Symposium on Child Survival in India: Part II

Breastfeeding and Complementary Feeding as a Public Health Intervention for Child Survival in India

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ABSTRACT

The relevance of breastfeeding and complementary feeding as proven child survival interventions, is well documented by the scientific research. These two preventive interventions can save as many as 19% of all child deaths. However, despite the volume of evidence favouring mainstreaming of these interventions, many countries, including India are yet to achieve universal appropriate infant and young child feeding practices. This article attempts to explore the evidenced based role of these interventions in the crusade to save children, and looks into the present scenario of infant and young child feeding in India, along with a possible road map to achieve high rates of early and exclusive breastfeeding and appropriate complementary feeding in the country. *E-mail: arun.ibfan@gmail.com*

Key words: *Breastfeeding; Complementary feeding; Child survival; Public health; India*

India is facing a grave challenge of having very high rates of child undernutrition and a high infant and child mortality, which demands an urgent need for a comprehensive multi-pronged evidence based strategy to tackle the situation. Evidence based interventions, which include initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life and introduction of appropriate and adequate complementary food at 6-9 month of age, are available to prevent undernutrition in children and to improve child survival.[1, 2]

Undernutrition is an underlying cause of an estimated 53 per cent of all under-five deaths.[3] Those who survive may get locked in a vicious cycle of recurring sickness and faltering growth, often with irreversible damage to their cognitive and social development.[4] It is significant to note that a large proportion of under-five children are undernourished in India, contributing to high child mortality.[5, 6] The research evidence over the last few decades, has clearly identified causes of high child mortality and also the remedies, which are effective and feasible for implementation at a large scale, in the community.[7] Exclusive breastfeeding stands out as a single most effective intervention for child survival.[8,9] Universalising early (within one hr) and exclusive breastfeeding (for 0-6 month), is viewed as a major public health intervention to reduce the child mortality, particularly, in the neonates and infants.[9,10] Improving complementary feeding is viewed as a major contributor to reduce anemia and stunting as well.[8]

The act of enabling all women to practice initiation of breastfeeding and exclusive breastfeeding can save not only hundreds or thousands of babies, but also provides health benefits to women, in terms of less bleeding at the time of birth , less cancers and less fractures in later ages.[11] Further, ensuring adequate and timely introduction of complementary feeding along with continued breastfeeding, could benefit the nation to reduce stunting quickly. It poses a serious challenge, given the numbers that we have to reach universally. This would require great deal of planned action.

India has issued the National Guidelines on Infant and Young Child Feeding in 2006 and enacted the Infant Milk Substitutes Feeding Bottles, and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992, (IMS Act) which was further amended in 2003. However , India has failed to implement both of these effectively.

This article provides scientific information on the impact of optimal breastfeeding and complementary feeding on child survival, what are the gaps in current policies and the programmes, how to bridge them and

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[Received January 27, 2010; Accepted January 27, 2010]

how to universalise optimal feeding practices to achieve the impact. Specific recommendations for policy and programme are made as a way forward.

Evidence on breastfeeding and complementary feeding

A study from Ghana showed that 22.3% of neonatal deaths could be prevented, if breastfeeding is initiated within one hour of birth and this evidence was independent of the pattern of exclusive breastfeeding during first month of life.[10] A study of a causal relationship between early infant feeding practices and infection specific neonatal mortality, showed that those newborns, who initiated breastfeeding within 1 hour, were less likely to die of neonatal sepsis than those who didn't.[12] This is the first epidemiologic evidence of such a causal association between early breastfeeding and infection specific mortality in the newborn infants. The risk of deaths from infection increased with increasing delay in initiation of breastfeeding from 1 hour to day 7; overall late initiation (after day 1) was associated with a 2.6-fold risk [adjusted odds ratio (adj OR): 2.61; 95% CI: 1.68, 4.04]. Additionally, partial breastfeeding during first month was associated with 6 fold adjusted risk of death from infectious disease (adj OR: 5.73; 95% CI: 2.75-11.91) after adjusting with the effect of early breastfeeding.[11] It shows that both, early as well as exclusive breastfeeding, are significantly associated with reduced infection-specific neonatal mortality in young infants.

A systematic review of effective interventions for improving child survival concluded that of three major causes for the child mortality (neonatal sepsis, diarrhoea and pneumonia, breastfeeding (Breastfeeding: defined by the Lancet series 2003: as exclusive breastfeeding for the first six month and continued breastfeeding for second six month) has been considered a highly effective preventive intervention. If it is universalized, breastfeeding can prevent 13% of all child deaths.[7]

Another review also confirmed these benefits of exclusive breastfeeding, revealing suboptimal breastfeeding during the period of 0-6 month can lead to harmful outcomes. Predominant breastfeeding (breastfeeding plus water) increases the risk of child mortality by 1.48 times as compared to exclusive breastfeeding. Partial breastfeeding (breastmilk plus other milks or foods) increases the child mortality by 2.8 times, as compared to exclusive breastfeeding. The relative risk for prevalence of diarrhoea is 1.26 and 3.04 for predominant and partial breastfeeding, as compared to exclusive breastfeeding. The relative risk for pneumonia is 1.79 and 2.49 for predominant and partial breastfeeding, as compared to exclusive breastfeeding.[8]

It is important to understand the mechanism behind the entire chain of activities, on how not exclusively breastfeeding, affect overall child survival and development. When an infant is not exclusively breastfed, formula milk is often introduced. Since, the infant is suckling less frequently, the amount of breastmilk produced by the mother goes down gradually, which is increasingly replaced with the formula milk. These infants are thus deprived of all the benefits enshrined in the breastmilk and are exposed to the dangers inherent with the formula feeding. A report from Philippines, shows a strong positive association between the intake of formula and/or non-breastmilk supplements and the risk of hospitalization for infections like pneumonia and diarrhoea.[13]

Research dealing with infant feeding in the last few decades, confirm the fact that the intake of infant formula jeopardize the health of an infant in many ways. However, there is absolute silence on such expressions in scientific journals, even if the research findings are pointing towards it.[14]

Even in the developed countries, benefits of breastfeeding in preventing childhood morbidity have been documented. A study from United Kingdom concluded that an estimated 53% of diarrhea hospitalizations could have been prevented each month by exclusive breastfeeding, and 31% by partial breastfeeding. Similarly, 27% of lower respiratory tract infection hospitalizations could have been prevented each month by exclusive breastfeeding and 25% by partial breastfeeding.[15]

Further, exclusive breastfeeding has also been shown to contribute to HIV free child survival. The transmission rate of HIV from a HIV positive mother to the child is 4.04% in exclusive breastfeeding, while it is three times more for 'mixed feeding' and 11 times more if solid foods are given along with, during first six month of life.[16]

With regard to complementary feeding, an additional 6% child deaths can be prevented with appropriate complementary feeding.[7] A meta-analysis of complementary feeding strategies and linear growth showed that education strategies alone are of most benefit in populations that have sufficient means to procure appropriate food, whereas in populations without this security, educational interventions are of benefit when combined with food supplements. It further concludes that improvement of complementary feeding through strategies such as counselling about nutrition for food-secure populations and nutrition counselling, food supplements, conditional cash transfers, or a combination of these, in food-insecure populations could substantially reduce stunting and related burden of disease.[8]

On the relationship of breastfeeding to child nutrition, a detailed analysis of three National Family Health Surveys (NFHS) clearly reveals, that such differentials do not always vary with the extent of poverty prevalent among the people of the State. Higher the age at which

women has their first child and the earlier the start of breastfeeding of newborn children, less is the prevalence of child malnourishment.[17,18]

State of breastfeeding and complementary feeding practices in India

The status of breastfeeding and complementary feeding practices is very dismal in India. According to the NFHS-3,[5] the initiation of breastfeeding within one hour of birth was only 24.5%, however, more recent data from the DLHS- 3[19] shows slight improvement, to 40.2%. An analysis of data of 534 districts, revealed that in 138 districts initiation of breastfeeding within an hour between 0-29%, in 197 it is between 30-49%, in 194 it is between 50-89% and only in 5 districts it is above 90%. The NFHS -3 also reported exclusive breastfeeding up to the age of six month to be only 46.4%. Further analysis of age wise data also reveals that exclusive breastfeeding rapidly declines from first month to sixth month, and only about 27.6 % children continue it by six month, giving a real low figure of exclusive breastfeeding.[5] According to DLHS 3, in 485 districts exclusive breastfeeding for the first six month is below 50%.This pattern of low rate of exclusive breastfeeding for the first six month and complementary feeding is equally prevalent in both rural and urban India, including urban slums.[20]

Introduction of complementary feeding along with continued breastfeeding in 6-9 month age is only 55.8%.[5] More recently, the DLHS-3 data reveals that introduction of complementary feeding along with continued breastfeeding in 6-9 month age is only 23.9%.[18] This is a disturbing news, as earlier NFHS studies had shown a rise of about 20% over 6-7 years. District wise complementary feeding data is yet to be available during this age period. The important point here is to go for the district level action and monitor these three indicators properly, uniformly, and in harmony with the state and national data.

Possible reasons for suboptimal breastfeeding are primarily, lack of proper information to mothers, total lack of counselling on feeding of infants, inadequate health care support, inability of the health care providers to help mothers experiencing breastfeeding difficulty, aggressive promotion of baby foods by the commercial industries and lack of proper support structures at the community and work place like maternity entitlements and crèches.[21]

Gaps in policy and programmes

A comprehensive assessment of the policy and programmes that support breastfeeding and complementary feeding, found that India had not gained much or rather has lost ground on a few areas in the breastfeeding support during last three years. The assessment noted that India has gaps in all areas of work which are required to achieve optimum infant and young child feeding practices. These areas include the national policy , programmes and coordination; Baby Friendly Hospital Initiative; implementation of the IMS Act; maternity protection; health and nutrition care; mother support and community outreach; information support; infant feeding and HIV; infant feeding during emergencies; and monitoring and evaluation.[22] Apart from finding gaps in the policies and programmes related with above mentioned indicators, the assessment shows that there has been an overall lack of vertical and horizontal integration with other related policies, (*e.g.* disaster management, HIV and National Rural Health Mission). Various gaps found by the assessment were as follows:

Policies

There is a lack of policy status for 'National guidelines on infant and young child feeding', no sustained action to revive baby friendly hospital initiative's', no policy framework for protecting and supporting breastfeeding in private sector and informal sector for working women, lack of stated strategy on communication for infant and young child feeding and there is no policy on infant and young child feeding in action plans for disasters.

Programmes

There is no mention of Baby Friendly Hospital Initiative, in National Rural Health Mission document, especially with reference to hospitals and nursing homes that will be contracted for conducting deliveries under Janani Suraksha Yojna; inadequate mechanism to enforce "The Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act, 1992", as amended in 2003(IMS Act); counseling for IYCF is not provided as a service to lactating women in National Rural Health Mission or Integrated Child Development Scheme; crèches, as an essential service to support working mothers to breastfeed are completely inadequate in terms of number and quality with respect to the existing need; too large a time gap between two consecutive national family health surveys to monitor infant and young child feeding indicators and inadequate counselling to HIV positive women regarding infant feeding options.

Strategies for achieving optimal breastfeeding and complementary feeding

One of the major reasons for India not been able to enhance its breastfeeding and complementary feeding rates in past 2 decades is that it has not taken action in a holistic manner and interventions have not reached to all people with health care services. Ad hoc actions like few messages here and there have prevailed, either due to a strong belief that it is enough or may be lack of understanding on how will it happen. For a basic need to

succeed in optimal breastfeeding practices mothers and babies have to stay together and supported as well. Several sectors other then health are involved. Following seven point strategy with suggested actions for improving breastfeeding is proposed (see box I). It is expected that developing an action plan based on these, would improve the rates of breastfeeding and complementary feeding.

To achieve high rates of exclusive breastfeeding for the first six months and appropriate complementary feeding, there after, one needs to act comprehensively and use all sets of strategies which include interventions by health and related sectors, including labour, HIV, disaster management, planning etc. While it is well established now that 'one to one counselling' and 'group counselling', works for exclusive breastfeeding and have potential to increase exclusive breastfeeding at 1 and 6 month significantly, complementary feeding can be enhanced through education programmes, and counselling; however, food supplements are required for food insecure populations.[8]

Box-I[23,24,25,26, 27]

This protection is to save families from commercial sector aggressive promotion of baby foods, which is known to undermine breastfeeding. The Infant Milk Substitutes Feeding Bottles, and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992 as amended in 2003, needs to be implemented in its letter and spirit. All partnerships of health sector with baby food lobby/its allied institutions must stop through a legislative framework. People should be informed about this law and regular study of its compliance be carried out and reported.[23]

Promotion

Having a culture that values exclusive breastfeeding for the first six months is the best way to achieve permanent results. This will help build family support to women. Action plans should include campaigns directed to young and the old, expanding World Breastfeeding Week activities to all health care facilities.[24]

Support

For exclusive breastfeeding rates to go up this strategic action is critical. Ways and means must be found for ALL mothers and babies to stay together day and night for at least six months, to ensure unrestricted access to breastfeeding. Women in informal work need structured support through a legislation, combining work and breastfeeding through provision of Crèches at work place, flexi working hours and creating space where women could express breastmilk. Changes must be made in the medical and nursing curriculum, provision of a trained health workers for support at birth and family counsellors for home visits later, in order to provide accurate information and practical support is necessary.[25]

The Global Strategy for Infant and Child Feeding has included maternity entitlements consistent with International Labour Organization Maternity Protection Convention and Recommendation.[2] In India, the working group for children under six has recommended universal maternity leave of six months, including those women working in the unorganised sector.[21]

Research

Establishing a research task force to generate important information around breastfeeding and complementary feeding would make ongoing difference to the work and activities proposed. It should lay emphasis on both qualitative and qualitative research. Finally, policy and programme should be assessed very 3 years.

Information management

The strategy should make use of available breastfeeding and complementary feeding data from all sources like DLHS. This should be linked to monitoring of programme at a high level enough to make an impact. Exclusive breastfeeding indicator should always be a part of MDG and health policy indicators.

Education and Training

To transfer skills and abilities and to offer a conceptual foundation for the return to a good breastfeeding culture and practices, curriculum of health workers must be sound on optimal feeding practices. Strategy should also focus on existing health systems for in -service training in all the three major subjects on breastfeeding, complementary feeding and HIV infant feeding.[26]

Coordination

This is about having operational plans with well-identified budgets and backed by coordinated action among several ministries.

Way forward

There is an important addition to the existing scientific evidence on the role of breastfeeding in saving babies. This is now evident that optimal breastfeeding and complementary feeding practice are an effective tool to prevent malnutrition, and childhood morbidity. Evidence is very specific for early breastfeeding and deaths related to neonatal infections and are good enough to be reflected in the policy and programmes, as an urgency, because neonatal deaths have not shown a decline over the past 6-7 years. Effective concerted effort, in the form of a national strategy and attached plan of action, is yet to emerge. At the same time, much can be achieved through skilled counselling in the health system, including at family level, which has remained a gap either because of lack of skills or lack of human resources.

Recommendations

Policy Issues

1. Government of India should gazette the existing

"National guidelines on infant and young child feeding"[27] as a national policy on infant and young child feeding (IYCF).
2. National Rural Health Mission – Ministry of Health, Government of India should develop and implement a plan of action on IYCF, which has a line budget, and is regularly monitored and evaluated.
3. Frontline health care workers like ASHA should be paid, in addition to what she gets now, to allow a focus on infant nutrition and health issues through home visiting.
4. NRHM-Government of India should provide a 'nutrition counsellor' as ASHA mentor atleast in 10% of villages, who could provide support as well referral services. One such counselor for 6-7 villages may be graduate women, and properly trained in breastfeeding, complementary feeding , and other nutrition needs.
5. Government of India should adopt and monitor a policy of maternity benefits to the lactating women, in organized as well as unorganized sectors, which should include six month of maternity leave, facilities for breastfeeding/ expression and storage of breastmilk at workplace, crèches at work place, and monitory compensations to poor women.
6. National AIDS Control Organization should harmonize its policies and programme with current updated WHO recommendations on HIV and infant feeding.[28]

Programme Issues

Implementing the IMS Act

1. Ministry of Women and Child Development, Government of India should have a plan to regularly monitor and report the compliance of the IMS Act, which should have allocation of resources and fixing responsibility.
2. Ministry of Health, Government of India should ensure that baby food companies, and related organisations floated by them are not allowed to sponsor or host programmes for paediatricians or other doctors.
3. Ministry of Health /Ministry of Women and Child Development should develop a mechanism at state and district level to inform people about IMS Act and its provisions, and also to check for sponsorships in the conferences of doctors or other health workers.

Provision of Accurate information, counselling and support

1. Ministry of Health/Ministry of Women and Child Development, along with Ministry of Information and Broadcasting should develop a national IEC campaign on the breastfeeding and complementary feeding, which highlights importance of appropriate feeding practices in child survival, growth and development, in order to create an environment friendly of breastfeeding, and to alleviate the fear of not having enough milk, among the women.
2. Government of India should ensure training of workers of ICDS and NRHM in infant and young child feeding counseling, including HIV and infant feeding and implementation of the IMS Act.
3. National Rural Health Mission – Ministry of Health should put skilled lactation counsellors at health facilities.
4. National AIDS Control Organization should ensure access to skilled infant feeding counseling in the Prevention of Parent to Child Transmission (PPTCT) programme.

Monitoring and evaluation

1. DLHS -3 data on child feeding practices should be harmonised at three levels, district, state and national level.
2. DLHS-3 data on breastfeeding and complementary feeding should be used as a feedback source along with regular monitoring of nutrition and health.

CONCLUSION

Health and nutrition programmes, as well other programmes dealing with women and children should mainstream breastfeeding counseling and support interventions, to help women to succeed both in early (within an hour) and exclusive breastfeeding (for the first six months of life). Current focus of the health systems to treat sick babies must be preceded by a preventive care package. This will not only reduce the burden on the health systems to treat sick newborn babies, but also has the potential to make our children grow well and have sound development. While experts have identified these as highly cost effective proven preventive health interventions, the delay in their expansion is not only inexcusable but a matter of serious concern also. The reasons may be lack of understanding of programme managers on how to do, lack of able leadership at different levels, lack of coordination, and weak policies. It is the time when we should look at the reasons so that ad hoc actions pave way for the lack of coordinated ones. Putting in practice the recommendations and comprehensively addressing all the seven strategies, could make a difference.

Acknowledgements

Authors thank Dr. Vinod Paul, Dr Chandrakant Lahariya, Dr Vandana Prasad, and Ms Radha Holla for their valuable comments and assistance.

Contributions: The views expressed in this article are those of the authors and does not necessarily reflect the views of the organizations/institutions with which they are affiliated.
Conflicts of Interest: None.
Role of Funding Source: None.

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