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EDITORIAL

Obesity as a disease: The Malaysian perspective

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ABSTRACT

Obesity is increasingly recognised as a chronic, relapsing, and progressive disease driven by complex interactions between biological, environmental, and societal determinants. Malaysia faces one of the highest obesity burdens in Southeast Asia, with more than two-thirds of adults classified as overweight or obese when local diagnostic thresholds are applied. This editorial examines obesity through a disease-based lens, highlighting Malaysian epidemiological trends, underlying physiological mechanisms, and the rapidly evolving therapeutic landscape. It further discusses policy and health-economic implications, underscoring the urgent need for a comprehensive, system-wide response that integrates prevention, evidence-based treatment, and stigma-free care. Recognising obesity as a disease is fundamental to reversing current trajectories, preventing long-term complications and collapse of the healthcare economy, as well as to ensure sustainable health outcomes for Malaysians.

1. INTRODUCTION

Obesity has undergone a fundamental paradigm shift, evolving from a condition traditionally attributed to individual lifestyle choices to a recognised chronic disease governed by complex biological regulation and associated with adverse long-term clinical outcomes. Leading international authorities, including the World Obesity Federation (WOF) and the World Health Organization (WHO), now define obesity as a chronic relapsing progressive disease process that impairs health; a complex, biologically-driven condition, influenced by environment, genetics, and behaviour, requiring lifelong management [1-3]. Despite this, its recognition as a disease remains uneven, hindered by persistent misconceptions, societal stigma, and implicit bias within healthcare systems. Recognising and addressing obesity as a chronic disease is fundamental to achieving national non-communicable disease (NCD) targets and ensuring long-term health system sustainability.

This shift in understanding is particularly salient in Malaysia, where obesity prevalence has risen steadily over the past decade positioning the country among those with the highest rates in Southeast Asia

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[4]. Data from the National Health and Morbidity Survey (NHMS) demonstrate a persistent upward trend, with more than half of Malaysian adults currently classified as overweight or obese. Notably, these estimates are based on the WHO body mass index (BMI) thresholds of 25 kg/m² for overweight and 30 kg/m² for obesity [5]. When lower Asia Pacific BMI cut-offs recommended in the Malaysian Clinical Practice Guidelines (CPG) 2023 [6] are applied, the true scale of the epidemic becomes unmistakable, with the prevalence of overweight (BMI 23–27.5 kg/m²) and obesity (BMI >27.5 kg/m²) rising to 33.8% and 36.3%, respectively [5].

Of equal concern is the escalating prevalence of overweight and obesity among children and adolescents, signalling early onset of metabolic risk and foreshadowing a substantial future disease burden [7]. This intergenerational propagation of obesity risk poses a serious threat to the sustainability of healthcare systems and underscores the urgency of adopting a comprehensive, disease-oriented approach to obesity prevention and management.

1.2 Pathogenesis and Pathophysiology of Obesity

Obesity has historically been oversimplified as a consequence of excess caloric intake and inadequate physical activity, often blamed on growing urbanisation and sedentary populations. This rationalisation fails to account for the biological complexity surrounding weight regulation. Contemporary evidence demonstrates that obesity is characterised by dysregulation of energy homeostasis involving central appetite pathways, peripheral hormonal signalling, adipose tissue inflammation, and strong genetic susceptibility. Hunger is regulated by a complex, adaptive neurobiological system that integrates peripheral metabolic signals with central neural circuits [8]. Homeostatic hunger arises from energy and nutrient depletion and is mediated by hypothalamic pathways responsive to hormones such as ghrelin, leptin, insulin, and gut-derived peptides including GLP-1, PYY, and CCK. In parallel, hedonic pathways within mesolimbic reward circuits modulate food intake independent of energy needs, driven by palatability, emotions, and learned behaviours. The gut microbiota further influences appetite through metabolic by-products and hormonal modulation. Continuous bidirectional gut–brain signalling ensures energy balance but also contributes to dysregulation in obesity.

Obesity must be recognised as a central driver of the nation's escalating burden of diabetes, cardiovascular disease, chronic kidney disease, and premature mortality. Understanding the complex pathophysiological context would promote empathy and objectivity, to perceive obesity beyond simple anthropometry. Although BMI remains a useful population metric, reliance on BMI alone is inherently limited because it neither directly assesses adiposity nor reflects the complex distribution and metabolic activity of body fat. We reiterate our previous editorial scholarship that current diagnostic criteria such as BMI, waist-hip ratio and percentage body fat bear intrinsic weaknesses, and more precise measures that integrate physiological markers of adipocyte dysfunction and inflammation are needed to more accurately link fat mass with disease risk and mortality [9]. Thus, recognising obesity as a chronic disease, with multifaceted disease processes and complications, is absolutely essential for robust evidence-based management, and fundamental to achieving national NCD targets.

The Lancet Diabetes & Endocrinology Commission has coined the term Clinical Obesity as a chronic, systemic illness characterised by alterations in the function of tissues, organs, the entire individual, or a combination thereof, due to excess adiposity. This accurately underscores the impact of obesity leading to severe end-organ damage, causing life-altering and potentially life-threatening complications [3]. Obesity is a major independent risk factor for type 2 diabetes mellitus, hypertension, dyslipidaemia, atherosclerotic cardiovascular disease, obstructive sleep apnoea, non-alcoholic fatty liver disease, and certain malignancies. Thus, obesity should be recognised as an illness, which is characterised by dysregulation of energy homeostasis involving central appetite pathways, peripheral hormonal signals, adipose tissue inflammation, with the background of genetic susceptibility. Neurohormonal adaptations following weight loss, including reductions in satiety hormones and increases in hunger signals, explain the chronic relapsing nature of obesity and the high rates of weight regain following lifestyle intervention alone [10].

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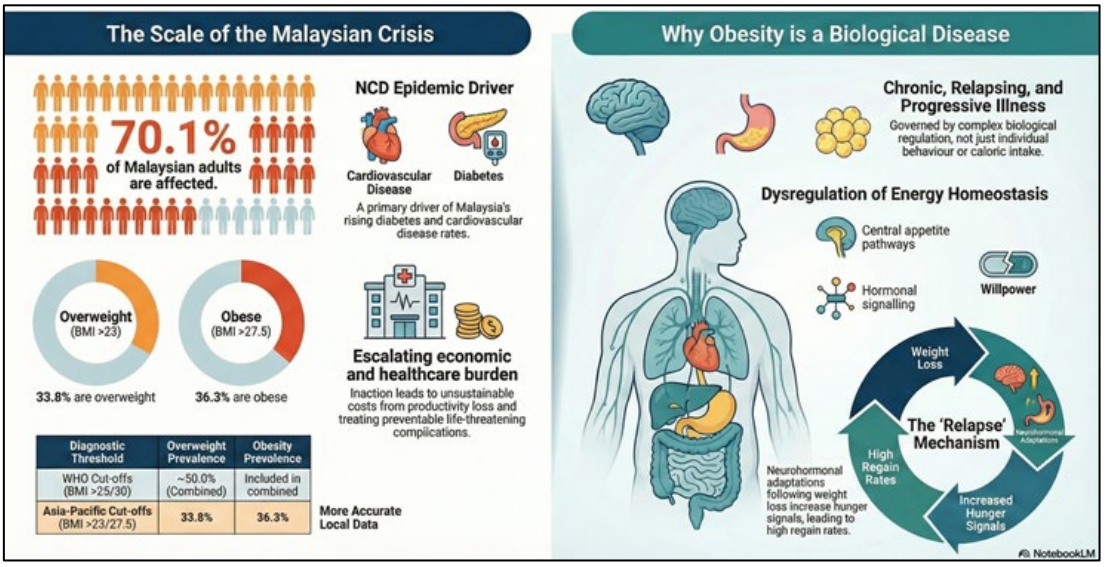

Fig. 1 Obesity in Malaysia: Transitioning from Lifestyle Choice to Chronic Disease

Source: Ministry of Health Malaysia, 2023

Malaysia's obesogenic environment is shaped by easy access to calorie-dense, nutrient-poor foods, cultural norms surrounding eating patterns and relatively poor work-life balances. These promote frequent eating outside the home, high consumption of sugar-sweetened beverages, and long working hours further exacerbate energy imbalance. Additionally, urban design that discourages physical activity, and socioeconomic inequities that limit access to healthier options disproportionately affect lower- and middle-income populations, reinforcing health inequities and perpetuating cycles of chronic disease and reduced productivity.

Despite growing awareness, obesity remains ignored and undertreated in clinical practice. Many individuals living with obesity do not receive formal diagnosis, structured counselling, or access to evidence-based therapies. Weight bias and stigma, both societal and within healthcare settings, further undermine patient engagement, adherence, and outcomes [11]. Recent surveys have highlighted major barriers not only among patients, but also within the healthcare system [11-14]. A large proportion of healthcare practitioners (HCPs) and healthcare decision makers (HCDMs) do not regard obesity as a disease, hold bias against Person with Obesity (PwO) and believe that PwO are responsible for their management of the condition. Therefore, recognising obesity as a disease is critical to improve patient-HCP communication, identify the underlying disease, provide possible support and solutions, and subsequently offer effective treatment options.

The ACTION survey has identified that PwO have attempted some weight loss at a minimum rate of 3x within their lifetime [14]. The progressive nature of obesity would make this almost impossible to most. The management of obesity should be integrated into the primary clinical care. Starting with accurate advice on dietary interventions, there is increasing evidence on the different strategies including calorie restriction, intermittent fasting, the Mediterranean diet, etc. These should be explored with the patient, based on flexibility, adaptability and most importantly sustainability. The Malaysian CPG on the Management of Obesity appropriately recognised obesity as a disease requiring long-term, structured management rather than intermittent, interrupted advice [6]. Lifestyle modifications is also an important element of obesity management, not to be simplified to eat less and move more, but to focus on preventing lean mass loss that

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accompanies fat loss and overall weight loss. Thus, this should underscore the importance of muscle strengthening exercises in addition to aerobic exercises.

The therapeutic landscape in obesity management has evolved rapidly. Glucagon-Like Peptide-1 receptor agonist (GLP-1 RA) such as semaglutide and liraglutide, and dual incretin agents combining GLP-1 and glucose-dependent insulinotropic polypeptide (GIP) receptor activity, such as tirzepatide, have demonstrated unprecedented efficacy in weight reduction and metabolic improvement. Randomised controlled trials show mean weight loss exceeding 15–20% with dual incretin therapy, alongside substantial reductions in cardiometabolic risk factors [15]. Importantly, these agents address the biological drivers of obesity by modulating appetite, satiety, and energy intake. In Malaysia, GLP-1 receptor agonists are already widely used for diabetes management, providing a practical platform for expanded obesity treatment. However, access remains limited by cost, reimbursement policies, and lack of formal integration into public sector obesity care pathways. Addressing these barriers is essential to ensure equitable and fair access to healthcare services for all deserving Malaysians.

Obesity imposes a significant economic burden through direct healthcare costs and indirect costs related to productivity loss, disability, and premature mortality [16]. International and regional analyses consistently demonstrate that effective obesity treatment is cost-effective when downstream savings from reduced diabetes, cardiovascular events, renal disease, and hospitalisations are considered [17].

Thus, impactful national obesity strategies in the management of obesity may need to be drastic and aggressive. More importantly, there is urgency to address the whole disease spectrum from awareness campaigns in recognising obesity as a disease, to routine early obesity screening and diagnosis in the primary care setting, no longer seeing obesity as normalcy but identifying it as an urgent healthcare crisis. This should be accompanied by comprehensive multidisciplinary management models, addressing the pathophysiological, emotional, psychological and social aspects of this disease complex. The initiation of the nation-wide multidisciplinary integrated management for obesity (MIMO) services at selected Ministry of Health (MOH) primary care centres as part of the National Strategic planning (NSP) for Obesity 2025-2030 [18] would be a testament for the nation. This would be able to demonstrate that investing in structured obesity management programs could provide a strategic opportunity to halt larger long-term healthcare burden.

In addition, there is a pressing need for policy makers to understand evidence-based outcomes of pharmacotherapy and bariatric surgery that could strengthen the justifications for equitable access of these treatment options. Current policies for obesity have comprehensively covered the fundamental aspects of obesity management i.e. dietary interventions and lifestyle changes [19, 20]. However, with the in-depth understanding of obesity as a chronic progressive, relapsing disease, we must seek more effective interventions. Availability of pharmacotherapy and surgical interventions for selected patients should be looked into to ensure individualisation of appropriate and effective treatment [21]. Failure and even delay to act will likely result in escalating healthcare costs that would far exceed the initial expenses required for early and successful interventions.

To address the other obesity drivers including unhealthy food environments, sedentary lifestyles, stress and lack of sleep, occupational factors etc, all relevant stakeholders should be involved to develop strong and meaningful fiscal and regulatory policies. The WHO investment case, which comprised of economic and political analyses of Malaysia's current and potential interventions in preventing and controlling NCDs, aptly concluded that adoption of a whole-of-system approach to NCDs should be the main priority [22]. All parties must work together to tackle urban planning that promotes physical activity, food environment to ensure affordable healthy nutritious food, and anti-stigma frameworks to be embedded in healthcare trainings. The recommendations highlighted the need to include food security and health equity as national priorities. This would be strengthened by policy recognition of obesity as a disease, which will be fundamental and pivotal to allow insurance coverage, public sector funding, and sustainable service delivery [23].

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In summary, obesity in Malaysia is currently at critical level, with profound clinical, societal, and economic consequences. The convergence of rising prevalence, early onset, and expanding therapeutic possibilities present both many challenges and many more opportunities. Reframing obesity as a disease, supported by the growing effective treatment options, integrated care pathways, and robust policy actions are essential to reverse current trends. Malaysia stands at a critical juncture. Decisive action today will determine whether obesity continues to drive the nation's NCD crisis or becomes a model for effective, compassionate, and evidence-based chronic disease management in the region and beyond.

2. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation of this work, NotebookLM app was used to create Figure 1. After using this tool, author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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