Revista Española de Enfermedades Digestivas
The Spanish Journal of Gastroenterology

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DOI: 10.17235/reed.2026.11832/2026
Link: PubMed (Epub ahead of print)

Please cite this article as:
Díez Rodríguez Rubén, Broco Fernandez Carolina, Patiño Delgadillo Verónica, Díez Martín Julia, Hernández Hernández Noemi, Rodríguez-Martín Laura, Quiñones Castro Raisa, Jorquera Plaza Francisco. Impact of using waist-to-height ratio for diagnosing obesity in general digestive outpatient consultations. Rev Esp Enferm Dig 2026. doi: 10.17235/reed.2026.11832/2026.

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Impact of using waist-to-height ratio for diagnosing obesity in general digestive outpatient consultations

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Keywords: Obesity. Abdominal obesity. Body mass index.

List of abbreviations: BMI (body mass index), WtHR (waist-to-height ratio), WC (waist circumference), MASLD (metabolic liver disease). GERD (

Conflict of interest: The authors declare that they have no conflict of interest.

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Dear Editor:

Obesity is a chronic, multifactorial disease that is associated with multiple digestive disorders (1).. Body mass index (BMI) has been the most widely used tool, but it has many limitations. Recently, the GIRO guidelines recommend supplementing it with the waist-to-height ratio (WtHR), considering obese those with a BMI ≥ 30 kg/m² and those with a pathological WtHR >0.5, a BMI between 25 and 30, and any obesity-related comorbidity (2–4).

An observational study was conducted to collect data on the characteristics of patients referred from primary care for their first consultation at the general gastroenterology in a first-level hospital between December 2023 and April 2025. The impact of using the waist-to-height ratio in the diagnosis of obesity was assessed, compared with the isolated use of BMI. The study was approved by the centre's ethics committee.

A total of 253 patients were included. Table 1 shows the characteristics of the patients included and the change in the diagnosis of obesity when using the complementary criterion.

Dyspepsia was the most frequent reason for consultation (24.1%), followed by change bowel habits (14.6%), abdominal pain (11.5%), abnormal liver function tests (10.3%) and reflux (7.1%).

Among patients with dyspepsia, altered bowel habits, abdominal pain, abnormal liver function tests, and reflux, obesity was present in 18% (11/61), 13.7% (5/37), 6.9% (2/29), 26.9% (7/26), and 16.7% (3/18), respectively. Applying the criterion for the diagnosis of obesity (BMI and altered WtHR), the percentage of patients with obesity according to the referral pathology described was 47.6% (29/61), 54% (20/37), 41.4% (12/29), 65% (17/26) and 4% (8/18), respectively.

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The results of our study reflect the high prevalence of overweight, obesity and abdominal obesity in patients seen at a gastroenterology outpatient consultation. 21.7% were obese according to BMI, but this percentage rose to 54.9% when the WtHR criterion was added. This change is particularly relevant in men.

The systematic detection of obesity in gastroenterology clinics, including BMI, waist circumference and WtHR, helps us to correctly identify patients with obesity, giving them the opportunity for intervention with a potential impact on the progression of multiple digestive and systemic pathologies (5).

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		n = 253	Men n = 115	Women n= 138
Age (years)		55,3 (17,9)	56,2 (17,6)	54 (18,3)
Average BMI (Kg/m^2)		26,4	27,2 (4,2)	25(5)
Pathological waist circunference		105 (41,5%)	43 (37,4%)	62 (44,9%)
Educational level	Less than primary	19 (7,5%)	8 (7%)	11 (8%)
	Primary	53 (20,9%)	30 (26,1%)	23 (16,7%)
	Secondary	85 (33,6%)	32 (27,8%)	53 (38,4%)
	Higher	96 (37,9%)	45 (39,1%)	51 (37%)
Active alcohol consumption		49 (19,4%)	41 (35,7%)	8 (5,8%)
Active smoker		50 (19,7%)	30 (26,1%)	20 (14,5%)
Physical activity	No	96(37,9%)	38 (33%)	58 (42%)
	Low	82 (32,4%)	44 (38,3%)	38 (27,5%)
	Moderated	57 (22,5%)	26 (22,6%)	31 (22,5%)
	High	18(7 %)	7 (6,1%)	11 (8%)
DM		22 (8,7%)	16(13,9%)	6 (4,3%)
HTA		71 (28,1%)	34 (29,6%)	37 (26,8%)
DL		101 (39,9%)	53 (46,1%)	48 (34,8%)
Hypertriglyceridemia		17 (6,7%)	10 (8,7%)	7 (5,1%)
Metabolic syndrome		44 (17,4%)	21 (18,3%)	23 (16,7%)
Obesity according to BMI	< 25 Kg/m^2	104 (41,1%)	34 (29,6%)	70 (50,7%)
	25- 29,9 Kg/m^2	94 (37,2%)	55 (47,8%)	39 28,3%)
	>30 Kg/m^2	55 (21,7%)	26 (22,6%)	29 (21%)
Obesity according to altered WtHR and BMI > 25		139 (54,9 %)	77 (67%)	62 (44,9%)
Increase in obesity diagnosis by adding the WtHR criterion		33,8%	44,4%	23,9 %

Table 1: Characteristics of the patients included in the study and their distribution by sex. BMI: body mass index. DM: diabetes mellitus. HTA: hypertension. DL: dyslipidemia. WtHR: waist-to-height ratio