Closing the gaps in obesity: The need for a strategic, system-wide approach to obesity care in Malaysia

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ABSTRACT

Introduction: The global obesity epidemic threatens health systems worldwide and is associated with severe health complications such as cardiovascular disease, type 2 diabetes, and cancers, imposing substantial economic burdens. Globally, over 1.9 billion adults are classified as overweight, with 650 million identified as obese.

Materials and Methods: A review was conducted using academic databases and authoritative reports from organizations such as the WHO and the Institute for Public Health. Studies published between 2002 and 2024 were selected based on methodological rigor and relevance to obesity in Malaysia.

Results: Malaysia has the highest obesity rate in Southeast Asia and has classified obesity as a chronic disease. Currently, 21.8% of Malaysian adults are affected by obesity – a fivefold increase from 4.4% in 1996 – with projections reaching 41% by 2040. Obesity-related healthcare costs consume 10-20% of Malaysia's national budget. Malaysia joined the Obesity Policy Engagement Network (OPEN) and implemented a model-of-care survey to gather healthcare professional insights and identify critical obesity management gaps. This initiative aimed to provide evidence-based recommendations to enhance patient outcomes and alleviate economic strain on the healthcare system. The Malaysian OPEN survey indicated that only one-third view obesity as a disease, resulting in underinvestment in necessary infrastructure and treatment options such as pharmacotherapy and bariatric surgery. These prevailing misconceptions among healthcare professionals and decision-makers hinder progress. A collaborative, multidisciplinary strategy supported by robust policies and evidence-based research is thus vital in managing obesity as a chronic disease.

Conclusion: Addressing obesity in Malaysia requires a collaborative, multidisciplinary approach that integrates lifestyle, behavioural, medical, and surgical strategies. Policy reform, stakeholder engagement, and evidence-based planning are essential to improve patient outcomes, reduce economic burdens, and ensure equitable access to care. A unified national effort is vital for sustainable and effective obesity management.

KEYWORDS:
Behavioural therapy; Early medical interventions; Malaysia; Obesity; Stakeholder participation

INTRODUCTION

Obesity is a chronic and multifactorial disease with significant health implications, driven by dietary changes, physical inactivity, socioeconomic factors, and genetic predispositions. The global obesity epidemic is a pressing public health challenge, with obesity rates soaring over the past few decades. The World Health Organization (WHO) estimates that worldwide adult obesity has more than doubled since 1990, and adolescent obesity has quadrupled. In 2022, 2.5 billion adults were overweight, and 890 million were living with obesity.[1,2] In Malaysia, the percentage of overweight individuals consistently increased from 29.4% in 2011 to 32.6% in 2023, with intermediate rates of 30.0% in 2015 and 30.4% in 2019 while the obesity rate rose from 15.1% in 2011 to 21.8% in 2023, reaching 17.7% in 2015 and 19.7% in 2019.[3] According to Malaysia's National Health and Morbidity Survey (NHMS) 2023 report, the prevalence of overweight and obesity among Malaysian adults is influenced by various social determinants of health.[4,5] According to this report, overweightness was commonly observed in individuals from urban areas (34.6%), those aged ≥60 years (40.7%), men (36.7%), and those with an income above RM10,000 (36.0%).[4,5] In contrast, obesity was more prevalent among urban residents (36.4%), middle-aged population (46.3%), women (39.8%), and individuals earning between RM8,000 and RM9,999 (38.6%).[4,5] Obesity was also reported to be more prevalent in specific demographic groups, such as Chinese retirees and Indian homemakers.[3]

Addressing obesity with the same urgency as other non-communicable diseases (NCDs) is critical in Malaysia, given its role in over 200 chronic diseases, including 54.8% (231 million) of cardiovascular diseases (CVD)[6], 30% (1 million) of type 2 diabetes (T2D)[7], 28.2% of metabolic dysfunction-

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associated fatty liver disease (MAFLD)[8,9] and various cancers.109 Effective obesity management could yield substantial savings, with estimates starting at RM25 billion in 2024 and reaching RM736 billion by 2035.[10,11] In 2017, total expenses of RM8 billion accounted for 10.7% of GDP, and accounting for only 7.4% of total spending in Malaysia. By 2035, the projected costs are expected to reach RM100 billion, which is equivalent to 7.4% of GDP, covering 96.2% of total expenditures. Additionally, obesity-related losses in 2035 are estimated to result in RM3.2 trillion in disability-adjusted costs.[12,13]

To address this nationwide issue of obesity, Malaysia participated in the Obesity Policy Engagement Network (OPEN) and Awareness, Care & Treatment in Obesity Management (ACTION) survey. The OPEN survey, conducted globally, included countries such as Canada, Brazil, Germany, Turkey, Australia, Spain, and Italy, allowing for a comprehensive evaluation of obesity care approaches across various healthcare systems. Malaysia survey was designed to identify the gaps in Malaysia's current obesity management strategies by engaging key stakeholders, including HCPs (endocrinologists, general practitioners, primary care physicians, cardiologists, and practice nurses who had >10% of their patient population consisting of patients with obesity, PwO) and healthcare decision-makers (HCDMs), including commissioners, heads of departments, hospitals, clinics, or practices, and member of national or regional health committee. as well as PwO.[14] On the other hand, the ACTION Malaysia survey included HCPs from internal medicine, general practice physicians, cardiologists, endocrinologists/diabetologists, gastroenterologists, as well as nutrition specialists, family physicians, obstetricians/gynaecologists and aesthetic specialists.[15] The results of both these surveys identified critical barriers in treatment approaches in Malaysia and emphasized the need for collaborative frameworks to enhance obesity management within Malaysia's healthcare system.[14,15] Key findings highlighted the importance of improving communication between healthcare providers and people with obesity, addressing mental health considerations, and developing culturally tailored strategies.[14,15]

Based on findings from the OPEN and ACTION surveys, this review article has been developed to elucidate critical issues in obesity management, such as reclassifying obesity as a disease, tackling obesity stigma, promoting healthy lifestyles, and recognizing the efficacy of pharmacotherapy and surgery. By comparing national practices with global standards, this review article aims to provide essential evidence-based insights to inform policy development, ultimately aiming to improve patient outcomes and mitigate the economic and healthcare burdens associated with obesity.

MATERIALS AND METHODS

A review was conducted in continuation with a white paper on obesity management in Malaysia to synthesize current knowledge about obesity in Malaysia.[16] Multiple electronic databases, including PubMed, Scopus, and Google Scholar. The search was deliberately broad to capture the nuanced landscape of obesity research while maintaining a focus on the Malaysian context.

RESULTS AND DISCUSSION

Current challenges for effective obesity management

1. Misconceptions and stigma

Both the OPEN survey and the ACTION survey results highlighted that most HCPs (54%) and HCDMs (51%) in Malaysia had significant bias and misconceptions about obesity. About 55% of HCPs and 57% of HCDMs believed that obesity is solely the result of personal behavior.[14,15] According to the ACTION study, only 44% of the HCPs discussed their obesity concerns with patients who had very high BMI cut-off values, while 43% alerted their patients based on visual assessment, and about 49% of HCPs identified obesity as a possible risk factor when patients had comorbidities.[8,14] These implicit biases harboured by HCPs may cause them to dismay or downplay the concerns of their patients, especially the obese patients. This in turn, can lead to less aggressive treatment plans and reluctance to refer patients to specialists, ultimately compromising the quality of care.

The ACTION survey results further highlighted that stigmatization within the healthcare system can further exacerbate the problem, as obese patients may feel judged or shamed, discouraging them from seeking care or adhering to treatment recommendations.[14] Cultural perceptions, such as "No Nasi Lemak, No Life!" reflect entrenched attitudes toward food that can perpetuate unhealthy eating habits in patients and diminish the perceived urgency of addressing obesity as a serious health issue. As long as obesity remains stigmatized, it will continue to be perceived with limited awareness as a risk factor for metabolic diseases.

2. Resource allocation

Often, obesity is not prioritized as a critical public health issue, leading to insufficient funding for prevention and treatment programs. This issue was highlighted in the OPEN survey results, wherein it was shown that HCDMs had selective areas for funding allocations, which may not always align with the needs of comprehensive obesity management.[15] The study further showed that HCDMs perceived current allocations of funds towards obesity as somewhat skewed towards preventions rather than treatment (Figure 1).[15] About 40% of HCDMs preferred allocating their budgets for secondary prevention 38% to self-management 38%, and only 34% to primary prevention. Only 32% of HCDMs allocated funds for screening and diagnosis, and long-term management, while only 26% allocated funds to treating obesity.[15] Underfunding of public health initiatives exacerbates these issues, as campaigns and community-level interventions lack focus, lustre and are therefore not impactful. The absence of robust policies in Malaysia further restricts access to multidisciplinary care, specialized treatments, and necessary medications or surgeries, thus complicating the efforts toward obesity management.[15] These gaps in current policies have inadequately tackled the environmental and societal factors contributing to obesity, such as non-adherence to the food pyramid and inadequate physical activity infrastructure, which further impedes efforts to combat obesity.

3. Training and awareness about obesity amongst HCPs
As per the OPEN survey results, only 59% of the HCPs and 53% of the HCDMs opined that obesity care in Malaysia is well-organised and that these patients deserve equal care.[15] The results also demonstrated that 54% of the HCPs believed that they received limited education on obesity during their medical training; this leads to an incomplete understanding of the complex nature of the disease, including the biological, psychological, and social aspects. Only 46% of the HCPs reported having received over 20 hours of obesity-related training during the post-graduate and undergraduate education.[15] Thus, there is a shortage of trained professionals, resulting in inadequate treatment and poor patient outcomes in Malaysia.

4. Patient engagement
When obesity is not adequately addressed within the healthcare system, it leads to delays in effective treatment, allowing related complications like T2D and CVD to worsen. This often results in poor patient engagement, as patients may feel unsupported and demotivated, which negatively impacts their treatment adherence and health outcomes. According to the OPEN survey results, only 43% of patients in Malaysia feel comfortable discussing obesity with their HCPs.[15] This highlights the need for a more patient-centred approach to foster open communication about obesity management. Many patients lack accurate information and proper guidance on weight management, particularly beyond dietary modifications and lifestyle changes, and rely on social media and other online sources.[14]

5. Poor intersectoral coordination
Ensuring intersectoral coordination in obesity management presents several challenges, particularly in achieving coherence across ministries and aligning various stakeholders. Perceptions of both HCPs and HCDMs often influence their decisions toward treatment, resource allocation, and policymaking. In the OPEN survey study, only one-third of HCPs and HCDMs viewed obesity as a disease, while the majority perceived it as a result of personal choice rather than a complex condition with genetic, environmental, and psychological factors (Figure 2).[15] As a result, there is no prioritization of the necessary investments in treatment, education, training, or infrastructure needed for effective obesity management. Addressing these misconceptions is crucial for a more effective and empathetic approach to managing obesity.

Health reform pillars and strategies
The success of obesity management relies not only on individual efforts but also on addressing broader systemic challenges involving all parties, including HCPs, HCDMs, and patients. Effective obesity management involves a balanced combination of lifestyle changes, medical interventions, and behavioural therapies that could lead to sustained weight loss and better health outcomes in patients. Health reform pillars and strategies for obesity management ensure that patients have access to necessary resources, conducive environments, and support systems that foster healthy living and optimal obesity management. Equally important is establishing a robust monitoring and evaluation framework to track progress, assess outcomes, and inform continuous improvement in obesity care. Key health reform strategies include advancing health promotion and disease prevention, ensuring equitable healthcare access, transforming healthcare service delivery, and strengthening the foundation of the health system.[1]

Advancing health promotion and disease prevention
This approach focuses on shifting the healthcare paradigm from preventing obesity and reactively treating its complications to proactive intervention and prevention of obesity and its complications. This would reduce the incidence of obesity and its related complications, thereby lowering long-term healthcare costs and improving the overall health of the population.

Public awareness and training
Public education campaigns are vital in raising awareness about the causes and consequences of obesity. These campaigns should focus on educating the public about the health risks associated with obesity, including CVD, T2D, cancers, and other comorbidities. In addition, it is also important to emphasise that being overweight and obesity are preventable, that prevention is better than cure, and that obesity-related complications are reversible with proper interventions. Utilizing various media platforms, including social media, can help reach diverse demographic groups with tailored messages that resonate with their specific needs and concerns.

Promoting healthy lifestyles
The cornerstone of obesity management is the promotion of healthy lifestyles. Public health campaigns should target the population with clear, evidence-based information on the importance of balanced healthy nutrition and reduction of sedentary behaviour with regular physical activity. These campaigns could include guidelines on portion control, the benefits of consuming whole foods over processed foods, and the risks associated with excessive intake of sugar and high-calorie, low-nutrient foods. Community-based programs (local fitness initiatives, healthy cooking workshops, and active living events) encourage people to adopt healthier habits that help prevent overweight and obesity.

Addressing social determinants
Social determinants (income, education, and access to healthy food options) play a significant role in the risk of obesity. Addressing these determinants is critical in promoting health equity and preventing obesity. Policies that improve access to affordable healthy foods, create safe spaces for physical activity, and provide education and employment opportunities can help reduce the disparities that contribute to higher obesity rates in certain communities in Malaysia.

Evaluating and monitoring outcomes
To ensure the effectiveness of health promotion and disease prevention strategies, it is essential to implement robust evaluation and monitoring frameworks. These frameworks should track key indicators such as obesity prevalence, physical activity levels, and dietary habits across different population groups. Regular assessments should be done to identify the effects of these initiatives and refine strategies that may need adjustment. Continuous improvement in

Table I: Most common (voted by >40% of HCPs) support measures for obesity management recommended by HCPs in Malaysia

Support Measure	% of HCPs recommending it
Appropriate infrastructure/ equipment	59
Measures that allow patient feedback into services and provision of care for obesity	59
Maternal health programs for women living with obesity who are pregnant or considering pregnancy	59
Information/training to raise awareness of weight bias and stigma and tackle misconceptions that may be preventing care	58
Pharmacy-based care enabling patients with obesity to obtain information about their obesity treatment, support with managing their disease and/ or monitoring of signs and symptoms	58
Access to clinical practice guidelines on obesity for HCPs	57
Patient educational material/resources	57
Home healthcare services available to patients with obesity who are disabled by their disease	56
Access to professional networks for those HCPs involved with obesity care	55
Access to community-based healthcare that can deliver care and support patients with obesity closer to their home	55
Access to diagnostic tests for obesity risk assessment	55
Comprehensive screening of patients	55
Sufficient clinical and social referral pathways for patients with obesity	55
Relevant educational resources for clinical staff to deliver effective care	53
Comprehensive, well-defined diagnostic criteria	53
Framework that gives those supporting patients enough capacity (time) to care for patients with obesity	51
Digital health records enabling access to patient health data	50
Wearable technology for tracking patients' progress and monitoring their health	48
Incentive structure for HCPs, which allows prioritization, treatments, and long-term management of PwO	47
Personalized digital health tool /mobile app that enables patients with obesity to self-manage	46
Telehealth consultation	43

Table II: Most common (>15% of HCDMs) recommended topics to be included in obesity-related clinical practice guidelines

Topic of Interest	% of HCDM recommending it
Diagnosis and risk assessment	28
Psychological counselling	28
Nutrition	26
Disease progression	26
Physical activity	25
Long-term management of obesity	25
Early diagnosis	21
Surgical interventions	19
Pharmacotherapy	17

Table III: Top five measures incentivized (funded) by the Malaysian government or health authorities towards obesity management

Measure	% of HCDMs recommending it
Change in school food and nutrition policies	40
Awareness campaigns for educating the common man on obesity	39
Legislation policies for front-of-package labelling of food packets	38
Health promotion campaigns	37
Food and nutrition policies for the public	36

health promotion efforts are necessary to contribute to sustained progress in reducing obesity rates and improving public health outcomes.

Equitable healthcare access

Perceptions of obesity service accessibility differ; in the OPEN survey, 69% of HCPs believed that healthcare services are widely available, in contrast to 49% of HCDMs agreeing to it.[15] The NHMS 2023 report highlighted that while nearly three-fourths of medical care is available in public hospitals, 54.4% of patients have to bear out-of-pocket (OOP) expenses, and only 15% are covered by insurance in Malaysia.[8] The OOP model limits obesity treatment access, especially in rural areas, exacerbating healthcare disparities.

Increasing investments in health

Obesity care costs stem from treatment, prescription drugs, and chronic disease management. A 5% reduction in obesity prevalence could reduce the global economic costs by 5.2% annually (2020–2060).[17] Malaysia's 2024 health budget allocated RM 41.2 billion, with RM 465 million for outsourcing, ICT maintenance, and health screenings and mental health services. 18 However, healthcare spending (4.38% of Malaysia's GDP) remains lower than regional peers, while OOP costs (32.08%) are among the highest. Investments in obesity care should focus on upgrading facilities, digital infrastructure, medical training, and public awareness to alleviate the growing burden.[17]

Improving hospital care services

The current Malaysian clinical practice guidelines (CPG) in obesity present a comprehensive overview of obesity management, yet these are unable to provide practical aspects of an effective multidisciplinary framework.[14] Key issues, such as ineffective referrals, poor patient communication workflow, and disruptions in continuity of care after hospital discharge, contribute to delays in follow-up treatments and unnecessary readmissions. Most HCPs have indicated that some support measures are available to aid in delivering effective treatment and managing long-term care, but more needs to be done to streamline the process. (Table I).[15] Malaysia can draw some valuable lessons from Singapore's weight management programs, which incorporate personal consultations, diet management, exercise therapy, and behavioural modifications in a multidisciplinary setting. To enhance obesity treatment in Malaysia, it is crucial to improve access to pharmacotherapy and bariatric surgery within a well-coordinated, multidisciplinary care model. Setting clear goals for interventions is essential in evaluating the success of obesity treatment initiatives.

Currently, most clinicians and surgeons in Malaysia work in isolation. Implementing nationwide electronic medical record (EMR) systems can enhance connectivity between HCPs, improve access to specialists, reduce unnecessary referrals, and support more accurate diagnoses, effective treatments, and ongoing health education.[19] The EMR platform can provide several benefits, including evidence-based logistics management for treatment purchase and distribution, reducing strain on the healthcare system by minimizing unnecessary rehospitalizations and repeated diagnoses. Additionally, it provides comprehensive patient data to support the effective functioning of multidisciplinary teams.

Making comprehensive services affordable

A major challenge in providing comprehensive obesity services is the shortage of trained HCPs and resources. In the OPEN survey study, 50% of HCPs and HCDMs in Malaysia have acknowledged the need for improved support and resources. Approximately 57% of HCPs and 49% of HCDMs had cited limited primary care; 50% of HCPs and 49% of HCDMs pointed to a shortage of specialists as a challenge in managing obesity effectively.[15]

Effective obesity education needs to be broad-based, involving primary care providers, specialists, and allied health professionals.[1,20,21] Malaysia is committed to ensuring healthcare access for all citizens, focusing on low-income and rural populations. However, time and human resource constraints remain significant barriers to care. The key barrier in obesity treatment reported by 56% of HCPs and 45% of HCDMs is having sufficient capacity (time) for patients.[15] To address these gaps, there is a pressing need to expand and enhance obesity facilities and resources. This includes establishing more dedicated obesity clinics and support centres across various regions, particularly in underserved areas. Enhancing these facilities would involve investing in advanced diagnostic tools, treatment technologies, and specialized training for HCPs. There is an unmet need for more multidisciplinary teams, including dietitians, psychologists, and exercise physicians and physiologists, would also to improve the quality of care of these patients with obesity.

Additionally, developing telemedicine platforms can help bridge the gap between patients and HCPs, especially in remote areas where access to specialized care is limited. Improving obesity management infrastructure and resource allocation is essential for creating a more equitable and effective healthcare system. This approach not only addresses the immediate needs of patients but also builds a sustainable framework for long-term obesity management and prevention. Financial barriers significantly impede access to obesity treatment. Expanding insurance coverage to include anti-obesity medications (AOMs) can encourage more patients to seek treatment. For instance, insurance can extend to cover AOMs like GLP-1 agonists (semaglutide or liraglutide) to prevent the risk of CVD or T2D in obese patients. Insurance policies should consider BMI thresholds and the suitability of treatments for patients with various comorbidities.[22]

Enhancing healthcare spending efficiency

Improving the cost-effectiveness of obesity management involves personalizing pharmacotherapy and addressing the financial barriers to treatment compliance. Research shows that the duration of AOMs is usually shorter during the weight loss initiation phase than in the maintenance phase.[23] After achieving sustained weight loss, more affordable alternatives, such as weight-maintenance programs, behavioural health programs, or nutritional support, should be considered. Educating patients on the importance of treatment and the value offered by pharmacotherapy can help them navigate the cost barriers and switch treatments once weight loss is stabilized.24, 25 Additionally, shifting from high-cost AOM to lower-cost, long-term weight-maintenance programs can make treatments more accessible, especially for disadvantaged populations. Implementing value-based reimbursement models, where manufacturers and distributors are reimbursed based on treatment outcomes and efficiency, could also drive the supply of high-quality, cost-effective treatments.[25]

Transforming healthcare service delivery

National and international CPGs play a crucial role in shaping obesity care plans. In the OPEN survey study, both HCPs as well as HCDMs in Malaysia acknowledged the availability of dedicated CPG for obesity management.[15] However, earlier studies have shown that there is a notable gap in their perceived adequacy and usage in Malaysia.[26] According to the OPEN survey, only about 23% of HCPs and 53% of HCDMs use the CGP in obesity services.[15] Most HCDMs also indicated that the current CPG guidelines on obesity management do not provide much clarity on some key elements of holistic obesity care (Table II).[15]

Prioritizing primary health care

Addressing obesity effectively requires a strong emphasis on primary healthcare. General practitioners should serve as gatekeepers, integrating primary and specialized care and fostering strong relationships with specialists through hands-on teaching. Formal continuing medical education (CME) programs, trainee integration, and informal knowledge

transfer opportunities should be prioritized to ensure all HCPs are well-equipped to manage obesity. This paper underscores the pivotal role of primary care as the first point of contact for patients within the community. Primary care providers are essential in ensuring equitable access to healthcare services, facilitating early identification and management of obesity, and coordinating timely referrals for comprehensive, multidisciplinary care at secondary and tertiary levels of the health system.

Improving inter-sectoral coordination

Effective inter-sectoral coordination necessitates stakeholder engagement, policy prioritization, multi-sector collaboration, and partnerships with national authorities, non-government organizations (NGOs), academia, and the private sector. Key strategies include knowledge transfer among physicians through case discussions, joint consultations, and CME. MYOS is an association dedicated to HCPs involved in obesity care and management in Malaysia. It plays a critical role in garnering professional and public support for policy endorsement and implementation.

Effective obesity management requires collaboration across multiple sectors, including healthcare, education, transportation, and urban planning. For instance, schools can integrate comprehensive nutrition education into their curricula and ensure that meals provided are balanced and nutritious. Urban planners can design walkable neighbourhoods with accessible parks and recreational facilities, encouraging physical activity among residents. By fostering partnerships among these sectors, we can create environments that support healthy behaviours and reduce the incidence of obesity.

Leveraging digital technologies

Digital health technologies are revolutionizing obesity management with tools such as mobile apps, wearable devices, and online platforms. These innovations offer personalized guidance on diet, physical activity, and weight management and enable remote monitoring by HCPs for ongoing support and plan adjustments. Integrating these technologies into public health strategies can enhance obesity management by providing real-time feedback and motivation.[27]

The key benefits of digital tools are enhanced communication, effective monitoring, and comprehensive data sharing. For instance, the "Ramadan, T2D and Me" mobile app exemplifies how health technology can deliver health advice and glucose monitoring and highlights its effectiveness in public health interventions. This app assists diabetics during the fasting period by providing a blood sugar tracker and offers tips for diabetes management throughout the holy month of Ramadan.[27]

Strategies for tracking progress and evaluating outcomes

The primary focus of monitoring health reform in Malaysia is to reduce the prevalence of obesity in the country. A comprehensive approach to obesity management focuses on advancing obesity prevention strategies alongside implementing clinical reforms in obesity care. The goal is to align Malaysia's obesity rates more closely with other Southeast Asian countries, such as Singapore (11.6%) and Vietnam (18.3%).[28] Beyond reducing obesity rates, the broader objectives include alleviating the health and financial burdens of obesity and reducing obesity-related comorbidities. However, managing obesity presents two main challenges: patient and disease-related factors reflecting the complexity and diverse needs of obese patients, and contextual factors such as healthcare system constraints that impact collaboration among HCPs.

A collaborative care model involving an interdisciplinary team of endocrinologists, bariatric surgeons, general practitioners, clinical psychologists, researchers, nurses, and physiotherapists is essential. Each team member brings specific expertise to manage both the clinical and psychological aspects of obesity. Effective collaboration requires identifying individual roles and defining shared responsibilities, which involves co-managing patient care, consulting regularly to share information, developing patient care plans, and reviewing cases together. This integrated approach ensures well-rounded, holistic, patient-centred care.

Strengthening policies, legislation, and regulations

Policies should incentivize fitness and establish a multidisciplinary approach to obesity management, supported by legislation and regulations. Healthcare resources could be directed towards multidisciplinary teams that emphasize low-calorie diets, intensive behavioural therapy, and improved access to pharmacotherapy. Successful examples include Singapore's Healthy Meals in Schools Program and National Step Challenge, as well as Malaysia's nutrition labelling mandates and sugar-sweetened beverage taxes. According to the OPEN survey results, the top five measures that government or health authorities have set out or incentivized (funded) to prevent and manage obesity are elucidated in Table III.[15]

Promoting research and evidence-based approaches

Promoting research and evidence-based approaches is critical. Currently, 80% of obesity research is conducted in local universities, but only 22% of this research is relevant to developing new modalities and evaluating the effectiveness of interventions.[29] Research priorities should expand beyond the epidemiology of obesity, focusing on sociocultural factors, under-represented groups such as minority ethnicities and the elderly, and involving stakeholders like GPs, policymakers, and researchers. Cost-effectiveness studies should be planned to maximize coverage and benefits at the lowest possible cost, such as optimizing AOM interventions and streamlining the approval processes to expedite clinical trial applications and ensure timely publication of results. The ultimate goal of research should be to enhance avenues for multidisciplinary teams, develop new intervention studies, improve diagnosis, and incorporate new technologies, all while continuously refining policies to improve outcomes.

CONCLUSIONS

Malaysia faces significant health and financial challenges due to high obesity rates, with projections indicating that

healthcare costs could reach RM108 billion by 2024. Immediate and strategic action is essential to prevent the healthcare system from being overwhelmed. Effective policy implementation requires coherence across ministries, stakeholder alignment, and a clear framework for monitoring and evaluation. This involves setting clear goals, timelines, and ownership for projects, supported by incentives and long-term capacity building. Accountability is enforced through defined roles and outcomes, with interdisciplinary teams and stakeholder networks facilitating collaboration. Continuous feedback through site visits, calls, reports, and surveys is crucial for refining strategies and improving policy effectiveness. The strategic plan for obesity management is divided into three phases: short-term (2024-2026) focusing on clinical approaches, medium-term (2027-2029) on prevention and accessibility, and long-term (2030-2034) on sustaining and expanding efforts. These comprehensive reform strategies converge to advance health promotion, equitable financing, and service delivery. By promoting evidence-based clinical interventions, including pharmacotherapy and surgery, we aim to improve health outcomes. Simultaneously, it strengthens the healthcare system through interdisciplinary collaboration and clear accountability. If executed effectively, these strategies promise significant impacts, reducing healthcare costs and enhancing citizens' quality of life. Malaysia's commitment to this strategic path holds the key to a healthier, financially resilient future.

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CONFLICT OF INTEREST

None

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