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## Cerebral palsy long term effect on anthropometry, nutritional status and body composition in a sample of affected Egyptian children

Nayera Elmorsi Hassan<sup>1</sup>, Hoda Y Tomouma<sup>2</sup> and Khadija M Alian<sup>1</sup>

<sup>1</sup>National Research Centre, Egypt

<sup>2</sup>Ain Shams University, Egypt

**Introduction:** Studies have shown that feeding difficulties are the main cause of growth failure in children with Cerebral palsy (CP). The increase in weight and body fat stores seen in previous studies on patients with severe feeding difficulties as a result of tube feeding, reflects the great contribution of enteral intake to the growth and nutritional status of CP patients.

**Aim:** This study was undertaken to describe nutritional status and body composition parameters and assess serum levels of leptin and other biochemical markers of the nutritional status in a sample of Egyptian children with cerebral palsy (CP).

**Methods:** Anthropometric measurements (body weight, knee height, head, mid-upper arm, waist and hip circumferences, triceps and subscapular skin-fold thickness) were taken. Using the bioelectrical impedance technique, total body water (TBW), fat-free mass, fat mass, fat percentage and basal metabolic rate (BMR) were calculated. Serum levels of total proteins, albumin, ferritin and leptin were measured. Results were compared to that of healthy controls.

**Results:** Patients had significantly lower anthropometric measurements than controls, except for mid-upper arm and hip circumferences, and subscapular skin-fold thickness which were not different in both groups. Fat mass, fat free mass, fat percentage, TBW and BMR were lower in the patients. Serum protein and leptin levels were not different in patients and controls, though other biochemical markers were reduced in the patients. Patients with more severe motor handicap had lower skin-fold thickness, fat percentage and serum ferritin than those with milder affection.

**Conclusion:** Parameters of growth, body composition analysis and nutritional status are significantly altered in CP patients especially those with severe motor handicap and oromotor dysfunction.

nayera\_elmorsi2002@yahoo.com