Are Malnourished Children Hungry? Use of the International Complementary Feeding Assessment Tool (ICFET) to Describe Diet and Eating Behavior

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Objectives: Undernutrition risk increases when children transition to complementary feeding in lower/middle income countries. Our newly developed ICFET assesses feeding and eating behavior (FEB); we aimed to test its performance in different countries and assess FEB in wasted and healthy infants.

Methods: Healthy and malnourished children aged 6–24 months were sampled from child health and malnutrition clinics in urban slums in Nairobi, Kenya ($n = 157$), peri-urban Lahore, Pakistan ($n = 108$), rural Retalhuleu, Guatemala ($n = 125$) and playgroups in Glasgow, United Kingdom (UK, $n = 97$). Children were measured and parents surveyed using the ICFET, which comprises standardized questions on meal frequency and self-feeding, and 5-point scores for enthusiasm for eating (**Avidity**), food refusal (**Avoidance**) and **Force-feeding**.

Results: Of 487 children, mean (SD) age 14.2 (5.3) months, 77 (16%) were wasted (body mass index < -2SD). Complementary feeding started earliest in the UK, with 91% starting before 6 m, and latest in Pakistan, where 27% started $\geq$ 8 m. In 336 healthy weight children, median (Q1, Q3) Avidity was higher (3.67; 2.8–4.2) than Avoidance (2.0; 1.6–2.6); Kenyan children had highest avoidance (2.4; 1.8–3.0) and Pakistani children lowest avidity (2.2; 2–2.8). Force feeding was rare in the UK (17%) and Guatemala (15%), but common in Pakistan (76%) and Kenya (82%). In LMIC children, wasted infants had lower median Avidity (2.7) than healthy (3.5; $P < 0.001$), but similar Avoidance and Force-feeding. Healthy children were offered 3 (2–3) plated meals and 1 (0–3) energy dense snacks daily. Compared to healthy, wasted children had fewer meals (2; vs 3; $P = 0.006$) and more milk (3 vs 2; $P = 0.016$).

Conclusions: Malnourished children were less hungry and ate fewer meals, but still refused food. The ICFET identified between country variation in complementary feeding behavior. It will be valuable for the identification of poor feeding and eating practices and informing intervention.

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