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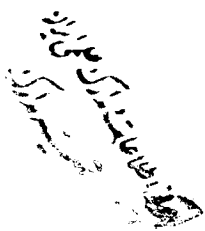
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Thesis:

For Doctorate of Medicine

Subject:

**Prevalence of exclusive breastfeeding during first six months of birth in
northern and southern Tehran and comparison of them**

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No. 3784

I offer this thesis to

My Dear

Mother & Father

*I, also offer this thesis to my
master,
Dr. Shafaq
because of his advices on my
project.*

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Prevalence of exclusive breastfeeding during first six months of birth in northern and southern Tehran and comparison of them

Current survey is a descriptive cross-sectional study and has performed among 137 breastfeeding mothers. Mean age of rsponder mothers was 30.95 ± 6.6 years. 46.7% were living in northern and 53.3% in southern Tehran. 83.9% had exclusive breastfeeding and 16.1% feed their neonates from their breast accompanying with formula. Mother's educational level was related to exclusive breastfeeding and those with higher level had lower rate of exclusive breastfeeding. 89.6% of housekeeper mothers and 64.5% of those who worked out of home had exclusive breastfeeding with statistically significant association.

Keywords: Exclusive breastfeeding, Prevalence

Introduction

One of the Healthy People 2010 goals is to have 75 percent of mothers breastfeed their infant during the early postpartum period, with at least one half of mothers continuing to breastfeed until their child is at least six months of age. Although the rate of breastfeeding in the United States rose between 1990 and 2001, this goal has yet to be achieved. By 2001, the rate of exclusive breastfeeding at six months was 17.2 percent. The biggest increases in breastfeeding were observed in women with a high-school education or lower, who were black, and who were younger than 20 years; however, exclusive breastfeeding remains low in these groups. Various interventions, including education, counseling, and early problem-solving, have proven effective for increasing breastfeeding rates, whereas interventions that are not face-to-face or are too brief have not been effective. There is evidence that hands-on teaching, demand feeding, and postpartum support are essential components of successful interventions. However, few well-designed, randomized studies have compared a breastfeeding promotion intervention with usual care. Therefore we performed current study to determine the prevalence rate of exclusive breastfeeding during first six months of birth in northern and southern Tehran and comparison of them. It may guide us to develop some strategies to increase rate of exclusive breastfeeding in Tehran.

Review of Literatures

Background:

The American Academy of Family Physicians (AAFP) has long supported breastfeeding. All family physicians, whether or not they provide maternity care, have a unique role in the promotion of breastfeeding. Family physicians understand the advantages of family-centered care and are well positioned to provide breastfeeding support in that context. Because they provide comprehensive care to the whole family, family physicians have an opportunity to provide breastfeeding education and support throughout the life cycle to all members of the family.

Family physicians may provide prenatal care and labor support, deliver the infant, help in the prompt initiation and continuation of breastfeeding, and continue caring for the baby and family. Breastfeeding education and support can be woven throughout these visits. Family physicians have the unique opportunity to emphasize breastfeeding education beginning with preconception visits and continuing throughout prenatal care, delivery, postpartum care, and during ongoing care of the family. Encouragement from a physician and other family members, especially the baby's father and maternal grandmother, are important factors in the initiation of breastfeeding.^{65,70,77,83} In caring for a mother's immediate and extended

family, a family physician should encourage her social support system to support breastfeeding.⁵⁸

History

Throughout most of history, breastfeeding was the norm, with only a small number of infants not breastfed for a variety of reasons. In the distant past, wealthy women had access to wet nurses, but with the industrial revolution this practice declined as wet nurses found higher-paying jobs. By the late 19th century, infant mortality from unsafe artificial feeding became an acknowledged public health problem. Public health nurses addressed this by promoting breastfeeding and home pasteurization of cows' milk. After the turn of the century, commercial formula companies found a market for artificial baby milks as safer alternatives to cows' milk. During this same period, infant feeding recommendations became the purview of the newly organized medical profession. Partially due to the support of physicians and a vision of "scientific" infant care, the widespread use of formula as a breast milk substitute for healthy mothers and babies emerged in the first half of the 20th century.^{2,37}

Throughout the middle part of the 20th century, most physicians did not advocate breastfeeding, and most women did not choose to breastfeed. Therefore, an entire generation of women-and physicians-grew up not viewing breastfeeding as the normal way to feed babies. Despite the

resurgence of breastfeeding in the late 20th century in the United States, breastfeeding and formula feeding continued to be seen as virtually equivalent, representing merely a lifestyle choice parents may make without significant health sequel.

Current attitudes concerning infant nutrition have been molded by the manufacturers of human milk substitutes who have aggressively created markets for their products. They have advertised to physicians and directly to the public in ways that are inconsistent with the International Code of Marketing for Human Milk Substitutes.¹¹⁵ While much of the literature about breastfeeding distributed by formula companies is factual, omissions and images can mislead mothers, reinforce misconceptions about breastfeeding, and suggest that breastfeeding mothers also need to use formula. Physicians have been used to convey this advertising and encourage brand loyalty through "free" literature and formula samples.⁴⁸ Use of commercial literature and samples has been demonstrated to decrease breastfeeding rates and increase premature weaning.¹¹²

Currently, the World Health Organization (WHO) recommends that a child breastfeed for at least two years.¹¹⁶ The American Academy of Pediatrics, like the AAFP, recommends that all babies, with rare exceptions, be exclusively breastfed for about six months.⁵ The United States Public Health Service's "Healthy People 2010" set national goals of 75% of babies breastfeeding at birth, 50% at six months, and 25% at one

year.¹⁰⁴

The United States has not yet met its breastfeeding goals. Data from 1995, the most current year for which published data is available, showed that 60% of U.S. mothers initiate breastfeeding, and 22% are still doing some breastfeeding at six months. While some subpopulations come close to Healthy People 2010 initiation goals, many do not, and few mothers breastfeed exclusively.⁹⁴ Unfortunately, breastfeeding rates quoted for the United States reflect data that does not distinguish between exclusive breastfeeding, breastfeeding with supplementation, and minimal breastfeeding. We have little national data on exclusive breastfeeding or breastfeeding beyond six months of age.³⁸

Despite growing evidence of the health risks of not breastfeeding, physicians, including family physicians, do not receive adequate training about supporting breastfeeding.^{31,32} Although physicians make health recommendations about many aspects of infant care, many physicians still worry that advocating breastfeeding will cause parental guilt. In fact, parents may feel less guilt if they have had an opportunity to learn all the pertinent information and make a fully informed decision.⁶¹

Family physicians can make a difference in increasing breastfeeding initiation rates, and especially breastfeeding continuation rates, by advocating breastfeeding, supporting breastfeeding patients and providing

appropriate, evidence-based care for breastfeeding couplets.

Health Effects

Family physicians also need to be familiar with the evidence supporting the recommendation to breastfeed. Evidence about breastfeeding's health effects is growing exponentially, and it is beyond the scope of this paper to specifically review all of the literature. Several excellent review articles outline the evidence supporting the role of breastfeeding in optimal health outcomes for mothers and children.^{5,62,72} Because breastfeeding is the physiologic norm, we will refer to the risks of not breastfeeding for infants, children, and mothers.

Evidence shows that breastfeeding has profound effects on the developing immune system. Babies not fed human milk have higher rates of otitis media, allergies, respiratory tract infection, necrotizing enterocolitis, urinary tract infection, and gastroenteritis in infancy. Babies who are not breastfed have a higher risk of hospitalization in the first year of life due to serious bacterial illness. They have higher rates of type 1 and type 2 diabetes, allergic disease and asthma, lymphomas, and inflammatory bowel disease later in life. They develop lower antibody titers in response to immunization.^{61,97,100} Studies of intelligence and development have also shown lower IQ and lower developmental scores among children who were not breastfed.^{46,68}

The strongest evidence indicates that these positive effects of breastfeeding are most significant with six months of exclusive breastfeeding. Most of the studies, however, show that the effects are dose-related, with improved outcomes being associated with more longer breastfeeding. Similarly, the risks increase as the period of exclusive breastfeeding decreases, with the highest risk in babies who received fed no human milk.^{5,97}

Maternal health outcomes are also affected by breastfeeding. Mothers who do not breastfeed risk higher rates of anemia and closer child spacing. Women who have a significant lifetime history of breastfeeding have lower rates of ovarian, endometrial, and breast cancer compared with the general population. Lactation affects calcium metabolism, with increased bone density after weaning, and may decrease a woman's risk of postmenopausal osteoporosis.⁵⁹

Special Breastfeeding Issues

Medication and Substances

Almost all prescription and over-the-counter medications taken by the mother are safe during breastfeeding. Several resources are available to help estimate the degree of drug exposure an infant will receive through breastmilk.^{7,47,52} Physicians must weigh the risks of replacing breastfeeding with artificial feeding against the risk of medication exposure through breastmilk. Even a temporary interruption in

breastfeeding carries the risk of premature weaning, with the subsequent risks of long-term artificial feeding. Generally it is recommended that breastfeeding should be interrupted if the mother ingests drugs of abuse, anticancer drugs, and radioactive compounds.^{52,101} Among antidepressants, cardiovascular medications, immunosuppressants, and many other classes of medications, certain medications are preferred over others for lactating women. In a particular class of medications it is best to choose a medicine that has the least passage into breastmilk, has fewer active metabolites, and/or is used locally rather than systemically.^{4,47,52} Some medications and substances, such as bromocriptine, nicotine,¹⁰⁸ moderate or large amounts of alcohol,²² and estrogen-containing oral contraceptives, are known to decrease milk supply. Infants should not be exposed to cigarette smoke. Children of mothers who smoke cigarettes have elevated cotinine levels in their urine compared with children of nonsmoking women. Nursing women who smoke pass a significant amount of cotinine through the breastmilk to the baby, such that the baby's cotinine levels are higher than those of babies exposed to passive cigarette smoke only.^{11,71} Women who breastfeed are advised not to smoke, but if they cannot quit, it is probably still more valuable to breastfeed, although they should be advised to not smoke in the infant's environment, to smoke as little as possible, and to smoke immediately after nursing (rather than before) in order to minimize the nicotine levels

in their milk. Alcohol passes easily into breastmilk. While it is safest for nursing mothers to consume no alcohol, there is no documented risk from small amounts of alcohol. Mothers may be assured that having an occasional alcoholic drink need not preclude breastfeeding.⁷

Occupational Exposure and Pollutants

Women without specific occupational or other known poisonous exposures to pollutants may nevertheless be found to have a variety of polluting chemicals in their bodies.⁹² Some of these chemicals may be transferred to fetuses in utero, and possibly to infants postnatally through breastmilk. However, the risk of cancers and less-than-optimal neurologic development remains higher in formula-fed babies compared with breastfed babies in similar environments.³⁰ Women with average environmental exposure do not need to worry about having their breastmilk screened for pollutants. For women with known poisonous exposures, testing of breastmilk may be necessary. Because noncommercial fish and wildlife ingestion can be a very significant environmental source of pollutants, health professionals should remind pregnant and nursing women to follow the fish and wildlife consumption guidelines provided by their state, U.S. territory, or Native American tribe.²⁷

Infectious Diseases

For most maternal infections breastfeeding helps to protect the infant against the disease or decreases the severity of the illness, because of anti-infective components of breastmilk. Only a few maternal infections preclude breastfeeding:

- In the United States women with human immunodeficiency virus (HIV) should be advised not to breastfeed because of the potential risk of transmission to the child. In countries with high infant mortality rates due to infectious illnesses or malnutrition, the benefits of breastfeeding may outweigh the risk of HIV transmission.^{62,78}
- Women with active, untreated tuberculosis should be physically separated from their infants after birth and throughout the first two weeks of treatment. After this time, a woman may safely breastfeed even while continuing usual multidrug therapy regimens. Expressed breastmilk may be provided to the baby. The baby should also be treated for tuberculosis.⁶¹
- During active herpes simplex outbreaks, it is safe for a woman to nurse unless she has lesions on her breasts. It is recommended that she not nurse from the affected breast until lesions resolve.⁶¹
- Babies born to mothers who develop chickenpox within five days antepartum or within two days postpartum are at risk for more

serious chickenpox infections. It is recommended that baby and mother be separated until the mother is no longer infectious, but expressed breastmilk may be supplied, as long as the milk does not come into contact with active lesions.⁶¹

Maternal Illness

Women with chronic noninfectious illnesses may be empowered by their ability to breastfeed. For most illnesses, medication issues need not prevent breastfeeding, as reasonable medication choices can almost always be made. Exceptions include treatment of breast or other cancers, which necessitates use of antimetabolites.⁶² Women with severe trauma or acute life-threatening illness may be too ill to nurse or express milk. Should maternal illness require separation, women should be assisted to maintain lactation.

Breast Surgery

Some women who have had breast augmentation may not be able to produce sufficient amounts of breast milk. Some of these women may have had insufficient breast tissue before surgery.^{79,80} Breast reduction surgery also increases the risk that a woman will not be able to produce sufficient breastmilk.^{19,40} Breast biopsy with circumareolar incision can interfere with milk supply and transfer in that breast.¹⁹ These women should be encouraged to breastfeed, but mother and baby need to be followed closely to ensure that the infant has an adequate milk intake.

Women who develop a suspicious breast mass during lactation should not wean for the purpose of mass evaluation. Mammograms and breast mass biopsy can be done without interfering with lactation.¹³ Family physicians should assist their patients with decisions about breast surgery. They should communicate with the surgeon to advocate for their patient's future breastfeeding needs and breastfeeding conservation surgeries whenever medically feasible.

Infant Illness

Infants with chronic diseases benefit from breastfeeding and/or breastmilk. However, infants with galactosemia are unable to breastfeed and must be on a lactose-free diet. Infants with phenylketonuria should breastfeed, but they must receive supplementation with a low-phenylalanine formula.⁶² Breastfed infants with phenylketonuria have better developmental outcomes compared with those exclusively fed low-phenylalanine formulas.⁹¹

Nursing Beyond Infancy

Breastfeeding should ideally continue beyond infancy, but this is currently not the cultural norm and requires ongoing support and encouragement.⁸⁵ Breastfeeding during a subsequent pregnancy is not unusual. If the pregnancy is normal and the mother is healthy, breastfeeding during pregnancy is the woman's personal decision. If the child is younger than two years of age, the child is at increased risk of

illness if weaned. Breastfeeding the nursing child after delivery of the next child (tandem nursing) may help to provide a smooth transition psychologically for the older child.⁶¹

Employment and Breastfeeding

In the past 30 years, significant demographic shifts have affected child care and, more specifically, lactation. Coincident with a reduction in family size has been a progressively earlier return of mothers to the workforce, as well as an increased percentage of families headed by women and families in which both parents are employed. These demographic changes have made breastfeeding more difficult to implement. In fact, the most significant obstacle to breastfeeding duration is the mother's need to return to work.^{28,63} The day-care industry has concurrently grown, fueled by the early return of new parents to the workplace. Regardless of the quality of the day-care facility, studies have documented an increased rate of transmission of infectious diseases in these settings.⁵⁴

Employers can benefit when they promote a positive attitude towards lactation.¹⁸ Many new mothers bring skills and experience to the workplace, and an encouraging atmosphere will promote retention of these valued employees. Women who feel their employers are positive towards their desire to continue breastfeeding are often less torn between their child and loyalty to an employer; such positive attitudes generally