Breastfeeding Prevalence among an Alaskan Inupiat Eskimo Population

Summer Cutting, RN, MSN, FNP
Mary Beth Flanders-Stepans, PhD, RN

Abstract

Breastfeeding provides valuable immunologic, nutritional, and psychological advantages to infants and is the most desirably complete diet for the infant during the first 6 months of life. The purpose of this exploratory study was to determine the prevalence of breastfeeding in a group of Alaskan Inupiat Eskimos, who live in northern Alaska. A convenience sample of 36 women making up three age cohorts was utilized (women ages 18 to 25, N=11; ages 26 to 40, N=14; ages 41 to 60, N=11). Data collected from these women on their choice of infant-feeding method contributed to measuring the prevalence of breastfeeding. Prevalence was also measured by categorizing the children of these women into three age groups and further classifying them as to how they were fed when they were infants. Statistical analysis was performed utilizing 95% confidence intervals. Results revealed that, in this sample and over the past 20 years, a substantial decline has occurred in the percentage of Inupiat infants exclusively breastfeeding for 6 months or longer. Data also indicated a downward trend in the percentage of mothers between the ages of 26 and 39 who initiate breastfeeding; however, among the mothers aged 18 to 25, data reflected a rising trend.

Journal of Perinatal Education, 10(1), 21–30; breastfeeding prevalence, Inupiat Eskimos, Alaska Natives.

Introduction

Breastfeeding provides valuable immunologic, nutritional, and psychological advantages for infants. Breast milk offers increased protection from respiratory and gastrointestinal infections, otitis media, meningitis, sepsis, and allergies (American Association of Pediatrics,

SUMMER CUTTING is a Family Nurse Practitioner in Anchorage, Alaska. MARY BETH FLANDERS-STEPANS is an Assistant Professor in the School of Nursing at the University of Wyoming in Laramie, Wyoming.

1997). Its nutritional components vary, based upon the infant's needs, gestational age, and stage of lactation (AAP, 1997). Breastfeeding also increases the quantity and quality of early physical contact between a mother and her infant, which strengthens the attachment between them (Janke, 1993). Simply put, human breast milk is the most desirably complete diet for the infant during the first 6 months of life (AAP, 1997). In spite of this, breastfeeding rates in the United States still fall short of public health goals. In 1995, approximately 60% of all newborn infants were breastfed in the hospital while only 24% were still breastfeeding at 6 months of age (Quandt, 1998). These rates are well below the Healthy People 2010 goal to increase breastfeeding to at least 75% of mothers who breastfeed their infants in the early postpartum period and at least 50% who continue to breastfeed until their babies are 5 to 6 months old (U.S. Department of Health and Human Services, 2000).

The lowest rates of breastfeeding in the United States are among young, undereducated, underprivileged, and underserved women (Long, Funk-Archuleta, Geiger, Mozar, & Heins, 1995). Native American women often fall into these categories (Long et al., 1995). The Inupiat Eskimos—a particular group of Native Americans who live in the North Slope region of Alaska, along the coast of the Arctic Ocean—seem to be experiencing a decline in the prevalence of breastfeeding. During the last 25 years, authors have documented that the Inupiat's lifestyle has changed from one of isolated subsistence to that of economic and social involvement in the prevailing American culture. This change has affected all areas of life (Blackwood, 1981). The Inupiat, like many other Native and Eskimo groups, have experienced lifestyle alterations directed away from their traditional cultural values. Within many Eskimo cultures, among the first things affected by acculturation was a change in the sources of food (Sayed, Hildes, & Schaefer, 1976). Blackwood (1981) reports that, during the 1950s, efforts were made by public health workers to replace and/or supplement breastfeeding with formula feeding, leading to a large shift toward formula feeding, especially in the first few months of life. Over 25 years ago, Schaefer (1973) reported that, among Canadian Eskimos, the traditional 3 to 4 years of prolonged breastfeeding had been shortened or abandoned with the increasing use of bottle feeding.

Further, this decline in breastfeeding—combined with an increase in supplemental and exclusive formula feeding—was associated with a rise in various health problems among Eskimo populations. Although a dearth of recent literature exists on this topic, authors in the past documented an overall rise in child morbidity, which was best demonstrated by the high rates of otitis media, child respiratory diseases (Schaefer, 1973), and gastroenteritis (Stewart & Steckle, 1987). Also documented was the decline in exclusive breastfeeding, which increased the fertility in Alaska Natives and led to shorter birth intervals and a rise in birthrates (Blackwood, 1981; Schaefer, 1973, 1986). More recently, authors describe an increase among Alaskan Eskimos of infectious diseases caused by the *Streptococcus pneumoniae* bacterium when breastfeeding prevalence is decreased (Gessner, Ussery, Parkinson, & Breiman, 1995).

[T]he literature of the last 25 years reports a decline in breastfeeding among Eskimo cultures and describes health problems commonly associated with such a decline. . . .

Though the literature of the last 25 years reports a decline in breastfeeding among Eskimo cultures and describes health problems commonly associated with such a decline, no documentation examines breastfeeding prevalence among Alaskan Inupiat Eskimos. The literature reviewed below speaks to Eskimos in general, but not specifically to the Inupiat Eskimos. Because little is known about this phenomenon, the purpose of this study was to determine the current prevalence of breastfeeding among an Alaskan Inupiat Eskimo population. Research questions under consideration in this study were the following: Over approximately the last 20 years, what has been the prevalence of breastfeeding among this population? Over approximately the last 20 years, have any changes taken place in the prevalence of breastfeeding among this population? Prevalence was defined as the number of cases of breastfeeding over approximately the last 20 years among this specific population of Inupiat Eskimos.

Literature Review

Although Native Americans traditionally have had high rates of breastfeeding initiation, many mothers currently terminate breastfeeding shortly after birth (Wright, Naylor, Wester, Bauer, & Sutcliffe, 1997). Native American women identify many barriers to continued exclusive breastfeeding: employment, insufficient milk, nursing problems, lack of breastfeeding support by health care providers, and mother's physical modesty and discomfort with breastfeeding in public (Long et al., 1995; Wright et al., 1997). Specifically among Eskimo women, major reasons given by mothers for not breastfeeding include mother's preference, embarrassment, distaste, having a cesarean section, not having enough milk, cracked nipples, increased activity, the need to return to work or school, the inconvenience of breastfeeding, mothers' fear of being sick if they breastfeed, and discomfort with breastfeeding (Langner & Steckle, 1990; Matthews, Webber, McKim, Banoub-Baddour, & Laryea, 1995; McKim, Laryea, Banoub-Baddour, Matthews, & Webber, 1998; Neander & Morse, 1989). Other reported concerns about breastfeeding were that colostrum is "watery milk" and that the breasts do not contain good milk until the third or fourth day, therefore delaying breastfeeding. Another predominant concern was that, if a lactating woman's breasts were to become cold, her milk would turn to water (Neander & Morse, 1989).

McKim et al. (1998) discovered that, among Canadian Eskimos, 18.4% initiated breastfeeding, 4.5% were still breastfeeding at 4 weeks, and no one was breastfeeding at 16 weeks and beyond. Less than 5% of the Native mothers were found to attend any type of prenatal class, few discussed infant feeding preference prior to their infant's birth, and only 44.5% received information and education on infant feeding. Matthews et al. (1995) found that breastfeeding initiation rates were 42.9%; however, the rates declined to 17.4% by 6 months. Langner and Steckle (1990) reported in Labrador and Newfoundland that, although many Eskimo women initiated breastfeeding after birth, a dramatic drop in breastfeeding occurred between birth and 6 months. In spite of the fact that 60.7% of mothers were initiating breastfeeding, only 30.6% were still breastfeeding at 6 months.

The decline in breastfeeding among Eskimo populations has had an effect on the morbidity and mortality

of Eskimo children. Lack of breastfeeding has been identified as independently associated with increased risk for pneumococcal infections, while breastfeeding had a protective effect against such infections among Alaskan Native children (Gessner et al., 1995). This finding is consistent with studies reported over the last 30 years. Timmermans and Gerson (1980) studied Inuit Eskimo children and found that, with routine physical examination, approximately 32% of the children were found to have acute otitis media. The prevalence of otitis media was inversely related to the age at which bottle-feeding was initiated. No child who was bottle-fed for the first time after 6 months of age acquired the disease. Similarly, Schaefer (1971) showed an inverse relationship between the incidence of chronic middle ear disease and the duration of lactation in infancy with a minimum incidence of otitis media in individuals who were breastfed more than 12 months. Among Eskimos started on bottle feeding within the first month of life, the rate of pathology found on otoscopic exams was approximately 5 times higher for all types of middle-ear pathology and 10 times higher for severe middle-ear pathology than among those who were breastfed. Schaefer, Timmermans, Eaton, and Matthews (1980) reported that among the Eskimo children in Northern Canada, an inverse relationship existed between the duration of breastfeeding and morbidity rates of diarrhea, recurrent respiratory infections, and otitis media. Anemia was also more prevalent among bottle-fed infants than among those who were breastfed. Ellestad-Sayed, Coodin, Dilling, and Haworth (1979) found that fully bottle-fed infants were hospitalized with infectious diseases 10 times more often and spent 10 times more days in the hospital during the first year of life than fully breastfed infants. Common diagnoses were lower respiratory tract infections and gastroenteritis. In spite of the high rates of infant morbidity and mortality, breastfeeding rates are low and bottle-feeding has been the most common method of infant feeding (Neander & Morse, 1989).

Methods

Approval for this retrospective, descriptive study was obtained from the University of Wyoming Internal Review Board. A convenience sample was drawn from the population of women visiting the public health nursing clinic in the village of Barrow, Alaska, located along the

coast of the Arctic Ocean in the northern region of the state. Public health nursing employees, as well as workers for the Women, Infants, and Children (WIC) program, encountered potential participants. After written informed consent was obtained, women were invited to complete a short questionnaire during their office visit. Each participant was asked to record demographic information that included her age, birth date, whether her mother and father were Inupiat, and the name of the village in which she lived. Each participant also recorded the number and current ages of her children, feeding method utilized for each of those children when they were infants (breastfed or bottle fed), and length of time she utilized each feeding method. After review by two experts in maternal-child nursing research and a small pilot study, the questionnaire was found to have face validity in that it provided information about infant feeding method. The questionnaire was pilot-tested to determine clarity and time required for completion.

Prevalence data were analyzed using four different approaches. First, prevalence was calculated by categorizing the children of the subjects into three groups, according to their current age: newborn to 9 years old, 10 to 19 years old, and 20+ years old. These children were then further categorized and compared as to how they were fed when they were infants. Categories included the following: Those who were not breastfed; those who were breastfed for any length of time (breastfed for 2 days or less, up to 2 weeks, up to 1 month, up to 4 months, up to 6 months); and those who were breastfed exclusively for 6 or more months. Secondly, prevalence data were analyzed by comparing the age cohorts of the mothers and separating them into categories according to how many of them breastfed one of their children for any length of time. The percentage of those who breastfed one child for at least 6 months was also determined. In the third approach, prevalence of breastfeeding was calculated by comparing the mother's-age cohorts and categorizing them according to how many of them breastfed their youngest child for any length of time and how many breastfed their youngest child for 6 months. Finally, prevalence data were analyzed by comparing the three mother's-age cohorts (ages 18 to 25, N=11; ages 26 to 40, N=14; and ages 41 to 60, N=11) according to the number of children that were born to the women in each cohort. Calculations then reflected the percentage of children in each of the

mother's-age cohorts that were breastfed for any length of time and the percentage of children that were breastfed for 6 months.

Cohort data were analyzed utilizing 95% confidence intervals. Confidence intervals were used for comparison of both the three different age groups of children and the three sets of data using the mother's-age cohorts to establish statistical significance between them.

Sample

Of the 36 participants in this study, 30 lived in Barrow, five lived in Atkasuk (located south of Barrow), and one was from Nuiqsut (located east of Barrow). Thirty-one of the participants identified themselves as fully Inupiat, while five were 50% or more Inupiat. Out of those five, two indicated that their mother was not Eskimo and three recorded that their father was not Eskimo. Participants visited the public health nursing and WIC office for gynecologic care, family planning, well-child care for their children, and visits with the WIC coordinator.

Results

Prevalence of Breastfeeding Any Length of Time

First, data were analyzed by categorizing the children into three groups according to their current ages. Results revealed that 72.2% of the children 20 years of age or older had been breastfed for some length of time. Among the 10- to 19-year-old age group, 73.3% had been breastfed for some length of time. Among those 9 years of age or less, 50% had been breastfed for some length of time. (See Table 1 and Figure 1). The difference was statistically significant for the percentages of children breastfed any length of time in the cohorts of children newborn to 9 years of age when compared to the age cohort of children 10 to 19 years of age ($p < .05$) (see Table 2).

When the older women were compared to the younger age-cohorts, a sharp decline existed in the percentage of women who breastfed one child any length of time.

Table 1 Prevalence of Inupiat Children Breastfed over the Last 20+ Years

Length of Time	Current Age		
	Newborn to 9 Years (N = 52)	10 to 19 Years (N = 30)	20+ Years (N = 18)
Breastfed for Any Length of Time	26 (50.0%)	22 (73.3%)	13 (72.2%)
Breastfed 1 Week or Less	4/50 (8.0%)	0	0
Breastfed 2 Weeks	3/50 (6.0%)	3 (10.0%)	0
Breastfed 2 Months	5/50 (10.0%)	6 (20.0%)	0
Breastfed 4 Months	1/50 (2.0%)	2 (6.7%)	2 (11.1%)
Breastfed 6 Months or More	11/50 (22.0%)	11 (36.7%)	11 (61.1%)
Never Breastfed	26 (50.0%)	8 (26.7%)	5 (27.8%)

Figure 1 Prevalence of Inupiat Children Breastfed**Table 2** Confidence Interval Results Comparing Age Cohorts of Children Breastfed Any Length of Time Over the Last 20+ Years

Age Cohort	Confidence Interval Results
Newborn to 9 Years, Compared to 10-19 Years	.012, .454*
10-19 Years, Compared to 20+ Years	-.264, .276
Newborn to 9 Years, Compared to 20+ years	-.044, .488

* $p < .05$

Next, data from each of the mother's-age cohorts were analyzed to determine the prevalence of women who breastfed one child for any length of time. Results revealed that, of the women 40 years or older, 90.9% had breastfed one or more children for some length of time. When the older women were compared to the younger

age-cohorts, a sharp decline existed in the percentage of women who breastfed one child any length of time. Among the women 26 to 39 years old, the percentage was 61.5%; among the women 18 to 25 years old, it was 72.7% (see Table 3 and Figure 2).

The next data analysis evaluated the percentage of mothers in each age cohort who breastfed their youngest child for any length of time. These percentages included 54.5% among the mothers 40 years old or more, 46.2% among the 26- to 39-year-old age group, and 72.7% among the mothers 18 to 25 years old (see Table 4 and Figure 3).

Finally, prevalence of breastfeeding any length of time was analyzed according to the number of children born to the mothers in each age cohort and the percentage that were breastfed any length of time. The women in the 40+ age cohort bore 43 children, of whom 67.4%

Figure 2 Prevalence of Inupiat Women Who Breastfed a Child

Breastfeeding Prevalence among an Alaskan Inupiat Eskimo Population

Table 3 Prevalence of Breastfeeding Comparing the Age Cohorts of the Mothers and Infant Feeding Choice

Mother's Current Age	Percentage of Mothers Who Breastfed at Least One Child	Percentage of Mothers Who Breastfed One Child for 6 Months
40+ Years (N = 11)	10 (90.9%)	7 (63.6%)
26-39 Years (N = 13)	8 (61.5%)	6 (46.2%)
18-25 Years (N = 11)	8 (72.7%)	1 (11.1%)

Figure 3 Prevalence of Inupiat Women Who Breastfed Youngest Child

Figure 4 Prevalence of Breastfeeding for Children Born to the Women in Each Age Cohort

Table 4 Prevalence of Breastfeeding Comparing the Age Cohorts of the Mothers and Infant Feeding Method Utilized for their Youngest Child

Mother's Current Age	Percentage of Mothers Who Breastfed Youngest Child Any Length of Time	Percentage of Mothers Who Breastfed Youngest Child 6 Months or More
40+ Years (N = 11)	6 (54.5%)	5 (45.5%)
26-39 Years (N = 13)	6 (46.2%)	4 (30.8%)
18-25 Years (N = 11)	8 (72.7%)	1 (11.1%)

were breastfed. The women 26 to 39 years of age bore 38 children, of whom 50% were breastfed. The women 18 to 25 years old bore 19 children, of whom 68.4% were breastfed (see Table 5 and Figure 4).

Prevalence of Breastfeeding for 6 Months or Longer

The three different age groups of the children were analyzed to determine the percentages of those who had been breastfed for 6 or more months. Data revealed 61.1% among the children 20 years or older, 37% among

the children 10 to 19 years old, and 22% among the children from newborn to 9 years old (see Table 1 and Figure 1). Confidence intervals revealed a significant difference between the age cohorts of children newborn to 9 years old and children over 20 years of age (see Table 6).

The percentage of women who breastfed one child for 6 or more months reveals a steady decline among the age cohorts, beginning with the older age group. More of the older women (age 40 and greater) breastfed at least one child for 6 or more months than did women

Table 5 Prevalence of Breastfeeding, Comparing the Number of Children Born to the Women in Each Cohort and Infant Feeding Choice for Those Children

Mother's Current Age and Number of Children Born to Mothers in That Cohort	Percentage of Children Breastfed Any Length of Time	Percentage of Children Breastfed 6 Months
40+ Years (N = 43 Children)	29 (67.4%)	20 (46.5%)
26-39 Years (N = 38 Children)	19 (50.0%)	11 (28.9%)
18-25 Years (N = 19 Children)	13 (68.4%)	2 (11.8%)

Table 6 Confidence Interval Results, Comparing Age Cohorts of Children Breastfed 6 Months or Longer Over the Last 20+ Years

Age Cohort	Confidence Interval Results
Newborn to 9 Years, Compared to 10-19 Years	-.056, .350
10-19 Years, Compared to 20+ Years	-.047, .535
Newborn to 9 Years, Compared to 20+ Years	.140, .642*

* $p < .05$

from the younger age cohorts. Percentages included the following: 63.6% among the women 40 years or older, 46.2% among the women 26 to 39 years old, and 11.1% among the women 18 to 25 years old (see Table 3 and Figure 2). Confidence intervals revealed a statistical difference in prevalence when comparing the cohort of women 18 to 25 years old to the cohort 40 or more years old (see Table 7).

Calculating the percentages of mothers who breastfed their youngest child for 6 months or more revealed the following: 45.5% among the women 40 years old or greater, 30.8% among the 26- to 39-year-old age cohort,

and 11.1% among 18- to 25-year old cohort (see Table 4 and Figure 3).

Finally, prevalence of breastfeeding for 6 months or longer was analyzed according to the number of children born to the mothers in each age cohort and the percentage that were breastfed for a minimum of 6 months. Calculations revealed the following percentages: 46.5% of the 43 children born to women in the 40+ years old age cohort, 28.9% of the 38 children born to women in the 26- to 39-year-old age cohort, and 11.8% of the 17 children born to women in the 18- to 25-year-old age cohort (see Table 5 and Figure 4). Utilizing confidence intervals, a statistical difference was established when comparing the cohort of women 18 to 25 years to the cohort of women 40 years or more (see Table 8).

Discussion

The limitations of this retrospective study must be acknowledged in that we assumed women could accurately remember the infant feeding method used with each child. Despite the limitations, the findings are significant. When retrospectively exploring the prevalence of breastfeeding and how, over the last 20 or more years, children among this population were fed as infants, the data revealed that, 10 to 20 and more years ago, approximately

Table 7 Confidence Interval Results, Comparing Age Cohorts of Eskimo Women Who Breastfed a Child for 6 Months or More

Age Cohort	Confidence Interval Results
18-25 Years Compared to 26-39 Years	-.045, .747
26-39 Years Compared to 40+ Years	-.228, .576
18-25 Years Compared to 40+ Years	.092, .958*

* $p < .05$

Table 8 Confidence Interval Results, Comparing Percentage of Children Born to the Mothers in Each Age Cohort Who Were Breastfed for 6 Months or Longer

Age Cohort	Confidence Interval Results
18-25 Years, Compared to 26-39 Years	-.076, .418
26-39 Years, Compared to 40+ Years	-.030, .382
18-25 Years, Compared to 40+ Years	.077, .617*

* $p < .05$

72% to 73% of infants were breastfed for some length of time. That trend held steady for an extended period of time. However, over approximately the last 10 years, a decline has occurred in the percentage of infants that were breastfed for any length of time. Of the children approximately 10 years old and younger, only 50% of them have been breastfed for any length of time. This means that Inupiat Eskimo infants in Barrow, Alaska, are being breastfed less and given other forms of supplemental feeding. These findings are similar to those of Neander and Morse (1989) who discovered that, in spite of the high rates of infant morbidity and mortality, bottle feeding was the most common method of infant feeding among the Inuit Eskimos they surveyed.

Results from this study also indicate a steady and significant decline in the percentage of infants who are breastfed exclusively for 6 or more months. Among this sample of Inupiat, of the children 20 years old or greater, 61.1% had been breastfed for 6 months or more. That percentage fell to 36.7% among the children who were born 10 to 20 years ago. It then plummeted to 22% among the children born over the last 10 years. These data clearly indicate that, among this population, a steady decline has taken place in the percentage of children who are able to benefit from 6 months of exclusive breastfeeding. Wright et al. (1997) also discovered that, although Native Americans have high rates for breastfeeding initiation, rates quickly decline with mothers' choices to start formula. McKim et al. (1998) found high rates of early breastfeeding termination among the Inuit Eskimo women: 18.4% initiated breastfeeding, but none breastfed at 16 weeks and beyond.

When analyzing the prevalence of breastfeeding for 6 or more months based upon the mother's three age cohorts, the data again showed declining patterns. The difference in prevalence was evident when the cohort of older women was compared to the youngest cohort. The mothers 40 years and older had the greatest prevalence of breastfeeding for 6 or more months (63.6%), while the mothers 18 to 25 years old had the lowest prevalence of breastfeeding for 6 months or greater (11.1%). Similar patterns were seen with the other two forms of analysis conducted. A decline was seen in the percentage of women who breastfed their youngest child for 6 months. The downward trend was from 45.5% to 30.8% to 11.1%, respectively. Equally serious is the decline in the number of children born to the mothers in each age

cohort who were breastfed 6 months or longer, declining from 46.5% to 28.9% to 11.8%, respectively. These data are consistent with those of Langner and Steckle (1990) who found that, although many Eskimo women initiated breastfeeding after birth, a dramatic drop in breastfeeding took place between birth and 6 months.

The results of these analyses change dramatically when evaluated in terms of breastfeeding for "any length of time." With all three analyses, a consistent pattern and trend emerged revealing that the women ages 26 to 39 years old had the lowest rates of breastfeeding when compared to both their younger and older counterparts.

More recently, however, an upward trend exists in the prevalence among the youngest mothers aged 18 to 25 years.

Among the women 26 to 39 years old, only 61.5% of them breastfed a child for any length of time and 46.2% breastfed their youngest child. Among the children born to the mothers in this age cohort, only 50% were breastfed for some length of time. These results may be due to similar issues identified by Stern and Condon (1995). They discovered that both elderly and young women were relatively knowledgeable regarding issues related to reproductive health and were comfortable discussing these topics; however, women in their middle years appeared to be less knowledgeable and often displayed discomfort with those subjects.

Based upon the data from this sample, one may conclude that the act of breastfeeding a child for 6 months or greater has consistently decreased over time. This decline may be viewed both in terms of the percentage of children being breastfed and the percentage of mothers utilizing exclusive breastfeeding for a period of 6 months or longer. One may also conclude that a downward trend exists in the prevalence of mothers among the 26- to 39-year-old age cohort who breastfed their infants for any length of time. More recently, however, an upward trend exists in the prevalence among the youngest mothers aged 18 to 25 years. This trend is encouraging since the prevalence of Eskimo women in the youngest cohort who breastfed their youngest child was equal to the

prevalence in the oldest cohort of women. In spite of their increasing rates of breastfeeding initiation, this youngest cohort of mothers shows the most dramatic levels of early breastfeeding termination. A large percentage of them are choosing to terminate breastfeeding prematurely, before 6 months.

Implications for Perinatal Educators

Perinatal educators can utilize the results from this and other studies to demonstrate the need for interventions with Inupiat Eskimo women who are considering having children, experiencing pregnancy, or initiating breastfeeding. All of these women need specialized, culturally sensitive nursing support not only to encourage them to continue to initiate breastfeeding but also to maintain breastfeeding for a minimum of 6 months in order to help their infants obtain all the benefits of exclusive, sustained breastfeeding. For support in their breastfeeding efforts, these women could potentially benefit from prenatal courses and personalized breastfeeding education during their pregnancies and postpartum. Development of breastfeeding support groups in this community for breastfeeding mothers and pregnant women who are considering breastfeeding their infants might also impact breastfeeding duration. Having a lactation consultant available to women among this population would aid in identifying and eliminating barriers to sustained breastfeeding. Interventions may also be more successful and perceived as more traditional and culturally acceptable if other Eskimo women from the community facilitate this process.

Recommendations for Further Research

Because a lack of current research exists on this topic as it relates to native populations, prospective studies need to be done to assess the prevalence of breastfeeding initiation in Inupiat Eskimo communities and the duration of exclusive breastfeeding. More research must be done to further delineate the factors leading to the decline among Alaskan Inupiat Eskimos in the number of infants who are breastfed for the first 6 months of life. Studies that examine reasons why women in this particular group of Native people choose not to breastfeed their infants would aid in creating breastfeeding promotion

Studies that examine reasons why women in this particular group of Native people choose not to breastfeed their infants would aid in creating breastfeeding promotion and support programs.

and support programs. Examining contributing factors as to why women (especially younger women) in this Inupiat Eskimo community terminate breastfeeding early and are not continuing sustained exclusive breastfeeding to the recommended 12 months could lead to interventions that reduce the decline of exclusive breastfeeding. Studies identifying factors that help women sustain breastfeeding would provide information to be used to educate other women.

References

- American Association of Pediatrics [AAP]. (1997). Breastfeeding and the use of human milk (policy statement RE9729). *Pediatrics*, 100(6), 1035-1039.
- Blackwood, L. (1981). Alaska Native fertility trends, 1950-1978. *Demography*, 18(2), 173-179.
- Ellestad-Sayed, J., Coodin, F. J., Dilling, L. A., & Haworth, J. C. (1979). Breast-feeding protects against infection in Indian infants. *Canadian Medical Association Journal*, 120, 295-298.
- Gessner, B. D., Ussery, X. T., Parkinson, A. J., Breiman, R. F. (1995). Risk factors for invasive disease caused by streptococcus pneumoniae among Alaska native children younger than two years of age. *Pediatric Infectious Diseases Journal*, 14(2), 123-128.
- Janke, J. R. (1993). The incidence, benefits, and variables associated with breastfeeding: Implication for practice. *Nurse Practitioner*, 18(6), 22-32.
- Langner, N. R., & Steckle, J. M. (1990). National database on breastfeeding among Indian and Inuit women: Canada 1988. *Circumpolar Health 90: Proceedings of the 8th International Congress on Circumpolar Health*, University of Manitoba Press, 1991, 563-565.
- Long, D. G., Funk-Archuleta, M. A., Geiger, C. J., Mozar, A. J., & Heins, J. N. (1995). Peer counselor program increases breastfeeding rates in Utah Native American WIC population. *Journal of Human Lactation*, 11(4), 279-284.
- Matthews, M. K., Webber, K., McKim, E., Banoub-Baddour, S., & Laryea, M. (1995). Infant feeding practices in New-

Breastfeeding Prevalence among an Alaskan Inupiat Eskimo Population

- foundland and Labrador. *Canadian Journal of Public Health*, 86(5), 296-300.
- McKim, E., Laryea, M., Banoub-Baddour, S., Matthews, K., & Webber, K. (1998). Infant feeding practices in coastal Labrador. *Journal of the Canadian Dietetic Association*, 59(1), 35-42.
- Neander, W. L. & Morse, J. M. (1989). Tradition and change in the northern Alberta Woodlands Cree: Implications for infant feeding practices. *Canadian Journal of Public Health*, 80(3), 190-194.
- Quandt, S. A. (1998). Ecology of breastfeeding in the United States: An applied perspective. *American Journal of Human Biology*, 10(2), 221-228.
- Sayed, J. E., Hildes, J. A., & Schaefer, O. (1976). Feeding practices and growth of Igloolik infants. *Circumpolar Health*, 254-259.
- Schaefer, O. (1971). Otitis media and bottle-feeding: An epidemiological study of infant feeding habits and incidence of recurrent and chronic middle ear disease in Canadian Eskimos. *Canadian Journal of Public Health*, 62, 478-489.
- Schaefer, O. (1973). The changing picture in the Canadian north. *Canadian Journal of Ophthalmology*, 8(2), 196-204.
- Schaefer, O. (1986). The impact of culture on breastfeeding patterns. *Journal of Perinatology*, 6(1), 62-65.
- Schaefer, O., Timmermans, J. F. W., Eaton, R. D. P., & Matthews, A. R. (1980). General and nutritional health in two Eskimo populations at different stages of acculturation. *Canadian Journal of Public Health*, 71, 397-405.
- Stern, P. R., & Condon, R. G. (1995). Puberty, pregnancy, and menopause: Life cycle acculturation in a copper Inuit community. *Arctic Medical Research*, 54(1), 21-31.
- Stewart, P. J., & Steckle, J. (1987). Breastfeeding among Canadian Indians on-reserve and women in the Yukon NWT. *Canadian Journal of Public Health*, 78(4), 255-261.
- Timmermans, F. J. W., & Gerson, S. (1980). Chronic granulomatous otitis media in bottle-fed Inuit children. *Canadian Medical Journal*, 122, 545-547.
- U.S. Department of Health and Human Services. (2000). *Healthy people 2010* (January 2000 Conference Edition, in Two Volumes). Washington, DC.
- Wright, A. L., Naylor, A., Wester, R., Bauer, M., & Sutcliffe, W. (1997). Using cultural knowledge in health promotion: Breastfeeding among the Navajo. *Health Education & Behavior*, 24(5), 625-639.

Monitoring Breastfeeding Progress

Suckling Assessment

- Lips should be curled outward
- No clicking/smacking sounds heard
- Swallowing should be heard
- A tugging sensation is normal with latch-on
- If there is persistent nipple discomfort, further evaluation and repositioning are needed

Signs of Adequate Breast Milk Intake

- Nursing 8 to 12 times in 24 hours
- 6 or more wet diapers in 24 hours
- 2 to 3 stools in 24 hours in first month
- Breasts feel softer after feeding
- Normal breast tissue swelling subsides in about 1 week and is not a sign of decreased milk supply

Growth Spurts

- Baby will want to nurse more often for about 2 to 3 days
- Likely during first days at home and about 10 to 14 days, 4 to 6 weeks, 3 and 6 months

Evaluación de la Succión

- Los labios deben estar hacia arriba y afuera
- No se debe escuchar sonidos de chasquidos
- Debe escucharse sonidos de que está tragando o pasando líquido
- Es normal una sensación de jaleo
- Si hubiera dolor persistente de pezones, es necesario hacer una evaluación y reposición

Señales que Indican que la Alimentación con Pecho es Adecuada

- Dar el pecho de 8 a 12 veces en 24 horas
- Mojar 6 o más pañales en 24 horas
- Dos o tres pañales sucios en 24 horas durante el primer mes
- El pecho se siente más suave después de cada mamada
- La hinchazón de los pechos disminuye en una semana y no significa que hay menos producción de leche

Días de Crecimiento

- El bebé querrá mamar frecuentemente por 2 o 3 días
- Ocurren durante los primeros días en casa, de 10 a 14 días, de 4 a 6 semanas y de 3 y 6 meses

Excerpted from materials distributed by the Missouri and Virginia Departments of Health.