

Enhanced Edmonton Obesity Staging System

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Abstract

The Edmonton Obesity Staging System (EOSS) is a person centred clinical tool that classifies obesity severity, using medical and psychological parameters. We suggest two more aspects - recent history of weight gain/loss, and social health -which can easily be added to the EOSS, to create an enhanced EOSS (eEOSS). These suggestions -Swiftness of weight gain, Sufficiency of weight loss attempts, and Social stigma/ ostracization - once incorporated, will allow a comprehensive overview of obesity and its burden, help in therapeutic triage, assist in choice of treatment interventions, and allow optimization of outcomes.

Keywords: Barocrinology, biopsychosocial health, obesity, overweight, person centred care, psychosocial health

DOI: <https://doi.org/10.47391/JPMA.26-91>

Introduction

The Edmonton Obesity Staging System (EOSS) is a widely accepted, validated clinical tool that classifies obesity severity from a person-centric vantage. Using medical and psychological parameters, it helps in clinical staging, risk stratification, therapeutic planning, prognosis determination, and health care resource allocation.¹

EOSS assesses obesity based upon the severity of medical, mental and functional comorbidity from a cross-sectional viewpoint. Each of these domains can be scored from 0 to 4, thus allowing a final staging score of similar nature. We suggest two more facets of living with obesity which may add value to the staging system. These facets-temporal profile of weight gain, and social stigma-are extremely important from a person's point of view.

Weight Change in Recent Past

Change in weight affects health, as well as perception of health.² We therefore suggest that an individual with steady or unchanged weight over the past 1-2 years scores

zero. A person with slow increase in weight, body mass index or waist circumference of 0-5%, 5-10%, and >10% over the past 1-2 years can be scored 1, 2 and 3 respectively. Cases of swift and sustained rise in weight, of >15% over the past 1-2 years, may score the maximum, i.e., '4'.

Another part of the trajectory of life with obesity is the response to weight loss therapy. Persons who have never attempted weight loss may score zero, and those who have achieved, and maintained, significant weight loss of >5% can be scored 1. Those who managed to lose weight but regained it, may deserve a score of 2. Those who have regained more than their baseline weight can be scored as 3, while those who have gained weight in spite of efforts at weight loss deserve a score of 4.

This also highlights the need to view obesity progression, from a longitudinal, rather than cross-sectional perspective. EOSS does not take past history of obesity, weight management efforts, and response to weight reduction attempts into account. These should be factored in future iterations of the scale.

Social Health

EOSS specifically mentions mental and psychological morbidity of obesity. A similar, but distinct form of obesity-related morbidity is social stigma and ostracization.³ This has a major bearing upon a person's response to the challenges and demands of coping with obesity.

Social stigma or ostracization itself is a non-homogenous construct, which can manifest in various ways. Some persons living with obesity may feel comfortable in their family and community (stage 0). Others may experience stigma rarely, in isolated social settings (score 1), in less than half of their social encounters (score 2), in half or more of social interactions (score 3), or in almost all their relationships (score 4).

There may be underreporting of this challenge: a person living with obesity who experiences bias or stigma may gradually withdraw from potentially uncomfortable events, and not realize the gravity of their social isolation. Social ostracization, is also a fluid situation, which can vary from time to time, place to place, and person to person. This, too, should be assessed over a period of time, rather than in the present. In fact, the Edmonton Obesity Staging System for

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Table: Features proposed for enhanced edmonton obesity staging.

Stage	Change in weight over recent past	Attempt at weight loss	Social stigma/ostracization
0	Steady or unchanged	Never attempted	None
1	Slow increase in weight, body mass index or waist circumference of 0-5% over the past 1-2 years	achieved, and maintained, significant weight loss of >5%	Rarely, in isolated social settings
2	Slow increase in weight, body mass index or waist circumference of 5-10%, over the past 1-2 years	Managed to lose >5% weight but regained it	In less than half of their social encounters
3	Slow increase in weight, body mass index or waist circumference of >10% over the past 1-2	Regained more than their baseline weight, after >5% weight loss	In half or more of social interactions
4	Swift and sustained rise in weight, of >15% over the past 1-2 years	Gained weight in spite of efforts at weight loss	In almost all relationships

Pediatrics specifies the social milieu of the child living with obesity as a determinant of staging.⁴ Leading organizations have also called for addressal of social stigma against obesity.^{5,6}

Summary

The aspects discussed above can easily be added to the EOSS, to create an enhanced EOSS (eEOSS) (Table). We hope that these suggestions (Swiftness of weight gain, Sufficiency of weight loss attempts, and Social stigma/ostracization) are incorporated into staging systems for obesity. This will convey a comprehensive overview of obesity and its burden, help in therapeutic triage, assist in choice of treatment interventions, and allow optimization of outcomes.

References

1. Sharma AM, Kushner RF. A proposed clinical staging system for obesity. *Int J Obes (Lond)*. 2009;33:289-95. doi: 10.1038/ijo.2009.2. Epub 2009 Feb 3. PMID: 19188927.
2. Hussain SM, Newman AB, Beilin LJ, Tonkin AM, Woods RL, Neumann JT, et al. Associations of change in body size with all-cause and cause-specific mortality among healthy older adults. *JAMA Netw Open*. 2023 Apr 3;6(4):e237482. doi: 10.1001/jamanetworkopen.2023.7482. PMID: 37036703; PMCID: PMC10087052.
3. Westbury S, Oyebode O, Van Rens T, Barber TM. Obesity stigma: causes, consequences, and potential solutions. *Curr Obes Rep*. 2023;12:10-23. doi: 10.1007/s13679-023-00495-3. Epub 2023 Feb 14. PMID: 36781624; PMCID: PMC9985585.
4. Hadjiyannakis S, Buchholz A, Chanoine JP, Jetha MM, Gaboury L, Hamilton J, et al. The Edmonton Obesity Staging System for Pediatrics: a proposed clinical staging system for paediatric obesity. *Paediatr Child Health*. 2016;21:21-6. doi: 10.1093/pch/21.1.21. PMID: 26941556; PMCID: PMC4758422.
5. Nutter S, Eggerichs LA, Nagpal TS, Ramos Salas X, Chin Chea C, Saiful S, et al. Changing the global obesity narrative to recognize and reduce weight stigma: a position statement from the World Obesity Federation. *Obes Rev*. 2024;25:e13642. doi: 10.1111/obr.13642. Epub 2023 Oct 17. PMID: 37846179; PMCID: PMC13019846.
6. Kalra S, Kapoor N, Verma M, Shaikh S, Das S, Jacob J et al. Defining and diagnosing obesity in India: A call for advocacy and action. *J Obes*. 2023 :4178121. doi: 10.1155/2023/4178121. Erratum in: *J Obes*. 2025 :9806198. doi: 10.1155/job/9806198. PMID: 38026823; PMCID: PMC10645500.