

# Adherence to the Mediterranean lifestyle and desired body weight loss in a Mediterranean adult population with overweight: PREDIMED-Plus Study

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**Abstract: Background.** Body weight dissatisfaction is a hindrance to follow a healthy lifestyle and it has been associated to weight concerns. **Objectives.** The aim of this study was to assess the association between the adherence to Mediterranean lifestyle (diet and exercise) and the desired body weight loss in an adult Mediterranean population with overweight. **Methods.** Cross-sectional analysis in 6355 participants (3268 men; 3087 women) with metabolic syndrome and BMI (Body mass index) between 27.0-40.0 kg/m<sup>2</sup> (55-75 years old) from the PREDIMED-Plus trial. Desired weight loss was the percentage of weight that participants wish to lose. It was categorized into four cut-offs of this percentage (Q1: <10%, n=1495; Q2: 10-15%, n=1804; Q3: <15-20%, n=1470; Q4: ≥20%, n=1589). Diet was assessed using a validated food frequency questionnaire and a 17-item Mediterranean diet questionnaire. Physical activity was assessed by the validated Minnesota-REGICOR and the validated Spanish version of the Nurses' Health Study questionnaire. **Results.** Participants reporting higher percentages of desired weight loss (Q3 and Q4) were younger, had higher real and perceived BMI and were more likely to have abdominal obesity. Desired weight loss correlated inversely to physical activity (Q1: 2106 MET min/week; Q4: 1585 MET min/week. p<0.001) and adherence to Mediterranean diet (Q1: 8.7; Q4: 8.3. p<0.001). **Conclusions.** In older Mediterranean individuals with weight excess, desired weight loss was inversely associated to Mediterranean lifestyle adherence. Deeply rooted aspects of MedDiet remained similar across groups. Longitudinal research is advised to be able to establish causality.

**Keywords:** Body image; Mediterranean lifestyle; overweight; obesity; older adults; desired weight loss; ideal weight; PREDIMED-Plus.

**Annex 1. Supplemental Table 1.** Sociodemographic characteristics according to percentage of desired weight loss (DWL) in MEN.

	Q1 § (n =830)		Q2 § (n =967)		Q3 § (n =761)		Q4 § (n =710)		
	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	P
Age (years)	64.7 (5.3)	65.0 (9.0) <sup>a,b,c</sup>	63.8 (5.1)	64.0 (9.0) <sup>a,e</sup>	63.5 (5.4)	63.0 (9.0) <sup>b</sup>	62.9 (5.3)	62.0 (8.0) <sup>c,e</sup>	<0.001
BMI (kg/m <sup>2</sup> )	29.7 (2.0)	29.3 (2.6) <sup>a,b,c</sup>	31.4 (2.5)	31.1 (3.2) <sup>a,d,e</sup>	33.0 (2.7)	32.7 (3.7) <sup>b,d,f</sup>	35.3 (2.7)	35.3 (4.0) <sup>c,e,f</sup>	<0.001
Perceived BMI (kg/m <sup>2</sup> )	29.8 (2.4)	29.5 (2.8) <sup>a,b,c</sup>	31.4 (2.6)	31.1 (3.5) <sup>a,d,e</sup>	33.0 (3.3)	32.6 (3.7) <sup>b,d,f</sup>	35.4 (3.2)	35.3 (4.1) <sup>c,e,f</sup>	<0.001
<b>Physical activity (PA)†</b>									
Total (PA) †	3178.9 (2743.8)	2517.5 (2907.7) <sub>b,c</sub>	2936.4 (2446.0)	2349.7 (3090.9) <sub>e</sub>	2748.5 (2595.2)	2097.9 (2580.4) <sub>b</sub>	2557.5 (2599.5)	1755.7 (2736.0) <sub>c,e</sub>	<0.001
Light PA †	823.5 (1010.7)	512.8 (1258.7)	750.8 (944.8)	419.6 (1118.9)	766.3 (997.1)	447.6 (1118.9)	832.3 (1073.4)	447.6 (1237.8)	0.215
Moderate PA †	1366.4 (1892.1)	839.2 (2030.9) <sup>c</sup>	1293.4 (1814.4)	559.4 (2097.9) <sup>d,e</sup>	1191.3 (1868.0)	524.5 (1678.3) <sup>d,f</sup>	980.9 (1681.5)	209.8 (1398.6) <sup>c,e,f</sup>	<0.001
Intense PA †	989.1 (1830.7)	111.9 (1272.7) <sup>c</sup>	892.2 (1478.8)	115.6 (1258.7) <sup>e</sup>	790.9 (1491.3)	111.9 (960.4)	744.3 (1480.6)	55.9 (702.1) <sup>c,e</sup>	<0.001
<b>Diet</b>									
Energy intake (kcal/d)	2494.9 (547.5)	2457.6 (767.0)	2518.3 (550.1)	2480.7 (776.5)	2520.8 (552.9)	2514.0 (777.2)	2529.9 (587.1)	2484.3 (777.8)	0.667
MedDiet Q score	8.4 (2.6) <sup>c</sup>	8.0 (4.0)	8.2 (2.7)	8.0 (4.0)	8.1 (2.7)	8.0 (4.0)	7.8 (2.6) <sup>c</sup>	8.0 (4.0)	<0.001
<b>BMI classification</b>	n (%)		n (%)		n (%)		n (%)		<0.001
Overweight (BMI < 30)	511 (54.8)		308 (33.0)		95 (10.2)		19 (2.0)		
Obesity (BMI > 30)	319 (13.8)		659 (28.5)		660 (28.5)		679 (29.3)		
<b>Education level</b>									0.178
Primary	319 (38.6)		366 (37.9)		280 (37.1)		294 (41.6)		
Secondary	263 (31.8)		306 (31.7)		271 (35.9)		230 (32.5)		
Tertiary	245 (29.6)		293 (30.4)		203 (26.9)		183 (25.9)		
<b>Marital status</b>									0.659
Married	718 (87.1)		820 (85.1)		652 (85.9)		593 (83.8)		
Divorced/separated	51 (6.2)		73 (7.6)		52 (6.9)		51 (7.2)		
Widower	28 (3.4)		29 (3.0)		21 (2.8)		27 (3.8)		
Other ‖	27 (3.3)		42 (4.4)		34 (4.5)		37 (5.2)		
Living alone ‡	47 (5.7)		77 (8.0)		46 (6.0)		53 (7.5)		0.178
<b>Smoking habit</b>									0.293
Current smoker	126 (15.3)		176 (18.2)		125 (16.6)		117 (16.5)		

Former smoker	496 (60.2)	582 (60.2)	463 (61.4)	450 (63.6)	
Never smoked	202 (24.5)	208 (21.5)	166 (22.0)	140 (19.8)	
<b>MetS components</b>					
High blood pressure	763 (91.9)	894 (92.5)	703 (92.4)	669 (94.2)	0.338
Hyperglycemia	633 (76.3)	748 (77.4)	589 (77.4)	560 (78.9)	0.684
Hypertriglyceridemia	493 (59.4)	566 (58.5)	459 (60.3)	423 (59.6)	0.902
Low HDL-cholesterol	354 (42.7)	375 (38.8)	302 (39.7)	284 (40.0)	0.395
Abdominal obesity	691 (83.3)	902 (93.3)	740 (97.2)	707 (99.6)	<0.001

Abbreviations: BMI. Body Mass Index. PA. Physical activity. MedDiet Q. 17-item Mediterranean Diet Questionnaire HDL-cholesterol. High density lipoprotein cholesterol. §Desired body weight loss= [(current body weight – ideal body weight) / current body weight] \* 100. Due to the closeness of the cutting-percentiles, cut-offs were made considering a 5% of increase in desired body weight: Q1: <10% desired body weight loss; Q2: 10-15% desired body weight loss; Q3: 15-20% desired body weight loss; Q4: ≥20% desired body weight loss. †Measured in MET (Metabolic equivalent of task) min/week. ‡ Other marital status were single and religious. ‡Living alone regardless of marital status.\*Difference in means between groups were tested by one-way ANOVA and Bonferroni's post-hoc when normally distributed. or Kruskal-Wallis test when otherwise. Differences in prevalence's across groups were examined using  $\chi^2$ . Different letters indicate statistically significant differences between groups (a, b, c, d, e, f) according to Bonferroni's post-hoc analysis.

**Annex 1. Supplemental Table 2.** Sociodemographic characteristics according to percentage of desired weight loss (DWL) in WOMEN.

	Q1 § (n =662)		Q2 § (n =837)		Q3 § (n =709)		Q4 § (n =879)		
	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	P
Age (years)	67.4 (4.2)	68.0 (7.0) <sup>a,b,c</sup>	66.5 (4.0)	66.0 (7.0) <sup>a,e</sup>	66.2 (3.9)	66.0 (6.0) <sup>b,f</sup>	65.4 (3.9)	65.0 (6.0) <sup>c,e,f</sup>	<0.001
BMI (kg/m <sup>2</sup> )	30.1 (2.5)	29.7 (3.3) <sup>a,b,c</sup>	31.7 (3.0)	31.3 (4.3) <sup>a,d,e</sup>	33.4 (3.1)	33.3 (4.4) <sup>b,d,f</sup>	35.6 (3.0)	35.6 (4.7) <sup>c,e,f</sup>	<0.001
Perceived BMI (kg/m <sup>2</sup> )	30.2 (2.9)	29.9 (3.6) <sup>a,b,c</sup>	31.7 (3.1)	31.3 (4.4) <sup>a,d,e</sup>	33.3 (3.4)	33.2 (4.6) <sup>b,d,f</sup>	35.5 (3.3)	35.4 (4.9) <sup>c,e,f</sup>	<0.001
<b>Physical activity (PA)†</b>									
Total (PA) †	2168.9 (1906.1)	1729.3 (2204.5) <sub>c</sub>	2176.1 (1904.1)	1717.5 (2237.8) <sub>d,e</sub>	2000.5 (1887.7)	1538.5 (2201.4) <sub>d</sub>	1863.1 (1743.3)	1421.9 (2042.0) <sub>c</sub>	<0.001
Light PA †	754.5 (926.8)	447.6 (1118.9)	757.5 (936.2)	447.6 (1118.9)	756.4 (896.4)	522.1 (1118.9)	699.5 (847.9)	447.6 (1044.3)	0.651
Moderate PA †	741.5 (1086.9)	209.8 (1165.5) <sup>c</sup>	723.5 (1077.9)	139.9 (1118.9) <sup>e</sup>	600.2 (978.2)	0.0 (909.1)	579.3 (1029.3)	0.0 (839.2) <sup>c,e</sup>	<0.001
Intense PA †	672.9 (1326.2)	83.9 (1049)	695.2 (1226.7)	83.9 (1118.9) <sup>e</sup>	644.0 (1257.2)	55.9 (839.2)	584.3 (1081.1)	55.9 (839.2) <sup>e</sup>	0.027
<b>Diet</b>									
Energy intake (kcal/d)	2193.4 (470.1)	2183.5 (675.4)	2194.3 (476.2)	2167.6 (655)	2221.1 (515.5)	2186.9 (705.2)	2216.3 (514.2)	2190.8 (736.3)	0.699
MedDiet Q score	9.1 (2.6) <sup>b,c</sup>	9.0 (4.0)	9.0 (2.6)	9.0 (4.0)	8.7 (2.6) <sup>b</sup>	9.0 (3.0)	8.7 (2.6) <sup>c</sup>	9.0 (4.0)	0.001
<b>BMI classification</b>									
	n (%)		n (%)		n (%)		n (%)		<0.001
Overweight (BMI < 30)	366 (47.3)		280 (36.2)		95 (12.3)		33 (4.3)		
Obesity (BMI > 30)	296 (13.0)		555 (24.3)		607 (26.6)		823 (36.1)		
<b>Education level</b>									
	n (%)		n (%)		n (%)		n (%)		<0.001
Primary	454 (69.1)		486 (58.7)		404 (57.9)		484 (56)		
Secondary	136 (20.7)		222 (26.8)		177 (25.4)		232 (26.8)		
Tertiary	67 (10.2)		120 (14.5)		117 (16.8)		149 (17.2)		
<b>Marital status</b>									
	n (%)		n (%)		n (%)		n (%)		0.002
Married	454 (68.8)		571 (68.4)		471 (66.6)		581 (66.2)		
Divorced/separated	38 (5.8)		70 (8.4)		64 (9.1)		89 (10.1)		
Widower	145 (22)		137 (16.4)		130 (18.4)		148 (16.9)		
Other ‖	23 (3.5)		57 (6.8)		42 (5.9)		59 (6.7)		
Living alone ‡	108 (16.3)		161 (19.2)		130 (18.3)		158 (18)		0.535
<b>Smoking habit</b>									
Current smoker	48 (7.3)		65 (7.8)		54 (7.6)		78 (8.9)		<0.001

Former smoker	121 (18.3)	188 (22.6)	198 (28.0)	262 (29.8)	
Never smoked	491 (74.4)	579 (69.6)	455 (64.4)	538 (61.3)	
<b>MetS components</b>					
High blood pressure	610 (92.1)	749 (89.5)	665 (93.8)	793 (90.2)	0.013
Hyperglycemia	505 (76.3)	582 (69.5)	507 (71.5)	671 (76.3)	0.002
Hypertriglyceridemia	342 (51.7)	434 (51.9)	378 (53.3)	446 (50.7)	0.789
Low HDL-cholesterol	303 (45.8)	377 (45)	302 (42.6)	410 (46.6)	0.429
Abdominal obesity	650 (98.2)	833 (99.5)	705 (99.4)	878 (99.9)	0.001

Abbreviations: BMI. Body Mass Index. PA. Physical activity. MedDiet Q. 17-item Mediterranean Diet Questionnaire HDL-cholesterol. High density lipoprotein cholesterol. §Desired body weight loss= [(current body weight – ideal body weight) / current body weight] \* 100. Due to the closeness of the cutting-percentiles, cut-offs were made considering a 5% of increase in desired body weight: Q1: <10% desired body weight loss; Q2: 10-15% desired body weight loss; Q3: 15-20% desired body weight loss; Q4: ≥20% desired body weight loss. †Measured in MET (Metabolic equivalent of task) min/week. ‡ Other marital status were single and religious. ‡Living alone regardless of marital status.\*Difference in means between groups were tested by one-way ANOVA and Bonferroni's post-hoc when normally distributed. or Kruskal-Wallis test when otherwise. Differences in prevalence's across groups were examined using  $\chi^2$ . Different letters indicate statistically significant differences between groups (a, b, c, d, e, f) according to Bonferroni's post-hoc analysis.

**Annex 2. Supplemental Table 3.** Adherence to the Mediterranean Diet 17-items according to the percentage of desired weight loss (DWL) in MEN.

	Q1 § (n =830)	Q2 § (n =967)	Q3 § (n =761)	Q4 § (n =710)	
<b>MedDiet 17-items</b>	n (%)	n (%)	n (%)	n (%)	<i>P</i>
1: EVOO for cooking	668 (80.5)	796 (82.3)	619 (81.3)	569 (80.1)	0.661
2: Vegetables	323 (38.9)	289 (29.9)	255 (33.5)	215 (30.3)	<0.001
3: Fruits	366 (44.1)	381 (39.4)	304 (39.9)	272 (38.3)	0.092
4: Red and processed meat	368 (44.3)	395 (40.8)	295 (38.8)	275 (38.7)	0.076
5: Butter, margarine, cream.	684 (82.4)	786 (81.3)	617 (81.1)	568 (80.0)	0.688
6: Sugar sweetened beverages	618 (74.5)	712 (73.6)	533 (70.0)	509 (71.7)	0.190
7: Legumes	176 (21.2)	190 (19.6)	145 (19.1)	158 (22.3)	0.391
8: Fish and seafood	378 (45.5)	442 (45.7)	329 (43.2)	274 (38.6)	0.016
9: Sweets and pastries	501 (60.4)	579 (59.9)	455 (59.8)	400 (56.3)	0.367
10: Nuts	375 (45.2)	445 (46.0)	300 (39.4)	239 (33.7)	<0.001
11: Preference white over red meat	576 (69.4)	642 (66.4)	535 (70.3)	453 (63.8)	0.029
12: Sofrito	483 (58.2)	543 (56.2)	444 (58.3)	406 (57.2)	0.772
13: Adding sugar to beverages	476 (57.3)	548 (56.7)	443 (58.2)	438 (61.7)	0.193
14: White bread	320 (38.6)	351 (36.3)	291 (38.2)	267 (37.6)	0.764
15: Whole grains	191 (23.0)	207 (21.4)	174 (22.9)	139 (19.6)	0.338
16: Refined cereals	232 (28.0)	233 (24.1)	211 (27.7)	164 (23.1)	0.054
17: Wine	270 (32.5)	354 (36.6)	246 (32.3)	219 (30.8)	0.065
<b>MedDiet Adherence</b>					
Low adherence (0-7)	308 (37.1)	406 (42.0)	323 (42.4)	318 (44.8)	0.001
Moderate adherence (8-10)	333 (40.1)	373 (38.6)	283 (37.2)	292 (41.1)	
High adherence (11-17)	189 (22.8)	188 (19.4)	155 (20.4)	100 (14.1)	

§ Desired body weight loss= [(current body weight – ideal body weight) / current body weight] \* 100. Due to the closeness of the cutting-percentiles, cut-offs were made considering a 5% of increase in desired body weight:: Q1: <10% desired body weight loss; Q2: 10-15% desired body weight loss; Q3: 15-20% desired body weight loss; Q4: ≥20% desired body weight loss. Differences in prevalence's across groups were examined using  $\chi^2$ .

**Annex 2. Supplemental Table 4.** Adherence to the Mediterranean Diet 17-items according to the percentage of desired weight loss (DWL) in WOMEN.

	Q1 § (n =662)	Q2 § (n =837)	Q3 § (n =709)	Q4 § (n =879)	
<b>MedDiet 17-items</b>	n (%)	n (%)	n (%)	n (%)	<i>P</i>
1: EVOO for cooking	484 (73.1)	658 (78.6)	532 (75.0)	693 (78.8)	0.020
2: Vegetables	286 (43.2)	342 (40.9)	271 (38.2)	331 (37.7)	0.111
3: Fruits	392 (59.2)	448 (53.5)	371 (52.3)	426 (48.5)	<0.001
4: Red and processed meat	404 (61.0)	461 (55.1)	359 (50.6)	470 (53.5)	0.001
5: Butter, margarine, cream.	525 (79.3)	674 (80.5)	544 (76.7)	678 (77.1)	0.207
6: Sugar sweetened beverages	537 (81.1)	642 (76.7)	548 (77.3)	653 (74.3)	0.018
7: Legumes	121 (18.3)	151 (18.0)	117 (16.5)	148 (16.8)	0.756
8: Fish and seafood	312 (47.1)	433 (51.7)	355 (50.1)	440 (50.1)	0.366
9: Sweets and pastries	407 (61.5)	500 (59.7)	416 (58.7)	505 (57.5)	0.437
10: Nuts	275 (41.5)	369 (44.1)	250 (35.3)	306 (34.8)	<0.001
11: Preference white over red meat	538 (81.3)	683 (81.6)	557 (78.6)	724 (82.4)	0.258
12: Sofrito	372 (56.2)	493 (58.9)	382 (53.9)	479 (54.5)	0.175
13: Adding sugar to beverages	464 (70.1)	556 (66.4)	502 (70.8)	642 (73.0)	0.027
14: White bread	368 (55.6)	425 (50.8)	388 (54.7)	458 (52.1)	0.207
15: Whole grains	227 (34.3)	274 (32.7)	242 (34.1)	273 (31.1)	0.488
16: Refined cereals	254 (38.4)	301 (36.0)	238 (33.6)	309 (35.2)	0.308
17: Wine	72 (10.9)	109 (13.0)	83 (11.7)	98 (11.1)	0.551
<b>MedDiet Adherence</b>					
Low adherence (0-7)	179 (27.0)	249 (29.7)	227 (32.0)	282 (32.1)	0.162
Moderate adherence (8-10)	288 (43.5)	346 (41.3)	308 (43.4)	370 (42.1)	
High adherence (11-17)	195 (29.5)	242 (28.9)	174 (24.5)	227 (25.8)	

§ Desired body weight loss= [(current body weight – ideal body weight) / current body weight] \* 100. Due to the closeness of the cutting-percentiles, cut-offs were made considering a 5% of increase in desired body weight:: Q1: <10% desired body weight loss; Q2: 10-15% desired body weight loss; Q3: 15-20% desired body weight loss; Q4: ≥20% desired body weight loss. Differences in prevalence's across groups were examined using  $\chi^2$ .



**Annex 3. Supplemental Table 5.** Association between the adherence to the Mediterranean Diet 17-items (dependent variables) and the percentage of desired weight loss (independent variables) (DWL) in MEN.

MedDiet 17-items		Q1 §	Q2 §	Q3 §	Q4 §	P
		(n =830) OR (95% CI)	(n =967) OR (95% CI)	(n =761) OR (95% CI)	(n =710) OR (95% CI)	
1: EVOO for cooking	Crude OR	1.00 (ref.)	1.13(0.89-1.43)	1.06(0.82-1.36)	0.98(0.76-1.26)	0.661
	OR adjusted 1	1.00 (ref.)	1.14(0.89-1.45)	1.07(0.81-1.41)	0.99(0.72-1.36)	0.676
	OR adjusted 2	1.00 (ref.)	1.12(0.87-1.44)	1.05(0.80-1.39)	0.99(0.72-1.36)	0.728
2: Vegetables	Crude OR	1.00 (ref.)	0.67(0.55-0.81)	0.79(0.64-0.97)	0.68(0.55-0.84)	<0.001
	OR adjusted 1	1.00 (ref.)	0.65(0.53-0.80)	0.77(0.61-0.97)	0.64(0.49-0.84)	<0.001
	OR adjusted 2	1.00 (ref.)	0.64(0.52-0.79)	0.76(0.61-0.96)	0.64(0.49-0.84)	<0.001
3: Fruits	Crude OR	1.00 (ref.)	0.82(0.68-0.99)	0.84(0.69-1.03)	0.79(0.64-0.97)	0.092
	OR adjusted 1	1.00 (ref.)	0.86(0.71-1.05)	0.89(0.71-1.11)	0.87(0.67-1.13)	0.520
	OR adjusted 2	1.00 (ref.)	0.88(0.72-1.08)	0.92(0.73-1.15)	0.89(0.69-1.15)	0.658
4: Red and processed meat	Crude OR	1.00 (ref.)	0.87(0.72-1.05)	0.79(0.65-0.97)	0.79(0.65-0.97)	0.077
	OR adjusted 1	1.00 (ref.)	0.92(0.75-1.12)	0.91(0.72-1.13)	0.96(0.74-1.25)	0.768
	OR adjusted 2	1.00 (ref.)	0.92(0.76-1.13)	0.92(0.73-1.15)	0.97(0.75-1.26)	0.806
5: Butter, margarine, cream	Crude OR	1.00 (ref.)	0.93(0.73-1.18)	0.91(0.71-1.18)	0.85(0.66-1.10)	0.688
	OR adjusted 1	1.00 (ref.)	0.97(0.76-1.25)	0.97(0.73-1.29)	0.94(0.68-1.30)	0.988
	OR adjusted 2	1.00 (ref.)	0.97(0.76-1.25)	0.98(0.73-1.30)	0.95(0.68-1.31)	0.989
6: Sugar sweetened beverages	Crude OR	1.00 (ref.)	0.96(0.78-1.18)	0.80(0.64-0.99)	0.87(0.69-1.09)	0.191
	OR adjusted 1	1.00 (ref.)	0.98(0.78-1.22)	0.81(0.64-1.04)	0.89(0.67-1.18)	0.325
	OR adjusted 2	1.00 (ref.)	0.99(0.79-1.23)	0.83(0.65-1.06)	0.90(0.68-1.20)	0.374
7: Legumes	Crude OR	1.00 (ref.)	0.91(0.72-1.14)	0.87(0.68-1.12)	1.06(0.83-1.36)	0.391
	OR adjusted 1	1.00 (ref.)	0.97(0.76-1.23)	0.97(0.74-1.28)	1.23(0.90-1.68)	0.289
	OR adjusted 2	1.00 (ref.)	0.97(0.76-1.24)	0.97(0.74-1.28)	1.23(0.90-1.68)	0.305
8: Fish and seafood	Crude OR	1.00 (ref.)	1.01(0.84-1.21)	0.91(0.75-1.11)	0.75(0.61-0.92)	0.016
	OR adjusted 1	1.00 (ref.)	1.06(0.88-1.29)	0.97(0.78-1.21)	0.83(0.64-1.07)	0.190
	OR adjusted 2	1.00 (ref.)	1.06(0.87-1.29)	0.97(0.77-1.21)	0.83(0.64-1.07)	0.208
9: Sweets and pastries	Crude OR	1.00 (ref.)	0.98(0.81-1.18)	0.98(0.80-1.19)	0.85(0.69-1.04)	0.367
	OR adjusted 1	1.00 (ref.)	1.00(0.81-1.22)	1.04(0.83-1.30)	0.91(0.70-1.18)	0.720
	OR adjusted 2	1.00 (ref.)	1.00(0.81-1.22)	1.04(0.82-1.30)	0.91(0.70-1.18)	0.718
10: Nuts	Crude OR	1.00 (ref.)	1.03(0.86-1.25)	0.79(0.65-0.96)	0.62(0.50-0.76)	<0.001
	OR adjusted 1	1.00 (ref.)	1.11(0.91-1.35)	0.90(0.72-1.13)	0.77(0.60-1.00)	0.020
	OR adjusted 2	1.00 (ref.)	1.10(0.90-1.34)	0.89(0.71-1.12)	0.77(0.59-0.99)	0.022
11: Preference for white over red meat	Crude OR	1.00 (ref.)	0.87(0.71-1.06)	1.04(0.84-1.29)	0.78(0.63-0.96)	0.029
	OR adjusted 1	1.00 (ref.)	0.90(0.73-1.10)	1.11(0.87-1.41)	0.86(0.66-1.12)	0.102
	OR adjusted 2	1.00 (ref.)	0.91(0.74-1.12)	1.13(0.89-1.43)	0.87(0.67-1.14)	0.099
12: Sofrito	Crude OR	1.00 (ref.)	0.92(0.76-1.11)	1.01(0.82-1.23)	0.96(0.78-1.18)	0.772
	OR adjusted 1	1.00 (ref.)	0.95(0.78-1.16)	1.09(0.88-1.37)	1.12(0.86-1.44)	0.464
	OR adjusted 2	1.00 (ref.)	0.96(0.79-1.17)	1.10(0.88-1.38)	1.12(0.87-1.45)	0.469
13: Adding sugar to beverages	Crude OR	1.00 (ref.)	0.97(0.81-1.17)	1.04(0.85-1.26)	1.20(0.98-1.47)	0.194
	OR adjusted 1	1.00 (ref.)	0.92(0.75-1.11)	0.95(0.76-1.19)	1.02(0.79-1.32)	0.715
	OR adjusted 2	1.00 (ref.)	0.89(0.73-1.09)	0.94(0.74-1.18)	1.02(0.78-1.32)	0.575
14: White bread	Crude OR	1.00 (ref.)	0.91(0.75-1.10)	0.99(0.81-1.21)	0.96(0.78-1.18)	0.764
	OR adjusted 1	1.00 (ref.)	0.92(0.75-1.12)	1.01(0.80-1.27)	0.94(0.72-1.23)	0.744
	OR adjusted 2	1.00 (ref.)	0.92(0.75-1.13)	1.01(0.80-1.28)	0.95(0.72-1.24)	0.750
15: Whole grains	Crude OR	1.00 (ref.)	0.91(0.73-1.14)	0.99(0.78-1.25)	0.81(0.64-1.04)	0.339
	OR adjusted 1	1.00 (ref.)	0.94(0.75-1.19)	1.08(0.83-1.40)	0.91(0.67-1.25)	0.580
	OR adjusted 2	1.00 (ref.)	0.95(0.75-1.20)	1.10(0.85-1.44)	0.93(0.68-1.28)	0.545
16: Refined cereals	Crude OR	1.00 (ref.)	0.82(0.66-1.01)	0.99(0.79-1.23)	0.77(0.61-0.98)	0.054
	OR adjusted 1	1.00 (ref.)	0.82(0.66-1.02)	0.96(0.75-1.22)	0.68(0.51-0.91)	0.022

	<i>OR adjusted 2</i>	1.00 (ref.)	0.81(0.65-1.02)	0.96(0.75-1.22)	0.68(0.51-0.92)	0.021
17: Wine	<i>Crude OR</i>	1.00 (ref.)	1.20(0.99-1.46)	0.99(0.80-1.22)	0.93(0.75-1.15)	0.065
	<i>OR adjusted 1</i>	1.00 (ref.)	1.25(1.02-1.54)	1.06(0.84-1.34)	1.00(0.76-1.32)	0.090
	<i>OR adjusted 2</i>	1.00 (ref.)	1.22(0.99-1.50)	1.03(0.81-1.30)	0.98(0.75-1.29)	0.135

Abbreviations: OR. Odds Ratio. *OR adjusted 1*: Odds Ratio adjusted by sociodemographic characteristics (Age, gender, BMI, physical activity, diet, education level, marital status and smoking habit). *OR adjusted 2*: Odds Ratio adjusted by sociodemographic characteristics (Age, gender, BMI, physical activity, diet, education level, marital status and smoking habit) and presence of metabolic syndrome components. <sup>s</sup>Desired body weight loss= [(current body weight – ideal body weight) / current body weight] \* 100. Due to the closeness of the cutting-percentiles, cut-offs were made considering a 5% of increase in desired body weight:: Q1: <10% desired body weight loss; Q2: 10-15% desired body weight loss; Q3: 15-20% desired body weight loss; Q4: ≥20% desired body weight loss.

**Annex 3. Supplemental Table 6.** Association between the adherence to the Mediterranean Diet 17-items (dependent variables) and the percentage of desired weight loss (independent variables) (DWL) in WOMEN.

MedDiet 17-items		Q1 §	Q2 §	Q3 §	Q4 §	P
		(n =662) OR (95% CI)	(n =837) OR (95% CI)	(n =709) OR (95% CI)	(n =879) OR (95% CI)	
1: EVOO for cooking	Crude OR	1.00 (ref.)	1.35(1.07-1.72)	1.11(0.87-1.41)	1.37(1.08-1.74)	0.020
	OR adjusted 1	1.00 (ref.)	1.40(1.09-1.79)	1.18(0.91-1.54)	1.64(1.22-2.20)	0.003
	OR adjusted 2	1.00 (ref.)	1.36(1.06-1.75)	1.15(0.88-1.50)	1.62(1.21-2.18)	0.004
2: Vegetables	Crude OR	1.00 (ref.)	0.91(0.74-1.12)	0.81(0.66-1.01)	0.79(0.65-0.98)	0.112
	OR adjusted 1	1.00 (ref.)	0.93(0.75-1.15)	0.89(0.70-1.13)	0.94(0.73-1.21)	0.797
	OR adjusted 2	1.00 (ref.)	0.93(0.75-1.16)	0.90(0.71-1.15)	0.93(0.72-1.20)	0.864
3: Fruits	Crude OR	1.00 (ref.)	0.79(0.65-0.97)	0.76(0.61-0.94)	0.65(0.53-0.79)	0.001
	OR adjusted 1	1.00 (ref.)	0.84(0.68-1.04)	0.81(0.64-1.02)	0.74(0.57-0.95)	0.124
	OR adjusted 2	1.00 (ref.)	0.83(0.67-1.04)	0.81(0.64-1.03)	0.73(0.57-0.94)	0.111
4: Red and processed meat	Crude OR	1.00 (ref.)	0.78(0.64-0.96)	0.66(0.53-0.81)	0.73(0.60-0.90)	0.001
	OR adjusted 1	1.00 (ref.)	0.78(0.63-0.96)	0.66(0.52-0.83)	0.74(0.57-0.95)	0.007
	OR adjusted 2	1.00 (ref.)	0.77(0.62-0.95)	0.65(0.51-0.82)	0.73(0.57-0.95)	0.005
5: Butter, margarine, cream	Crude OR	1.00 (ref.)	1.08(0.84-1.39)	0.86(0.67-1.11)	0.88(0.69-1.12)	0.208
	OR adjusted 1	1.00 (ref.)	1.08(0.82-1.40)	0.85(0.64-1.13)	0.87(0.64-1.17)	0.264
	OR adjusted 2	1.00 (ref.)	1.09(0.83-1.42)	0.85(0.64-1.13)	0.88(0.64-1.19)	0.252
6: Sugar sweetened beverages	Crude OR	1.00 (ref.)	0.77(0.60-0.99)	0.79(0.61-1.03)	0.67(0.53-0.86)	0.018
	OR adjusted 1	1.00 (ref.)	0.77(0.59-0.99)	0.80(0.60-1.07)	0.71(0.52-0.96)	0.130
	OR adjusted 2	1.00 (ref.)	0.77(0.59-1.00)	0.80(0.60-1.07)	0.71(0.52-0.96)	0.133
7: Legumes	Crude OR	1.00 (ref.)	0.98(0.76-1.28)	0.88(0.67-1.17)	0.91(0.69-1.18)	0.757
	OR adjusted 1	1.00 (ref.)	1.00(0.76-1.32)	0.93(0.68-1.26)	0.97(0.70-1.34)	0.949
	OR adjusted 2	1.00 (ref.)	1.00(0.76-1.32)	0.92(0.68-1.26)	0.97(0.70-1.34)	0.943
8: Fish and seafood	Crude OR	1.00 (ref.)	1.20(0.98-1.47)	1.12(0.91-1.39)	1.12(0.92-1.38)	0.366
	OR adjusted 1	1.00 (ref.)	1.21(0.98-1.50)	1.15(0.91-1.46)	1.22(0.95-1.56)	0.311
	OR adjusted 2	1.00 (ref.)	1.23(0.99-1.52)	1.16(0.92-1.47)	1.22(0.95-1.57)	0.275
9: Sweets and pastries	Crude OR	1.00 (ref.)	0.93(0.75-1.15)	0.89(0.72-1.10)	0.85(0.69-1.04)	0.437
	OR adjusted 1	1.00 (ref.)	0.96(0.77-1.21)	0.97(0.76-1.23)	0.91(0.70-1.19)	0.920
	OR adjusted 2	1.00 (ref.)	0.95(0.76-1.19)	0.96(0.75-1.23)	0.90(0.70-1.18)	0.892
10: Nuts	Crude OR	1.00 (ref.)	1.11(0.90-1.36)	0.77(0.62-0.95)	0.75(0.61-0.93)	<0.001
	OR adjusted 1	1.00 (ref.)	1.15(0.93-1.43)	0.83(0.65-1.05)	0.89(0.69-1.16)	0.022
	OR adjusted 2	1.00 (ref.)	1.15(0.92-1.43)	0.83(0.65-1.05)	0.89(0.69-1.16)	0.022
11: Preference for white over red meat	Crude OR	1.00 (ref.)	1.02(0.79-1.33)	0.84(0.65-1.10)	1.08(0.83-1.40)	0.259
	OR adjusted 1	1.00 (ref.)	1.03(0.79-1.36)	0.91(0.68-1.21)	1.20(0.87-1.65)	0.227
	OR adjusted 2	1.00 (ref.)	1.02(0.78-1.34)	0.90(0.67-1.20)	1.20(0.87-1.65)	0.199
12: Sofrito	Crude OR	1.00 (ref.)	1.12(0.91-1.37)	0.91(0.74-1.13)	0.93(0.76-1.14)	0.175
	OR adjusted 1	1.00 (ref.)	1.15(0.93-1.43)	0.97(0.77-1.23)	1.03(0.80-1.33)	0.378
	OR adjusted 2	1.00 (ref.)	1.15(0.93-1.43)	0.97(0.77-1.23)	1.03(0.80-1.33)	0.376
13: Adding sugar to beverages	Crude OR	1.00 (ref.)	0.84(0.68-1.05)	1.03(0.82-1.31)	1.16(0.92-1.45)	0.027
	OR adjusted 1	1.00 (ref.)	0.76(0.61-0.96)	0.89(0.69-1.15)	0.95(0.72-1.25)	0.085
	OR adjusted 2	1.00 (ref.)	0.80(0.63-1.01)	0.93(0.72-1.21)	0.98(0.74-1.30)	0.179
14: White bread	Crude OR	1.00 (ref.)	0.82(0.67-1.01)	0.97(0.78-1.19)	0.87(0.71-1.06)	0.207
	OR adjusted 1	1.00 (ref.)	0.75(0.60-0.93)	0.90(0.71-1.15)	0.75(0.58-0.96)	0.026
	OR adjusted 2	1.00 (ref.)	0.73(0.59-0.91)	0.90(0.71-1.14)	0.73(0.57-0.95)	0.015
15: Whole grains	Crude OR	1.00 (ref.)	0.93(0.75-1.16)	0.99(0.79-1.24)	0.86(0.70-1.07)	0.489
	OR adjusted 1	1.00 (ref.)	0.88(0.71-1.11)	0.92(0.72-1.17)	0.79(0.61-1.03)	0.344
	OR adjusted 2	1.00 (ref.)	0.87(0.70-1.09)	0.91(0.71-1.17)	0.78(0.60-1.02)	0.305
16: Refined cereals	Crude OR	1.00 (ref.)	0.90(0.73-1.11)	0.81(0.65-1.01)	0.87(0.71-1.07)	0.309
	OR adjusted 1	1.00 (ref.)	0.85(0.68-1.06)	0.77(0.60-0.98)	0.83(0.64-1.07)	0.210

	<i>OR adjusted 2</i>	1.00 (ref.)	0.84(0.68-1.05)	0.77(0.60-0.98)	0.82(0.63-1.07)	0.209
17: Wine	<i>Crude OR</i>	1.00 (ref.)	1.23(0.89-1.68)	1.09(0.78-1.52)	1.03(0.74-1.42)	0.552
	<i>OR adjusted 1</i>	1.00 (ref.)	1.28(0.92-1.78)	1.19(0.82-1.71)	1.27(0.85-1.89)	0.512
	<i>OR adjusted 2</i>	1.00 (ref.)	1.29(0.93-1.80)	1.18(0.82-1.71)	1.28(0.86-1.91)	0.470

Abbreviations: OR. Odds Ratio. *OR adjusted 1*: Odds Ratio adjusted by sociodemographic characteristics (Age, gender, BMI, physical activity, diet, education level, marital status and smoking habit). *OR adjusted 2*: Odds Ratio adjusted by sociodemographic characteristics (Age, gender, BMI, physical activity, diet, education level, marital status and smoking habit) and presence of metabolic syndrome components. <sup>s</sup>Desired body weight loss= [(current body weight – ideal body weight) / current body weight] \* 100. Due to the closeness of the cutting-percentiles, cut-offs were made considering a 5% of increase in desired body weight:: Q1: <10% desired body weight loss; Q2: 10-15% desired body weight loss; Q3: 15-20% desired body weight loss; Q4: ≥20% desired body weight loss.