

*Research Article***Assessment of Psychosocial Development in Breastfed Children at 6 Years of age****Gamal B. Mohammed, Gihan M. Bebars, Maha A. Hassan and Mahmud M. Mohie**

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Abstracts

Introduction: Breastfeeding is considered the normative standard for infant nutrition. The American Academy of Pediatrics recommends that children be breastfed exclusively for 6 months and continue to be breastfed for 1 year or longer (Rempel et al., 2017). **Aim of study:** To determine the relationship between the duration of breastfeeding and psychosocial development in children at 6 years of age.

Participants and Methods: The studied group included children who presented to the outpatient clinics of Maghagha and Elidwa hospitals asking for medical advice for their acute illness over the period from September 2015 to June 2016. They were selected randomly. **Results:** Children were classified according to the duration of breastfeeding into 4 groups, each group has 50 children.

Discussion: Breastfeeding in the first hour of life is associated with prolonged duration of breastfeeding. **Summary and Conclusion:** Breastfeeding has a protective effect on childhood behavioral outcomes with a partial mediation of this effect by the child's IQ, and there is a positive effect of breastfeeding on childhood intelligence as there is a dose response relationship between early breast milk intake with whole brain volume.

Keywords: Breastfeeding, infant nutrition, psychosocial development

Introduction

Breastfeeding is considered the normative standard for infant nutrition. The American Academy of Pediatrics recommends that children be breastfed exclusively for 6 months and continue to be breastfed for 1 year or longer (Rempel et al., 2017).

Longer duration of breastfeeding was associated with increased scores in cognitive, language and motor development at 18 months of age (Leventakou et al., 2015). Greater levels of accumulated breastfeeding during the first year of life were related to higher mental development at 14 months, largely independently from a wide range of parental psychosocial factors. long-chain polyunsaturated fatty acid (LC-PUFA) levels seem to play a beneficial role in children's mental development when breastfeeding levels are high (Guxens et al., 2011).

Also, a dose response relationship between early breast milk intake and later Intelligence Quotient (IQ) and, uniquely, with whole brain volume at adolescence. The effects of breast milk were seen more strongly on white than grey matter in the brain (Isaacs et al., 2011). Also, the association between breastfeeding

duration and child IQ was stronger when linoleic acid (LA) levels were high (Bernard et al., 2017).

Aim of study

To determine the relationship between the duration of breastfeeding and psychosocial development in children at 6 years of age

Participants and Methods

The studied group included children who presented to the outpatient clinics of Maghagha and Elidwa hospitals asking for medical advice for their acute illness over the period from September 2015 to June 2016. They were selected randomly.

- **Inclusion criteria were as follows :**

- (A) Children at 6 years old age .
- (B) Children admitted to an educational institution .

- **Exclusion criteria were as follows:**

- (A) Children with chronic mental or motor disability (e.g. mental retardation, cerebral palsy, hydrocephalus).
- (B) Children with chronic medical diseases (e.g. congenital heart diseases, bronchial asthma, liver cell failure, renal failure, Diabetes Mellitus, epilepsy).

(C) Children with psychic diseases (e.g. autism, depression, attention – deficit/hyperactivity disorder).

(D) Children suffering from congenital anomalies.

Results

Table: Correlation of breastfeeding duration with different items of Strengths and Difficulties Questionnaire and IQ of studied children

	Breastfeeding duration	
	r	P value
Emotional symptoms	-0.155	0.028*
Conduct Symptoms	-0.235	0.001*
Hyperactivity	-0.102	0.152
Peer Problems	-0.072	0.308
Pro-social Behavior	0.301	< 0.001*
Total Difficulties	-0.272	< 0.001*
IQ	0.152	0.032*

- Spearman's rho correlation
- *: Significant correlation at p value < 0.05

Above table showed a significant negative correlation between breastfeeding duration and emotional symptoms , conduct symptoms and total difficulties while, a significant positive correlation between breastfeeding duration and

prosocial behaviour. Regarding the IQ, a significant positive correlation has been detected between breastfeeding and IQ of the examined children.

Correlation of breastfeeding duration with maternal education and occupation and birth order

	Breastfeeding duration	
	r	P value
Maternal education	0.062	0.380
Maternal occupation (worked or not)	-0.044	0.537
Birth Order	-0.284	< 0.001*

- Spearman's rho correlation
- *: Significant correlation at p value < 0.05

Above table showed that :

- 1- There is a statistically significant negative correlation between breastfeeding and birth order .
- 2- There is no significant statistically correlation between breastfeeding duration and maternal education and occupation .

Discussion

Breastfeeding in the first hour of life is associated with prolonged duration of breastfeeding (Moore et al., 2012) and reduction of infant mortality, especially in low-income countries (Boccolini et al., 2013). Breastfeeding

is associated with less risk of diarrheal morbidity and mortality (Lamberti et al., 2011), less respiratory tract infections (Liesbeth et al., 2010), less risk of certain diseases as DM (Alves et al., 2012) and less risk of neonatal mortality (Debes et al., 2013) and infant mortality (Fern et al., 2011).

The decision to breastfeed is an early parental decision that may have important consequences for a child's later cognitive and behavioral functioning. The prevailing consensus from large scale epidemiological studies is that children who were breastfed perform, on average, higher on tests of IQ and cognitive

functioning than do children who were exclusively formula fed, even when factors such as birth weight, gestation duration, maternal education and socioeconomic status are accounted for (McCrory and Murray, 2012). Significant evidence suggests that breast-fed children develop fewer psychological, behavioral and learning problems as they grow older (Wendy et al., 2012).

Recommendations

- 1- More attention is needed to educate mothers about the benefits of breastfeeding and her wealth of advantages to the child's physical, psychological health and mental growth.
- 2- More attention is needed from the society towards unnecessary C-section and its negative effect on breastfeeding duration which consequently affects child health.
- 3- Future more studies are needed especially those capable of accounting for the many potential confound factors that may play a role in psychosocial development.

References

1. Abrahams SW, Labbok M (2011). "Breastfeeding and otitis media: a review of recent evidence" *Curr Allergy Asthma Rep.* Dec;11(6):50812. doi: 10.1007/s1188201102183.
2. AbulFadl, Azza A.M., Fahmy, Ehsan M., Kolkaliah, N., Narouz, N(2005). "The psychological effect of continued breastfeeding into the second year for mother and child". *The International Journal of Child Neuropsychiatry.* Vol.2(2)Sept. 2005.
3. Afnan A. Albokhary, MMid, BSN and Jennifer P. James, BSN, PhD. (2014). "Does cesarean section have an impact on the successful initiation of breastfeeding in Saudi Arabia?". *Saudi Med J.* 2014; 35(11): 1400–1403.
4. Aghaji M N.(2002). "Exclusive breastfeeding practice and associated factors in Enugu, Nigeria.". *West Afr J Med* 21, 2002; 6669.