

Approach to patients with obesity and other cardiovascular risk factors in primary care using the Delphi methodology

Pedro Morillas-Blasco

Hospital General Universitario de Elche

Silvia Gómez-Moreno

Virgen del Rocío University Hospital

Tomas Febles Palenzuela

Hospiten Sur, Santa Cruz of Tenerife, Spain.

Vicente Pallarés-Carratalá (✉ pallares.vic@gmail.com)

Castellon Mutual Insurance Union

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Abstract

Background: Implementing preventive strategies for patients with obesity would improve the future burden of cardiovascular diseases. The objective was to present the opinions of experts on the approach to treat patients with obesity and other cardiovascular risk factors from a primary care perspective in Spain.

Methods: Using the Delphi technique, a 42-question questionnaire was developed based on results from the scientific literature and sent to 42 experts in primary care. The blocks of knowledge addressed were (1) evaluation of the degree of incidence of obesity and associated cardiovascular risk factors, (2) evaluation of the barriers in diagnosis, prescription, and follow-up by the primary care physician or specialist of these patients, (3) improvement in obesity-related parameters in a patient being treated with lipid-lowering and antihypertensive drugs, and (4) analysis of improvements in cardiovascular parameters in responding patients under pharmacological treatment. Two rounds of participation were held.

Results: Overall, 78.57% of the experts agreed with the questions posed in block 1, 10.00% in block 2, 61.9% in block 3, and 85.71% in block 4. Our results show the high awareness of the close relationship between obesity and cardiovascular risk factors among primary care physicians. It is necessary to use a checklist in primary care that includes metabolic parameters such as body mass index, waist circumference, and levels of C-reactive protein and ferritin. It is also useful to combine pharmacological treatment, such as liraglutide, with a change in lifestyle to achieve therapeutic goals in this population.

Conclusions: There is a high awareness among experts in Spain about obesity and other cardiovascular risk factors and the need to address this pathology comprehensively. The need to incorporate specific tools in primary care consultations that allow better assessment and follow-up of these patients, such as cuffs adapted to arm size or imaging techniques to assess body fat, is evident.

Introduction

Obesity is considered a multifactorial disease in which environmental and genetic factors interact [1]. Increasingly sedentary lifestyles [2] and unhealthy diets [3] mean that obesity is increasing in prevalence in developed countries and is considered a serious public health problem [4].

Although there are various anthropometric measurements [5], in practice, obesity is diagnosed as a body mass index (BMI) ≥ 30 kg/m², although if the BMI is between 25 and 39 kg/m², it is recommended to complement the assessment it with a waist circumference (WC) measurement since it allows the estimation of visceral obesity and cardiometabolic risk [6–8].

Obesity is associated with an increased risk of cardiovascular disease (CVD), particularly ischemic heart disease and heart failure, including atrial fibrillation, ventricular arrhythmias, and sudden death [9]. The increased risk of CVD, particularly atherosclerotic CVD, among people with obesity is largely mediated by

established traditional risk factors, such as insulin resistance, type 2 diabetes mellitus, dyslipidemia, hypertension, and obstructive apnea sleep [10]. In addition, obesity can be considered a low-grade chronic inflammatory pathology, where visceral and epicardial adipose tissue generate high plasma levels of proinflammatory cytokines such as tumor necrosis factor-alpha (TNF- α) or C-reactive protein [11].

CVDs are the leading cause of morbidity and mortality worldwide, which is why they are a cause for particular concern, since they also place significant pressure on healthcare systems and cause a loss of work productivity and poor quality of life for the patient [12]. The timely implementation of preventive strategies for patients with obesity would improve the future burden of CVD related to weight and the burden of medical care [13].

This study aimed to reach a consensus on the approach to patients with obesity and other cardiovascular risk factors from a primary care (PC) perspective in Spain.

Methods

A survey of experts was conducted using the Delphi methodology. Members of the expert panel were chosen based on having at least 20 years of experience in caring for patients with obesity and cardiovascular risk factors. They were invited to participate in the consensus through email questionnaires. The panel of experts initially comprised 42 experts.

A review of the scientific literature was conducted to identify evidence gaps supporting the content of the survey. The steering committee directed the development of the surveys for each round of voting, reviewed the responses and summaries collected, validated the systematic literature search, and critically appraised the evidence. A total of 42 initial questions were asked, which were distributed in the following blocks of knowledge: (1) evaluation of the degree of incidence of obesity and associated cardiovascular risk factors, (2) evaluation of barriers in diagnosis, prescription, and follow-up of these patients by the primary care physician or specialist, (3) improvement in obesity-related parameters in a patient being treated with lipid-lowering and antihypertensive drugs, and (4) analysis of improvements in cardiovascular parameters in responding patients under pharmacological treatment.

Two rounds were conducted for the experts: the first between October 15 and November 18, 2021, and the second between December 14 and January 17, 2022. The questions were anonymous and were answered through online questionnaires.

All procedures were performed following the relevant guidelines of the Declaration of Helsinki and were approved by the Review Committee of the Spanish Society of Primary Care Physicians (SEMERGEN).

Statistical analysis

Questions with discrete quantitative answers for each item were evaluated using a Likert scale from 0 to 10 points (0 = completely disagree; 10 = completely agree). The consensus criterion used was as follows:

for agreement, a median ≥ 8 and an interquartile range (IQR) < 0.4 ; for disagreement, a median ≤ 2 and an IQR < 0.4 .

The questions with categorical answers were evaluated through the distribution of frequencies and percentages. The consensus criterion for agreement for questions with nominal categorical answers was that one of the answers accounted for at least 50% of the total responses, and for questions with a dichotomous categorical answer or with several categories with multiple answers, one of the responses accounted for at least 70% of the total responses.

Data were analyzed using Gandia Barbwin version 7.0.2110.5 (Tesi S.L., Gandia, Valencia, Spain) and XLSTAT® version 21.04 (Addinsoft SARL, Paris, France) of Microsoft Excel®.

Results

In the first round, 97.62% of the experts contacted participated, and in the second round, 73.81% participated. The questions and answers are shown in Tables 1–3.

Table 1

Discrete quantitative response questions under the Likert scale. IQR: Interquartile range; Me: Median;

BLOCK 1	FIRST ROUND			SECOND ROUND		
	Me	IQR	Consensus	Me	IQR	Consensus
Q1. In the context of the consultation with a patient with obesity:						
Determining metabolic and hemodynamic parameters at an opportunistic visit (regardless of age) is necessary to establish an approach strategy in primary care.	9	0.22	Yes			
In primary care, BMI and waist circumference are underreported in the clinical history of obese patients.	8	0.38	Yes			
It would be useful to have a checklist for managing patients with obesity and comorbidities or associated cardiovascular disease in the family doctor's office.	9	0.22	Yes			
Patients with obesity and associated risk factors should be asked whether they have visited a nutrition specialist (public or private) since the last contact with their primary care doctor.	8	0.50	No	8	0.25	Yes
It is necessary to ask and reinforce patients at each visit about their lifestyle and changes in their weight, and adequate compliance with the treatment of their associated comorbidities should be confirmed.	10	0.10	Yes			
A telematic consultation is a good option for monitoring patients with obesity and associated cardiometabolic comorbidities.	8	0.38	Yes			
Q2. Concerning cardiovascular risk in patients with obesity:						
In primary care, calculating cardiovascular risk (SCORE) in these patients is not usual.	4	1.38	No	5	1.00	No
The inclusion of BMI and waist circumference in the cardiovascular risk tables would improve the approximation of the real risk of these patients.	9	0.22	Yes			
Q3. Concerning comorbidities associated with obesity:						
The incidence of one or more comorbidities is much higher among obese patients than among patients with normal weight and significantly reduces life expectancy.	10	0.1	Yes			

BLOCK 1	FIRST ROUND			SECOND ROUND		
In clinical practice, screening for obesity is performed only for patients with high/very high cardiovascular risk.	6	0.83	No	7	0.29	No
In controlling blood pressure in hypertensive patients with obesity, only a small percentage of primary care consultations in Spain have an arm cuff for patients with obesity.	7	0.64	No	7	0.57	No
For obese patients receiving antihypertensive and/or dyslipidemia treatment, it is recommended to assess the complete lipid profile, basal blood glucose, liver enzymes, kidney function, and HbA1c (if they have diabetes) in addition to measuring blood pressure, weight, and waist circumference.	10	0.05	Yes			
Q4. Please indicate your degree of agreement with each of the following statements related to the approach to treatment of patients with obesity and comorbidities:						
The patient must be explicitly asked about their understanding of the recommendations, advice, and prescriptions made and agree on the periodicity of the review visits.	10	0.10	Yes			
When necessary, the doctor should agree with the patient on the best way to give instructions for proper compliance with treatment.	10	0.15	Yes			
BLOCK 3						
	Me	IQR	Consensus	Me	IQR	Consensus
Q7. For an obese patient taking lipid-lowering and hypotensive drugs, what therapeutic options can we use to improve BMI, waist circumference, and C-reactive protein levels? Indicate your level of agreement with each of the following options:						
Lifestyle modifications for any patient.	10	0.10	Yes			
Pharmacotherapy for patients with grade 2 overweight (27-29.9 kg/m ²).	6	0.75	No	6	0.50	No
Pharmacotherapy for obese patients (≥ 30 kg/m ²).	9	0.22	Yes			

BLOCK 1	FIRST ROUND			SECOND ROUND		
Bariatric surgery for a patient with a BMI > 35 kg/m ² .	7	0.50	No	7	0.43	No
Bariatric surgery for a patient with a BMI > 40 kg/m ² .	9	0.11	Yes			
Q8. For an obese patient taking lipid-lowering and hypotensive drugs, to what extent do you agree with each of the following scenarios?:						
Weight loss is beneficial only if a normal weight is achieved.	2	2.25	No	1	3.00	No
Pharmacotherapy is effective for weight loss, BMI reduction, and inflammatory parameters.	9	0.33	Yes			
Pharmacotherapy can lead to adverse effects.	7	0.57	No	7	0.43	No
Pharmacotherapy is associated with high economic costs.	8	0.25	Yes			
Bariatric surgery should be considered for patients at high risk of obesity-related complications and who have failed to lose weight with other measures (BMI > 35 mg/kg ²).	9	0.22	Yes			
Q11. When should pharmacotherapy be started for an obese patient who is taking lipid-lowering and hypotensive drugs?:						
Patients who do not show improvements in BMI, waist circumference, and C-reactive protein levels.	8	0.44	No	8	0.25	Yes
BMI ≥ 27 kg/m ² + associated comorbidity.	8	0.50	No	8	0.25	Yes
BMI ≥ 30 kg/m ² .	9	0.33	Yes			
BMI ≥ 35 kg/m ² .	10	0.10	Yes			
BMI ≥ 40 kg/m ² .	10	0.10	Yes			
BLOCK 4						
	Me	IQR	Consensus	Me	IQR	Consensus
Q13. Please indicate your grade according to the following statement:						

BLOCK 1	FIRST ROUND			SECOND ROUND		
<p>BMI and waist circumference should be included in hospital discharge reports and/or medical records of patients admitted for an acute coronary event and/or coronary revascularization procedure.</p>	10	0.10	Yes			
<p>Q16. Please indicate your grade according to the following statement:</p>						
<p>For a nondiabetic patient with chronic coronary artery disease and a BMI > 30 kg/m² who does not achieve the recommended therapeutic goals of blood pressure figures and/or plasma cholesterol levels despite standard treatment, I consider it appropriate to start treatment with a GLP-1 receptor agonist to improve these parameters.</p>	9	0.22	Yes			
<p>Q18. Please indicate your grade according to the following statement:</p>						
<p>Given that studies of pharmacological intervention in obesity have not shown an apparent reduction in the incidence of ischemic heart disease, unlike bariatric surgery, the treatment of choice for coronary patients with a BMI > 35 kg/m² despite lifestyle modifications should be bariatric surgery (in the absence of contraindications).</p>	7	0.57	No	7	0.43	No

Table 2
Response-ordering questions. CV: Coefficient of variation.

BLOCK 2	FIRST ROUND			SECOND ROUND		
	Mean	CV	Consensus	Mean	CV	Consensus
Q5. Please indicate the relevance of the potential barriers to the use of liraglutide 3.0 mg BY THE PRIMARY CARE PHYSICIAN:						
The low perception of obesity as an important cardiometabolic risk factor in primary care.	2.90	0.50	No	2.70	0.52	No
The lack of financing of the drug by Social Security.	4.10	0.38	No	4.00	0.40	No
The need for patient control visits at the beginning of treatment to monitor weight loss and adjust the dose.	2.80	0.50	No	2.60	0.54	No
Subcutaneous administration of the drug.	2.60	0.36	No	2.90	0.42	No
The frequency of daily administration of the drug.	2.60	0.45	No	2.80	0.30	Yes
Q6. Please indicate the relevance of the potential barriers to the use of liraglutide 3.0 mg BY PRIMARY CARE PATIENTS:						
Rejection of pharmacological treatment for obesity by the patient.	2.20	0.67	No	2.20	0.64	No
The patient's fear of regaining weight when stopping treatment.	3.10	0.30	Yes	2.80	0.34	No
The patient fears that they may abandon the treatment or that it may become an indefinite treatment.	3.00	0.35	No	2.80	0.41	No
Subcutaneous administration of the drug.	2.60	0.48	No	3.20	0.37	No
The price of the treatment.	4.1	0.39	No	4.1	0.41	No
BLOCK 3	FIRST ROUND			SECOND ROUND		
	Mean	CV	Consensus	Mean	CV	Consensus

BLOCK 2	FIRST ROUND			SECOND ROUND		
P9. For an obese patient who is taking lipid-lowering and hypotensive drugs, to what extent do you think it is appropriate to use each of the following pharmacological options to improve BMI parameters, waist circumference and C-reactive protein levels?:						
Metformin.	2.20	0.58	No	1.90	0.58	No
Orlistat.	2.30	0.34	No	2.60	0.34	No
Liraglutide.	3.00	0.38	No	3.00	0.46	No
Orlistat + liraglutide.	2.50	0.45	No	2.60	0.31	No

Table 3
Categorical response questions.

BLOCK 3	FIRST ROUND	SECOND ROUND
Q10. Based on his experience, what would be the best starting treatment guideline for reducing BMI parameters, waist circumference and C-reactive protein levels for an obese patient taking lipid-lowering and hypotensive drugs?:	%	%
Liraglutide + lifestyle changes.	73.2	
Orlistat + lifestyle changes.	4.9	
Metformin + lifestyle changes.	7.3	
Liraglutide + orlistat + lifestyle changes.	14.6	
Q12. What additional laboratory parameters do you think should be measured in obese patients who are taking lipid-lowering and hypotensive drugs?:	%	%
C-reactive protein.	97.6	Yes
Ferritin.	70.7	Yes
Fasting insulin.	61.0	
Homocysteine.	34.1	
Fibrinogen.	26.8	
BLOCK 4		
Q14. Since visceral fat is a prothrombotic and proinflammatory risk marker, should an imaging technique be incorporated into routine practice to obtain information on the distribution and characteristics of visceral fat in obese ischemic patients (e.g., hepatic ultrasound, pericardial ultrasound, axial computed tomography, magnetic resonance imaging)?:	%	%
No, it does not provide relevant information for the management and follow-up of these patients.	9.8	3.2
It could be useful to propose a more intensive treatment for some selected patients.	48.8	67.7
Yes, because it provides relevant information that can influence these patients' prognosis and/or treatment.	41.5	29.0
Q15. To achieve a direct impact on survival in the medium-long term and the absence of clinical trials specifically focused on it, what should be the weight loss goal for patients with grade 1 overweight or obesity (BMI < 35 kg/m²) and chronic ischemic heart disease?	%	%
No goal. Several studies have shown that subjects with established coronary disease and grade 1 overweight or obesity have a better prognosis than subjects with normal or low weight (obesity paradox).	0	

BLOCK 3	FIRST ROUND	SECOND ROUND
Weight reduction < 5%.	2.4	
5–10% weight reduction.	53.7	
Weight reduction ≥ 10%.	43.9	
Q17. For a patient with a BMI > 30 kg/m² who has suffered a coronary event, should we initially propose a specific pharmacological treatment associated with lifestyle changes, or is a more staggered approach preferable, such as introducing drugs later if weight goals are not achieved?:	%	%
Due to the potential negative prognostic impact of obesity in this high-risk patient, it is better to combine pharmacological treatment with lifestyle modification initially.	61.0	
Stepwise management is preferable: start lifestyle modifications (diet + physical exercise + behavior modification) and introduce drugs at 3–6 months if the objectives are not achieved.	39.0	
Q19. What do you think should be the recommended diet for coronary patients with obesity?:	%	%
Hypocaloric diet.	29.3	16.1
Mediterranean diet enriched with olive oil and nuts.	46.3	74.2
Low-carbohydrate diet.	4.9	3.2
Low-fat diet.	19.5	6.5

BLOCK I. Evaluation of the degree of incidence of obesity and associated cardiovascular risk factors

The experts concluded that for an obese patient, regardless of age, it is necessary to assess metabolic and hemodynamic parameters in an opportunistic visit. It was recommended to establish an approach strategy in PC through a checklist. The experts indicated that BMI and WC are underreported and that it would be desirable to include them in cardiovascular risk tables to better calculate the probability of risk.

On the other hand, the patient must be asked and reinforced at each visit regarding their lifestyle and changes in their weight, and adequate compliance with the treatment must be confirmed, with telematic consultation being a good option for follow-up. Additionally, it is necessary to ensure that the patient understands the information provided by the doctor to carry out the treatment correctly and agrees on the periodicity of the review visits.

Experts consider that the incidence of one or more comorbidities is much higher among obese patients than among patients of normal weight and significantly reduces life expectancy. On the other hand, for obese patients receiving antihypertensive and/or dyslipidemia treatment, it is recommended to evaluate

the complete lipid profile, basal glycemia, liver enzymes, renal function, and HbA1c (if they have diabetes), in addition to measuring blood pressure, weight and WC.

Finally, there was consensus in the second round that patients with obesity and associated risk factors should be asked whether they have visited a nutrition specialist (public or private) since the last contact with their PC doctor.

On the other hand, no consensus was reached on using the cardiovascular risk calculation tool (SCORE). In addition, screening is carried out only for patients with high/very high cardiovascular risk, and blood pressure measurement is carried out only for a small percentage of patients, since an arm cuff for patients with obesity is not available in most outpatient PC clinics.

In the first round, the degree of agreement was 71.43%, and in the second round, there was no final consensus for 21.43% of the total questions in the block.

BLOCK II. Evaluation of barriers in diagnosis, prescription, and follow-up by the primary care physician or specialist

The experts did not reach a consensus on the possible barriers to using liraglutide 3.0 mg in the PC field. In the second round, only on the part of the doctors did the experts reach a consensus of agreement where they identified the frequency of daily administration of the drug as a barrier.

On the patient's side, in the first round, the experts reached a consensus on the patient's fear of regaining weight after stopping treatment as a possible barrier to using liraglutide. However, in the second round, the experts did not agree on this item.

In the first round, the degree of agreement was 10.00%, and in the second round, there was no final consensus for 90.00% of the total questions in the block.

BLOCK III. Improvement of obesity-related parameters in a patient being treated with lipid-lowering and antihypertensive drugs

The experts agreed that for an obese patient who is taking lipid-lowering and hypotensive drugs, there are improvements in BMI, WC, and C-reactive protein; if lifestyle changes occur, pharmacotherapy should be administered even if it has a high economic cost, and bariatric surgery should be performed on patients with a BMI > 40 kg/m² and who have failed to lose weight with other measures.

According to the experience of the experts, pharmacotherapy should be started for patients with a BMI ≥ 30 kg/m², with the best starting guideline being the administration of liraglutide accompanied by changes in lifestyle. Additional laboratory parameters that should be measured are C-reactive protein and ferritin levels.

There was no consensus on administering pharmacotherapy to patients with grade 2 overweight (BMI \geq 27-29.9 kg/m²) or on performing bariatric surgery on patients with a BMI between 35 and 40 kg/m². In addition, there was no consensus among the experts as to the best order of prescription of metformin, orlistat, or liraglutide for improving weight, WC, and C-reactive protein levels. In contrast, there was consensus that it was not necessary for the patient to reach a normal weight to obtain beneficial results. In addition, they assumed that pharmacotherapy could lead to adverse effects.

In the first round, the degree of agreement was 52.38%, and in the second round, there was no final consensus for 38.10% of the total questions in the block.

BLOCK IV. Analysis of improvements in cardiovascular parameters in responding patients under pharmacological treatment

The experts agreed that BMI and WC should be included in hospital discharge reports and/or medical records of patients admitted for an acute coronary event and/or coronary revascularization procedure. Likewise, they considered it necessary to start treatment with a glucagon-like peptide-1 (GLP-1) receptor agonist to improve these parameters in nondiabetic patients with chronic coronary disease and a BMI $>$ 30 kg/m² for whom the therapeutic goals of blood pressure and/or plasma cholesterol levels are not recommended despite standard treatment.

Experts consider that the goal of weight loss in patients with overweight or obesity grade 1 should be approximately 5–10%. On the other hand, for a patient with a BMI $>$ 30 kg/m² who has suffered a coronary event, it is better to initially combine pharmacological treatment with lifestyle changes.

In the second round, the experts agreed that for some selected patients, when proposing a more intensive treatment, it could be helpful to use an imaging technique that provides information on the distribution and characteristics of visceral fat in ischemic patients with obesity (e.g., liver and pericardial ultrasound, axial computed tomography and magnetic resonance imaging). In addition, they recommended a Mediterranean style diet (enriched with olive oil and nuts) for patients with obesity and coronary heart disease.

There was no consensus that the treatment of choice for coronary patients with a BMI $>$ 35 kg/m² despite lifestyle changes should be bariatric surgery (in the absence of contraindications).

In the first round, the degree of agreement was 57.14%, and in the second round, there was no final consensus for 14.29% of the total questions in the block.

Discussion

This consensus is the first Spanish study published in the medical literature that addresses the management of patients with obesity and other risk factors associated with CVD. In general, the experts

reached consensus on the association between obesity and cardiovascular risk factors and the clinical parameters that improve in these patients treated with both lipid-lowering and antihypertensive drugs and with drugs for weight reduction. However, they did not reach an agreement on the best method for assessing cardiovascular risk in this population, the best treatment for patients with grade 2 overweight, or the role of bariatric surgery in patients with ischemic heart disease and a BMI between 35–45 kg/m².

Concerning the diagnosis, it is recommended to assess patients with obesity in PC through use of a checklist. "Checklists" have been used as a public health strategy [14, 15] and would allow evaluation of the factors involved in CVD development. The scientific literature supports using BMI and WC, although it would also be desirable to add the SCORE risk tables [16, 17].

In the results of this consensus, the measurement of C-reactive protein and ferritin levels is also recommended when evaluating patients with obesity and assessing whether they have other cardiovascular risk factors. Obesity is characterized by a state of chronic inflammation, and it has been documented that C-reactive protein is strongly associated with the pathology [18]. On the other hand, serum ferritin levels are positively associated with type 2 diabetes mellitus, coronary artery disease, and cerebrovascular disease [19].

The experts indicate that one of the main barriers to the adequate clinical assessment of obese patients is the lack of arm cuffs adapted to the size of the patient's arm, limiting adequate control and follow-up, especially in patients with arterial hypertension. Several guidelines report obesity as a risk factor that influences the development of arterial hypertension [20–22].

In addition, the experts emphasize the importance of having specific imaging techniques, such as ultrasound, available during the consultation to assess the body and visceral fat, as they can be used to quantify the distribution of adipose tissue [23–25].

They did not reach a consensus on the main barrier in PC to the administration of liraglutide, with the price and the lack of financing by the Public Health System being the most valued options. This drug is an agonist of the human GLP-1 receptor, which plays an essential role in resistance to obesity [26, 27]. Numerous clinical trials have observed that the administration of liraglutide 3.0 mg per day to obese patients and most importantly, accompanied by a change in lifestyle, significantly reduces visceral adipose tissue over 40 weeks of treatment [28–30]. Similarly, up to 73.2% of the experts agree that the best treatment starting guideline to reduce BMI, WC, and C-reactive protein levels for an obese patient taking lipid-lowering and hypotensive drugs is the administration of liraglutide accompanied by changes in lifestyle. In addition, they agree that it is not necessary for all patients to reach the optimal weight and that a small reduction in their weight already has a beneficial effect.

There is consensus in considering bariatric surgery for those patients with a BMI \geq 40 kg/m² since it has a beneficial effect on metabolic parameters with a significant reduction in BMI, systolic blood pressure, triglycerides, and fasting glucose levels [31, 32].

This study was carried out following the Delphi methodology, which inherently presents limitations in validity and reliability. It is a very laborious process that requires at least two rounds to obtain an adequate consensus, subjective criteria are developed subject to external influences from the participants, and there may be confusion in the interpretation of the content of some questions. However, this methodology has become an essential part of addressing problems and making decisions in health services [33].

Conclusions

There is a high level of awareness among experts in Spain about obesity and other cardiovascular risk factors and the need to address this pathology comprehensively. The need to incorporate specific tools in PC consultations that allow better assessment and follow-up of these patients, such as arm cuffs adapted to their size or imaging techniques to assess body fat, is evident.

Abbreviations

Body mass index (BMI)

Cardiovascular disease (CVD)

Interquartile range (IQR)

Primary care (PC)

Tumor necrosis factor-alpha (TNF- α)

Waist circumference (WC)

Declarations

Ethics approval and consent to participate: The study complied with the Declaration of Helsinki. Ethical approval for this study was obtained from the Review Board Validation Committee of the Spanish Society of Primary Care Physicians (SEMERGEN) (approval number 050/2022). The Experts (members of the Spanish Society of Primary Care Physicians) contacted by e-mail were informed about the study when invited to participate. The anonymization of their data especially was explained. They got a link to an anonymous online survey. The return of their completed questionnaires was considered as written consent.

Consent for publication: Not applicable.

Availability of data and materials: All data generated or analyzed during this study are included in this published article.

Competing interests: The authors declare that they have no competing interests.

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Authors' contributions: PMB, SGM, TFP and VPC conducted the research, developed the methodology, validated and contributed to data visualization, supervised and wrote the manuscript, revised and edited . All authors have read and approved the final manuscript.

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