

## **Lean Body Mass in Indian Infants and Young Children and Variation by Sex**

**Bandana Sen<sup>1</sup>, Kaushik Bose<sup>2</sup> and Dilip Mahalanabis<sup>1\*</sup>**

*<sup>1</sup>Society for Applied Studies, CF-198, Salt Lake City, Sector-I, Kolkata 700 064,  
West Bengal, India*

*<sup>2</sup>Department of Anthropology, Vidyasagar University, Midnapore 721 102, West Bengal, India*

**KEYWORDS** Total Body Water. Infants. Bio Electrical Impedance Analysis. Fat Mass

**ABSTRACT** Aim of the study was to explore the lean body mass (LBM%) and fat mass (FM%) percent of weaning age children from among the urban poor in Kolkata, India. We used a cross sectional study design. A convenience sample of apparently healthy infants aged 6 month to 24 month were evaluated for LBM% derived by an anthropometry based and a Bioelectrical Impedance analysis (BIA) based equations, validated earlier on a sample of weaning age infants from this study population. Four hundred children (200 boys and 200 girls) from among the urban poor participated in this study. We measured their length to the nearest 0.1 cm and weight to the nearest 10 gm. Total body resistance was measured by a multifrequency BIA at 50 KHz. The calculated mean LBM% were 85.21 and 81.62 by anthropometry equation and, 82.72 and 82.56 by BIA equation in boys and girls respectively. LBM% values were considerably higher for both boys and girls compared to reference data on infants from USA. Based on weight for length, weight for age, length for age SD-scores stunting (21% boys, 11% girls), underweight (32.5% boys, 25.5% girls) and wasting (17% boys, 13.5% girls) were present using <-2 SD score as cut off for each. The LBM% was consistently higher in these infants aged 6 to 24 month compared to reference data on well infants in the West. Significantly higher proportion of boys had severe wasting than girls in weaning age infants in India.