Table 3: Key Aspects of Malnutrition, Micronutrient Supplementation, and IYCF Studies with SBCC Component.

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| **Study** | **Study**  **Size** | **SBCC Approach Used/sssMethods** | **Evaluation Methods** | **Outcome**  **Measured** | **Results/Findings** |
| **Malnutrition** | | | | | |
| Wilner, et al. [[10](https://www.ncbi.nlm.nih.gov/pubmed/28899434)]  Malawi | 600 caregivers | Interpersonal communication and group-based approach  Caregivers of children under 2 y were given oil and SBCC messages to promote proper preparation and feeding of CSB porridge | Cross-sectional study | Receipt of targeted SBCC messages; improved preparation and feeding of CSB porridge | More than 99% of caregivers reported learning about the correct preparation of CSB porridge while > 80% of caregivers, volunteers and healthcare workers reported discussion of SBCC messages. |
| Tomedi, et al. [[9](https://www.ncbi.nlm.nih.gov/pubmed/21896234)]  Kenya | Intervention (129); non-intervention (147) | Group-based approach  Education on complementary feeding and hygiene combined with food rations | Quasi-experimental design | Weight-for-length Z-score (WHZ), height-for-age Z-scores (HAZ), weight-for-age Z-scores (WAZ) | The intervention group had a lower prevalence of wasting (0% vs. 8.9%, P = 0.0002) and underweight (6.3% vs. 23.0%, P < 0.0001) |
| Ickes, et al. [[8](https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-017-0140-8)]  Uganda | 122 caregivers and children < 2 years of age | Interpersonal counseling  Supplemental feeding provided along with caregiver education by trained health workers | Post-program comparison group study | Knowledge transferred and IYCF practices | Children from the post-program (PP) group had higher diet diversity scores and frequency of meals than children in the comparison group. The PP caregivers also exhibited greater knowledge of healthful child feeding practices. |
| Jensen, et al. [[11](https://www.ncbi.nlm.nih.gov/pubmed/27358419)]  Guatemala | 63 households with children < 2 years | Interpersonal and group counseling  Monthly food rations provided with nutrition education | Qualitative research based on pre and post project semi-structured interviews | Self-reported food recall, food frequency questionnaire, and knowledge transferred | Study households reported higher consumption of recommended foods and changed household food choices based on foods that were rationed and education received. |
| Jilcott, et al. [[7](https://www.ncbi.nlm.nih.gov/pubmed/19199014)]  Uganda | 215 underweight children < 5 years of age | Interpersonal counseling  Supplemental feeding provided along with caregiver education by trained health workers | Qualitative research based on pre and post project semi-structured interviews | Weight gain velocity, and qualitative data from key-informant interviews | The mean weight gain of children was 2.5 g/kg/day, which was not as high as other similar studies. |
| Medoua, et al. [[25](https://www.ncbi.nlm.nih.gov/pubmed/27065308)]  Cameroon | 833 children aged 6-59 months | Group-based approach  Caregivers received nutrition counseling at enrollment and each follow-up visit | Comparative randomized controlled efficacy trial study | Recovery rate and duration of treatment | 73% and 85% of children treated with CSB+ and RUSF respectively, recovered from moderate acute malnutrition, with no significant difference between groups. Despite lower rations, recovery rates were comparable to similar studies, most likely due to nutrition education. |
| Nikièma, et al. [[12](https://www.ncbi.nlm.nih.gov/pubmed/24808482)]  Burkina Faso | 1,349 children ages 6-24 months with MAM | Interpersonal communication  Weekly context-appropriate child-centered counseling (CCC) | Cluster randomized controlled trial | MAM management | The recovery rate after the intervention was significantly lower with CCC (57.8%) than with CSB++ (74.5%) and RUSF (74.2%). Mothers' attendance at health facilities was also substantially lower in the CCC arm inferring that recovery from MAM would have been better if caregiver attendance at CCC sessions was ensured. |
| **Micronutrient Supplementation** | | | | | |
| Inayati, et al. [[13](https://www.ncbi.nlm.nih.gov/pubmed/22705425)]  Indonesia | 215 mildly wasted children | Social mobilization  Intensive and non-intensive nutrition education (INE, NNE) | Village randomization | Weight-gain, length of stay, WHZ, height-for-age, hemoglobin level, and morbidity status | Children in the INE+MNP group showed the highest weight gain, significantly higher than the INE group. WHZ scores increased in all groups except NNE. Anemia and frequency of illness decreased in both INE+MNP and INE groups. Weekly INE intervention had a positive impact on nutrition knowledge and practices of caregivers. |
| Aboud, et al. [[14](https://www.ncbi.nlm.nih.gov/pubmed/21502222)]  Bangladesh | 302 children aged 8 to 20 months | Group based approach  Control group nutrition education; intervention groups also received peer education in RFS or RFS + MNP | A cluster-randomized field trial | Development & nutritional outcomes that include weight, height, self-feeding and mouthfuls eaten | Developmental and nutritional outcomes were significantly higher in the intervention groups vs. the control. No major difference in the outcomes of the two intervention groups, however, the MNP group showed greater weight gain. |
| Guyon, et al. [[18](https://www.ncbi.nlm.nih.gov/pubmed/19927603)]  Madagascar | 1,200 at baseline and 1,760 at end | Interpersonal communication, community mobilization, and mass media | Cross-sectional household surveys | Increase uptake of micronutrient supplements and improved IYCF practices | The rate of iron-folic acid supplementation during pregnancy increased from 32% to 76% and the rate of postpartum vitamin A supplementation increased from 17% to 54% (p < 0.001 for all changes). Significant increases also seen in breastfeeding and frequency of child feeding practices. |
| Kumar, et al. [[15](https://www.ncbi.nlm.nih.gov/pubmed/25164452)]  South India | 645 children ages 5-15 years | Three groups in which either MMN-fortified salt or nutrition education was provided. The control group received no intervention. | Randomized control trial | Biochemical measurements for vitamin A and iron status | After 8 months, the micronutrient group showed significant increases in hemoglobin, retinol and ferritin levels and decreases in the prevalence of anemia (46.0% to 32.6%), iron deficiency (66.9% to 51.3%) and iron deficiency anemia (35.2% to 31.0%). The nutrition education group did not see any significant improvements. |
| Rao, et al. [[16](https://www.semanticscholar.org/paper/Potential-of-community-based-approach-for-of-among-Rao/0a0c6ae3e7f19a204d24c5cfe151cca4b55c814c)]  India | 317 non-pregnant of childbearing age (15-35 y) | Group based approach  Two groups received group nutrition education sessions and demos on iron-rich recipes using kitchen gardens. Anemic women comprised the supplemental group receiving IFA tablets |  | Prevalence of anemia | There was a significant improvement in hemoglobin levels of both the supplemented and non-supplemented groups (71.6% and 38.2% respectively). Hb levels were higher among women with greater participation in group meetings, as well as use of recipes in home and consumption of green leafy vegetables. Impact of the education group reduced after the first year. Improvements in the non-supplemented group were due to dietary diversity alone. |
| Haldar, et al. [[17](https://www.ncbi.nlm.nih.gov/pubmed/23293442)]  India | 58 primary school children | Group based approach  IFA supplementation given to both study and control groups; nutrition education was also given to the study group. | Quasi-experimental study | Prevalence of anemia | Overall prevalence of anemia decreased from 66% to 26.5%, with no gaps between the two groups. IFA supplementation may have masked the effect of nutrition education, however, education continued after IFA was stopped and positive effects were still observed. The gains achieved by IFA may have been maintained because of the continued education. |
| Nguyen, et al. [[19](https://www.ncbi.nlm.nih.gov/pubmed/27997234)]  Bangladesh | 2,600 recently delivered women | Interpersonal counseling (IPC) and community mobilization  IPC provided along with nutrition-focused MNCH or standard MNCH program | Cluster-randomized program evaluation | Consumption of diversified foods and IFA and calcium supplements | Significant improvements in maternal dietary diversity observed in the nutrition-focused versus standard MNCH group. Consumption of IFA and calcium supplements also increased significantly in the nutrition-focused group. |
| **Infant and Young Child Feeding Practices (IYCF)** | | | | | |
| Satzinger, et al. [[30](https://www.ncbi.nlm.nih.gov/pubmed/21883064)]  Malawi | 240 participants: mothers, fathers and grandparents of children under two years of age | Focus group, observation and semi-structured interviews  Intergenerational approach to address child nutrition issues through learning, practice and dialogue | Qualitative research based on pre and post project semi-structured interviews | Self-reported changes in IYCF practices | Participants reported changes in child feeding practices that included improved dietary diversity, exclusive breastfeeding and increased frequency of feeding. Respondents attributed the changes to their participation in the group discussions. |
| Negash, et al. [[24](https://www.ncbi.nlm.nih.gov/pubmed/25639132)]  Ethiopia | 200 mother-child pairs | Group based approach  A complementary feeding education program using Alive & Thrive materials and demonstrations on meal preparation | A baseline survey-cross sectional | Knowledge and practice of mothers with young children | At 6 months, knowledge and practice regarding complementary feeding improved in the intervention group but not the control. The intervention group also showed improvements in meal preparation and dietary diversity. Changes in height and weight did not differ between the two groups. |
| Newman, et al. [[26](https://www.ncbi.nlm.nih.gov/pubmed/24399265)]  Guatemala, Pakistan, Zambia and the Democratic Republic of Congo | 1,236 caregivers divided into two groups: Meat and Cereal | Interpersonal communication  Educational messages given to caregivers during home visits to enhance child complementary feeding practices | Cluster randomized controlled trial | Linear growth velocity | As message recall increased, linear growth velocity increased, regardless of the treatment group. The process evaluation revealed few differences between treatment groups overall. Findings suggest that interventions initiated during the period of complementary feeding have limited impact on stunting. Earlier, multi-faceted approaches are needed. |
| Mulualem, et al. [[25](https://www.ncbi.nlm.nih.gov/pubmed/27065308)]  Ethiopia | 160 mother-child pairs | Group based approach & interpersonal communication  Nutrition education with discussions and recipe demonstrations for the intervention group | Quasi-experimental | Knowledge, attitude, and adoption of practices by mothers (KAP); anthropometric measures of children | After 3 and 6 months of nutrition education, mean KAP scores of mothers increased compared to the control site. Significant improvements in children's mean weight, weight for height, and weight for age occurred in the intervention group only. |
| Salud, et al. [[20](https://www.ncbi.nlm.nih.gov/pubmed/19383634)]  Philippines | 312 mothers of infants < 2 months of age | Interpersonal communication  Peer counseling intervention for mothers not exclusively breastfeeding | Cross sectional nature before and after the intervention | Exclusive breastfeeding practices | The number of exclusively formula-fed infants decreased seven-fold and mixed-fed infants decreased by 37% (P < 0.001). Overall, 69.5% of the 148 nonexclusively breastfeeding infants changed feeding methods after 3 home visits, 76% of whom changed to EBF. Community-based peer counseling was associated with a drastic improvement of EBF. |
| Thakur, et al. [[23](https://www.ncbi.nlm.nih.gov/pubmed/22085870)]  Bangladesh | 184 LBW babies and their mothers | Interpersonal communication  Nutrition education | Randomized control | Growth of LBW babies, early initiation and exclusive breastfeeding | After 2 months, the length of the LBW babies increased significantly in the intervention group vs. the control (50.2 ± 1.3 cm vs. 48.7 ± 1.6 cm, P < 0.001). Early initiation of breastfeeding rates was significantly higher in the intervention group (59.8% vs. 37.2%, P < 0.001), as was the rate of EBF (59.8% vs. 37%, P = 0.003). Children in the intervention group also suffered less from respiratory illness (39% vs. 66%, P < 0.001). |
| Tylleskär, et al. [[21](https://www.ncbi.nlm.nih.gov/pubmed/21752462)]  Burkina Faso, Uganda, and South Africa | 2,579 mother-infant pairs | Interpersonal communication  Breastfeeding counseling during home visits by trained peer counselors | Cluster randomized control trial | Prevalence of EBF and diarrhea | The prevalence of EBF was about twice that of the control group based on 24-hr or 7-day recall. At ages 12 weeks and 24 weeks the ratio for diarrhea prevalence versus the control in all three countries was 0.95 (0.78-1.17). |
| Jenkins, et al. [[32](https://www.ncbi.nlm.nih.gov/pubmed/21972843)]  Zimbabwe | 462 adults (> 15 years) | Advocacy  Mass campaign combining traditional education, counseling and outreach with a road show 'edutainment' intervention | Cross sectional | Knowledge of benefits of exclusive breastfeeding | Road show exposure was associated with correct EBF knowledge, more positive EBF social norms, and EBF beliefs and attitudes. Road show exposure was more strongly associated with EBF knowledge among men (P-value for gender exposure group interaction = 0.03). |
| Kimani-Murage, et al. [[33](https://www.ncbi.nlm.nih.gov/pubmed/26708714)]  Kenya | 8,523 mother-child pairs from three different studies | Interpersonal counseling  MIYCN-control vs. intensive program with counseling by trained CHWs | Quasi-experimental, longitudinal and cluster randomized trial | Exclusive breastfeeding | Results for EBF from birth to 6 months were 66.9 (95% CI 45.4-96.4), 84.3 (95% CI 40.7-174.6) and 3.9 (95% CI 1.8-8.4) for the MIYCN-Intervention, MIYCN-Control, and Comparison group, respectively, compared with the Pre-intervention group. There is potential effectiveness in promoting EBF in urban poor settings where health care access is limited. |
| Sinha, et al. [[34](https://www.ncbi.nlm.nih.gov/pubmed/26183031)]  Global | N/A | Social mobilization  Nutrition counseling or education | Systematic review and meta-analysis | Early initiation, exclusive, and continued breastfeeding rates | Intervention delivery in multiple settings produced higher improvements in breastfeeding rates. Greatest improvements were seen when counseling or education were provided concurrently in home and community, health systems and community, health systems and home settings, respectively. Support in hospital was the most effective intervention to improve rates of breastfeeding. |
| Khan, et al. [[35](https://www.ncbi.nlm.nih.gov/pubmed/27659772)]  Bangladesh | 3,188 pregnant women | Interpersonal communication  Counseling sessions on breastfeeding or the usual health messages with or without food and micronutrient supplementation | Randomized controlled trial | Duration of exclusive breastfeeding | The average duration of exclusive breastfeeding was 135 days in the EBF counseled group and 75 days in the usual health message group (p < 0.001). Corresponding figures at six months were 15.3% and 6.4% respectively. Prenatal and micronutrient supplements did not modify the effects of counseling. |
| Singh, et al. [[36](https://www.ncbi.nlm.nih.gov/pubmed/28910328)]  India | 980 mother-child pairs | Interpersonal communication  Standard nutrition and health package alone | Quasi-experimental design | Breastfeeding and complementary feeding practices | Earlier and exclusive breastfeeding improved with increasing number or quality of visits by either level of health care provider. Age-appropriate consumption of complementary foods was positively associated with parental education and contact with health workers. |
| Horii, et al. [[29](https://www.ncbi.nlm.nih.gov/pubmed/27098487)]  Niger | 2,091 women aged 15-49 years with at least one child 0-23 months old | Interpersonal communication, advocacy, social mobilization, and community led social change  Community-based, BCC program with a mass media campaign, home visits by community volunteers, individual counseling during antenatal visits by health workers, and peer education by mothers | Cross-sectional study | Initiation of breastfeeding within the first hour of birth | Mothers in the intervention group were 2.2 times more likely to initiate early breastfeeding compared to those who were not. Home visits by community volunteers did not have a significant effect. Mothers who were actively involved in EBF promotion as peers were more likely to initiate breastfeeding within the first hour of birth. Overall, participants who were involved in more than 4 SBCC activities initiated breastfeeding 2.7 times more than those who did not. |
| Rawat, et al. [[27](https://www.ncbi.nlm.nih.gov/pubmed/28179488)]  Vietnam | 500 children ages 6-23.9 months and 1,000 children ages 24-59.9 months | Interpersonal counseling (IPC) with a national mass media (MM) campaign and community mobilization (CM)  Social franchising within the government health system | A cluster-randomized, non-blinded evaluation | Anthropometric indicators and complementary feeding practices | The intervention group with intensive community mobilization showed greater improvements in complementary feeding practices than the group with non-intensive CM. In the MPAs, greater improvements in the intensive than in the non-intensive group were seen for minimum dietary diversity and minimum acceptable diet. Significant impacts on child growth were not observed. |
| Qureshi, et al. [[22](https://www.ncbi.nlm.nih.gov/pubmed/22187590)]  Nigeria | 179 mother-child pairs | Advocacy and interpersonal communication  Female volunteers educating mothers about breastfeeding during home visits | Randomized community trial | Knowledge and practice of exclusive breastfeeding | Results showed that counseling via home visits increased the duration of EBF for six months. |
| Aaron, et al. [[28](https://www.ncbi.nlm.nih.gov/pubmed/27755554)]  Ghana | 919 caregiver-child pairs | Social marketing and mass communication  Assessed effectiveness of behavior change communication and demand creation activities to promote a complementary food supplement product for infants and young children | Cross-sectional coverage surveys | Coverage of complementary food supplement | Delivery Model 1 with BCC was successful in achieving and sustaining high (86%) coverage during project implementation; coverage fell to 62% within 3 months of the BCC and demand creation activities ending. Delivery Model 2 using a market-based approach was successful in raising awareness of the product (90%), but effective coverage was low (9.4%). |
| Menon, et al. [[37](https://www.ncbi.nlm.nih.gov/pubmed/27581575)]  Bangladesh | 1,000 children 0-5.9 months old | Mass communication  Intensive interpersonal counseling (IPC), mass media (MM), and community mobilization (CM) | Cluster-randomized, non-blinded evaluation | Complementary feeding practices and anthropometric measurements | Results showed greater improvement in CF in the intensive than the non-intensive group. In the intensive group, CF practices were high: 50.4% for minimum acceptable diet, 63.8% for minimum diet diversity, 75.1% for minimum meal frequency, and 78.5% for consumption of iron-rich foods. Timely introduction of foods also improved. Significant, non-differential stunting declines occurred in both the intensive (6.2 pp) and non-intensive (5.2 pp) groups. |
| Younes, et al. [[38](https://www.ncbi.nlm.nih.gov/pubmed/25472635)]  Bangladesh | 162 women’s groups | Group based  Community mobilization through participatory women's groups | Randomized controlled trial, before-and-after study design | Changes in knowledge and practices related to IYCF practices | Results showed significant improvements in mothers’ knowledge of hygiene and disease management. Significant increases were also observed in exclusive breastfeeding for at least 6 months and mean duration of breastfeeding. There were no differences in dietary diversity scores. |
| Nguyen, et al. [[19](https://www.ncbi.nlm.nih.gov/pubmed/27997234)]  Vietnam | 11,722 mothers of infants < 6 months | Social mobilization  Mass media campaign using television spots | Repeated cross-sectional surveys | Exclusive breastfeeding (EBF) | Results demonstrated that exposure to television spots was associated with higher EBF in Alive & Thrive-intensive areas. Mothers who could recall at least 1 message were more likely to report EBF. In A&T-non-intensive areas, only recall of at least 3 messages was associated with higher EBF. |