bmi journal
seco-seedo

Optimizando los enfoques sanitarios para las personas con obesidad severa en España: una propuesta estratégica de acceso del Grupo de Trabajo en Obesidad Severa

Optimizing healthcare approaches for people with severe obesity in Spain: a strategic access proposal from the Severe Obesity Working Group

10.53435/funj.01028

Optimizing Healthcare Approaches for People with Severe Obesity in Spain: A Strategic Access Proposal from the Severe Obesity Working Group

Authors: Amador García Ruiz de Gordejuela (1), Javier Salvador (2), María Inmaculada Cervera Pérez (3), Carina Escobar Manero (4), Andoni Lorenzo Garmendia (5), Albert Lecube (6), Javier Osorio Aguilar (7), Violeta Moizé Arcone (8), Norberto Cassinello Fernández (9), José Luis Poveda Andrés (10), Ana Martí Delgado (11), Félix Rubial Bernárdez (12), Paloma Casado Durández (13), Néboa Zozaya (14), Javier Villaseca (14), Alvaro Hidalgo-Vega (15)

1) Bariatric Surgeon, Donostia University Hospital, President, Spanish Society of Obesity Surgery (SECO)
2) Clinical endocrinologist. University of Navarra. Obesity SEEN Area, Spanish Endocrine & Nutrition Society (SEEN)
3) President, Spanish Society of Primary Care Physicians of Valencia (SEMERGEN, Valencian Community)
4) President, Platform of Patients' Organisations
5) President, Spanish Patients' Forum
6) Vice-president, Spanish Society for the Study of Obesity (SEEDO). Arnau de Vilanova University Hospital in Lleida. IRBLleida. Lleida University.
7) Surgeon of the Bariatric and Metabolic Surgery Unit, Bellvitge University Hospital
8) President, Spanish Scientific Society of Dietetics and Nutrition (SEDYN). Dietician - Nutritionist, Obesity Unit, Barcelona Clinic Hospital
9) Surgeon, Endocrine and Bariatric Surgery Unit, University Hospital Clinico of Valencia
10) Manager of the la Fe Hospital, Valencia
11) Coordinator of Citizen Attention and Participation, Vall d'Hebron University Hospital
12) Managing Director Hospital Universitario Marqués de Valdecilla Cantabrian Health Service
13) Managing Director of the Southeast University Hospital
14) Department of Health Affairs and Policy Research, Weber, Madrid, Spain.
15) President of Weber Foundation. Madrid, Spain

Optimizing Healthcare Approaches for People with Severe Obesity in Spain: A Strategic Access Proposal from the Severe Obesity Working Group

Abstract

Objective: Obesity has become a major health issue in developed countries, escalating to epidemic levels in recent decades. The objective of this study was to conduct a multistakeholder strategic discussion to address the challenge of managing severe obesity in Spain and establish specific improvement measures in this area.

Methods: This study was carried out by a committee made up of 13 experts with different profiles, management levels and geographical origins in Spain. Three working groups were stablished: one focused on clinical aspects, another on management, and the last one on consolidation. After analysing the existing challenges, a set of access improvement measures was proposed and scaled by relevance and feasibility.

Results: An obesity management algorithm was developed with the 29 proposed improvement measures, grouped into micro-, meso-, and macro-management levels. Micro-management focused on personalized and shared care pathways, while meso- and macro-management addressed data collection, continuity of care, coordination, and public health education. Key measures included the regional transposition of the National Plan for Obesity and improving hospital care evaluation systems, with leadership primarily involving regional and hospital settings.

Conclusion: This study may contribute to enhancing the access healthcare pathway of people with severe obesity within the Spanish context.

Keywords: severe obesity, access management, patient pathway, policy recommendations, spanish healthcare system

Introduction

Obesity is one of the main health problems in developed countries, which in recent decades has reached epidemic proportions, as four million people die every year worldwide from causes related to overweight and obesity[1]. In Spain, the prevalence of obesity among the adult population reaches 16%[2], while severe obesity affects 5%, with a higher incidence in women than in men (5.3% versus 4.5%)[3]. Over the past few decades, adult obesity has increased by a factor of 2.2, rising from 7.4% in 1987 to 16.0% in 2020, with a more pronounced impact on lower socio-economic groups[4].

Obesity is not only critical from a health perspective but also from an economic standpoint. It is estimated that persons living with obesity (PLWO) consume 20% more healthcare resources and 68% more drugs than the general population, in addition to contributing to losses in workplace productivity[5,6].

In Spain, efforts are focused on optimizing strategies for primary prevention (preventing the disease before it occurs), secondary prevention (early detection and treatment of the disease), and tertiary prevention (minimizing the consequences of the disease) of obesity. However, our country still faces important challenges in this area, including, among other issues, the need to harmonise the approach to the disease, reduce regional variability, better match the patient's needs with the comprehensive received care, provide coverage for new obesity management medication and optimize waiting lists for bariatric surgery (e.g. the average waiting time for bariatric surgery was 397 days per patient, with the longest wait time nearing 5 years[7]). Furthermore, it is important to consider that the structure of Spain's healthcare system, characterized by its decentralized management, may result in varying levels of care across different regions. Moreover, Spain has a national strategic plan for obesity reduction, but it is limited to the paediatric population[8], leaving no strategy for managing obesity in adults. In addition, the stigma associated with the disease hinders access to the appropriate approach[9].

In this context, this study aims to gather information, address existing challenges, and reach a consensus on concrete measures to improve the management access for people with severe obesity in the Spanish National Health System in the medium and long term, from a broad, multifaceted, and comprehensive perspective.

Methods

Our study was implemented by an experts Committee, which was responsible for analysing the initial situation and proposing recommendations for improvement of various kinds. The Committee was multi-stakeholder, made up of 13 experts (Table 1) with different profiles, levels of management and geographical origins in Spain, covering the different phases of patient pathway. The members of the Committee were selected based on their experience in the field of obesity to represent all stakeholders involved in the care process of people with severe obesity in Spain. These members included clinicians from various specialties, such as bariatric surgery, nutrition, primary care, and endocrinology, as well as representatives of healthcare administration, scientific societies and patient organizations . Some of these experts were also representatives of their respective scientific societies.

Group	Name	Position
Clinic	Carina Escobar*	President, Patient Organization Platform (*Plataforma de Organización de Pacientes*-POP)
	María Inmaculada Cervera Pérez*	President, Spanish Society of Primary Care Physicians (*Sociedad Española de Médicos de Atención Primaria* -SEMERGEN) of the Valencian Community. Family medicine in Tendetes Auxiliary Clinic, Department of Health of La Fe, Valencia
	Andoni Lorenzo Garmendia*	President, Spanish Patients Forum (*Foro Español de Pacientes*)
	Violeta Moizé	President of SEDYN (Sociedad Científica Española Dietética y Nutrición) Clinical Nutritionist of the Functional Obesity Unit, Hospital Clínic of Barcelona
	Norberto Cassinello	Surgeon Endocrine, Bariatric and Metabolic Surgery Unit, University Hospital Clinico of Valencia
	Amador García Ruiz de Gordejuela*	President, Spanish Society of Obesity Surgery (*Sociedad Española de Cirugía de la Obesidad* -SECO). Bariatric surgeon, Donostia University Hospital.
	Albert Lecube	Vice President, Spanish Society of Obesity (*Sociedad Española de Obesidad*-SEEDO). Head of the Endocrinology and Nutrition Service, Arnau de Vilanova University Hospital in Lleida. IRBLleida. Lleida University
	Javier Osorio	Surgeon of the Bariatric and Metabolic Surgery Unit, Hospital Universitari de Bellvitge
	Javier Salvador*	Clinical endocrinologist. University of Navarra. Obesity SEEN Area, Spanish Endocrine & Nutrition Society (SEEN)
Management	Paloma Casado Durández*	Managing Director of the Sureste University Hospital. Former Deputy Director General of Quality and Cohesion of the Ministry of Health of Spain
	Ana Martí Delgado*	Coordinator of care and citizen participation at the Vall d'Hebron University Hospital
	José Luis Poveda Andrés*	Manager of the Hospital la Fe in Valencia
	Félix Rubial Bernárdez*	Health area manager of Ourense, Verín e O Barco de Valdeorras

*Members of consolidation group

Table 1. Members of the Expert Advisory Committee

The experts were provided with specific pre-reading material based on a literature review, which included evidence on comorbidities associated with obesity, data on the prevalence and economic cost of the disease in Spain, as well as information on various treatments for obesity, ranging from lifestyle changes to bariatric surgery and pharmacological treatments. Additionally, this pre-reading material included information on the waiting lists for bariatric surgery in Spain.

The experts were divided into three working groups (WG). The first WG focused on the clinical aspects of severe obesity access; the second WG was oriented toward management issues. These two sessions, held in November 2023 and May 2024, respectively, were designed as multidisciplinary discussion forums and were organized into small discussion groups to address key aspects of severe obesity in Spain. The aim was to share insights and propose recommendations for access improvements. As a result of these meetings, a list of 38 access improvement measures was generated, grouped into 10 specific areas.

Then, a third WG, comprised of experts from the previous two groups, aimed to consolidate the recommendations developed by the earlier working groups, by assessing the relevance and feasibility of each proposed measure through a questionnaire. To assess the relevance, the experts responded to a dichotomous question with the following options: "Yes, it is relevant" or "No, it is not relevant." For feasibility, the experts could choose between "High," "Medium," and "Low" feasibility. A descriptive analysis of the answers to the questionnaire was conducted, and the results were presented at the consolidation group meeting for validation and discussion by the experts. For the analysis feasibility, the responses were grouped into the following categories: high, medium-high, medium, medium-low, and low.

The experts also identified the stakeholders who should participate and lead the implementation of each access improvement measure. Additionally, a management algorithm for people with severe obesity was developed with the recommendations.

Literature review

Relevant aspects of severe obesity. Literature review

Definition and comorbidities

Obesity is generally defined by calculating the body mass index (BMI), which is obtained by dividing a person's weight (in kg) by the square of their height (in m) (kg/m²). In adults, overweight is defined as a BMI of 25.0-29.9, while obesity is defined as a BMI of 30 or greater (severe obesity if BMI>40)[10]. It is associated with the development of metabolic and psychological disorders, as well as mechanical complications, all of which diminish both life expectancy and quality of life[11,12]. In this regard, the Global BMI Mortality Collaboration group demonstrated the association of obesity with higher all-cause mortality in four continents. Using a BMI of 20.0–25.0 kg/m² as a reference, the mortality hazard ratio (HR) for class I obesity (BMI 30.0-35.0 kg/m²) was 1.45 (CI95%: 1.41–1.48); the HR for class II obesity (BMI 35.0-40.0 kg/m²) was 1.94 (CI95%: 1.87–2.01); and the HR for class III obesity (BMI 40.0-60.0 kg/m²) was 2.76 (CI95%: 2.60–2.92)[11].

Obesity is a major risk factor for the most prevalent chronic diseases, such as hypertension, dyslipidaemia, diabetes mellitus, and cardiovascular diseases, with the latter being the leading cause of death in Spain[13,14]. Among patients with obesity, type 2 diabetes mellitus (T2DM) is one of the most common associated comorbidities. According to the OBEDIA study, the prevalence of T2DM is 23.6% among individuals with overweight and obesity[15]. Furthermore, 8 out of 10 people with diabetes have either overweight or obesity[16]. Additionally, an umbrella review and meta-analyses has demonstrated the relationship between obesity and an increased risk of developing several cardiovascular diseases, such as hypertension, heart failure, atrial fibrillation, stroke, aortic valve stenosis, pulmonary embolism, venous thromboembolism, and ischemic heart disease, as previously mentioned[17]. By approaching obesity as other non-communicable diseases it is possible to prevent 80% of cases of type 2 diabetes, 55% of hypertension, 35% of ischemic heart disease and 20% of adult cancers[18].

Furthermore, obesity is linked to different types of cancer and is estimated to increase the risk of gallbladder cancer in women by up to 54% and oesophageal adenocarcinoma in men by up to 44%[19].

Moreover, obesity is frequently associated with mental health disorders, including depression, anxiety, low self-esteem, and social isolation. Obesity increases the risk of depression by 55%, and conversely, depression increases the risk of obesity by 58%[20].

Economic impact

Obesity and its associated comorbidities represent the third largest economic burden globally, surpassed only by smoking and by armed violence, war, and terrorism. The total cost of obesity amounts to $2 trillion, equivalent to 2.8% of the global gross domestic product (GDP)[21].

According to data from the World Obesity Federation, the economic cost of obesity in Spain in 2019 reached €26 billion, representing 2.1% of that year's GDP and a per capita cost of €623. The majority of this cost stems from indirect costs, primarily related to premature mortality (€9.54 billion) and the costs associated with absenteeism and presenteeism (€4.68 billion and €3.31 billion, respectively). On the other hand, direct costs of obesity amounted to €8.49 billion. It is estimated that the economic cost of obesity in Spain will reach €34.6 billion by 2030, and up to €71.8 billion by 2060[22].

Treatment approach

In Spain, the primary responsibility for obesity-related therapeutic management lies within primary care[23]. This makes the coordination between primary care and specialists in obesity and other medical or surgical disciplines either at ambulatory or hospital level one of the key factors in the treatment of obesity. Obesity can be managed through various approaches, including lifestyle modification, surgery, pharmacological treatments and combinations of all of them[23], based on shared decisions between informed patients and healthcare professionals.

Lifestyle modification still remains the cornerstone of obesity management[24]. Therapeutic interventions based on lifestyle and dietary changes have shown modest results on a long-term basis, leading to a growing interest in other alternatives to support and promote weight loss[25].

Generally, pharmacotherapy increases satiety, inhibits hunger, or stimulates catabolism, and in some cases display pleiotropic effects that can help to control obesity-associated comorbidities[26]. Currently, six obesity management medications (naltrexone/bupropion, liraglutide, semaglutide, orlistat, setmelanotide, and tirzepatide) have been approved by the European Medicines Agency (EMA)[27]. In Spain, three obesity management

medications -liraglutide, semaglutide, and setmelanotide—are publicly funded under specific conditions. Both semaglutide and liraglutide are prescribed to patients with T2DM whose glycaemic control remains insufficient with diet and exercise, either as monotherapy when metformin is not suitable due to intolerance or contraindications, or in combination with other diabetes treatments. Semaglutide was approved for use in adults, while liraglutide can also be administered to children over 10 years old. Setmelanotide is indicated for obesity and hunger control in patients with genetically confirmed Bardet-Biedl syndrome or biallelic loss-of-function mutations in proopiomelanocortin (POMC), PCSK1, or leptin receptors[28]. At present there is no public coverage for obesity management medications for PLWO without T2DM.

Bariatric surgery encompasses a range of surgical interventions aimed at restricting food intake, reducing nutrient absorption, or a combination of both[29]. Recently, the American Society of Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) modified the criteria recommendation for surgery to patients with BMI >35 and BMI >30 with comorbidities[30]. The most common bariatric surgical procedures are Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy (SG), biliopancreatic diversion (BPD), and single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S), each benefiting the metabolic profiles of obese individuals to varying stage[24]. An example of this benefit is illustrated in the study by Maciejewski et al., which examined the impact of various bariatric surgery techniques on weight loss over a 1-year and 10-year horizon. Patients who underwent RYGB lost approximately 31.0% (CI95%: 30.4%–31.6%) and 28.6% (CI95%: 19.5%–37.6%) of their initial weight after 1 and 10 years, respectively, with an average weight loss of 41.3 kg. On the other hand, patients who underwent SG lost 23.4% (CI95%: 21.8%–24.7%) of their initial weight after one year[31].

Therefore, various options are available for addressing obesity, requiring coordinated efforts across different therapeutic interventions. In this regard, it is crucial to understand the potential risks and adverse effects of each intervention, as well as the individual factors and preferences of each patient in a context of personalized integral obesity therapy.

Results

Analysis of improvement measures

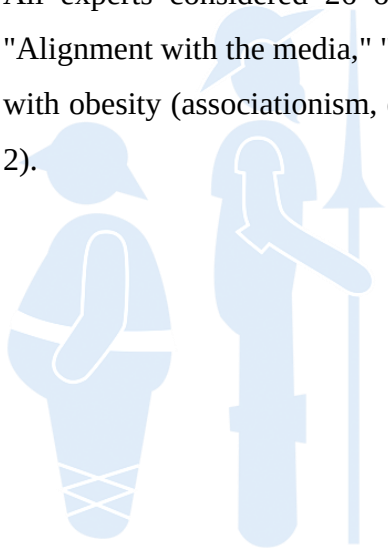
Of the 38 improvement proposals that emerged from the discussions of the clinical and management WGs, the consolidation WG selected 29 measures based on their higher relevance and feasibility of implementation. These measures were grouped into the following 10 areas, and a full definition of the 29 recommendations has been provided in the supplemental material:

- *Health education and stigma reduction* (5 proposals) aimed at improving health education to enhance social and professional awareness regarding obesity and eliminate the stigma and blame associated with obesity, through providing education regarding causes, consequences and treatment, and recognizing it as a chronic multifactorial disease, rather than merely a risk factor for other conditions
- *Anti-obesity plans* (2 proposals), which encompasses action measures to address obesity from a broader, more planned, and integrated perspective
- *A common strategy for continuity of care* (5 proposals) aimed at enhancing the comprehensive care management of people with severe obesity and improving coordination between the various healthcare and non-healthcare levels related to obesity
- *Personalized care plans* (3 proposals) aimed at improving the comprehensive care management of people with severe obesity and enhancing coordination between the various healthcare and non-healthcare sectors involved in obesity management, according with a patient-centred approach
- *Optimization of access to specific treatments for obesity, based on a shared decision-making process* (2 proposals) aimed at optimizing the management of the disease and reducing waiting lists to bariatric obesity surgery, by enhancing information and the management of candidate cases.
- *Improvement of systematic data collection* (4 proposals) which includes measures to obtain systematic and high-quality primary data on obesity, processes, and outcomes, and to improve the flow of information between primary care and other specialists working at ambulatory and hospital levels
- *Understanding and shared decision-making* (4 proposals) which includes measures to help patients better understand their condition, manage it emotionally, be able to include their preferences, values and needs in the decision-making

process and become co-responsible for clinical decisions alongside healthcare professionals, in order to optimize disease management and improve the patient's quality of life

- *Obesity-related associations* (1 proposal) which aims to empower people with severe obesity and enhance their representation through patient associations
- *Involvement of scientific societies* (2 proposals), focused on raising awareness among health care professionals in different medical specialties related to obesity about its importance and enhancing their knowledge and expertise in this disease
- *Taking action* (1 proposal), an area focused on testing the applicability of the measures proposed in this project in real-world practice and assessing the impact of the various interventions

All experts considered 26 of the 29 measures to be relevant, while the measures "Alignment with the media," "Pilot program," and "Promotion of the voice of the patient with obesity (associationism, etc.)" were deemed relevant by 89% of the experts (Table 2).



Name of measures	Relevance		Feasibility	
	Relevant	No relevant	High	High-Medium
Obesity Working Groups	100%	0%	100%	100%
Education for society	100%	0%	78%	100%
Improving information for patients	100%	0%	78%	100%
Educational materials on obesity	100%	0%	78%	89%
Collaboration between scientific societies	100%	0%	78%	100%
Pilot Program	89%	11%	78%	100%
Training in Primary Care professionals	100%	0%	67%	100%
Guides and documents on obesity	100%	0%	67%	100%
Professional-patient therapeutic agreement	100%	0%	67%	78%
Systematic data collection on obesity in PC	100%	0%	67%	100%
Ensuring understanding	100%	0%	67%	78%
Information about the costs and benefits of each treatment option	100%	0%	56%	67%
Monitoring and evaluation of the Personalized Plan	100%	0%	44%	100%
Prioritization systems	100%	0%	44%	89%
Shared decision-making	100%	0%	44%	100%
Obesity training from university	100%	0%	33%	56%
Regional transposition of the National Plan	100%	0%	33%	56%
Assistance routes	100%	0%	33%	100%
PC involvement	100%	0%	33%	100%
Customized Plan	100%	0%	33%	89%
Measurement and evaluation systems in HC	100%	0%	33%	67%
Media alignment	89%	11%	33%	67%
National Plan	100%	0%	22%	78%
Obesity Unit	100%	0%	22%	67%
Equipment and resources	100%	0%	22%	56%
Interoperability of information systems	100%	0%	22%	78%
Promotion of the voice of the patient with obesity (associationism, etc.)	89%	11%	22%	56%
Outcomes that matter to patients	100%	0%	11%	89%
Coordination with non-health resources	100%	0%	0%	89%

Table 2. Results of the evaluation of improvement measures by experts (% of responses)

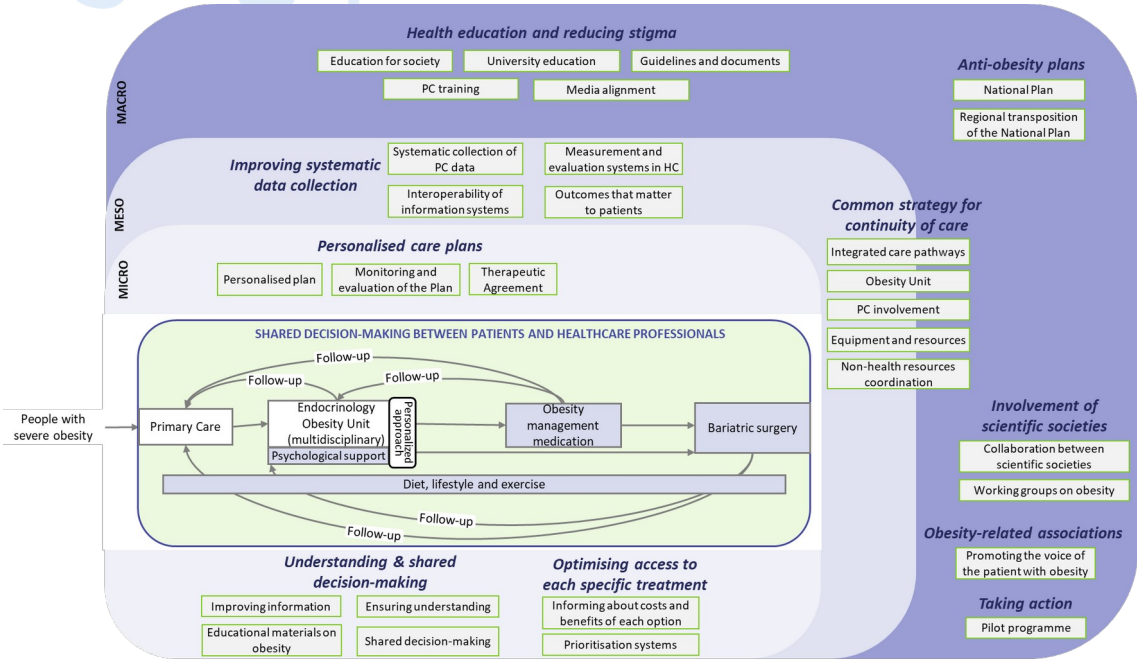
Regarding feasibility for implementation, the measure with the highest score was "Obesity working groups," which was selected with high feasibility by 100% of the experts. This was followed by "Education for society", "Improvement of patient information", "Educational materials on obesity," “Collaboration between scientific societies” and “Pilot Program” each of which was considered highly feasible by 78% of the experts (Table 2). In contrast, the measures with the lowest scores for high feasibility were "Coordination with non-health resources," selected with high feasibility by 0% of

the experts. This measure was followed by ‘National Plan’, ‘Obesity Unit’, ‘Equipment and resources’, ‘Interoperability of information systems’ and ‘Promotion of the voice of the patient with obesity (associations, etc.)’ selected with high feasibility by 22% of the experts.

Implementing the measures

During the consolidation meeting, the experts developed an obesity management algorithm that incorporated the 29 improvement measures validated during the meeting. To facilitate understanding, the measures were grouped according to their scope of action, whether at the micro-management, meso-management, or macro-management levels.

Regarding the micro-management of people with severe obesity, the patient enters the care pathway through primary care, which is the first level of care within the Spanish NHS. Then, the patient should be referred to the Obesity Unit and the endocrinology department to assess the patient's condition and develop a personalized obesity management plan, in conjunction with other medical specialties such as psychology/psychiatry and nutrition. If the patient meets the criteria for bariatric surgery, he/she is referred to the surgical department for the procedure and subsequent follow-up by the Obesity Unit (Figure 1). The improvement measures related to personalized care, understanding, and shared decision-making, and optimizing access to bariatric surgery are aimed at enhancing this level of micro-management.



Note: HC: hospital care; PC: primary care
The macrolevel refers to national/regional systems and policies, the meso-level signifies the health care organization and hospitals/hospital wards, and the microlevel represents the individuals including patients, carers, and clinicians.

Figure 1. Algorithm to improve the comprehensive management of severe obesity

On the other hand, measures related to systematic data recording and the common strategy for continuity of care would be classified within the meso-management domain. In this respect, given the characteristics of the measures related to systematic data recording, these can also be classified within the macro-management domain. Measures related to the areas of health education, stigma reduction, obesity plans, involvement of scientific societies, obesity-related associations and taking action would fall under the scope of macro-management.

Similarly, the experts developed a table indicating the agents that should lead and participate in the implementation of each of the proposed recommendations. The measures that require the participation of the largest number of agents are: 'Regional transposition of the National Plan,' whose implementation should be led by the Autonomous Communities, with the participation of primary care, hospital care, healthcare managers, PLWO associations , and scientific societies; 'Measurement and evaluation systems in hospital care,' co-led by hospital care and the Management of Health Organizations, with the participation of the Ministry of Health, the Autonomous Communities, patients, and scientific societies; and 'Outcomes that matter to patients,' which should involve the participation of the Ministry of Health, the Autonomous Communities, and the Management of Health Organizations, and should be led by patients, primary care, and hospital care (Table 3). On the other hand, the measures that require the participation of fewer agents are those related to scientific societies, such as 'Guides and documents on obesity,' 'Collaboration between scientific societies,' and 'Obesity Working Groups'.

Areas	Measures	Ministry of Health	AACC	Primary care	Hospital care	Healthcare managers	Patients	Scientific Societies	Other agents
Health education and stigma reduction	Education for society	Lead	Lead						Ministry of Finance, Ministry of Education and Ministry of Consumer Affairs
	Training in Primary Care professionals		Lead	P				P	
	Obesity training from university		P					P	Ministry of Education and Ministry of Universities
	Media alignment							P	Media and the regulatory authority in this area
	Guides and documents on obesity							Lead	
Anti-obesity plans	National Plan			P	P	P			Led by Interterritorial Council of the National Health System
	Regional transposition of the National Plan		Lead	P	P	P	P	P	
Common strategy for continuity of care	Assistance routes			P	P			P	
	Obesity Unit			P	P	Lead	P		
	Primay care involvement		Lead	Lead				P	
	Equipment and resources			P	P	P			
	Coordination with non-health resources					P	P		Local authorities
Personalised care plans	Customized Plan			Lead	Lead		Lead		
	Monitoring and evaluation of the Personalized Plan			Lead	P		P		Nursing, nutritionists
	Professional-patient therapeutic agreement			P	P		P		
Optimising access to specific treatment for	Information about the costs and benefits of each treatment option				Lead	P		Lead	Health Technology Assessment Agencies
	Prioritization systems			P	Lead		P	P	

obesity									
Improving systematic data collection	Systematic data collection on obesity in primary care	P	P	Lead	P	P			
	Measurement and evaluation systems in hospital care	P	P		Lead	Lead	P	P	
	Outcomes that matter to patients	P	P	Lead	Lead	P	Lead		
	Interoperability of information systems	Lead	P	P	P	P			
Understanding & shared decision-making	Improving information for patients		Lead	P	P		P	P	
	Educational materials on obesity				P		P	P	
	Ensuring understanding				P		P	P	
	Shared decision-making			P	P		P	P	
Obesity-related associations	Promotion of the voice of the patient with obesity (associationism, etc.)				P		Lead	P	
Scientific societies	Collaboration between scientific societies							Lead	
	Obesity Working Groups							Lead	
Taking action	Pilot Program		Lead	P		P			

Note: P: They should be involved in the implementation of this measure; AACC: Autonomous Communities

Table 3. Agents to be involved in the suggested improvement measures

Discussion

From our knowledge, this is the first study focusing on the access management recommendations of severe obesity in Spain conceived as a multistakeholder discussion forum, aimed at improving disease management from a broad perspective beyond the purely clinical setting. The multidisciplinary nature of the working groups has enabled a multidimensional approach to the issue, integrating micro, meso, and macro-level perspectives from different profiles. These 13 experts contributed their experience, insights, and expertise to the analysis of the problem, discussion of obstacles and catalysts for change, and the formulation of specific proposals to optimize the care process for individuals with severe obesity in Spain. Many of the proposed measures, however, are also applicable to the field of obesity in general. Our final output is a visual algorithm showing the proposed measures along the patient journey. Potential regional differences will have to be considered when implementing the proposed measures in practice.

The analysis of the proposed measures demonstrates a comprehensive approach to obesity management, emphasizing the importance of collaboration across various healthcare and non-healthcare sectors. Key areas include health education, stigma reduction, and personalized care, while measures related to continuity of care and systematic data collection highlight the need for better coordination between healthcare levels. Notably, the experts identified certain areas with high feasibility for implementation, such as "Obesity Working Groups" and "Educational materials on obesity". However, measures involving non-health resources, like the "Coordination with non-health resources," were deemed less feasible. The leadership of the Autonomous Communities is essential for the successful implementation of the proposed measures.

Moreover, it is important to ensure that the patient has adequately understood the information provided by healthcare professionals in order to make the best possible shared decision regarding the management of their illness, taking into account all options -diet/lifestyle/exercise, pharmacological treatment or bariatric surgery-. In this regard, PLWO should be more clearly involved in all phases of the process, ensuring that the treatment received aligns with their preferences, values and needs, and taking co-responsibility for clinical decisions together with healthcare professionals as part of the strategy to improve health outcomes and patient experience. In Spain, there are already some successful experiences regarding the integrative and collaborative approach in the chronic management of obesity in primary and tertiary care[32].

In this regard, the results of this study are consistent with other available studies on the management of obesity, which indicate that addressing obesity requires a comprehensive, holistic, multidisciplinary approach at different levels, extending beyond the clinical setting[33,34]. The management of people with severe obesity in Spain must be multidisciplinary, with a process that places the patient at the centre of the system, allowing for interaction between different specialties, and encouraging greater involvement of primary care, nutritionists and psychologists. To achieve this, processes must be optimized through joint training efforts, both within the healthcare sector and across society, seeking the involvement of all stakeholders. This approach aligns with the Spanish GIRO Guide, recently published by the Spanish Society for the Study of Obesity (SEEDO)[35].

Our study faces several limitations. First, the findings are based on the opinion of a group of participants, which may be influenced by their personal experiences and inherent human biases. Nevertheless, the participants were well-informed about the current state of obesity in Spain and had extensive professional backgrounds. Second, a convenience sample of experts was selected for this study, and the small sample size (n = 13) may not be representative of the broader issue. Third, some of the proposed measures are general in nature, lacking the details necessary for practical implementation. Hence the importance of conducting a pilot program that would help translate the recommendations into real clinical practice, the impact of which should be evaluated.

Conclusions

This study can serve as a starting point for stakeholders involved in managing the healthcare pathway and access for people with obesity, encouraging a shift towards a holistic approach to treatment. It is essential to implement measures that improve the health and quality of life of people with obesity in Spain. A coordinated effort among various stakeholders, led by the Autonomous Communities, is required for the healthcare system to effectively address the emerging technical, political, economic, and social challenges. Future studies should delve deeper into this issue to identify the most effective methods for implementing these recommendations over time.

Acknowledgments

This article has benefited from the contributions in methodology and content recommendations of Dra. Natalia Robledinos Antón, Dra. Claudia Fernández Piciochi, and Dr. Pablo Torres Costales.

Funding

This study was supported by Johnson & Johnson S.A. Spain.

References

1. Obesidad. Accessed October 20, 2023. https://www.who.int/es/health-topics/obesity

2. Ministerio de Sanidad. Sanidad en datos. Porcentaje de personas con obesidad, por sexo según comunidad autónoma. 2024. Accessed September 27, 2024. https://www.sanidad.gob.es/estadEstudios/sanidadDatos/tablas/tabla10.htm

3. Agencia Española de Seguridad Alimentaria y Nutrición (Ministerio de Consumo), Centro, Nacional de Epidemiología (Instituto de Salud Carlos III). *Estudio ENE-COVID: Situación Ponderal de La Población Adulta En España*.; 2023. https://www.aesan.gob.es/AECOSAN/docs/documentos/nutricion/ENE_COVID_ADULTOS_FINAL.pdf

4. Ministerio de Sanidad. *Estrategia En Salud Cardiovascular Del Sistema Nacional de Salud (ESCAV)*.; 2022. https://www.caib.es/sites/planificaciosanitaria/f/393689

5. Lengerke T von, Krauth C. Economic costs of adult obesity: A review of recent European studies with a focus on subgroup-specific costs. *Maturitas*. 2011;69(3):220-229. doi:10.1016/j.maturitas.2011.04.005

6. Pendergast K, Wolf A, Sherrill B, et al. Impact of Waist Circumference Difference on Health-Care Cost among Overweight and Obese Subjects: The PROCEED Cohort. *Value in Health*. 2010;13(4):402-410. doi:10.1111/j.1524-4733.2009.00690.x

7. Arteaga-González IJ, Martín-Malagón AI, Ruiz De Adana JC, De La Cruz Vigo F, Torres-García AJ, Carrillo-Pallares AC. Bariatric Surgery Waiting Lists in Spain. *OBES SURG*. 2018;28(12):3992-3996. doi:10.1007/s11695-018-3453-z

8. Alto Comisionado contra la Pobreza Infantil. Plan estratégico nacional para la reducción de la obesidad infantil (2022 - 2030). Published online 2022. https://www.comisionadopobrezainfantil.gob.es/sites/default/files/Plan_obesidad_Completo_DIGITAL_paginas_1.pdf

9. Salvador J, Vilarrasa N, Poyato F, Rubio MÁ. Perceptions, Attitudes, and Barriers to Obesity Management in Spain: Results from the Spanish Cohort of the International ACTION-IO Observation Study. *J Clin Med*. 2020;9(9):2834. doi:10.3390/jcm9092834

10. Lin X, Li H. Obesity: Epidemiology, Pathophysiology, and Therapeutics. *Front Endocrinol (Lausanne)*. 2021;12:706978. doi:10.3389/fendo.2021.706978

11. Global BMI MortalityCollaboration, Di Angelantonio E, Bhupathiraju S, et al. Body-mass index and all-cause mortality: individual-participant-data meta-analysis of 239 prospective studies in four continents. *Lancet*. 2016;388(10046):776-786. doi:10.1016/S0140-6736(16)30175-1

12. Sarwer DB, Polonsky HM. The Psychosocial Burden of Obesity. *Endocrinol Metab Clin North Am*. 2016;45(3):677-688. doi:10.1016/j.ecl.2016.04.016

13. Busutil R, Espallardo O, Torres A, Martínez-Galdeano L, Zozaya N, Hidalgo-Vega Á. The impact of obesity on health-related quality of life in Spain. *Health Qual Life Outcomes*. 2017;15(1):197. doi:10.1186/s12955-017-0773-y

14. Banegas JR, Villar F, Graciani A, Rodríguez-Artalejo F. Epidemiología de las enfermedades cardiovasculares en España. *Rev Esp Cardiol*. 2006;6:3G-12G. doi:10.1016/S1131-3587(06)75324-9

15. Gomis R, Artola S, Conthe P, Vidal J, Casamor R, Font B. Prevalencia de diabetes mellitus tipo 2 en pacientes ambulatorios con sobrepeso u obesidad en España. Estudio OBEDIA. *Med Clin (Barc)*. 2014;142(11):485-492. doi:10.1016/j.medcli.2013.03.013

16. Díaz Vera AS, Abellán Alemán J, Segura Fragoso A, et al. Prevalencia y factores de riesgo asociados a la dislipidemia en pacientes diabéticos tipo 2 de la Comunidad de Cantabria. *Endocrinología, Diabetes y Nutrición*. 2020;67(2):102-112. doi:10.1016/j.endinu.2019.04.010

17. Kim MS, Kim WJ, Khera AV, et al. Association between adiposity and cardiovascular outcomes: an umbrella review and meta-analysis of observational and Mendelian randomization studies. *Eur Heart J*. 2021;42(34):3388-3403. doi:10.1093/eurheartj/ehab454

18. European Association for the Study of Obesity (EASO). Obesity: the Hard Facts. Published online 2024. https://cdn.easo.org/wp-content/uploads/2022/01/18150002/obesity-hardfacts.pdf

19. Instituto Nacional del Cáncer. Hoja informativa sobre obesidad y cáncer. March 24, 2023. Accessed October 16, 2023. https://www.cancer.gov/espanol/cancer/causas-prevencion/riesgo/obesidad/hoja-informativa-obesidad

20. Luppino FS, de Wit LM, Bouvy PF, et al. Overweight, Obesity, and Depression: A Systematic Review and Meta-analysis of Longitudinal Studies. *Archives of General Psychiatry*. 2010;67(3):220-229. doi:10.1001/archgenpsychiatry.2010.2

21. Dobbs R, Sawers C, Thompson F, et al. *Overcoming Obesity: An Initial Economic Analysis*. McKinsey Global Institute; 2014. https://www.mckinsey.com/~/media/mckinsey/business%20functions/economic%20studies%20temp/our%20insights/how%20the%20world%20could%20better%20fight%20obesity/mgi_overcoming_obesity_full_report.ashx

22. World Obesity Federation. Economic impact of overweight and obesity. Spain. Published online 2019. https://data.worldobesity.org/economic-impact-new/countries/ES.pdf

23. Caixàs A, Villaró M, Arraiza C, et al. Documento de consenso de la Sociedad Española de Obesidad (SEEDO) y de la Sociedad Española de Médicos de Atención Primaria (SEMERGEN) sobre la continuidad asistencial en obesidad entre Atención Primaria y Unidades Especializadas Hospitalarias 2019. *Medicina Clínica*. 2020;155(6):267.e1-267.e11. doi:10.1016/j.medcli.2019.10.014

24. Lin X, Li H. Obesity: Epidemiology, Pathophysiology, and Therapeutics. *Frontiers in Endocrinology*. 2021;12. Accessed October 18, 2023. https://www.frontiersin.org/articles/10.3389/fendo.2021.706978

25. Gjermeni E, Kirstein AS, Kolbig F, et al. Obesity–An Update on the Basic Pathophysiology and Review of Recent Therapeutic Advances. *Biomolecules*. 2021;11(10):1426. doi:10.3390/biom11101426

26. Chakhtoura M, Haber R, Ghezzawi M, Rhayem C, Tcheroyan R, Mantzoros CS. Pharmacotherapy of obesity: an update on the available medications and drugs under investigation. *eClinicalMedicine*. 2023;58. doi:10.1016/j.eclinm.2023.101882

27. EMA. European public assessment reports (EPARs). Download medicine data. European Medicines Agency. 2023. Accessed March 30, 2023. https://www.ema.europa.eu/en/medicines/download-medicine-data

28. Ministerio de Sanidad. BIFIMED: Buscador de la Información sobre la situación de financiación de los medicamentos - Nomenclátor de ABRIL - 2024. 2024. Accessed April 17, 2024. https://www.sanidad.gob.es/profesionales/medicamentos.do

29. SEEN. Técnicas quirúrgicas para el tratamiento de la obesidad. Presented at: 2019. https://www.seen.es/ModulGEX/workspace/publico/modulos/web/docs/apartados/19/050619_121621_9468586729.pdf

30. Eisenberg D, Shikora SA, Aarts E, et al. 2022 American Society for Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO): Indications for Metabolic and Bariatric Surgery. *Surgery for Obesity and Related Diseases*. 2022;18(12):1345-1356. doi:10.1016/j.soard.2022.08.013

31. Maciejewski ML, Arterburn DE, Van Scoyoc L, et al. Bariatric Surgery and Long-term Durability of Weight Loss. *JAMA Surg*. 2016;151(11):1046-1055. doi:10.1001/jamasurg.2016.2317

32. Morer C, Úbeda M, Ovejas A, et al. Integrative and Collaborative Approach in the Chronic Management of Obesity in Primary and Tertiary Care Setting: Vall Hebron-SAP Muntanya Healthcare Route. *Obes Facts*. 2023;16(3):249-254. doi:10.1159/000528207

33. Bagnall AM, Radley D, Jones R, et al. Whole systems approaches to obesity and other complex public health challenges: a systematic review. *BMC Public Health*. 2019;19(1):8. doi:10.1186/s12889-018-6274-z

34. Europe TLRH. A holistic approach is needed to overcome the obesity epidemic. *The Lancet Regional Health – Europe*. 2022;17. doi:10.1016/j.lanepe.2022.100431

35. Lecube A, Azriel S, Barreiro E, et al. “Guía Española GIRO: guía española del manejo integral y multidisciplinar de la obesidad en personas adultas, 2024.” Published online 2024. https://semfyc.es/storage/scientific_evidence/resources/Guia%20GIRO_240305_082333.pdf