

Promotion of complementary feeding

Authors: Henriksen ES, Kaur G, Haaland OA, Watkins D, Jan-Magnus, Ahmed S, Coates MM, Johansson KA.

Date: 29 November 2021

Description of condition and intervention

Complementary feeding refers to the transition when an infant is ready for other foods, in addition to breast milk. Complementary foods, hygienically prepared and adequately meeting increasing nutritional needs of the infant, can be started around six months of age. By this time an infant is also developmentally ready for complementary feeding. It is documented that the energy needs gained from complementary foods in infants with average breast milk intake varies from 200kcal/day (6-8 months of age) or 300kcal/day (9-11 months of age) to 550kcal/day (12-23 months of age). If complementary foods are not introduced around 6 months of age, an infant's growth may fail. Source: [WHO](#), [PAHO 2003](#)). This evidence brief assesses effects and costs for one intervention being analyzed in FairChoices: DCP analytical tool (For an overview of other interventions, see appendix below and the separate evidence briefs for these):

NUTR01-04

Promotion of complementary feeding

International guidelines

Organization	Indications/recommendations	Applicability in LIC & Lower MIC settings
World Health Organization	<p>Ensuring that infants nutritional needs are met requires that complementary foods to be:</p> <p>Timely- introduction of complementary feeding when energy and micronutrient requirements are no longer adequate through breastfeeding.</p> <p>Adequate - The foods should include sufficient energy, protein and micronutrient requirements to meet child nutritional needs</p> <p>Safe- hygienically stored and prepared.</p> <p>Properly fed – following the child's signals and appetite and makes sure that meal frequency and feeding corresponds to the child's growth.</p> <p>An infant should receive complementary foods daily for 2-3 times (6-8 months of age) and for 3-4 times between 9-11 months and 12-24 months.</p>	Yes

Intervention attributes

Type of interventions & delivery platform

Table 1: Type of interventions & delivery platform

Intervention	Type	Delivery platform
4. Promotion of complementary feeding	Prevention	Community

Equity

In addition to considerations like cost-effectiveness and health systems factors, dimensions of equity can be relevant for priority setting. The opportunity for a long and healthy life varies according to the severity of a health condition that individuals might have, so there are inequities in individuals' opportunities for long and healthy lives based on the health conditions they face. Metrics used to estimate the severity of illness at an individual level can be used to help prioritize those with less opportunity for lifetime health. FairChoices: DCP Analytics Tool uses Health adjusted age of death (HAAD), which is a metric that estimates the number of years lived from birth to death, discounting years lived with disability. A high HAAD thus represents a disease less severe in terms of lifetime health loss, while a low HAAD represents a disease that is severe on average, causing early death or a long period of severe disability. It is also possible to estimate the distribution of HAAD across individuals with a health condition. FairChoices shows for each intervention an average HAAD value of the conditions that are affected by respective interventions that have health effects. Additionally, a plot shows HAAD values for around 290 conditions (Johansson KA et al 2020).

Time dependence

Moderate level of urgency dependent of baby's condition

Population in need of interventions

Table 2: Population in need of interventions

Intervention	Treated population		Affected population		Disease state addressed
	Population treated (age)	Treated fraction	Affected age	Affected fraction	
Promotion of complementary feeding	Pregnant women (10 to 54 years)	1 (All pregnant women)	0 to 5 years (Newborns and children up to five years dependent of condition)	Incidence cases: According to Henriksen et al. All newborns and children up to five years are affected which is equal to 1 (Unpublished work in progress)	Nutritional deficiencies

Disease stage/condition addressed

This intervention delays or prevent development of nutritional deficiencies which may cause growth failure such as stunting, wasting and underweight.

Intervention effect and safety

Table 3: Effect and safety

Effect of intervention		Certainty of evidence
Prevalence of stunting Lassi 2020 et al. found that giving education on complementary feeding in insecure households gave a relative risk of 0.65 for stunting (95% CI: 0.42 to 1.01)	Lassi 2020 et al. considered the significant estimate of stunting on education on complementary feeding in insecure households as low (p value of 0.05)	⊕⊖⊖⊖ Low

Model assumptions

Table 4: Summary of model parameters and values used in FairChoices – DCP Analytical Tool

Category	Model parameter	Notes
Intervention	Complementary feeding	
Cost parameters		
Treated population	All pregnant women with nutritional deficiencies	Global Burden of Disease study
Effect parameters		
Affected Population	Children	
Affected gender	Both	
Affected fraction age	0 to 5 years	
Affected fraction	1	
Comparison	Placebo	
Prevalence Reduction (RRR)	0.35	

Intervention Cost

The total unit cost is estimated to be USD 1.90 (Year: 2020) per woman per case for the promotion of complementary by a community health worker according to Henriksen et al. (Work in progress)

References

World Health Organization, G. Complementary feeding. Available from: https://www.who.int/health-topics/complementary-feeding#tab=tab_1.

Infant and Young Child Feeding: Model Chapter for Textbooks for Medical Students and Allied Health Professionals. Geneva: World Health Organization; 2009. SESSION 3, Complementary feeding. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK148957/>

Lassi, Z. S., Rind, F., Irfan, O., Hadi, R., Das, J. K., & Bhutta, Z. A. (2020). Impact of infant and young child feeding (IYCF) nutrition interventions on breastfeeding practices, growth and mortality in low-and middle-income countries: systematic review. *Nutrients*, 12(3), 722.

Henriksen ES, Økeland J, Malawim O, Said S, Kaur G, Rava` MS, et al. Economic evaluation of nutritional interventions in Zanzibar: An analysis using FairChoices – DCP analytic tool.(Work in progress)

Appendix

Literature Review for effectiveness & safety

This literature search is an example of level 4 evidence(meta-analysis) for intervention inputs taken from DCP3. (Despite low significant level for efficacy)

Level of evidence of efficacy studies:

1. Low (expert opinions, case series, reports, low-quality case control studies)
2. Moderate (high quality case control studies, low quality cohort studies)
3. High (high quality cohort studies, individual RCTs)
4. Very high (Multiple RCTs, meta-analysis, systematic reviews, clinical practice guidelines)

An overview of all NUTR interventions in FairChoices-DCP analytical tool (Interventions assessed in this evidence brief are marked in bold)

NUTR01-01	Daily Iron Folic acid supplementation (pregnant women)
NUTR01-02	Calcium supplementation, pregnancy
NUTR01-03 households	Food and caloric supplementation to pregnant women in insecure
NUTR01-04-02	Promotion of breastfeeding and/ or complementary feeding
NUTR01-05	Intermittent Iron-folic acid supplementation (Menstruating women)
NUTR01-06	Food to non-pregnant women in insecure households
NUTR01-02-01-01	Daily iron supplementation for children 6 to 23 months
NUTR01-02-01-02	Daily iron supplementation in children health center
NUTR01-02-02	Intermittent iron supplementation in children (24 -59 months)
NUTR01-02-03	Vitamin A supplementation to children 6 to 59 months
NUTR01-02-04	Zink to children 6 to 59 months
NUTR01-02-05	Food to children, if below basic food poverty line
NUTR01-03-01	Management of severe acute malnutrition without medical complications
NUTR01-03-02	Management of severe acute malnutrition associated with medical complications