Clinical obesity and Himan-sho (obesity disease): Lessons from Japan's 25 years of experience toward a new era of obesity care

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COMMENTARY

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INTRODUCTION

Obesity has become one of the most pressing global health challenges of the 21st century, contributing to a broad spectrum of noncommunicable diseases, including type 2 diabetes, cardiovascular disorders, steatotic liver disease, certain cancers, and musculoskeletal complications. Its prevalence continues to rise worldwide, imposing substantial burdens on health systems and societies. At the same time, remarkable advances have been made in recent years, with the development of highly effective pharmacotherapies acting on receptors related to glucagon-like peptide-1 (GLP-1) and with the refinement of bariatric and metabolic surgery. These breakthroughs have transformed the therapeutic landscape and highlighted the importance of precise disease definitions to identify patients most likely to benefit from intervention.

A NEW FRAMEWORK: THE CONCEPT OF "CLINICAL OBESITY"

In light of these developments and broader challenges, an international commission convened by *The Lancet Diabetes & Endocrinology* recently proposed the concept of "clinical obesity" as a means of refining how obesity should be defined and addressed[1]. They argued that defining obesity solely by body mass index (BMI) is inadequate, as BMI fails to capture the heterogeneous health risks associated with excess adiposity. Instead, the report emphasized the need to consider both fat distribution and the functional consequences of adiposity.

Within this framework, excess adiposity is divided into two categories: *preclinical obesity*, where there is excess adiposity without demonstrable impairment, and *clinical obesity*, where adiposity has already produced organ or tissue dysfunction and/or limitations in age-adjusted daily living activities. By introducing these categories, the authors sought to clearly distinguish between individuals at risk and those already experiencing disease due to obesity (Figure 1).

The commission also stressed that this new framework should lay the foundation for a future international consensus. Implementation, they suggested, will require global harmonization of definitions and approaches, while also allowing regional adaptation to account for country-specific epidemiology, health systems, and resources. Thus, the proposal represents an aspirational step intended to guide future clinical practice and policy. At this stage, however, it remains primarily a conceptual framework, and its translation into tangible outcomes will depend on subsequent international and regional efforts.

THE JAPANESE CONCEPT OF "OBESITY DISEASE (*HIMAN-SHO*)"

In contrast, Japan has already demonstrated how such a conceptual framework can be transformed into practice. Nearly 25 years ago, the Japan Society for the Study of Obesity (JASSO) introduced the construct of "obesity disease" (*Himan-sho* in Japanese, where *Himan* means obesity and *sho* indicates disease/disorder), which closely parallels the concept of clinical obesity proposed by the commission[2]. This diagnosis was designed to differentiate individuals requiring medical intervention from those with excess body weight but without immediate health consequences. The diagnosis requires BMI ≥25 kg/m^2—reflecting the elevated metabolic risk of East Asian populations at relatively lower BMI thresholds—together with either[3]:

1. One or more of 11 defined obesity-related health disorders (glucose intolerance [including type 2 diabetes and impaired glucose tolerance], dyslipidemia, hypertension, hyperuricemia or gout, coronary artery disease, cerebral infarction or transient ischemic attack, nonalcoholic fatty liver disease [recently proposed to be redefined as metabolic dysfunction-associated steatotic liver disease, MASLD], menstrual abnormalities or female infertility, obstructive sleep apnea syndrome or obesity hypoventilation syndrome, musculoskeletal disorders [including osteoarthritis of the knee, hip, or finger joints as well as spondylosis deformans], obesity-related kidney disease).
2. Visceral fat obesity, defined by a visceral fat area ≥100 cm^2, is characterized by the absence of overt complications.

This definition emphasizes the central role of visceral fat and accommodates ethnic differences in susceptibility to obesity-related disease. The pathological significance of visceral fat was identified in Japan, and this concept is now widely recognized as globally relevant[4]. By requiring evidence of functional impairment or high-risk adiposity, it provides a pragmatic approach to prioritizing individuals for medical intervention.

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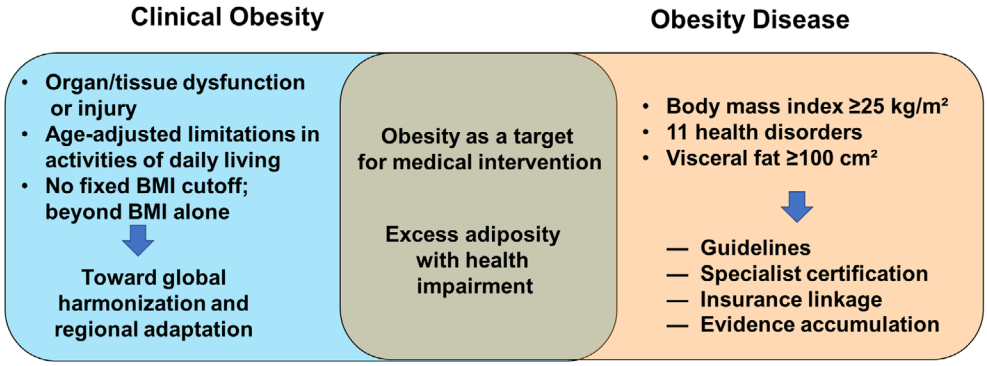

Figure 1 | *Clinical obesity*, as proposed by Rubino and colleagues, represents a framework that seeks to move beyond BMI-based definitions and to guide future international consensus. The authors state that its implementation will require global harmonization of definitions and approaches, while allowing regional adaptation according to country-specific health systems, resources, and epidemiological contexts. The concept of *Himan-sho* (obesity disease) in Japan has already yielded tangible outcomes over the past 25 years, including the establishment of national guidelines, a certified specialist system, public insurance reimbursement, and a nationwide data infrastructure for evidence accumulation.

Japan's pioneering role was further underscored by an international statement on obesity disease at the 2015 Asia-Oceania Conference on Obesity (the Nagoya Statement). This statement promoted the dissemination of the concept of "obesity disease" and stressed the distinction between obesity with complications, requiring treatment, and obesity without complications, requiring prevention[5]. Japan's early initiatives have contributed to shaping regional perspectives in East Asia, and these efforts have been reinforced through mutual academic exchanges. For example, South Korea and Taiwan have developed their own diagnostic criteria and management guidelines that incorporate lower BMI thresholds and emphasize metabolic risk[6, 7]. These guidelines take into account obesity-related comorbidities and the importance of metabolic complications in clinical decision-making. This regional evolution reflects both shared and population-specific features of obesity in East Asia.

GUIDELINES, SPECIALIST TRAINING, AND INSURANCE COVERAGE

Since 2000, JASSO has regularly updated its Guidelines for the Management of Obesity Disease, most recently in 2022. These guidelines present clear diagnostic criteria, therapeutic targets, and weight reduction goals, stratified by disease severity[3]. Japan has also established a specialist certification system for obesity medicine (*Himan-sho senmon-i* in Japanese, where *senmon-i* means certified specialist), introduced in 2013 and steadily expanding. This system ensures that physicians managing obesity possess standardized expertise. Importantly, this framework is directly linked with public health insurance: Reimbursement for anti-obesity pharmacotherapy and bariatric/metabolic surgery is available for individuals diagnosed with obesity disease. This integrated framework has likely underpinned Japan's unique position as one of the very few countries worldwide where anti-obesity pharmacotherapies are reimbursed under public health insurance. In addition to global development programs, a joint Japan–South Korea trial for semaglutide (STEP6)[8] and a stand-alone trial in Japan for tirzepatide (SURMOUNT-J)[9] were designed specifically in accordance with the concept of obesity disease and the guidelines of JASSO. The results of these trials played a decisive role in supporting regulatory approval. Thus, Wegovy (semaglutide) and Zepbound (tirzepatide) were granted reimbursement under Japan's public health insurance, subject to specified conditions. Moreover, their package inserts explicitly list the 11 obesity-related health disorders defined by JASSO. Such alignment between diagnostic criteria, physician training, and insurance coverage for obesity medicine is uncommon internationally and represents a comprehensive model of disease management.

JASSO has also developed a nationwide data infrastructure for obesity disease, known as J-ORBIT (Japan Obesity Research Based on electronIc healTh records)[10]. J-ORBIT, which directly extracts clinical data from electronic medical records, enables the collection of diverse real-world evidence. This includes validation of the clinical relevance of the 11 obesity-related health disorders and supports the ongoing refinement of diagnostic criteria. Amid profound changes in obesity care, such a system provides a valuable foundation for future research and clinical practice.

CONVERGENCE AND DIVERGENCE BETWEEN "CLINICAL OBESITY" AND "OBESITY DISEASE"

Both the international construct of clinical obesity and the Japanese framework of obesity disease recognize that obesity becomes a disease when excess adiposity results in tangible health impairment, rather than at an arbitrary BMI threshold (Figure 1)[1,3]. Both advocate moving beyond BMI to incorporate body fat distribution and organ function into clinical decision-making.

Key differences remain. The concept of clinical obesity highlights functional impairment and limitations in daily

living as central diagnostic elements. In contrast, JASSO defines specific obesity-related health disorders and visceral fat obesity as diagnostic criteria. This reflects Japan's epidemiological reality: East Asian populations develop metabolic and cardiovascular complications at comparatively lower BMI, often driven by visceral adiposity.

IMPLICATIONS FOR GLOBAL OBESITY CARE

Japan's long-standing experience offers several lessons of global relevance. First, the early adoption and institutionalization of the concept of obesity disease demonstrate that such a framework can be effectively integrated into national guidelines, specialist training, and insurance systems for more than two decades. Second, Japan's approach highlights the importance of population-specific adaptation, as diagnostic thresholds must reflect ethnic and regional variations in fat distribution and disease risk. Third, policy integration is also critical, since linking diagnostic criteria to insurance reimbursement ensures equitable access to evidence-based therapies. Finally, Japan's establishment of a nationwide registry such as J-ORBIT illustrates how academic society-led data infrastructures can generate real-world evidence, thereby bridging clinical practice, research, and policy.

CONCLUSION

The challenge of obesity requires not only effective therapies but also robust, clinically meaningful definitions. Japan's pioneering adoption of *obesity disease* illustrates how such a framework can shape guidelines, inform training, guide insurance coverage, and support research. As the global community refines the concept of *clinical obesity*, acknowledging and learning from Japan's over a quarter-century of experience will enrich the international consensus and accelerate the development of effective, equitable approaches to obesity care.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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