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Supporting Breastfeeding/Early Childhood Social and Emotion Development

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Introduction

Babies were born to be breastfed. This is the tagline for the recently released universal campaign to promote breastfeeding. Breastfeeding is the best nutrition for all infants because of breast milk's unique properties.[1] It is more than just good nutrition[2] as it offers infection protection,[3] immunologic protection[3] and protection against allergies, but most important is its impact on physical[4] and mental development. Breastfeeding results in reduced incidence of common infections such as diarrhea, otitis media and pneumonia.[5] It is associated with a reduced incidence of childhood-onset diabetes, celiac disease, Crohn's disease and some childhood malignancies.[6] More recent work suggests that breastfed infants are less obese in infancy and later childhood.[7] Mothers who breastfeed have a more physiologic postpartum recovery and a lower incidence of breast and ovarian cancer, osteoporosis and obesity.[8]

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The very process of breastfeeding brings a closeness and intimacy between mother and infant that enhances the bond between them.[9] The World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF), World Alliance for Breastfeeding Action (WABA), and the professional societies of pediatricians,[10] obstetricians and family physicians and the Institute of Medicine (IOM)[11] all embrace breastfeeding exclusively for six months. They further recommend continuing while adding weaning foods for the next six months and then as long thereafter as mother and child wish.[12]

Subject

Breastfeeding plays a significant role in the social and emotional development of the child. Over 40 years ago, Niles Newton published the first observations on the difference at age three between children who had been breastfed beyond six months and those who had been bottle-fed since birth.[13] The children who had been breastfed were more outgoing, socially secure and more advanced on the developmental scales. The mothers were matched for age, parity, education and social status. Subsequent studies by many investigators have established the fact that breastfeeding also affects intellectual development.[14-22]

Problems

Given the tremendous advantages of breastfeeding for both infant and mother, why do mothers not choose to breastfeed, or why do they discontinue breastfeeding before the recommended goals of six months of exclusive breastfeeding and at least another six months continued breastfeeding? The common explanation is a need to return to work or other activity outside the home, such as school.

Research Context

Studying breastfeeding behaviours or outcomes is difficult since it is not possible to randomly assign mothers and infants to treatment groups or to control the duration of the process. Critical to any study format for breastfeeding is the very definition of the process. Many studies looking at health outcomes have included infants with any breastfeeding, for example, a few days or weeks, in the same category with infants breastfeeding exclusively for six months, thus diluting the measurable impact. By breastfeeding, we mean exclusive breastfeeding with no other fluids or foods for the first six months. Partial breastfeeding is mostly breastfeeding but with the addition of occasional bottles of formula, water, juices or herbal teas. Other infants are given

part breast milk and part formula, still others are given more formula than breast milk. For research purposes, these definitions have been established.[23]

Epidemiologic studies of large groups of children who have been breastfed with a comparison group of children who have been bottle-fed is a model applied to studies attempting to measure the developmental outcome of infants. Critical to the interpretation of these results are the demographic variables, such as maternal age, parity (the condition of a woman with respect to having borne viable offspring), race, socioeconomic status and education. The outcomes have predominantly measured illness as an endpoint or intellectual development. Equally important issues are social adjustment, interpersonal relationships and social maturation.

Mother-infant interaction is described by Newton in unrestricted breastfeeding.[13] The breast is used not only to assuage hunger but also to assuage all types of discomfort and fears. Distress signals are answered by mouth – nipple contact and body contact. In the older child, the whole body reacts to nursing. In animal studies when pups are rotated from mother to mother, there were significant increases in emotionality and distress.[24]

Research Questions

Key questions that need clarification are the impact of being breastfed in terms of not only developmental milestones but psychological development, maturity, self-assuredness, assertiveness and behavioural adaptations as compared with the impact of being bottle-fed on these parameters.

The effect of breastfeeding on mothers is also an important question. Although it is said that mothers who breastfeed are not different, breastfeeding makes them different by the very relationship, physically and psychologically.[8,25,26]

Recent Research Results

Being breastfed exclusively for at least four months has been shown to have a positive effect on the intellectual development of children even when controlled for the demographic variables, especially socioeconomic status (SES) and education of the mother.[14-22] The nutrient advantages of human milk coupled with the mother-infant relationship provide the matrix for the child to reach his/her full intellectual potential.

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Contrary to the belief that extended breastfeeding makes the children very dependent upon their mothers, it actually makes them more secure and allows for social growth.[27]

If the studies of intellectual development and visual and auditory acuity are examined more closely, there is some suggestion of social maturity or behavioural characteristics. In Horwood's long-range study that followed children from birth to 18 years or the completion of high school, breastfed children were rated as more cooperative and socially better students the longer they were breastfed.[17] When drop-out rates were calculated, the rate was higher among children who had been bottle-fed and lowest among those who had been breastfed equal to or longer than eight months, even when data were adjusted for maternal demographics.

The New Zealand investigators actually reported on the later psychologicaladjustments using measurements between the ages of 15 and 18 years.[17] Beginning from birth to one year, breastfeeding practices were carefully described in 999 mother-infant pairs. A sample of children 15 to 18 years of age were assessed using a range of psychosocial measures including parent-child relationships, juvenile delinquency, substance abuse and mental health. The children who were breastfed longer (greater than four months) were more likely to report higher levels of parental attachment. They also perceived their mothers as being more caring and less overprotective of them compared to their bottle-fed peers. The subsequent rates of juvenile offending, substance use and mental health were factored with maternal age, education and SES. The authors concluded that extended breastfeeding is not associated with mental health risks but breastfeeding can result in closer parent-child relationships.[17] Doubt of the relationship between breastfeeding and cognitive development led to a meta-analysis of 20 studies. After adjustment for 15 appropriate key factors (including maternal age, education, race, ethnicity, SES, family size and childhood experiences), breastfeeding was associated with significantly higher scores for cognitive development than formula feeding. A difference of 3.16 points was measurable through 15 years.[17] A casual observation regarding reactions to such data demonstrates anger in individual mothers who protest that their bottle-fed infants turned out fine and went to college and graduate school. It is important to point out that a child with a genetic potential for an IQ of 150 will probably not notice a 3.4 point deficit. A child with a potential for an IQ of 100 would benefit from 3.4 points. In other words, breastfeeding allows an infant to reach his/her full potential.

In a study of a homogeneous (similar age, SES and education) population where mothers had a favourable environment and most infants were breastfed, the duration of breastfeeding clearly

made a difference in cognitive development at 13 months and five years. The longer the breastfeeding continued, the higher the developmental scores.[15]

While there are no formal studies, it is apparent from a review of the child abuse literature that women who breastfeed their infants are not identified as abusing them. The question of infant feeding methods is an important parameter when evaluating a case of child abuse.

Conclusions

Breastfeeding makes a difference for the infant in issues of nutrition, growth and development, as well as protection from infection, allergy and some chronic diseases. The impact of breast milk and the process of being breastfed enhance intellectual development and the mother-infant relationship for the infant. The psychosocial development of the infant is more advanced the longer the child is breastfed during the first year of life. There are no data to measure the benefits of extended breastfeeding, although it is known that immunological protection continues as long as the child is breastfed.

Maternal benefits of breastfeeding have been established in the realm of better postpartum recovery and decreased risk of long-term obesity, osteoporosis and breast and ovarian cancer. The impact on mothering skills and attitudes has not been investigated since the work of Newton and Newton, 1950-1960.[13,24] The physical closeness of mother and infant in the process of breastfeeding allows eye-to-eye contact and precipitates characteristic behaviour described in the bonding process by Klaus and Kennell.[25] The physiologic process of let-down when the nipple is stimulated releases maternal oxytocin and prolactin, which enhance mothering behaviours in all species tested and in most species, both male and female.[13]

Implications

Implications of breastfeeding are important for the infant, mother, both parents, the health-care system and the costs to society of raising healthy children who reach their full potential.[28]

Encouraging women to breastfeed exclusively for six months, continue for the next six months while adding weaning foods and then as long thereafter as mother and infant choose should be standard advice, reflecting the recommendations of WHO, UNICEF, and the Innocenti Declaration.[29] The national policy should follow the WHO code of marketing, which forbids marketing of breast milk substitutes on television, radio or in print materials and prohibits the

giving of free formula samples.

One of the most difficult hurdles for women is to continue breastfeeding once they leave the supportive environment of the hospital. The health-care system needs to provide a more substantive support system, beginning with well-trained experienced peer-counsellors to carry mothers through the perceived problems of the first few weeks. Having a baby changes one's life, and current culture in modern cities just does not provide the network of support mothers need.

Not everything is known about breastfeeding's impact on the mother and infant. Well-designed studies patterned after the early observations and projections of Niles Newton[13] would bring the process forward to greater understanding. Parenting is influenced by breastfeeding but needs to be understood in relationship to behaviour, social adaptation and social understanding of the infant.

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