

## SUPPLEMENTARY FILE 1

### Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Child cohort	
<ul style="list-style-type: none"><li>- Parent(s) willing to sign consent form</li><li>- Child age 12-18 months</li><li>- LAZ &lt; -2 (for stunted cohort) or</li><li>- LAZ between &lt; -1 to -2 (for 'at risk of stunting' cohort)</li><li>- Parent(s) willing to bring child to the study site for nutritional therapy</li><li>- Parents willing to have child undergo laboratory investigations and upper GI endoscopy and biopsy if the child fails to respond to nutritional therapy</li></ul>	<ul style="list-style-type: none"><li>- Severe acute malnutrition (SAM), severe anemia (&lt;8 g hemoglobin/dL), TB, other chronic diseases or any congenital disorder or deformity</li><li>- Diarrhoea: Ongoing episode of diarrhoea, history of persistent diarrhoea in the past month or history of acute diarrhoea in the past 7 days</li><li>- Known allergy to eggs or milk or milk intolerance</li></ul>
Adult cohort	
<ul style="list-style-type: none"><li>- Willing to sign consent form</li><li>- Age 18-45 years</li><li>- BMI &lt; 18.5</li><li>- Willing to visit the study site every day for 2 months for nutritional therapy</li><li>- Willing to undergo endoscopy and biopsy if he/she fails to respond to nutritional therapy</li></ul>	<ul style="list-style-type: none"><li>- Severe anemia (&lt;8 g/dl), TB and other chronic diseases</li><li>- Pregnant women, lactating women, drug abuse, known psychiatric disorders</li><li>- High clinical suspicion of cancer or other chronic or acute diseases</li><li>- Known allergy to any components of the nutrition intervention.</li></ul>

## SUPPLEMENTARY FILE 2

### Biological samples aliquoting and preservation

Sample	Amount	Aliquots	Copy 1	Copy 2	Copy 3	Copy 4	Copy 5	Copy 6	Preserve
Blood	5 mL	6	Whole blood	1 mL plasma Biomarkers	1 mL plasma Biomarkers	200 µL Plasma KT	1 mL plasma Storage	Whole blood Cell	-80°C
Feces	2 g	2	Microbiota	Microbiota	-	-	-	-	-80°C
Feces	15-20 g	5	Biomarker	Biomarker	TAC	Storage	Storage	-	-80°C
Urine	10 mL	3	1 mL LR	1 mL Storage	1 mL Storage	-	-	-	-80°C

**SUPPLEMENTARY FILE 3**

**Anthropometric data and food collection tools**

<b>Anthropometric scale</b>					
Child cohort	Instrument	Precision	Adult cohort	Instrument	Precision
Weight	Seca digital weighing scale ( <a href="http://meenamedical.com/uploads/Manuals/Scale/seca_727_Brochure.pdf">http://meenamedical.com/uploads/Manuals/Scale/seca_727_Brochure.pdf</a> )	1 gm	Weight	Tanita step-on type weighing scale ( <a href="http://healthmonitor.xyz/B0052BPUCA-health-meter-digital-hd-661-wh-white-step-on-type-switch-to-turn-the-ride-tanita">http://healthmonitor.xyz/B0052BPUCA-health-meter-digital-hd-661-wh-white-step-on-type-switch-to-turn-the-ride-tanita</a> )	100gm
Length	Seca Infantometer ( <a href="http://www.seca.com/en_ae/products/all-products/product-details/seca416.html">http://www.seca.com/en_ae/products/all-products/product-details/seca416.html</a> )	0.1 cm	Height	Seca Stable stadiometer for mobile height measurement ( <a href="http://www.seca.com/en_ae/products/all-products/product-details/seca217.html">http://www.seca.com/en_ae/products/all-products/product-details/seca217.html</a> )	0.1 cm
Triceps skinfold thickness	Harpندن Skin fold callipers ( <a href="http://www.harpندن-skinfold.com/">http://www.harpندن-skinfold.com/</a> )	99%	Triceps skinfold thickness	Harpندن Skin fold callipers ( <a href="http://www.harpندن-skinfold.com/">http://www.harpندن-skinfold.com/</a> )	99%
Head Circumference	Measuring tape				
Mid upper Arm Circumference	MUAC tape				
<b>Measuring scale</b>					
Name		Purpose		Precision	
Sartorius TE4101 digital scale		Measurement of egg <a href="http://scaleman.com/sartorius-talent-digital-te4101-compact-scale.html">http://scaleman.com/sartorius-talent-digital-te4101-compact-scale.html</a>		0.1 g	
KERN EMB 200-2 Precision balance		Sugar measurement <a href="https://www.kern-sohn.com/en/EMB">https://www.kern-sohn.com/en/EMB</a>		0.01g	
PYREX™ VISTA™ Griffin Beakers (250 ml)		For measuring milk during offering <a href="https://www.fishersci.com/shop/products/pyrex-vista-griffin-beakers-250ml/07250056">https://www.fishersci.com/shop/products/pyrex-vista-griffin-beakers-250ml/07250056</a>			

## SUPPLEMENTARY FILE 4

### Quality Controls

Anthropometric data	<ul style="list-style-type: none"><li>• All scales are calibrated daily</li><li>• 3 measurement are taken and the average value is recorded</li><li>• 10% data are collected by the supervisor</li></ul>
Food scales	<ul style="list-style-type: none"><li>• All scales are calibrated daily</li><li>• Same cup is used for measurement</li></ul>
Data entry	<ul style="list-style-type: none"><li>• Double data entry system is used</li><li>• Interrater reliability (kappa) is a measured to examine the agreement</li></ul>
Egg-Milk quality control	<ul style="list-style-type: none"><li>• Assessment of nutrition content- thrice in a year</li><li>• Assessment for salmonella/avian influenza - thrice in a year</li></ul>