

The Bariatric Pyramid: A framework for therapeutic targets

Sanjay Kalra^{1,2}, Nitin Kapoor^{3,4}, Manash P Baruah⁵, Saurabh Arora⁶, Ashok Kumar Das⁷

Abstract

The Bariatric Pyramid is a model which serves to explain the goals of obesity management, act as a milestone for monitoring of therapy, and to benchmark the utility of various anti-obesity medications and interventions. Built upon a base of sustainability, it lists three more desired aspects of care: sufficiency (sufficient strength) safety and security. Each of the four aspects of the pyramid: sustainability, sufficiency safety and security have three angles, which allows the reader to understand them easily. The model that we propose is useful in training health care professionals, in therapeutic patient education, for assessing various anti-obesity therapies, and in reaching the right decision while managing obesity.

Keywords: Anti-obesity medication, clinical decision aid, obesity, overweight, therapeutic patient education, person centered care.

DOI: <https://doi.org/10.47391/JPMA.23-51>

Introduction

The increasing number of options for management of obesity have increased the responsibility of health care providers who treat the condition.¹ Each therapeutic modality, whether non-pharmacological or invasive, has its own strengths and limitations, caveats and contraindications. At the same time, each individual who seeks care for obesity has specific concerns and challenges which are unique to her or him. These have to be kept in mind while planning person-centred therapeutic strategies.² In this regard, obesity management is similar to that of other chronic diseases, including diabetes. Diabetes care professionals have evolved various models and rubrics, which help inform targets, strategies and tools for treatment.³ Similar developments in the field of obesity

¹Department of Endocrinology, Bharti Hospital, Karnal, India, ²University Center for Research & Development, Chandigarh University, Mohali, India, ³Department of Endocrinology, Diabetes and Metabolism Christian Medical College & Hospital, Vellore, Tamil Nadu, India; ⁴Non communicable disease unit, Baker Heart and Diabetes Institute, Melbourne, Victoria, Australia; ⁵Director and Consultant Endocrinologist, Apollo Excelcare Hospitals, Guwahati, Assam, India; ⁶Department of Endocrinology, Dayanand Medical College and Hospital, Ludhiana, India; ⁷Department of Endocrinology, Pondicherry Institute of Medical Sciences, Pondicherry, India.

Correspondence: Sanjay Kalra. e-mail: brideknl@gmail.com
ORCID ID: 0000-0003-1308-121X

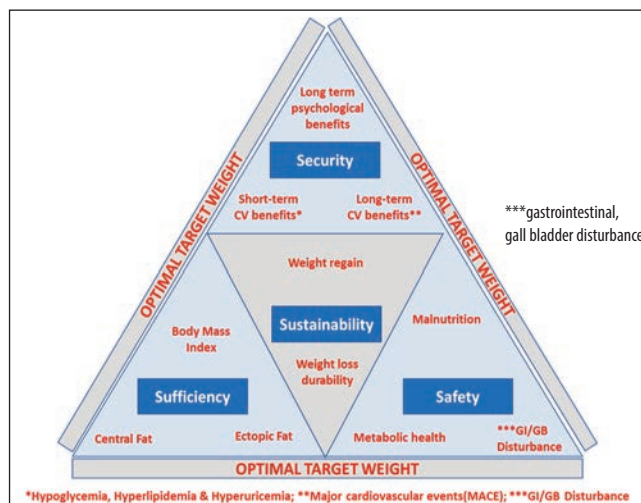


Figure: The Bariatric Pyramid

have focussed on the pathophysiology (the Ominous Octet)⁴ and the choice of therapy of obesity. We posit a Bariatric Pyramid, similar to the glycaemic pyramid described earlier, which places diabetes care in perspective (Figure).

The Bariatric Pyramid

The pyramid is perhaps the most stable architectural shape developed and widely used in medical parlance.⁵ This is reflected in the base of the bariatric pyramid, which stands for sustainability. The aim of weight management is to achieve sustained weight loss, without weight cycling (yo yo phenomenon) or weight rebound.⁶ The three surfaces of the bariatric pyramid stand for sufficiency, safety and security in the process of achieving optimal weight.

Sufficiency can be measured by body mass index reduction, and also by reduction in central fat/visceral fat/body fat percentage, as well as ectopic fat deposition. Safety implies that bariatric therapy should not cause malnutrition, metabolic diseases (hypoglycaemia, keto-acidosis, hyperuricaemia, dyslipidaemia), or gastrointestinal / gall bladder disturbances. The third aspect of the pyramid, security, reminds us that weight loss therapies should ensure not only short-term cardiovascular (e.g. avoidance of cardiac arrhythmias) and long term cardiovascular (avoidance of major adverse cardiovascular outcomes) security, but also psychological security, including avoidance of weight-related dysthymia, eating disorders, and other psychiatric diseases.⁷

Pragmatic Usage Practical Utility

The bariatric pyramid offers a useful tool for training and education of obesity care professionals, and also for counselling of people living with obesity. It acts as an aid to clinical decision making by offering a reality check regarding targets of obesity care, and the relative strengths of various options available for intervention. The pyramid's base underscores the long term (and infinite) nature of weight management. The three surfaces-sufficiency, safety and security-reinforce the need to choose therapeutic tools, and follow sensible strategies, which are effective, safe and well-tolerated, not only in the short term, but the long term as well.

The bariatric pyramid kickstarts an interactive discussion between various stakeholders in obesity care (the person living with obesity, the physician, paramedical care providers, partners and peers (caregivers), and payers) which allows for informed and shared decision making. This ensures better understanding of obesity and its management and its management and promotes adherence.

The Way Forward

As we work to tackle the obesity pandemic, and navigate the increasing number of options for treatment, the bariatric pyramid offers much needed support. In a sustainable manner, it provides sufficient strength safety and security, by helping us plan optimal strategies, choose the right techniques, and target appropriate goals for management. All anti-obesity medications and procedures should be judged by the standards of the bariatric pyramid.

References

1. Markovic TP, Proietto J, Dixon JB, Rigas G, Deed G, Hamdorf JM, et al. The Australian Obesity Management Algorithm: A simple tool to guide the management of obesity in primary care. *Obes Res Clin Pract.* 2022;16:353-63.
2. Kalra S, Kapoor N, Kota S, Das S. Person-centred Obesity Care - Techniques, Thresholds, Tools and Targets. *Eur Endocrinol.* 2020;16:11-3.
3. Hosseinzadeh S, Khatirnamani Z, Bakhshi E, Heidari A, Naghipour A. Assessing related factors to fasting blood sugar and glycosylated hemoglobin in patients with type 2 diabetes simultaneously by a multivariate longitudinal marginal model. *Sci Rep.* 2022;12:14819.
4. Kalra S, Arora S, Kapoor N. The Ominous Octet of Obesity: A framework for obesity pathophysiology. *J Pak Med Assoc.* 2021;71:2475-6.
5. Sundt TM. The Pyramid of Risk. *Ann Thorac Surg.* 2022.
6. Hafda S, Apovian C. Physiology of the Weight-Reduced State and Its Impact on Weight Regain. *Endocrinol Metab Clin North Am.* 2022;51:795-815.
7. Forman-Hoffman V, Little A, Wahls T. Barriers to obesity management: a pilot study of primary care clinicians. *BMC Fam Pract.* 2006;7:35.