Supplemental Table 1. Anthropometric measurement procedures

| Assessment | Methods |
|---|---|
| Weight | • Digital baby weighing scale calibrated using Standardization weight (10 kg Stone) every morning<br>• Weighing scale surface disinfected before use by the next baby<br>• Weighing scale placed on flat hard surface and made stable before placing baby on<br>• Ensured all clothing removed by caregiver (socks, diapers)<br>• Baby calmed then placed on the weighing scale (sitting or recumbent), unsupported<br>• Measurement read when the scale stopped counting, to the nearest 0.1 kg |
| Length | • Standard Length Mat placed on a hard flat surface with caregiver as an assistant.<br>• Length Mat surface disinfected before use by the next baby<br>• Ensured all clothing removed by caregiver (socks, diapers)<br>• Caregiver brought the child to the mat and kneeling on the left side and facing the child supported the head and neck to the correct position on mat.<br>• Assessor, kneeling on the right of child, ensured child was in perpendicular position to the base of the length mat, while supporting the knees of child, making sure the shoulders level, hands at child's side, and child's buttocks touching back of length mat<br>• Assessor moved foot piece with right hand until firmly against child's heels<br>• Measurement was read to the nearest 0.1 cm<br>• Procedure was repeated up to 2 times for confirmatory measurement |
| Mid upper arm circumference (MUAC) | • Used the standard measuring tape that cannot be stretched<br>• With baby on caregiver's lap, assessor exposed and positioned left arm of baby to hang loosely at the side<br>• Shoulder tip identified; tape placed at midpoint and made to run along arm<br>• With elbow flexed, tape positioned on same level, tip of elbow marked and midpoint between tip of the shoulder and tip of bent elbow identified and marked<br>• Adjusting for tension and gaps, tape placed around arm at midpoint and secured using assessor's index finger and thumb at the junction where the 0 mark of the tape meets other end of tape<br>• Measurement recorded to the nearest **0.1cm** and repeated up to 2 times for accuracy, then the average recorded |
| Occipital Frontal Head Circumference (OFC) | • Used a standard paper measuring tape that cannot be stretched<br>• Securely wrapped tape around widest possible circumference of the head, broadest part of forehead above eyebrow, above ears and most prominent part of back of head<br>• Measurement taken three times<br>• Largest measurement to the nearest **0.1 cm** recorded |

Supplemental Table 2. Neurodevelopment Assessment Tools

| **Assessment** | **Description** | **Validity** |
|---|---|---|
| Ten Questions Questionnaire (TQQ)[31,32] | Brief, caregiver-report screener for neurologic delay or disability. Normed for ages 2 to 9 years and adapted previously for younger children[10]<br>Delay noted if caregiver concern noted on at least one question | Acceptable sensitivity for serious disability[6,33]<br>Successfully used in African contexts[6,33] |
| Malawi Developmental Assessment Tool (MDAT)[10,34] | Four developmental domains: Gross motor, Fine motor & performance, Language & hearing, Social<br>Developed in Malawi as culturally relevant tool for use in Africa | Excellent reliability and good validity<br>Sensitive to differences between term and preterm infants |
| Hammersmith Inventory for Neurologic Examination (HINE)[35,36] | Rapid, validated, structured neurologic evaluation | High predictive validity for later cerebral palsy in children from birth to 2 years of age (90% sensitivity)<br>Successfully used in several studies in Africa, as well as clinically in Kenya |

Supplemental Table 3. Demographic variables eligible infants from parent study (cRCT) versus enrolled sample for follow-up study

| | Parent Study (cRCT) 28-day Survivors Sample n (%) | Follow-up Study n (%) |
|---|---|---|
| **Neonatal factors** | | |
| Gender | | |
| Male | 1113 (47.0) | 144 (39.8) |
| Female | 1255 (53.0) | 218 (60.2) |
| Gestational Age (weeks) | | |
| ≥ 37* | 989 (36.1) | 114 (31.5) |
| 32 to <37 | 1131 (41.3) | 205 (56.6) |
| 28 to <32 | 183 ( 6.7) | 34 ( 9.4) |
| 22 to <28 | 29 ( 1.1) | 6 ( 1.7) |
| Unknown | 405 (14.8) | 3 ( 0.8) |
| Birthweight (grams) | | |
| 2500 – 2999** | 1005 (42.3) | 129 (35.6) |
| 1500 – 2499 | 1282 (54.0) | 218 (60.2) |
| 1000 – 1499 | 74 ( 3.1) | 10 ( 2.8) |
| 500 – 999 | 14 ( 0.6) | 5 ( 1.4) |
| Apgar – 5 minute | | |
| 0 to 3 | 6 ( 0.2) | 1 ( 0.3) |
| 4 to 6 | 84 ( 3.1) | 11 ( 3.0) |
| >= 7 | 2286 (83.5) | 332 (91.7) |
| Unknown | 361 (13.2) | 18 ( 5.0) |
| **Maternal factors** | | |
| Age (years) | | |
| < 19 | 569 (24.0) | 41 (11.3) |
| 19 to 25 | 1001 (42.3) | 183 (50.6) |
| > 25 | 797 (33.7) | 138 (38.1) |
| Delivery Mode | | |
| Vaginal | 2126 (77.7) | 309 (85.4) |
| Cesarean | 230 ( 8.4) | 48 (13.3) |
| Unknown | 381 (13.9) | 5 (13.8) |

* Infants ≥ 37 weeks' gestation were included only if birthweight was < 2500 grams.
** Infants 2500 – 2999 grams were included only if gestational age was < 37 weeks.
cRCT = cluster randomized control trial

Supplemental Table 4. Child Characteristics **of enrolled sample for follow-up study** by Parent Study (cRCT) Arm

| | Intervention n (%) | Control n (%) | All n (%) |
|---|---|---|---|
| Weight for Age Z-score (WAZ; Underweight; valid n=343) * | | | |
| Normal | 121 (51.9) | 61 (55.5) | 182 (53.1) |
| At risk | 71 (30.5) | 31 (28.2) | 102 (29.7) |
| Moderate | 28 (12.0) | 12 (10.9) | 40 (11.7) |
| Severe | 13 (5.6) | 6 (5.5) | 19 (5.5) |
| Length for Age Z-score (LAZ; Stunting; valid n=351) * | | | |
| Normal | 100 (42.2) | 53 (46.5) | 153 (43.6) |
| At risk | 81 (34.2) | 21 (18.4) | 102 (29.1) |
| Moderate | 34 (14.4) | 27 (23.7) | 61 (17.4) |
| Severe | 22 (9.3) | 13 (11.4) | 35 (10.0) |
| Weight for Length Z-score (WLZ; Wasting; valid n=339)* | | | |
| Normal | 152 (67.3) | 75 (66.4) | 227 (67.0) |
| At risk | 40 (17.7) | 27 (23.9) | 67 (19.8) |
| Moderate | 15 (6.6) | 5 (4.4) | 20 (5.9) |
| Severe | 11 (4.9) | 3 (2.7) | 14 (4.1) |
| Overweight | 7 (3.1) | 3 (2.7) | 10 (3.0) |
| Obese | 1 (0.4) | 0 | 1 (0.3) |
| Composite Malnutrition (Underweight/Stunted/Wasting)** | | | |
| Normal | 163 (66.5) | 74 (63.3) | 237 (65.5) |
| Malnourished | 80 (32.7) | 43 (36.8) | 123 (34.0) |
| Missing | 2 (0.8) | 0 | 2 (0.6) |
| Past Medical Illnesses (birth until study evaluation) | | | |
| Pneumonia | 18 (7.4) | 10 (8.6) | 28 (7.7) |
| Diarrheal Disease | 121 (49.4) | 71 (60.7) | 192 (53.0) |
| Seizures | 24 (9.8) | 10 (8.6) | 34 (9.4) |
| Malaria | 141 (57.6) | 64 (54.7) | 205 (56.6) |
| Serious febrile illness/meningitis | 97 (39.6) | 55 (47.0) | 152 (42.0) |
| Cough for > 2 weeks | 33 (13.5) | 11 (9.4) | 44 (12.2) |
| Malnutrition | 5 (2.0) | 3 (2.6) | 8 (2.2) |
| Skin infections | 60 (24.5) | 32 (27.4) | 92 (25.4) |
| Current Medical Illness (in past 2 weeks) | | | |
| Acute febrile illness | 3 (1.2) | 1 (0.9) | 4 (1.1) |
| Gastroenteritis/dysentery | 33 (13.5) | 14 (12.0) | 47 (13.0) |
| Acute Malnutrition | 4 (1.6) | 0 | 4 (1.1) |
| Respiratory tract infection/pneumonia | 76 (31.0) | 18 (15.4) | 94 (26.0) |
| Others *** | 30 (12.2) | 12 (10.3) | 42 (11.6) |
| Referred for further care | 27 (11.0) | 8 (6.8) | 35 (9.7) |

* Normal (≥-1 for WAZ and LAZ; ≥-1 to ≤ 2 for WLZ), At risk (≥-2 to <-1), Moderate (< -2 to ≥ -3), Severe (< -3). Overweight WLZ >2 to ≤ 3, Obese WLZ > 3
** Composite malnutrition includes infants who were either underweight, stunted or wasted.
*** Other illnesses included acute conjunctivitis (1), abscess (1), thrush (4), scabies (8), dermatitis (3), skin infection (18), anemia (1), convulsions (3), otitis media (1), congenital cataract (1), worm infection (1)
cRTC = cluster randomized control trial
Note: The current study was not designed to assess the impact of the intervention on these variables. These data are presented for information only.

Supplemental Table 5. Neurodevelopmental Outcomes **of enrolled sample for follow-up study** by Parent Study (cRCT) Arm

| | Intervention n (%) | Control n (%) | All n (%) |
|---|---|---|---|
| Delayed by MDAT† | | | |
| Pass/Fail criteria | | | |
| Gross Motor | 11 (4.5) | 4 (3.4) | 15 (4.1) |
| Fine Motor | 2 (0.8) | 2 (1.7) | 4 (1.1) |
| Language | 0 | 3 (2.6) | 3 (0.8) |
| Personal Social | 3 (1.2) | 1 (0.9) | 4 (1.1) |
| Total MDAT* | 14 (5.7) | 9 (7.7) | 23 (6.4) |
| <= -2 SD from Mean | | | |
| Gross Motor | 8 (3.3) | 2 (1.7) | 10 (2.8) |
| Fine Motor | 8 (3.3) | 3 (2.6) | 11 (3.0) |
| Language | 6 (2.5) | 4 (3.4) | 10 (2.8) |
| Personal Social | 13 (5.3) | 5 (4.3) | 18 (5.0) |
| Total MDAT* | 7 (2.9) | 3 (2.6) | 10 (2.8) |
| Delayed by HINE† | 6 (2.5) | 1 (0.9) | 7 (1.9) |
| Neurodevelopmental Delay†† | 20 (8.2) | 11 (9.4) | 31 (8.6) |
| Ten Questions Questionnaire: | | | |
| Total with one or more concerns | 61 (24.9) | 21 (18.0) | 82 (22.7) |

† MDAT=Malawi Developmental Assessment Tool; HINE = Hammersmith Infant Neurologic Examination
†† Neurodevelopmental Delay defined as a fail on one or more of the 3 evaluation criteria, MDAT Pass/Fail, MDAT Z-score ($\leq$ -2 standard deviations from mean) or HINE.
* NOTE: A fail score on the total MDAT can occur with a fail in any one or more subscales, thus this number does not represent the sum of children failing on the domain scores.
cRTC = cluster randomized control trial
Note: The current study was not designed to assess the impact of the intervention on these variables. These data are presented for information only.