



کراچی یونیورسٹی University of Karachi

THE NGDS PILOT PROJECT



Participating School: Beacon Light Academy, 'O' Levels, Karachi

SF-GROWTH-AND-IMAGING LABORATORY

Prof. Dr. Syed Arif Kamal (May 23, 2013)

Guidelines for Optimal-Weight Management

Wasting means the student has **LESSER weight-for-height**. There is a very high prevalence of wasting in school-going and well as university-going students in Karachi (Kamal *et al.*, 2011a). To gain weight, the student's diet should consist of high-protein content (meat, fish, milk, *etc.*) as well as potato items (Mozaffarain *et al.*, 2011). Such students should avoid fiber-rich food. They should perform heavy exercises, consistently, for shorter duration during a typical day.

Obesity means the student has **EXCESS weight-for-height** (Ludwig, 2007). A scientific approach is needed to manage obesity (Miller *et al.*, 2007; Seth *et al.*, 2006). To reduce weight, the student's diet should include salad and yogurt. Obese students should perform light exercises, consistently, for longer duration during a typical day (Christodoulos, 2006). A relaxed (unhurried), complete breakfast, followed by proper lunch and proper dinner (accompanied by 10-12 glasses of water during 24 hours), at their appropriate timings, are keys to good nutrition. Avoid junk food and snacks, except mid-morning one. The students and their parents must realize the importance of a nutritious breakfast. There should be a column in diary of students, where parents can enter breakfast items taken in the morning. Those students, who arrive in school without proper breakfast, may be asked to first have their breakfast and then join classes. The parents should be aware of the fact that diet-based intervention shall work, provided the student is **NOT** suffering from *vitamin-D deficiency* (Kamal, 2013a). Another way of managing obesity is taking measures so that height of the student is increased (Kamal, 2013b). Growth-and-obesity monitoring (Kamal *et al.*, 2011b) of primary-school children has been, regularly, conducted in schools run by the Armed Forces of Pakistan since 2008. In 2011, Beacon Light Academy joined this project (Kamal, 2011).

Kamal, S. A. (2011, May 23). Growth-and-obesity monitoring of primary-school children. *The NGDS Pilot Pro-*

ject e-Publication, full text:

http://ngds-ku.org/BLA/Growth_Monitoring_BLA.pdf
Kamal, S. A. (2013a, May 23). Helpful hints for overcoming vitamin-D deficiency. *The NGDS Pilot Project e-Publication*; full text:

<http://www.ngds-ku.org/BLA/VDD.pdf>

Kamal, S. A. (2013b) May 23). Suggestions for increasing height. *The NGDS Pilot Project e-Publication*; full text: <http://www.ngds-ku.org/BLA/Height.pdf>

Kamal, S. A., A. Naseem, S. Burki, S. S. Jamil, S. Shahid, S. W. Ali, K. K. Hashmi, A. Fatima, S. S. Hidayat, S. Dilshad, S. Batool and M. A. Khan (2011a). Prevalence of obesity among BS-final-year students. *International Conference on Physics and the World of Today in the Memory of Prof. Dr. Sheikh Ansar Husain*, Department of Physics, University of Karachi, pp. 63-64; abstract:

<http://www.ngds-ku.org/Presentations/Physics3-4.pdf>

Kamal, S. A., N. Jamil and S. A. Khan (2011b). A method to generate growth-and-obesity profiles of children of Karachi using box-interpolation method. *International Journal of Biology and Biotechnology*, **8**: 87-96, full text: <http://www.ngds-ku.org/Papers/J29.pdf>

Christodoulos, A. D. (2006). Obesity and physical fitness of pre-adolescent children during the academic year and the summer period: effects of organized physical activity. *Journal of Child Health Care*, **10**: 199-212

Ludwig, D. S. (2007). Childhood obesity — the shape of things to come. *New England Journal of Medicine*, **357**: 2325-2327

Miller, J. L. and J. H. Silverstein (2007). Management approaches for pediatric obesity. *Nature Clinical Practice in Endocrinology and Metabolism*, **3**: 810-818

Mozaffarain, D., T. Hao, E. B. Rimm, W. C. Willett and F. B. Hu (2011). Changes in diet and lifestyle and long-term weight gain in women and men. *New England Journal of Medicine*, **364**: 2392-2404

Seth, M. and N. Shah (2006). *The Scientific Way to Managing Obesity*. Sterling: New Delhi, 64-67

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Fig. 1. From left to right, (a) measurement of weight; common errors in measurement process (b) hair-band not removed; (c) feet not positioned correctly and (d) student holding on to beam scale

(a http://www.ngds-ku.org/Papers/J30/Fig_1.htm; b- d http://www.ngds-ku.org/BLA/Weight/Fig_1.htm)

Web address of this document: <http://www.ngds-ku.org/BLA/Weight.pdf>

URL: <http://ngds.uok.edu.pk>

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