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PREVIEW

**BREASTFEEDING COROLLARIES: MEDICAL ADVICE AND
CULTURAL PRACTICES AS INFLUENCES IN LOW INCOME
WOMEN'S FEEDING CHOICES**

by

Jeanne M. Stolzer

A DISSERTATION

Presented to the Faculty of

**The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy**

Major: Interdepartmental Area of Human Resources and Family Sciences

Under the Supervision of Professor Pauline Davey Zeece

Lincoln, Nebraska

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DISSERTATION TITLE

Breastfeeding Corollaries: Medical Advice and Cultural Practices as

Influences in Low Income Women's Feeding Choices

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BREASTFEEDING COROLLARIES: MEDICAL ADVICE AND CULTURAL PRACTICES AS INFLUENCES IN LOW INCOME WOMEN'S FEEDING CHOICES

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University of Nebraska, 2002

Advisor: Pauline Davey Zeece

The Surgeon General of the United States (2000) indicated that breastfeeding is the ideal method of feeding and nurturing children. As such, it contributes to optimal mother and child trajectories. This study examined the relationship between low income women's reported feeding choices and medical providers' advice concerning the benefits of breastfeeding, exposure to breastfeeding in childhood and adulthood, and particular maternal practices (i.e., availability of breastfeeding role models, uni-sleeping practices, pacifier use, introduction of solid foods prior to six months of ages, and scheduled feeding routines).

One hundred and six women participating in the federally funded WIC program in a mid-sized Midwestern community responded to the Ecology of Breastfeeding Survey (EBS) specifically designed for this project. Results of five one way ANOVAs, cumulative frequencies, and qualitative analysis of open-ended survey questions suggested that women's reported feeding choices (i.e., breastfeeding, bottlefeeding, both) were influenced significantly by their exposure to breastfeeding role models in adulthood. Mothers indicated that medical providers provided information on about only half of the topics presented in the Surgeon General's *HHS Blueprint for Action Plan on Breastfeeding*. Limitations of the study, implications, and suggestions for future research were provided.

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PREVIEW

Breastfeeding Corollaries: Medical Advice and Cultural Practices as Influences in Low Income Women's Feeding Choices

Introduction

Since the inception of the scientific age, humans have been classified as mammals. Humans, along with other warm blooded vertebrates, have been categorized as such because they nourish their young with milk secreted from their breasts. All primates, including humans, belong to Ben Shaul's group II category. Primates have been categorized as type II because they are "mammals who remain in continuous contact with their offspring, such that the offspring can nurse on demand" (Ben Shaul, 1962, p. 335). Primate milk is unique because it is low in fat and protein and high in levels of carbohydrates and lactose. The distinctive composition of primate milk "ensures optimum development for offspring which are born helpless, suckle frequently, and develop slowly" (Dettwyler, 1995, p. 176).

Humans, while typed as primates according to specific biological characteristics, are also social creatures who construct and maintain particular cultural customs. No where is this biocultural duality more apparent than it is when investigating the human lactation process. Lactation is a distinct and measurable biological process that occurs in all human mothers. Yet the decision of whether to allow this biological process to continue is dictated by specific cultural mandates. For millions of years, breastfeeding human young was considered a fundamental component of the maternal experience; conception, pregnancy, birth, and nursing offspring were perceived as intrinsically intertwined. Until the early 1900s, the collective human culture dictated that breastfeeding young was an integral and natural component of the birthing process

(Dettwyler, 1995). In 1900, 97% of all children in the United States of America were breastfed; weaning at the turn of the century in America occurred between 2 and 4 years of age. Currently, less than half of American infants are fed human milk, and more than 75% of these children are weaned by 6 months of age (Dettwyler, 1995). These statistics clearly indicate that a significant biocultural shift has occurred in the last 100 years with regard to the lactation process.

Stuart-Macadam (1995) hypothesized that this biocultural shift has resulted from:

1. loss of knowledge regarding the art of breastfeeding; communities, families and friends no longer serve as role models or support systems with regard to nursing the young;
2. proliferation of the advertising of artificial milk;
3. increasing emphasis on the self, coupled with the rejection of the mutually dependent relationship of the breastfeeding dyad;
4. cultural expectations that women must work outside of the home to be productive citizens and the distinct cultural forces that have dictated that mothering and working can not occur simultaneously;
5. the alliance that has been formed between the medical community and the formula industry (i.e., the formula industry's funding of medical research and scholarly conferences, as well as the formula industry's free samples of its product which are given to new mothers in hospitals and doctor's offices; and
6. culturally constructed perceptions of the female breast as sexual objects to be used for the gratification of man's sexual desires.

The complexities of Stuart-Macadam's (1995) observations suggested that any

study of breastfeeding should be multidimensional in nature. Breastfeeding is a complex issue that contains cultural, biological, economic, cognitive, psychological, and historical components.

Purpose of the Study

The overall purpose of the present study is to assemble some of the components of the multidimensional pieces of the breastfeeding puzzle. Understanding such a puzzle began with a comprehensive review of the literature that included worldwide historical trends in infant feeding practices, human milk's effect on cognition, and the physiological effects of breastfeeding for the mother-child dyad. Economic implications, specific cultural norms related to specific breastfeeding practices, ethological findings, and the formula industry's relationship with the medical community were reviewed to further build a foundational framework of breastfeeding as a distinct mammalian phenomena in the context of today's society. The review of the literature provided the basis for the construction of the Ecology of Breastfeeding Survey (EBS) developed specifically for the study.

Central to this study is the relationship that exists between mothers and their health care professionals as sources of current and accurate information about infant feeding (i.e., breastfeeding). Palmer (1991) posited that in current day America, the medical doctor is the authority concerning the breastfeeding dyad. It is the medical doctor to whom expectant mothers look for authoritative and expert advice concerning the lactation process. This study investigated the type of information about breastfeeding reported to be provided by health care professionals to low income women and the consistency of information provided by the medical community with the current

breastfeeding literature. Based on the literature review specific purposes were identified for this study: 1) to explore the relationship that existed between low income women's reported intention to or actual breastfeeding behaviors during the first twelve months of their child's life and medical professionals' information regarding the benefits of breastfeeding; and 2) to examine the relationship between specific maternal practices of low income women and their reported actual or intended breastfeeding behaviors.

Hypotheses

The following hypotheses were tested:

The first hypothesis is that low income women's reported breastfeeding of infants and reported intention to breastfeed is significantly related to their medical professionals' breastfeeding advice as measured by Part II of the EBS.

The second hypothesis is that overall maternal reported exposure to breastfeeding as measured by items 3 and 18-22 of the EBS is significantly related to reported intention to breastfeed and reported breastfeeding of infants among low income women.

The third hypothesis is that maternal reported exposure to breastfeeding in childhood as measured by items 19-21 of the EBS is significantly related to reported intention to breastfeed and reported breastfeeding of infants among low income women.

The fourth hypothesis is that maternal reported exposure to breastfeeding in adulthood as measured by items 3, 18 and 22 of the EBS is significantly related to reported intention to breastfeed and reported breastfeeding of infants among low income women.

The fifth hypothesis is that overall maternal practices are significantly related to reported intention to breastfeed and the breastfeeding of infants among low income

women as measured by items 6 through 9 of the EBS.

Theoretical Base

Bronfenbrenner's bioecological model is the theoretical foundation upon which this study was built. Bronfenbrenner (1989) postulated that the majority of scholarly inquiry is based on a "social address model" (p. 193). Accordingly, specific and measurable environmental processes are defined as core predictors of development. Bronfenbrenner recognized that environmental factors were important constituents that must be taken into account when investigating developmental processes. He, however, asserted that the social address model neglected other essential corollaries of development and proposed an alternative bioecological model.

The bioecological approach assumes that nested systems work interactively to shape specific developmental trajectories. Bronfenbrenner (1999) posited a process-person-context-time model that explained development and those systemic processes that affected "the power, form, content and direction" of developmental pathways (p. 5). Later development is viewed as dependent on early, proximal processes that are hypothesized to be a more potent force than environment when determining later development. Simply stated, proximal processes have the potential to act as a buffer against negative environmental influences (Bronfenbrenner, 1999).

Applying this model to the breastfeeding paradigm, a review of the literature indicated that breastfeeding may serve as a proximal buffer, particularly for low income mothers and children, by: 1) decreasing child morbidity and mortality rates; 2) increasing childhood cognitive performance; 3) acting as a natural contraceptive; 4) decreasing the risks of maternal breast and ovarian cancers; and 5) facilitating physiological and

psychological bonding between mother and child (Dettwyler, 1995; Dewey et al., 1995; Lucas, Morley, Cole, Lister, & Leeson-Payne, 1992; Rogan & Gladen, 1993; U.S. Department of Health and Human Services, 2000).

Bronfenbrenner (1999) postulated that development is shaped by various systems that include the microsystem, the mesosystem, the exosystem and the macrosystem. The core premise of bioecological theory is that development is a function of the forces from all levels and those relationships that existed between the levels. The revised bioecological theory has added the concept of historical time to the understanding of developmental processes. As such, Bronfenbrenner hypothesized that "development is embedded in and powerfully shaped by conditions and events occurring during the historical period through which the person lives" (p. 20). The breastfeeding literature clearly documented that a biocultural shift has occurred in historical breastfeeding patterns. For the majority of human existence, mothers have sustained their children with human milk. However, the current historical period has witnessed a monumental shift in maternal feeding practices (Dettwyler, 1995).

Bronfenbrenner (1999) suggested that maternal role expectations were determined by the larger culture. When a culture's expectations of the maternal role change, in maternal behavior changes result. If the newly found behavioral changes continued over time, developmental outcomes would eventually be altered. This hypothesis was applicable to the breastfeeding literature as it has been proposed by various scholars that altering mammalian heritage (i.e., engaging in artificial feeding practices) may in fact be linked to specific physiological developmental trajectories for mother and child and to an alteration in mother-child interactional processes (Dettwyler, 1995; Jelliffe & Jelliffe,

1978; Palmer, 1991). The lives of family members were interdependent, and that the behaviors of individual family members affected familial functioning. Bronfenbrenner (1999) indicated that individual family members' reactions to their societal role in a particular historical time can affect familial development both within and across generational time tables.

Bronfenbrenner (1995) suggested that human development involved progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects and symbols in its immediate environment. The immediate environment (i.e., the microsystem) was viewed as the driving force that propels development. Applying this to the human lactation process, the initiation and duration of breastfeeding could be linked to all of the various systems, and its genesis could be found within the functioning of the microsystem. Larger cultural forces interacted with the microsystem to influence maternal feeding choices. It could be argued that the larger systems (i.e., the mesosystem, exosystem, and macrosystem) exerted powerful influences over individual maternal feeding practices.

Bronfenbrenner's bioecological theory (1999) incorporated various systems and the interactive nature of these systemic processes. This theory was applicable to this study in that it defined individual, familial, communal, institutional, contextual, cultural, and historical constructs as imperative to the understanding of developmental processes. Bioecological systems were related to this study in the following ways:

Microsystem components or influences include:

the familial decision to feed child human or artificial milk;
familial consequences of feeding method (i.e., economics);

consequences for individual child dependent on feeding method;
 consequences for individual mother dependent on feeding choices; and
 familial attitude towards particular feeding methods.

Mesosystem components or influences include relationships that exists between family and medical community (i.e., medical doctors have been found to influence particular feeding methods (Freed et al., 1995b); and individual child's school performance (e.g., breastfeeding has been correlated with increased cognitive performance as measured by school grades and standardized intelligence tests (Lucus et al., 1992).

Exosystem components or influences include the alliance that exists with regard to formula companies and medical institutions (Dettwyler, 1995; Palmer, 1991).

Macrosystem components or influences include the larger culture that views the female breast as a sexual entity rather than a life sustainer for children (Dettwyler, 1995; Palmer, 1991); cultural processes that perpetuate the use of artificial milk (i.e., the mass media); cultural norms that dictate that breastfeeding must be conducted in private, and that artificial feeding is appropriate in public (Palmer, 1991); cultural belief systems that view human milk and artificial milk as equally beneficial for human children; cultural lifestyles that necessitate the use of artificial milk (i.e., dual income families where children are placed in full-time non-parental care); and culturally constructed mandates that determine if, when, where, and how long a child should receive human milk.

Fundamentally, breastfeeding was conceptualized as a distinct biological process that is activated to ensure the survival of the species. Using Bronfenbrenner's bioecological theory as the foundation for this study, breastfeeding was conceptualized as

a complex and circuitous variable that could be seminally linked with: 1) human evolutionary history; 2) biological functioning; 3) mother-child attachment; 4) child cognitive functioning; 5) nutrition; 6) mother-child physiological interdependence and functioning; 7) economics/capitalism; 8) familial functioning; 9) individual development; 10) political structures; 11) the medical community; and 12) cultural belief systems.

Definition of Terms

For the purpose of this study, the following operational definitions were used:

Ecology of Breastfeeding Survey (EBS) was the three-part instrument developed specifically for this study and used to measure pregnant women's (and/or mothers' of infants) report of medical providers' advice, maternal exposure to breastfeeding, and maternal practices related to breastfeeding.

WIC was the federal program created to assist low income, nutritionally at-risk pregnant women; breastfeeding women (until child's first birthday); non-breastfeeding postpartum women (up to 6 months after birth); infants (until first birthday); and children up to their fifth birthday.

Low income pregnant woman was defined as a pregnant woman or mother of an infant who was less than 12 months of age who participated in the WIC program in a medium size Midwestern community.

Medical professional was the respondent-identified person who provided prenatal care and informed patients of feeding alternatives.

Maternal reported exposure to breastfeeding was the combined score of the exposure to breastfeeding in adulthood and the exposure to breastfeeding in childhood variables on the EBS.

Maternal-reported intention to breastfeed was the combined scores of items 10 and 12 of the EBS.

Breastfeeding advice was the score of all items in Part II of the EBS.

Infant was defined as a child 12 months of age or younger.

Low income woman was defined as a woman who participated in the WIC program in a medium size Midwestern community.

Maternal reported exposure to breastfeeding in adulthood was the combined score of items 3, 18, and 22 of the EBS.

Maternal reported exposure to breastfeeding in childhood was the combined score of items 18-20.

Maternal reported intended practices was the combined score of items 6-9 of the EBS.

Co-sleeping was defined as mother-child shared sleep during the nighttime hours.

Delayed introduction of solids was defined as reported solid food introduction at 6 months and beyond.

Baby led feeding schedules was defined as feeding on demand.

No pacifier use was defined as no artificial nipple usage.

Significance of the Study

Breastfeeding is both a biological and culturally constructed behavior. Numerous researchers, as well as the Surgeon General of the United States (2000) concluded that breastfeeding can affect child morbidity and mortality rates; maternal health; cognitive functioning; adult health; taxpayer funded medical insurance; and mother-child attachment. The Surgeon General of the United States (2000) stated that "breastfeeding is

one of the most important contributors to child health" (p. 3). Researchers from various fields have demonstrated that breastfeeding impacts not only maternal and child outcomes, but can also be directly linked to Bronfenbrenner's larger systems (i.e., the meso-, exo-, and macro-systems) (Baumslag & Michels, 1995; Dettwyler, 1995; Jelliffe & Jelliffe, 1978; Palmer, 1991).

Historically, the breastfeeding literature focused on cultural differences found in breastfeeding patterns, or on the biological constituents contained in human milk (Stuart-Macadam, 1995). This study is unique in that its focus is on specific psychological and sociological factors that may influence a women's feeding decisions, and on the medical providers' role in determining those feeding choices. The Surgeon General (2000) has recommended that researchers focus on the "social, cultural, economic and psychological factors that influence infant feeding behaviors, and that researchers work to improve the understanding of the health benefits of breastfeeding, especially in reducing the risk for chronic childhood diseases in disadvantaged populations" (p. 20).

This study is significant in that it has the potential to identify particular maternal practices that may increase the likelihood of breastfeeding, and as a result, may impact maternal and child functioning; seeks to identify psychological and sociological factors which may directly influence maternal feeding choices; and may determine if medical providers' advice regarding breastfeeding is related to maternal feeding practices. Health care providers who interact with pregnant women are responsible for providing women with accurate information regarding the benefits associated with breastfeeding and that the medical community "plays a special role in the promotion of breastfeeding during the prenatal and postnatal periods" (HHS, 2000, p. 14). This study seeks to understand if the