

Public Health Importance of Optimal Infant and Young Child Feeding Practices (IYCF)



Optimal infant and young child feeding practices (IYCF) are effective public health intervention to enhance child survival, nutrition and development. Optimal IYCF practices include early initiation of breastfeeding and exclusive breastfeeding for the first six months of life, and beyond six months, timely and age-appropriate (in terms of quality and quantity) complementary feeding of children, with continued breastfeeding up to two years of age. Following is the available evidence showing public health relevance of optimal IYCF.

Reduction in child morbidity and mortality

- An epidemiological evidence of a causal association between early breastfeeding and infection specific mortality in the newborn infants has shown 2.6-fold increased risk of infection-specific neonatal mortality with late initiation of breastfeeding (later than day 1).¹
- WHO has estimated that under-nutrition contributes significantly (35% of total deaths) to mortality due to major infectious diseases like diarrhoea, pneumonia and neonatal infections in children less than five years of age. Contribution of under-nutrition to deaths due to diarrhoeal diseases is 73%, and about 50% for other infections like pneumonia, measles and severe neonatal infections.²
- A review of evidence published in the Lancet (2013) reveals that in infants below six months of age, not breastfeeding increases relative risk of all cause mortality to 14.4 times, diarrhoea mortality to 10.53 times and pneumonia mortality to 15.13 times. In children 6-23 months of age, premature weaning from breastfeeding increases relative risk of all-cause mortality to 3.68 times, diarrhea mortality to 2.10 times and pneumonia mortality to 1.92 times.³
- A systematic review has concluded that breastfeeding is a key intervention to protect against incidence, prevalence, hospitalisation, and mortality due to pneumonia in children younger than five years of age.⁴
- Similarly for diarrhoea, a review (Lamberti LM, 2011) has concluded that exclusive breastfeeding among infants 0-5 months and any breastfeeding among infants and children 6-23

months offers protection against its incidence, prevalence, hospitalisation and mortality.⁵

- A global ecological risk assessment study has found that acute infections, including otitis media, Haemophilus influenza meningitis and urinary tract infections are less common and less severe in breastfed infants.⁶
- Even in the USA, where death from infection is relatively uncommon, there were 21% to 24% fewer deaths among children who were breastfed than among those who were prematurely weaned.⁷
- In the UK millennium cohort survey of 15,890 infants, six months of exclusive breastfeeding was associated with a 53% decrease in hospital admissions for diarrhoea and 27% decrease in respiratory tract infections each month; partial breastfeeding was associated with 31% and 25% decreases respectively.⁸ (Quigley MA, Kelly YJ, Sacker A, 2008).
- The US Surgeon General's report cites increased risk of severe lower respiratory infections, and leukaemia in formula-fed infants, with risks of hospitalisation for the former being 250% higher than in those who are exclusively breastfed for at least four months. Never-breastfed infants also have a 56% higher risk of mortality from Sudden Infant Death Syndrome.⁹

Long-term impact on adult health and NCDs

- Breastfeeding provides protection against adulthood diseases. WHO, in its updated 2013 version on long term impact of breastfeeding concludes that breastfeeding has a significant impact on non-communicable diseases, particularly obesity and diabetes. It has also shown a small protective effect against systolic blood pressure.¹⁰
- The global report on NCDs envisages expenditure of trillions of dollars in the coming two to three decades to reduce the burden of NCDs. If this is believed to be true, then an investment to increase optimal breastfeeding in one cohort of births has the potential of significantly reducing NCDs in one generation.



Breastfeeding enhances cognitive development and earning ability

- Breastfeeding also leads to higher IQ and earning capacity later in life as proved in a recent research showing increasing IQ, educational attainment and monthly income with increasing breastfeeding duration.¹¹ A meta-analysis has suggested association of breastfeeding with increased performance in intelligence tests during childhood and adolescence, of 3.5 points on average.¹⁰

Breastfeeding benefits for the mother

- Studies show that lack of sufficient breastfeeding increases the risk of ovarian cancer by 27% to 40%¹² and breast cancer by 40% to 80%.¹³
- Exclusive breastfeeding also has an effect on birth spacing: it is as effective as contraceptives for the first six months after delivery. Breastfeeding, which releases oxytocin after delivery, also reduces uterine bleeding.¹⁴
- Premature weaning from breastfeeding can also deprive mothers of health and natural bonding opportunities, with higher risk of depression and increased risk of neglect or even abuse of the child.¹⁵

Policy Statement of the American Academy of Pediatrics on Breastfeeding and the Use of Human Milk (2012) provides dose-response benefits of breastfeeding for several childhood diseases. Please see the table below:

Dose-Response Benefits of Breastfeeding^a

Condition	% Lower Risk ^b	Breastfeeding	Comments	OR ^c	95% CI
Otitis media	23	Any	---	0.77	0.640.91
Otitis media	50	=3 or 6 mo	Exclusive BF	0.50	0.360.70
Recurrent otitis media	77	Exclusive BF =6 mo ^d	Compared with BF 4 to <6 mo ^d	1.95	1.063.59
Upper respiratory tract infection	63	>6 mo	Exclusive BF	0.30	0.180.74
Lower respiratory tract infection	72	=4 mo	Exclusive BF	0.28	0.140.54
Lower respiratory tract infection	77	Exclusive BF =6 mo ^d	Compared with BF 4 to <6 mo ^d	4.27	1.2714.35
Asthma	40	=3 mo	Atopic family history	0.60	0.430.82
Asthma	26	=3 mo	No atopic family history	0.74	0.60.92
RSV bronchiolitis	74	>4 mo		0.26	0.0740.9
NEC	77	NICU stay	Preterm infants? Exclusive HM	0.23	0.510.94
Atopic dermatitis	27	>3 mo	Exclusive BF? negative family history	0.84	0.591.19
Atopic dermatitis	42	>3 mo	Exclusive BF? positive family history	0.58	0.410.92
Gastroenteritis	64	Any		0.36	0.320.40
Inflammatory bowel disease	31	Any		0.69	0.510.94
Obesity	24	Any		0.76	0.670.86
Celiac disease	52	>2 mo	Gluten exposure when BF	0.48	0.400.89
Type 1 diabetes	30	>3 mo	Exclusive BF	0.71	0.540.93
Type 2 diabetes	40	Any		0.61	0.440.85
Leukemia (ALL)	20	>6 mo		0.80	0.710.91
Leukemia (AML)	15	>6 mo		0.85	0.730.98
SIDS	36	Any >1 mo		0.64	0.570.81

Ref: American Academy of Pediatrics. Breastfeeding and the Use of Human Milk. Section on Breastfeeding. Pediatrics (2012).

<http://pediatrics.aappublications.org/content/129/3/e827/T2.expansion.html>

ALL, acute lymphocytic leukemia; AML, acute myelogenous leukemia; BF, breastfeeding; HM, human milk; RSV, respiratory syncytial virus.

- a Pooled data.
- b % lower risk refers to lower risk while BF compared with feeding commercial infant formula or referent group specified.
- c OR expressed as increase risk for commercial formula feeding.
- d Referent group is exclusive BF =6 months.



Effective interventions to promote optimal infant feeding

This is now a documented fact that mother needs support to initiate breastfeeding within one hour of birth and to practice exclusive breastfeeding.

In India, mothers introduce supplements to breastmilk as they perceive their milk supply as insufficient.¹⁶ Although there is a complex pattern of immediate and underlying causes for this; most instances can be prevented or treated. Various other lactation difficulties, which are preventable to a large extent, may also contribute to premature cessation of breastfeeding. Health workers must be enabled to assess these lactation difficulties and offer appropriate counselling for the community as well as for the individual mother.

There is evidence to suggest that individual and group counselling is an effective tool to improve duration of exclusive breastfeeding.

- In the WHO Child Growth Standards study, trained lactation counsellors supported the mothers to prevent and manage breastfeeding difficulties from soon after birth and at specified times during the first year after birth. By using this strategy, good compliance to exclusive breastfeeding was achieved in all the participating countries including India.¹⁷
- A Cochrane review on support for breastfeeding mothers concluded that training on infant and young child feeding, which in turn led to more qualified professional and lay support

to the mothers, resulted in prolonged breastfeeding duration.¹⁸

- The promotion of breastfeeding intervention trial (PROBIT) has also documented a significant improvement in the rates of exclusive breastfeeding in the intervention group, who received skilled, counselling support from the trained health workers.¹⁹
- A study from Lalitpur, Uttar Pradesh has looked for the effect of peer counselling by mother support groups (MSGs) on infant and young child feeding practices in the community. The intervention comprised of counselling and providing support to these mothers by the MSGs. In the facility as well as in the community. The implementation mechanisms included providing infant feeding counseling at village, block and district level. The project interventions have been effective in increasing the initiation of breastfeeding within one hour of birth of baby, exclusive breastfeeding for 6 months, and appropriate start of complementary feeding. The fact that such an intervention could be implemented in a whole district with a population of over a million, using local resource persons indicates that it could be scaled up in other parts of the country also.²⁰

Endnote

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Information Sheet No.30 (July 2015)