



Save the Children

# Re-lactation in Emergencies

## Operations Research



# Outline

- Why breastfeeding is important?
- What are the challenges to optimal breastfeeding in emergencies?
- Relactation: what works?
- Objectives of the operational research study
- Methodology of the operational research study
- Top 10 IYCF-E Research Questions



# **Why breastfeeding is important?**

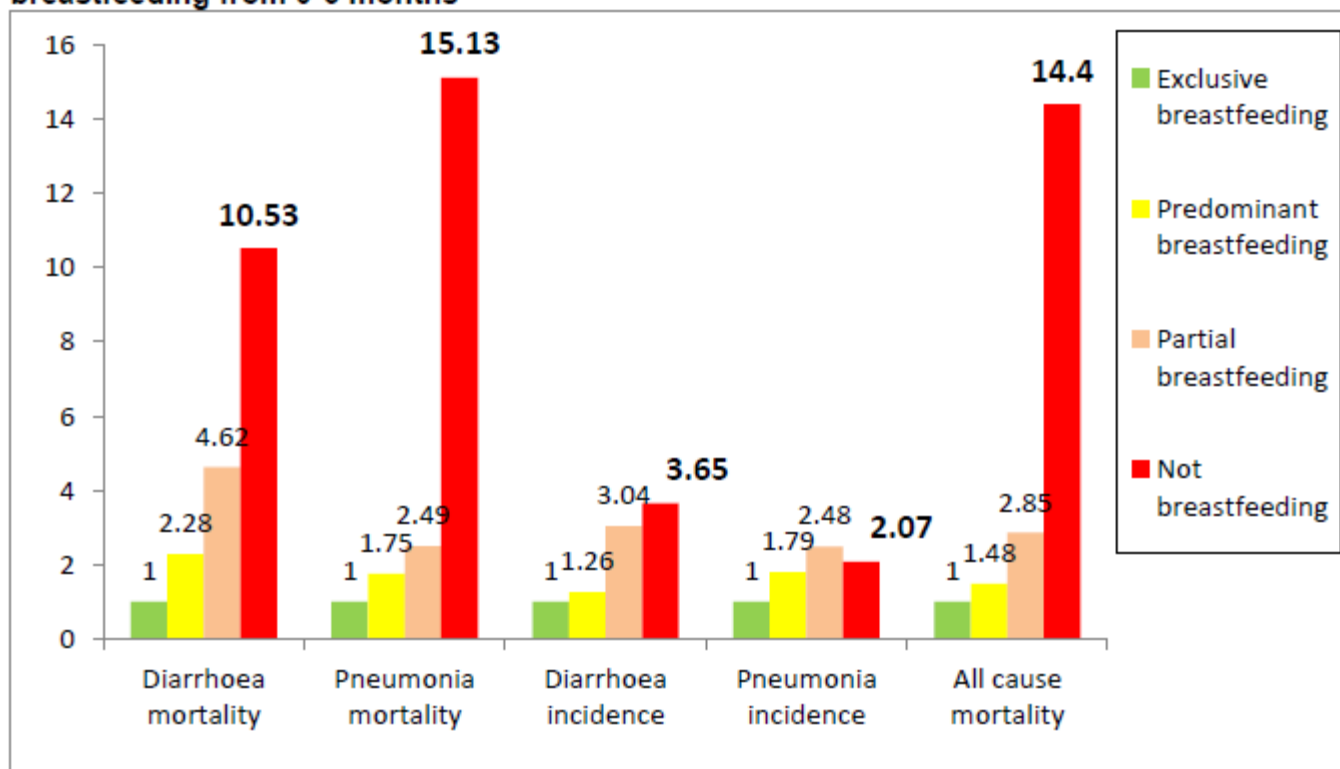


# Breastfeeding prevents death

Preventative interventions	Proportion of under 5 deaths prevented
Exclusive and continued breastfeeding until 1 year of age	<b>13%</b>
Insecticide treated materials	7%
Appropriate complementary feeding	<b>6%</b>
Zinc	5%
Clean delivery	4%
Hib vaccine	4%
Water, sanitation, hygiene	3%
Antenatal steroids	3%
Newborn temperature management	2%
Vitamin A	2%

# Higher risks for non breastfed children

Figure 2: Relative risk of not breastfeeding for infections and mortality compared to exclusive breastfeeding from 0-5 months



Source: Lancet 2008 [3].



# **What are the challenges to optimal breastfeeding practices in emergencies?**



# Challenges to optimal breastfeeding

**Low pre-crisis  
breastfeeding**





# Challenges to optimal breastfeeding


**Food  
insecurity**

**Poor  
access to  
water and  
sanitation**

**Population  
movement  
and living  
conditions**

**Exposure  
to stress  
and  
trauma**



 Save the Children



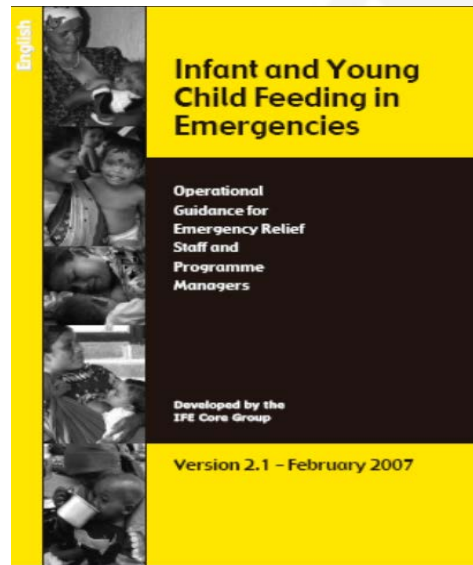


# Challenges to optimal breastfeeding

Poor understanding of IYCF-E

Weak M&E systems for IYCF programs

Weak legislation and adoption of policies & guidelines



# Challenges to optimal breastfeeding

**Formula  
donations**



# Challenges to optimal breastfeeding

## Barriers to breastfeeding

### TRUE or FALSE?

- A malnourished mother cannot breastfeed
- Breastmilk can go 'bad'
- A mother should stop breastfeeding if the baby has diarrhoea
- Once stopped, breastfeeding cannot be started again
- A pregnant mother cannot breastfeed
- Small babies need additional fluids such as water and tea
- HIV-positive mothers should never breastfeed
- Stress prevents mothers from producing milk or makes the milk dry up

# Challenges to optimal breastfeeding

## Evidence from Emergencies

- Earthquake response in Yogyakarta, Indonesia in 2006
  - Rates of diarrhoea doubled among infants who had been given donated infant formula compared with those who had not.
- Floods in Botswana in 2006
  - Infants hospitalised with diarrhoea were 30 times more likely to not be currently breastfed compared to those without diarrhoea

*Hipgrave. 2012. Public Health Nutrition, 15(2), 307–15.*

*Arvelo. 2010. International journal of infectious diseases, 14(11), pp.e1002–7.*

# Aisha (NE Nigeria)





# Relactation: what works?



# Re-lactation

## ■ What

- Reinitiating breastfeeding when women have stopped breastfeeding
- Inducing breastfeeding when women have never breastfeed this baby
- Increasing breastmilk output when women have not been breastfeeding optimally



# Re-lactation

## ■ Whom

- A woman who has ever given birth
  - Can generally resume the production of breastmilk for her own or another infant, even without a further pregnancy
  - Can generally produce enough milk to breastfeed an infant exclusively until 6 months
- A woman who has never been pregnant (e.g. adoptive mothers)
  - can generally establish lactation
  - the amount of milk produced is less often adequate for exclusive breastfeeding

# Re-lactation

- When
  - for case management of **sick infants**
  - for infants who were **low birth weight**
  - for infants with **feeding problems**
  - for infants who have been **separated from their mothers**, e.g. because of hospitalisation
  - in **emergency situations**, unaccompanied infants (wet nursing); those who were artificially fed before the emergency; and those for whom breastfeeding has been interrupted.
  - when a **woman is unable to breastfeed her infant**, ie severely ill or has died (wet nursing with e.g. grand mother)
  - **individual situations**, for example when a mother who chose to feed her infant artificially changes her mind or, in the case of adoption

# Re-lactation

## ■ How

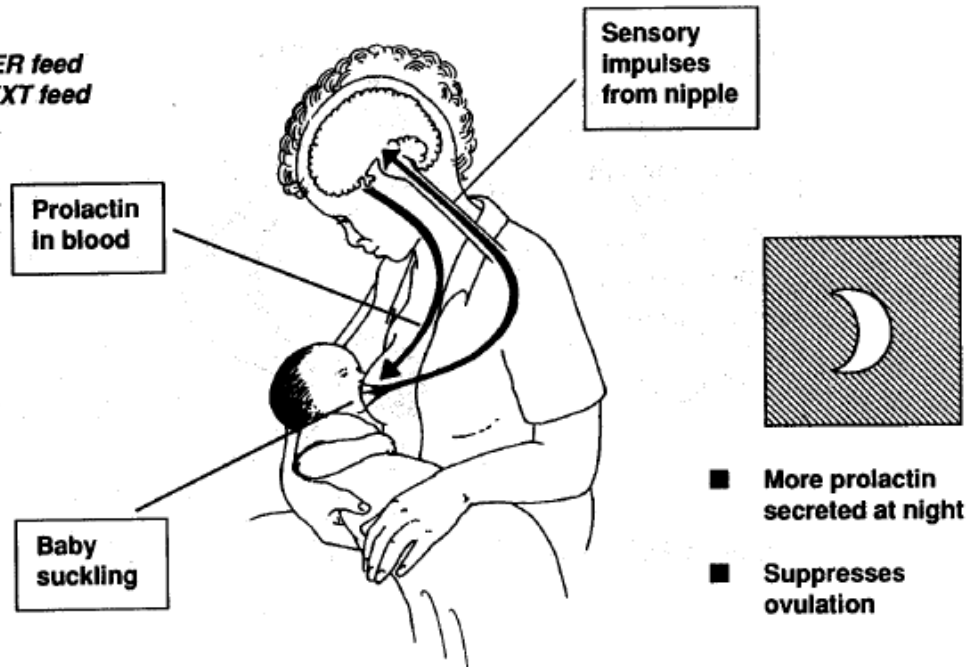
- Hormones (prolactin and oxytocin) play a major role in lactation processes.
- The production of breastmilk sufficient to feed an infant requires:
  - growth of secretory alveoli in the glandular tissue of the breast
  - secretion of milk by the cells of the secretory alveoli
  - removal of milk by the infant or by expression

# Re-lactation

## ■ How

### PROLACTIN

*Secreted AFTER feed  
to produce NEXT feed*



# Re-lactation

## ■ How

- Removal of milk from the breast requires the action of *oxytocin*
- Oxytocin causes small muscle cells which surround the secretory alveoli to contract and press out
- Oxytocin production can be affected by the mother's psychological state

# Re-lactation

## ■ How

- Suckling and milk expression, which both increase prolactin levels and remove milk, are the key to the stimulation of milk production
- Best way to stimulate the nipple and to remove milk is for a child to suckle.
- The more frequently and the longer a child suckles, the more milk is produced.
- To remove milk effectively, an infant needs to be well attached to the breast
- Both manual and mechanical expression of the breasts are also effective

# Re-lactation

- Major general factors affecting success of re-lactation
  - Strong desire by the mother or foster mother to feed the infant
  - Stimulation of the nipple.
  - Building and maintaining woman's confidence.
- Factors related to the infant
  - Infant's willingness to suckle
  - Infant's age
  - Infant's breastfeeding gap
  - Infant's feeding experience during the gap
  - Infant-related reasons for interrupting breastfeeding
- Factors related to the mother or foster mother
  - Lactation gap (the time since she stopped breastfeeding an infant)
  - Condition of her breasts
  - Ability to interact responsively with her child
  - Support from her family, community and health workers



# Re-lactation

- Essential measures
  - Counselling for the mother or foster mother
    - Assess the reason for the difficulty
    - Give information to her and members of her family
    - Motivate her
    - Remove factors which might reduce suckling or breastmilk production
    - Provide continuing support
  - Stimulation of the nipple and breast by
    - Infant's suckling (if not suckling, drop and drip or supplementary suckling technique)
    - Mechanical or hand expression
    - Skin-to-skin contact
  - Provision of a temporary milk supplement for the infant without using a bottle
    - to provide nourishment
    - to encourage suckling at the breast
  - Other measures
    - food, fluids, and rest

- Drop and drip



- Supplementary suckling technique



# Re-lactation

- Evidence that re-lactation works
  - In Iran, higher weight gain of pre-term infants separated from their mothers for mothers receiving specific re-lactation support compared with mothers receiving only standard breast-feeding support.
  - In South Africa , re-lactation counselling among mothers of infants newly diagnosed with HIV successful in re-establishing breast-feeding among around 60% of the mothers at 24 weeks.
  - In India, re-lactation support was effective in re-establishing exclusive breastfeeding for 92% of mothers of hospitalized infants < 4 months.
  - In Natal, South Africa, experience of 10 grandmothers who re-lactated for their grandchildren.

*Dehkhoda. 2013. Journal of caring sciences, 2(2), pp.97–103.*

*Nyati. 2014. Breastfeeding medicine, 9(9), pp.450–7.*

*Patwari. 1997. Relactation : An Effective Intervention to Promote Exclusive Breastfeeding. , pp.213–216.*

*Slome Journal of Pediatrics 1956; 9:550-552.*

# Objectives



# Objectives

- Evaluate current re-lactation programs (CRP) in use in Save the Children programs.
- Develop optimized re-lactation protocols (ORP) based upon findings of evaluation in order to standardize programs and improve their impact.
- Pilot identified ORP on starting, reinitiating breastfeeding or increasing breastmilk supply among women enrolled in the program.

# Methodology





# Methodology

- Phase 1
  - Desk review of current re-lactation protocols
  - Formative research to investigate which factors are associated with success or failure of current re-lactation protocols
  - Improvement of current re-lactation protocol (CRP) and development of optimised re-lactation protocol (ORP)
  
- Phase 2
  - Implementation of ORP
  - Evaluation of outcomes and comparison between CRP and ORP, including

# Methodology

## ■ Phase I: Formative research

- Desk review of CRP, including:
  - activities conducted,
  - use of standard tools and protocols to assess breastfeeding and support relactation
  - outcomes
- Observation of CRP implementation in existing programs
- Focus-group discussions using semi-opened questionnaires with caretakers and family members enrolled in existing programs;
- Interviews using semi-opened questionnaires with staff involved in existing programs.
- Based on findings, improvement of CRP and development of ORP

# Methodology

- Phase 2: Cluster Randomised Controlled Trial
  - Two groups:
    - CRP
    - ORP
  - Random allocation of health facilities to CRP or ORP
  - Sample size: 45 caregiver/infant pairs in each group on the assumption that proportion of caregivers who achieved age appropriate optimal breastfeeding practices at the end of the follow-up period in the baseline CRP group and in the ORP group is 10% and 50%, respectively
  - Enrollment of infants 0-12 months
  - Weekly follow-up for three months

# Methodology

## ■ Primary outcomes:

- Proportion of care takers who achieved age appropriate optimal breastfeeding practices at the end of the follow-up period;
- Proportion of caretakers who sustained breastfeeding at the end of the follow-up period;
- Number of weeks of sustained breastfeeding over the follow-up period;
- Proportion of caretakers who achieved partial restoration of breastmilk (use of breastmilk substitute divided by 2) at the end of the follow-up period;
- Time to partial restoration of breastmilk;
- Proportion of women starting or resuming breastfeeding among those not breastfeeding at baseline;

# Implementation

- Location (existing IYCF-E programmes in)
  - Somalia (Puntland)
  - Zimbabwe (Binga district)
- Duration
  - 18 months (6 months data collection)
- Project: *Infant and Young Child Feeding in Emergencies Global Capacity-Strengthening and Innovation*
- Donor: OFDA

# Top 10 IYCF-E Research Questions

Prudhon, C et al. *Research Priorities for improving infant and young child feeding in humanitarian emergencies*. BMC Nutrition (2016) 2:27

# Top 10 Research Questions

1. Use of cash-transfer to buy breast-milk substitutes;
2. Effectiveness of complementary feeding strategies;
3. Long-term effect of IYCF-E interventions;
4. Design of IYCF-E programs in context where breastfeeding rates are low and breast milk substitutes use is high;
5. Design of effective re-lactation interventions;
6. Provision of psychological support to young children's care-takers ;
7. Determination of number of beneficiaries and coverage of IYCF-E programs;
8. Pros and cons of distribution of RUIF compared to distribution of PIF plus kits for safer use of BMS, (when necessary);
9. Calculation of the impact of specific IYCF-E programs on nutritional status, morbidity and mortality;
10. Linking and mainstreaming IYCF-E interventions with other sectors such as health, WASH, food security and child protection.



# Thank you!

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