs (see Table 1).

Sample

A three-step search strategy was used to select relevant articles. First, using the aforementioned search terms, 421 journal articles were retrieved. Next, the following exclusionary criteria were applied: (a) duplicates, (b) dissertation and books, and (c) sample population from outside the United States excluded 296 articles. Last, articles that had (a) no report of study findings, (b) studies without data from a sample or subsample of African American mothers, and (c) findings not related to human milk feeding excluded an additional 78 articles, leaving 47 eligible articles for this literature review (see Figure 1).

Measurement

The first author appraised each of the 47 articles for purpose and concept, design, sample setting, findings, demographics

Table 1. Integrative Literature Review Search Terms.

Database	Search terms	Results
PubMed	("Bottle Feeding"[Mesh] OR "Breast Feeding"[Mesh] OR bottle feed*[tw] OR breastfeed*[tw] OR breast feed*[tw] OR breast pump*[tw] OR breast express*[tw]) AND (attitude*[tw] OR thoughts[tw] OR beliefs[tw] OR barrier*[tw]) AND (african american*[tw] OR black*[tw])	147
CINAHL	(MH "Bottle Feeding") OR (MH "Breast Feeding+") OR "bottle feed*" OR breastfeed* OR "breast feed*" OR "breast pump"* OR "breast express*") AND (attitude* OR thoughts OR beliefs OR barrier*) AND ("african american*" OR black*)	121
PsycInfo	(DE "Breast Feeding") OR (DE "Bottle Feeding") OR "bottle feed*" OR breastfeed* OR "breast feed*" OR "breast pump"* OR "breast express*") AND (attitude* OR thoughts OR beliefs OR barrier*) AND ("african american*" OR black*)	60
Web of Science	("bottle feed*" OR breastfeed* OR "breast feed*" OR "breast pump*" OR "breast express*") AND (attitude* OR thoughts OR beliefs OR barrier*) AND ("african american*" OR black*)	93
Total		421

(race/ethnicity, age, socioeconomic status [SES], etc.), sample size, sampling method, and methodologic limitations. For an overview of included articles, see Table 2. After all reports were reviewed, the first author conducted a thematic content analysis (Hsieh & Shannon, 2005). This process is frequently used in qualitative research and consists of a two-step analytic process. First, the reports were analyzed and coded to identify frequently used key terms or themes. Once frequent themes are identified, the authors moved to the second phase of content analysis, which is the interpretive phase. During the interpretive phase the authors provide an interpretation of the meaning and significance of the themes from the data and categories are developed (Hsieh & Shannon, 2005). Once the categories were collapsed, the overarching themes emerged. Themes were validated independently by two of the coauthors to ensure validity.

Three main themes emerged from the literature on human milk that may help explain why African Americans engage in this practice less often than other racial groups. The themes include (a) social influences of women less likely to feed their infants mother's milk, (b) women's perceptions of human milk feeding, and (c) quality of information provided by health care providers.

Results

Social Influences of Women Less Likely to Feed Human Milk

Within the theme of social influences, two specific domains were often included in the literature as influential in women's decision to feed human milk: SES and social/family support. Socioeconomic status was usually identified as a factor that contributes to human milk feeding disparities, in that women with higher SES tend to feed human milk at higher rates than women with lower SES (Johnson, Kirk, Rosenblum, & Muzik, 2015; Lewallen & Street, 2010; McDowell, Wang, & Kennedy-Stephenson, 2008). However, the influence of SES was inconsistent in several articles; for example, Belanoff, McManus, Carle, McCormick, and Subramanian (2012) found that poor and/or single White and Hispanic women human milk fed at higher rates than similarly positioned African Americans. Likewise, SES failed to explain the higher initiation rates among foreign-born Black women (Lee, Elo, McCollum, & Culhane, 2009). An interesting finding of several researchers was that foreign-born Black women were more likely to feed their babies mother's milk than native-born Black (African American) women (Lee et al., 2009; McCarter-Spaulding & Dennis, 2010; McCarter-Spaulding & Gore, 2009; Sparks, 2011). Skin color may have been the common variable; however, these data could suggest that cultural influences and how women are socialized about human milk feeding may be an important variable for understanding infant-feeding decisions. In fact, Lewallen and Street (2010) and Meyerink and Marquis (2002) speculated that cultural differences—specifically, being born and raised in a culture where feeding mother's milk is normalized—might be an important variable for understanding infant-feeding decisions.

One relevant social factor affecting human milk feeding rates is employment during and after the birth of a child. African American women tend to have lower paying service-sector employment compared with other races/ethnicities (Ringel-Kulka et al., 2011; Smith-Gagen, Hollen, Walker, Cook, & Yang, 2014). African American women also tend to have shorter maternity leaves when compared with women of other races/ethnicities (Johnson et al., 2015; Spencer & Grassley, 2013). Returning to work is consistently shown to be the most common reason for women to not feed human milk (Fischer & Olson, 2014; Hannon, Willis, Bishop-Townsend, Martinez, & Scrimshaw, 2000; Hill, Arnett, & Mauk, 2008; McCarter-Spaulding, 2007; Mickens, Modeste, Montgomery, & Taylor, 2009; Murimi, Dodge, Pope, & Erickson, 2010; Ogbuanu et al., 2009). Indeed, stress and separation from the infant could make establishing and maintaining a schedule of human milk feeding or pumping difficult for working mothers. The type of job that a woman has also plays a role in infant-feeding decisions, as does the

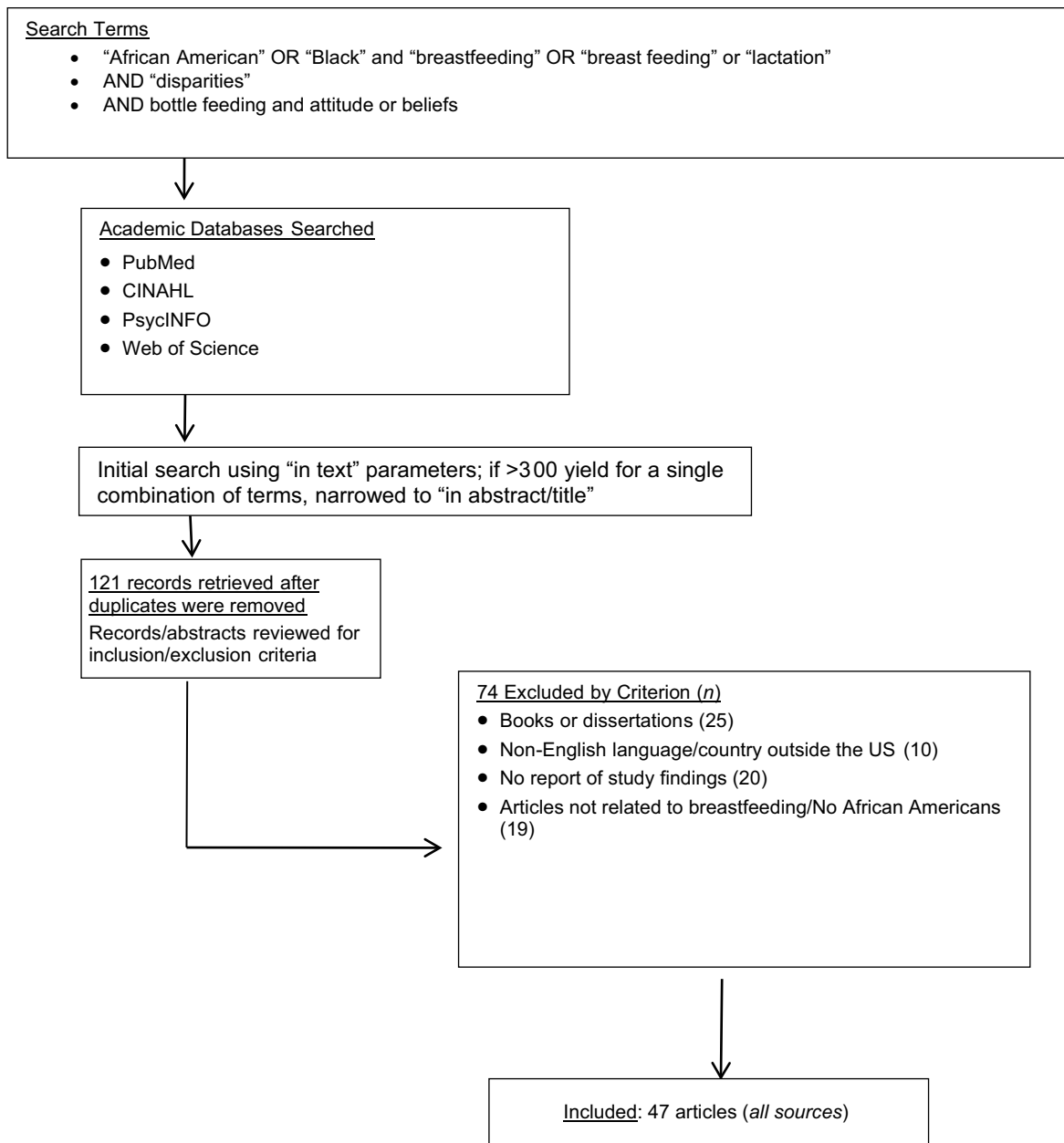


Figure 1. Search strategy for literature review on breastfeeding in the African American community.

degree to which the work environment is supportive of human milk feeding (or pumping). Smith-Gagen et al. (2014) found that five of the eight human milk feeding laws established to protect and promote feeding mother's milk were considerably less helpful for African Americans relative to White Americans. African American women were more reluctant to ask for a suitable (i.e., not a closet or bathroom) place to pump than other races/ethnicities (Smith-Gagen et al., 2014; Spencer, Wambach, & Domain, 2015).

Social support factors also influence African American women's decision to feed human milk. These factors include the opinions, values, and beliefs about feeding mother's milk of the family, the romantic partner, and friends. Family opinions, values, and beliefs about human milk feeding are most important to mothers' milk feeding success (Bai, Wunderlich, & Fly, 2011; Lewallen & Street, 2010; Meyerink & Marquis, 2002; Rose, Warrington, Linder, & Williams, 2004; Spencer & Grassley, 2013; Street & Lewallen, 2013; Ware, Webb, &

Table 2. Report Characteristics Identified in Literature Review.

Theme	First author (year)	Study design and location	Sample size and % AA participants	Findings
Social influences	Bai (2011)	Quantitative, cross-sectional Indiana and New Jersey	N = 236 39%	Subjective norm important indicator of BF in AA women; support from family and friends valued highly among AA
Quality of information	Beal (2003)	Qualitative, secondary analysis	N = 8,757 54%	AA women self-reported that WIC counselors gave advice against BF
Social influences	Belanoff (2012)	Qualitative, secondary analysis	N = 23,374 12%	BF difference across states based on race; other people's opinions matter to low-SES women
Quality of information	Bentley (1999)	Mixed methods, logistic regression Baltimore, MD	N = 441 100%	Strongly influenced by health care providers
Social influences & women's perceptions of BF	Bentley (2003)	Ethnographic and quantitative data Baltimore, MD	N = 136 100%	Television can have a negative effect on BF; breast seen as sexual and not functional; or breast milk portrayed as harmful
Women's perceptions of BF	Caulfield (1998)	Intervention 2 x 2 factorial design Baltimore, MD	N = 242 100%	Facilitators to BF were no formula given at discharge, peer counselors, and intention to BF
Women's perceptions & quality of information	Cricco-Lizza (2004)	Qualitative interviews New York	N = 319 100%	BF challenges and limited BF information from provider
Quality of information	Cricco-Lizza (2006)	Qualitative interviews New York	N = 130 100%	Not provided BF information
Quality of information	Evans (2011)	Quantitative surveys, linear and logistic regression North Carolina	N = 50 counties	More AA in a county = less BF support personnel
Social influences	Fischer (2014)	Focus groups and interviews Michigan	N = 42 40%	Returning to work is a barrier; BF intention is most significant predictor of BF
Quality of information	Gee (2012)	Data from 2007-2008 Louisiana Pregnancy Risk Assessment Monitoring System, archival data	N = 2,534 39%	Race influenced whether a woman received BF support prenatally and postpartum
Social influences	Giugliani (1994)	Case-control study Maryland	N = 200 65%	Opinion and support from father of baby most important
Social influences	Grassley (2008)	Focus groups Texas	N = 30 10%	Grandmother's BF knowledge and support important
Social influences	Grassley (2012)	Focus group intervention Southwestern U.S.	N = 49 4%	Grandmother's support and attitudes are very influential to new mothers
Women's perceptions of BF	Hannon (2000)	Qualitative, interviews and focus groups Chicago, IL	N = 35 60%	Barriers: perceptions of pain, public exposure, and unease with the act of BF, misconceptions about BF
Social influences & women's perceptions of BF	Hill (2008)	Mixed methods Texas	N = 88 18%	Women's perception of what was normal mattered most; father most influential; comfort with formula = low BF duration
Quality of information	Howell (2014)	Randomized controlled trial intervention New York	N = 540 38%	Facilitators: BF education and social support important
Social influences	Johnson (2015)	Systematic review of BF interventions	NA	No single intervention or strategy can address all BF barriers facing AA mothers; suggests need for an integrative approach
Women's perceptions of BF & quality of information	Kaufman (2010)	Qualitative individual and group interviews Brooklyn, NY	N = 28 50%	Perceptions of harm of human milk and trust in formula; public exposure fitting human feeding into daily routines; intentions to BF did not always translate into practice
Social influences	Kum-Nji (1999)	Questionnaire Mississippi	N = 420 79%	Having a family member or friend who has breastfed was a strong influence; suggested need for education programs that target the community
Social influences	Lee (2009)	Secondary analysis	N = 1,140 64%	Foreign-born Black women were more likely to BF than native-born Black women and White women
Social influences	Lewallen (2010)	Focus groups Southeastern U.S.	N = 15 100%	Desired AA peer counselors; perceived human milk as inadequate
Women's perceptions of BF	McCann (2007)	1-Year longitudinal study of WIC participants North Carolina	N = 874 23%	Perceived BF benefits resulted in initiation and longer duration; concerns about insufficient human milk were a barrier
Social influences	McCarter-Spaulding (2007)	Focus groups, mixed methods Michigan	N = 8 100%	Most important person who influences BF was maternal grandmother; culture plays a role in AA decision to BF

(continued)

Table 2. (continued)

Theme	First author (year)	Study design and location	Sample size and % AA participants	Findings
Social influences	McCarter-Spaulling (2010)	Instrument testing of the Breastfeeding Self-Efficacy Scale-Short Form Northeastern U.S.	N = 152	Black women in the U.S. received lower scores than African-born women
Social influences	McCarter-Spaulling (2009)	Descriptive longitudinal study New England	32% N = 125	AA women were less likely to BF than foreign-born Blacks
Social influences	Meyerink (2002)	Qualitative surveys and interviews Alabama	N = 150 93%	Family and personal experiences most important determinant of BF
Social influences & women's perceptions	Mickens (2009)	Quantitative cross-sectional California	N = 109 100%	BF support groups important; barriers: pain, work, ease of bottle feeding, and not comfortable with BF
Quality of information	Murimi (2010)	Quantitative cross-sectional Louisiana	N = 130 43%	WIC information was effective and clear
Women's perceptions	Nommsen-Rivers (2010)	Interviews California	N = 532 12%	AA women voiced comfort and convenience of formula
Social influences	Ogbuanu (2009)	Secondary analysis Arkansas	N = 7,127 18%	Barriers to BF: embarrassment
Social influences	Pugh (2002)	Randomized controlled trial Mid-Atlantic region of U.S.	N = 41 10%	Peer counselor support can increase BF duration
Social influences	Pugh (2010)	Randomized controlled trial Baltimore, MD	N = 328 87%	Intervention group was more likely to breastfeed until 6 weeks postpartum, unlike the control group
Social influences & quality of information	Ringel-Kulka (2011)	Focus groups North Carolina	N = 49 100%	Lack of support at home, work, peers, and providers; unmet information needs
Women's perceptions of BF & quality of information	Robinson (2011)	Mixed methods Midwestern U.S.	N = 17 100%	BF self-efficacy had an effect on infant-feeding intentions for AA women; supportive WIC counselors
Social influences	Rose (2004)	Interviews Baltimore, MD	N = 70 70%	Partner and family most influential to BF decision
Social influences	Smith-Gagen (2014)	Cross-sectional NHANES 2003-2010	N = 3,132 19%	BF laws affect Black and Hispanic women in different ways from White women
Social influences	Sparks (2011)	Secondary analysis	N = 3,550 18%	Foreign-born Blacks BF at higher rates than native-born Blacks; limited social support from social network makes BF more difficult
Social influences, women's perceptions, & quality of information	Spencer (2013)	Systematic review	NA	Differing information based on race, social support importance, BF intentions
Social influences	Spencer (2015)	Focus groups	N = 17 100%	Intersectionality of race, class, and gender oppression, BF in public, and work were factors against BF
Women's perceptions of BF	Street (2013)	Qualitative survey North Carolina	N = 187 37%	Culture, family, friends, self, and knowledge of the benefits of BF were critical in choice of infant feeding
Women's perceptions of BF	Stuebe (2011)	Randomized controlled trial New York	N = 883 31%	Intention to BF was associated with maternal knowledge
Women's perceptions of BF	Tucker (2011)	Mixed methods North Carolina	N = 389 45%	Barriers to BF were school, pain, insufficient milk
Women's perceptions of BF	Underwood (1997)	Focus groups	N = 35 100%	Infant feeding learned from family members, a generational effect
Social influences	Wambach (2011)	Randomized controlled trial Midwestern U.S.	N = 289 61%	Education/support was partially effective in increasing BF
Social influences	Ware (2014)	Focus groups Tennessee	N = 86 97%	Participants voiced a lack of knowledge about BF; barriers were pain and work
Women's perceptions of BF	Wiemann (1998)	Quantitative cross-sectional Texas	N = 696 30%	BF influences differ by race; for AA, barriers were work, school, and embarrassment

Note. AA = African American; BF = breastfeed (ing); NA = not applicable; SES = socioeconomic status; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Levy, 2014). More specific, Bai et al. (2011), Lewellan and Street (2010), Grassley and Eschiti (2008), and Grassley, Spencer, and Law (2012) all found that the woman's mother and maternal grandmother had the greatest relationship influence on human milk feeding intention, thereby constituting a generational transmission of beliefs. Similarly, women were more likely to feed mother's milk if they had access to family members or friends who fed their children mother's milk (Kum-Nji, Mangrem, Wells, White, & Herrod, 1999; Spencer & Grassley, 2013; Wiemann, DuBois, & Berenson, 1998). In addition, relationships outside the mother or grandmother relationship have similar effects. Concerning the mother–father relationship, researchers found that if the romantic partner encouraged mother's milk, the mother was more likely to feed mother's milk than if the partner discouraged it (Bentley, Dee, & Jensen, 2003; Giugliani, Caiaffa, Vogelhut, Witter, & Perman, 1994; Hill et al., 2008).

Advice about human milk from friends or peers was also shown to affect some African American women's human milk perceptions and decisions. Negative comments from friends would deter some African American women from wanting to feed human milk (Lewallen & Street, 2010; Meyerink & Marquis, 2002; Spencer et al., 2015; Street & Lewellan, 2013). Similarly, researchers found that if the African American women valued their friends' and family's support of human milk, their decision regarding infant feeding was affected. In contrast, in the same study, White women identified their own attitudes about human milk as the most important factor, and Hispanic women identified situational factors such as availability to pump as the most important factor influencing their decision to feed human milk (Bai et al., 2011).

Peer counselors or women in the community providing human milk support were also identified as social influences affecting African American women's decision to feed mother's milk. African American women from a lower SES reported that education received about human milk from peer counselors influenced human milk feeding decisions. In fact, African American women were more receptive to information provided by other African American women than by women of another racial group (Lewallen & Street, 2010; Meyerink & Marquis, 2002; Pugh, Milligan, Frick, Spatz, & Bronner, 2002; Pugh et al., 2010; Wambach, Aaronson, Breedlove, Domian, Rojjanasirat, & Yeh, 2011).

Women's Perceptions of Human Milk

A woman's perceptions of human milk were described in the literature as an important determinant of whether she would feed human milk (Hannon et al., 2000; Kaufman, Deenadayalan, & Karpati, 2010; Sparks, 2011; Spencer & Grassley, 2013). Empirical studies indicate that different racial groups tend to have similar perceptions of human milk feeding in public. Both African American and White women reported feeling uncomfortable—even embarrassed—to feed

in public (Hannon et al., 2000; Meyerink & Marquis, 2002; Robinson & VandeVusse, 2011; Wiemann et al., 1998). However, in a study with African American and Puerto Rican participants, those who were Puerto Rican did not feel uncomfortable feeding in public and attributed their comfort with public feeding to having been raised with the idea that feeding mother's milk is normal (Kaufman et al., 2010). However, in the Hannon et al. (2000) study of African American and Latina adolescent mothers, women from both groups felt uncomfortable with feeding in public. The Latina adolescent mothers attributed the discomfort with public feeding to losing their Mexican or Hispanic customs and becoming more like American adolescents. The African American adolescent mothers reported embarrassment about feeding mother's milk in public and indicated that breasts are private parts of a woman's body that should not be exposed in public (Hannon et al., 2000).

The fear of pain related to feeding mother's milk was also discussed in the literature (Hannon et al., 2000; Mickens et al., 2009; Murimi et al., 2010; Tucker, Wilson, & Samandari, 2011; Ware et al., 2014). For example, in a study of Hispanic and African American adolescents, 50% of the African American and Latina participants described either the physical discomfort or pain with feeding or the imagined pain (because someone told them that feeding mother's milk hurt) as the major deterrent to human milk feeding (Hannon et al., 2000). Similarly, in a mixed sample of White, Black, and Hispanic teen mothers ($N = 22$), pain was given as a reason for not feeding human milk (Tucker et al., 2011). White, Hispanic, and African American adolescent mothers all reported pain as a factor for not feeding; however, White and Hispanic adolescent mothers nevertheless tend to feed human milk at higher rates than African American adolescents.

Other studies identified mothers' cultural and personal relationships to their own breasts as important factors. Several reports have described participants' thoughts of their breasts as sexual or private and not “functional” (to feed an infant) as a deterrent to human milk feeding (Bentley et al., 2003; Hannon et al., 2000). In addition, studies reported that women believe that negative physical consequences (appearance) from human milk feeding would occur (Hannon et al., 2000; McCann, Baydar, & Williams, 2007). McCann et al. (2007) reported that 32% of African American women responded that they did not want their breasts to “sag,” and participants from Hannon et al. (2000) suggested the same concern in response to questions regarding deterrents to feeding mother's milk.

Researchers have found concerns among many women, not only African American mothers, that human milk is inadequate. Like most women, African American women reported believing that human milk is not enough nourishment or is even dangerous for babies, and accordingly, they elected formula over human milk (Hannon et al., 2000; Kaufman et al., 2010; Lewallen & Street, 2010). Also, adding cereal (as food) in the bottle reportedly occurs with

infants as young as 2 weeks, despite the recommendation from the American Academy of Pediatrics that infants receive only human milk or formula for the first 4 to 6 months of life (Eidelman et al., 2012; Kaufman et al., 2010; Underwood et al., 1997). African American mothers, specifically, have reported that feeding mother's milk could make a baby spoiled, lazy, and weak; these women stated that formula feeding created "soldiers," making them strong and independent, thereby not needing their parents as much (Cricco-Lizza, 2004).

Encouragement of human milk feeding from health educators or health providers, which included information that human milk was better than formula feeding, did not always translate into increased human milk feeding among African American women. Some women reported that formula feeding added a sense of freedom and normalcy back into their lives (Cricco-Lizza, 2004; Kaufman et al., 2010; Nommsen-Rivers, Chantry, Cohen, & Dewey, 2010). This is consistent with reports that mother's milk challenges, such as when and where to pump, human milk storage, and having time to pump their breasts, negatively affected the decision to feed human milk (Cricco-Lizza, 2004; Evans, Labbok, & Abrahams, 2011; Hannon et al., 2000; Hill et al., 2008). The researchers in two studies, one of African Americans only (Caulfield et al., 1998) and another of multiple racial groups (Stuebe & Bonuck, 2011), found that knowledge about the benefits of human milk was associated with higher initiation of human milk feeding and increased duration.

Quality of Information Provided by Health Care Providers

Education and support are important factors associated with human milk success (Howell, Bodnar-Deren, Balbierz, Parides, & Bickell, 2014). In several qualitative studies, African American mothers reported receiving inadequate and/or inaccurate information about human milk from health care providers during prenatal care (Bentley et al., 1999; Cricco-Lizza, 2006; Gee, Zerbib, & Luckett, 2012; Ringel-Kulka et al., 2011; Spencer & Grassley, 2013). In addition, in a study report by Kaufman et al. (2010) of a sample of Puerto Rican and African American participants ($n = 28$), half of the African American mothers and several Puerto Rican mothers reported receiving little to no human milk information or instructions while in the hospital.

The authors mentioned a particularly worrisome finding with regard to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). African American women enrolled in WIC in New York ($n = 130$) reported being discouraged from feeding human milk or not receiving any information at all (Cricco-Lizza, 2006). Moreover, in one state, WIC clinic locations that served populations with greater than 75% African Americans had no lactation support at all (Evans et al., 2011). Researchers Beal, Kuhlthau, and Perrin (2003) found that African American women were less

likely to receive human milk feeding information and more likely to receive formula feeding information from WIC counselors when compared with White women.

However, not all reports in this literature review clearly demonstrated that African Americans received less human milk feeding support from WIC than other racial and ethnic groups regarding human milk. Robinson and VandeVusse (2011) conducted a study of self-efficacy and infant-feeding decisions among African American women using a mixed-methods approach with participants from the Midwest ($N = 59$); they found that WIC counselors were described as very supportive and providing positive reinforcement about human milk. Similarly, participants in the Murimi et al. (2010) study also stated that the information given by the WIC counselors was supportive, and the education materials and information were clear. These inconsistent findings regarding support and education from WIC counselors could reflect sampling differences (private practice vs. community health clinic) or individual differences among WIC counselors working in different communities, rather than differences in WIC policies. According to the WIC policy, infants and feeding mother's milk are a top priority; however, the budget allotted for human milk initiatives (e.g., WIC counselor and peer counselor training) is substantially smaller than the formula budget (Baumgartel, Spatz, & American Academy of Nursing Expert Breastfeeding Panel, 2013; Hedberg, 2013).

Review of the current human milk literature suggests that these three themes (social influences, women's perceptions, and human milk education) are important factors. On the other hand, SES is inconsistent as a factor and does not explain the ethnic minority disparity. There are various social factors described in the literature that suggest that there could be other determinants unique to being African American that are deterring some mothers from feeding human milk.

Discussion

The results of this literature review included numerous studies examining groups of African American women, often without comparison or control groups (with other races). Therefore, although the results describe the experiences of African American women, they do not allow for direct comparisons to be made with the experiences of other races and likely limit the extent to which causal statements about racial disparities can be made. In this literature review of 47 peer-reviewed articles, researchers found several factors that contribute to the low African American human milk feeding rate and several protective influences (i.e., those that were associated with the practice of human milk feeding). The themes identified were social characteristics of women likely not to feed human milk, women's perceptions of human milk feeding, and the quality of information given by health care providers (e.g., inadequate or inaccurate). Despite increased research focused on African American mothers and human

milk in the United States, the sociohistorical factors related to mother's milk among African American women remain underexplored. Therefore, it is important to shift the research focus and to integrate the influence of history and culture on African American women's decisions about human milk (Fischer & Olson, 2014; Johnson et al., 2015; Reeves & Woods-Giscombé, 2015).

Specifically, the results of this review revealed a gap in the African American human milk feeding literature: There have been no studies conducted that investigate the connection between historical influences and low rates of African American human milk feeding. Sociohistorical influences are of particular interest and encompass a historical understanding of events that have been socially, generationally, and culturally passed down and integrated into families and communities that influence health beliefs and health behaviors (Fischer & Olson, 2014; Krieger, 2005, 2008; Lende & Lachiondo, 2009). There is a dearth in breastfeeding literature pertaining to such influences on African American women's infant feeding. However, research has been conducted on African American women's experiences of health disparities, emphasizing the specific influence of race, gender, and cultural factors on other health outcomes (Fischer & Olson, 2014; Reeves & Woods-Giscombé, 2015).

Limitations

There are limitations in this literature review that should be noted. First, the search terms may have resulted in the omission of relevant articles; to reduce the likelihood of this limitation, a wide variety of electronic databases was used. Second, it is possible that there is a publication bias against discussing a link between sociocultural-historical effects and human milk. It is also possible that previous research on historical events and human milk yielded no evidence of a connection, which would result in omitting the data from publications or rejection of the studies (Phillips, 2004).

Proposed Model

A paradigm shift in approaching and understanding the low African American human milk feeding rate is needed and perhaps could lead to better interventions to raise this rate among African Americans. There has been an increased focus on eliminating health disparities among ethnic minorities to reduce the resulting negative effect on health (Kagawa-Singer, Dressler, George, & Elwood, 2014). Adoption of an alternate approach would be in line with the Healthy People 2020 recommendations for eliminating health disparities, which state that historical and cultural factors need to be considered when examining health behaviors (USDHHS, Office of Disease Prevention and Health Promotion, 2012).

One conceptual framework that may provide valuable guidance for research on cultural and historical factors contributing to the human milk disparity is the PEN-3 model

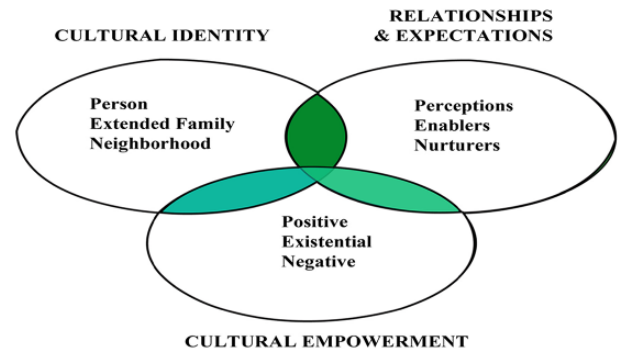


Figure 2. PEN-3 model for understanding the intersection of culture and health. Adapted from "Culture and African Contexts of HIV/AIDS Prevention, Care and Support," by C. O. Airhihenbuwa and J. D. Webster, 2004, *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, 1(1), p. 7.

developed by Collins O. Airhihenbuwa (1995). The PEN-3 is a useful model for understanding the intersection of culture and health. This model defines culture as a shared historical awareness that can reveal itself silently or through speech via stories of a person's lived experiences (Airhihenbuwa & Liburd, 2006; Cowdery, Parker, & Thompson, 2012). The PEN-3 model incorporates African American cultural and sociohistorical influences on how individuals make certain health care decisions. The inclusion of cultural identity, cultural empowerment, and relationships/expectations within the basic framework of PEN-3 makes this cultural model particularly appropriate to examine infant-feeding behaviors in the African American community (see Figure 2). Moreover, the cultural component suggests that historical events and experiences may be complex and transformative and may potentially influence attitudes and behaviors, despite the amount of time that has passed since the events occurred (Airhihenbuwa & Liburd, 2006).

A second concept referred to as "cultural trauma" by Alexander (2004) and Eyerman (2001) or as "historical trauma" by Sotero (2006) explains how past events can affect present-day behavior. Historically, African American women suffered from a collection of racially, socially, and politically motivated exclusions from society. This institutional discrimination may explain why African Americans are more reluctant than other groups to feed mother's milk (Jones, 2000; Williams & Mohammed, 2013). The mechanism through which cultural/historical trauma persists is the cross-generational transmission of ideas (Alexander, 2004; Eyerman, 2001; Sotero, 2006). Historical trauma is apparent in the African American community as a public memory of the residual effects of centuries of racism (Eyerman, 2001). According to this model, the mass collection of emotional and psychological harm sustained over

generations is noticeable in maladaptive behaviors, such as not feeding human milk, in response to traumas (Sotero, 2006). Whether the younger generation of African American women know anything about human milk or not, dating back to slavery, it is possible that negative social media images and older matriarchs of the family may influence the younger generation not to feed mother's milk. It is notable that Smith, Hausman, and Labbok (2012) discussed historical trauma as an important consideration in breastfeeding promotion.

Implications for Research and Clinical Practice

African Americans constitute a particularly vulnerable population with a markedly low human milk feeding rate. Future human milk research could include the degree to which racial identity contributes to human milk decision making. Previous research has demonstrated associations between higher racial identity and health-promoting behaviors. Existing valid and reliable measures, such as the Cross Racial Identity Scale, which measures how secure Black people are with their identity, could be used to conduct this research (Parham & Helms, 1981; Simmons, Worrell, & Berry, 2008; Vandiver, Cross, Worrell, & Fhagen-Smith, 2002). It would be interesting to determine if there is a significantly higher level of racial identity and racial/ethnic consciousness among African American women who make a conscious effort to feed human milk despite any cultural or historical norms in their social environment that discourage human milk. This information could determine if the "human milk feeding statement" made by some African American women with higher racial identity is based on a foundation of knowledge of African American history or a sense of pride. Findings from such investigations could have implications for fostering racial/ethnic consciousness in African American women as an intervention component for culturally relevant human milk feeding interventions. Clinicians should be aware of the potential sociohistorical and cultural patterns that influence mothers' milk attitudes and behavior by approaching promotion and education with culturally sensitive strategies.

The disproportionately low rate of human milk feeding among African Americans has not been sufficiently ameliorated by traditional promotional strategies. Therefore, research examining cultural beliefs and sociohistorical influences (if any) unique to African Americans may contribute to a better understanding of the current racial differences in human milk feeding rates. Creating culturally sensitive strategies and interventions that can change African American mothers' milk feeding behavior is a worthy goal.

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