
Title : Assessment of Nutritional Status in Dual Nutrition and Health Burden Era**Author(s) :** Dr. Prema Ramachandran**Institution :** Director, Nutrition Foundation of India, New Delhi**Email :** f1prema@gmail.com

During the last seven decades India has been undergoing socio economic, demographic, nutrition, lifestyle and health transition. In the last two decades the pace of these inter related transitions has accelerated. Children, adolescents adults and the elderly are all affected by these ongoing transitions.

Sixty five years ago India was not self sufficient in food production. Poverty and low purchasing power led to low dietary intake. Majority of Indians were under nourished and suffered from micronutrient deficiencies and their health consequences. During this period, dietary intake using weighment method and 24 hour dietary call were used to compute the nutrient intake and assess the gap between nutrient requirement and intake. Anthropometric indices mainly weight and height were used to assess nutritional status of th individuals and assess prevalence of undernutrition. In situations where weight measurements were not feasible, mid upper arm circumference was used (especially in children) to screen for wasting.

India became self sufficient in food production in seventies. Over years there have been improvement in percapita income, reduction in poverty ratios, improvement in dietary intake and reduction in undernutrition. In the last two decades there has been a steep decline in physical activity because of increasing mechanisation of the transport, occupational and household domains. The reduced physical activity and unchanged dietary intake has resulted in slow but steady increase in overnutrition rates and progressive rise in non communicable diseases.

Currently India is facing the dual nutrition and health burden. While undernutrition and associated infections and maternal and child health problems persist, overnutrition and non communicable diseases are also seen in all segments of population in all age groups. In the dual nutrition burden era the parameters which were used for assessment of undernutrition ie dietary intake and anthropometric indices continue to be relevant. In addition there is a need to assess physical activity levels. Indians are shorter than their Caucasian counterparts. Taking the variations in height between population groups, body mass index (wt/ht²) has always been used for assessing nutritional status of adults. However in children the standards for assessing BMI for age were not available till 2006-07. Therefore the short Indian child whose weight was appropriate for height and age was misclassified as underweight. With the availability of the BMI for age charts for 0-18 years it has become possible to take into account the current height and age (BMI for age) and correctly identify both under and overnourished children

For any given BMI Indians have more body fat as compared to Caucasians and are more prone for abdominal adiposity. These render Indians more prone for cardiovascular diseases at a lower BMI and at a younger age. It is essential that circumferential measurements (mid upper arm, waist and hip circumference measurements) are taken for early identification of abdominal adiposity. Assessment of body fat is also desirable especially in persons with high BMI. Fat fold thickness measurement do provide good estimate of subcutaneous fat, but accurate measurement of fat fold thickness requires a lot of skill. In recent years bioelectrical impedance analysis has been increasingly used for body fat assessment and its distribution.

Early detection and correction of both under and over nutrition hold the key to future improvement in nutrition and health status of Indian citizens. It is essential that dietary intake, physical activity pattern, assessment of BMI (for correct identification of both under and overnourished persons) and where ever possible body fat and its distribution are measured and used for assessment of nutritional status.