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RESEARCH ARTICLE

EFFECTS OF BREAST FEEDING ON BRAIN DEVELOPMENT

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Abstract

This study was undertaken to insist the importance of breast feeding, to avoid artificial feeding for babies. We surveyed about 100 children in the age group of 3-5 years. A Proforma was given to the mothers, which includes all the feeding details of the child from birth. We took the children of class pre kindergarten, lower and upper kindergarten. Based on the information given by the mother, these children were categorized as Breast fed and Bottle fed. The cognitive ability of the child was assessed using Binet-Kamat scale, which is used for assessment of IQ between 3-22 years of age. Mental age is assessed using a set of norms that has been devised based on the child's performance. The results were statistically analysed and tabulated.

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INTRODUCTION

Breast feeding is the Most Precious Gift, A mother can give her infant (Ruth Lawrence). As we enter new millennium, we must ensure the physical and emotional health of our children for the future. Breast feeding has been rediscovered by modern science as a means to save lives, reduce illness, faster optimum development and protect the environment.

Breast feed or else, advances the latest argument for the health benefits of mother's milk for infants—enhance cognitive development and lowered many risk factors (Sydney Spiesel) child, con

Research has determined that a child's first 3 years are the most critical in brain development. The late Dr. Lee Salk, Paediatric psychologist stated that, the baby whose cries are answered will later be the child, confident enough to show his independence. Link higher IQ Scores to breast feeding. (Morgan-di-gan)

MATERIALS AND METHODS :

This study examines the association between duration of breast feeding and early childhood cognitive ability.

Study group includes children from various schools, the age taken for study is between 3-5 years, including kindergarten children. After getting prior consent from parents, teachers and heads of institutions, the study was done during working hours of the schools.

The mothers and teachers were explained about the aim and objective of the project. A well framed proforma, with all the necessary details regarding the mother's health and child's feeding habits were given to the mother. During the period from birth to 2 years, information was collected on maternal breast feeding practices. Based on the details given by the mother, the children were grouped as Breast fed and Bottle fed, (according to Indian Academy of Paediatrics and Nutrition) The proforma was prepared two days prior to the study.

Exclusive breast fed for first 3 months of life, along with weaning breast feed should have been continued for a minimum of one year. Such children are taken as breast fed and the rest as bottle fed.

Totally 80 children in the study group, 40 breast fed and 40 bottle fed.

IQ was assessed for each child with time consumption of about 40-45 minutes per child. The assessment was done based on the psychological test called Binet-Kamat test of intelligence.

Results : The association between dichotomous variables tested using chi – square test .

TABLE 1 **MODE OF FEEDING Vs IQ**

	High average	Average	
Breast feed	19	21	40
Bottle Feed	10	30	40
$\chi^2 = 4.38$	$P < 0.05$		

$P < 0.05$ = Significant

The main objective of our study is to compare the cognitive ability of bottle fed and breast fed children. According to our data, there was a definite statistical significance in this group. The children fed with breast milk proved to have increase in IQ.

DISCUSSION :

As per studies conducted by Rogen .W.J., Gladen B.C, on breast feeding and cognitive development, it was concluded that the children on breast feeds proved to have better IQ, than formula fed peers.

The main objective of our study is to find whether, there is any association between breast feeding practice and cognitive ability of the child. According to our data, 47.5% of children had excellent IQ, among the breast fed group, compare to 25% who had excellent IQ, among bottle fed group.

A study conducted by child health research centre in Australia examined 3000 children, and followed from birth until age 8. Measures of cognitive function including overall intellectual function, verbal ability, visual-spatial and visual motor system and memory, were assessed. Breast fed

According to our statistical data, 32.5 % of the children who were breast fed had an excellent memory compared to 12.5 % in bottle fed.

One key ingredient in breast milk is a brain –boosting Fat called DHA (docosahexaenoic acid), an omega -3 fatty acid (Birch et .al 1993) DHA is a vital nutrient for growth, development, and maintenance of brain tissue. Another fat needed for optimal brain development is cholesterol. Low in cholesterol may be good for adults, not babies. Cholesterol provides basic components for manufacturing nerve tissue in growing brain. Lactose is the main sugar in breast milk, a valuable nutrient for brain tissue development. Breast feeding itself, is more interesting, more interactive experience than bottle feeding.

CONCLUSION :

Research shows that babies who are breast fed are smarter, when they get older.

Children who have been on breast feed have IQ scores higher than formula fed infants. It is important to remember that these numbers represent averages of hundreds of children, not the effect of breast feeding on a specific individual.

As per the studies conducted by Onyango A W, Esregy S A, Kraner MS, UNICEF and WHO recommend that breast feeding promotes optimal health, cognitive development and bonding of infant mother pairs, it is critical that implementation should be made on strategies to increase breast feeding initiation and duration rates.

Increasing the rate of breast feeding initiation and duration are national health objectives and health people 2000 – 2010 goals. Given that breast feeding promotes early childhood development, it is essential that both state and local children and families first commissions take steps to ensure that gaps and breast feeding promotions and support services are identified, solutions are developed, and efforts are evaluated for success.

To reach the goal, efforts to promote the practice and duration of breast feeding need to be strengthened in hospitals, health maintenance organizations, private doctors clinics and public health centres.

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