

IAEA-CN-217--10P

## Slow weight gain is strongly associated with morbidity in children under 6 months, but health staff fail to recognise it

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**Background and aims:** Young infants are weighed regularly and plotted on a Road-to-Health (RTH) or similar charts, but it is not clear whether early morbidity is associated with slow weight gain or whether health staff recognises it. We aimed to: 1) Compare the weight gain of very young Nigerian infants admitted to hospital to their healthy peers. 2) Assess whether health staff recognise slow weight gain.

**Methods:** Weights were collected for 210 infants aged < 6 months admitted to the University of Nigeria Teaching Hospital, Enugu and from the RTH charts of 411 infants attending the well-baby clinic from 0-6 months. Norms for conditional weight gain from birth were calculated using the well-baby clinic data. Paediatric health staff completed survey involving viewing 4 of 12 variant plotted-charts, showing a 2SD-fall, steady growth or catch-up and describing weight gain shown as “slow”, “steady” or “fast”.

**Results:** The 5th percentile for conditional weight gain in the healthy infants was -1.9SD at 6 weeks and -2.1SD at 6 months; this was used as threshold for slow weight gain. The hospitalized infants had mean weight Z-scores of -1.2 and 23% had shown slow weight gain since birth.

Of the 222 health staff surveyed, 55% were nurses and 78% were hospital-based; only 32% recognised slow weight gain when presented on the RTH format and 56% on the WHO (P<0.001).

**Conclusions:** A quarter of hospitalized infants had fallen > 2SD in weight, but these falls tend to be unrecognized, particularly when presented on the RTH format.

**Key words:** health staff, growth patterns, morbidity, infants (0 – 6 months old)