

Supplementary table S1. Crude and adjusted linear association between thyroid parameters, subclinical hypothyroidism and amino acids according to sex.

	Valine		Leucine		Isoleucine		Alanine	
	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p
Male								
TSH^a	2.26 (-2.46;6.98)	0.349	3.08 (-0.57;6.73)	0.098	1.63 (-0.46;3.73)	0.127	16.19 (6.77;25.61)	0.001
FT4	-3.31 (-13.46;6.85)	0.523	-2.50 (-10.36;5.36)	0.533	-3.81 (-8.32;0.69)	0.097	-11.34 (-31.65;8.97)	0.274
FT3	27.78 (-1.54;57.10)	0.063	13.01 (-9.70;35.71)	0.262	-1.37 (-14.40;11.65)	0.836	34.49 (-24.20;93.18)	0.249
FT3:FT4 ratio	30.94 (0.49;61.39)	0.046	17.36 (-6.22;40.93)	0.149	7.60 (-5.92;21.12)	0.271	60.78 (-0.14;121.70)	0.051
Subclinical hypo^b	2.84 (-2.95;8.63)	0.336	3.06 (-1.43;7.55)	0.181	2.37 (-0.21;4.96)	0.072	11.59 (-0.04;23.22)	0.051
Female								
TSH^a	0.76 (-3.17;4.69)	0.703	0.82 (-2.11;3.74)	0.584	0.68 (-0.86;2.22)	0.390	12.78 (3.68;21.88)	0.006
FT4	-8.28 (-17.11;0.56)	0.066	0.46 (-6.13;7.05)	0.891	-3.87 (-7.33;-0.41)	0.028	-15.54 (-36.03;4.95)	0.137
FT3	39.35 (0.85;77.84)	0.045	30.11 (1.43;58.78)	0.040	7.26 (-7.85;22.36)	0.346	33.03 (-56.33;122.38)	0.469
FT3:FT4 ratio	53.75 (19.86;87.64)	0.002	18.89 (-6.40;44.19)	0.143	17.45 (4.15;30.75)	0.010	78.08 (-0.63;156.79)	0.052
Subclinical hypo^b	0.30 (-4.60;5.21)	0.904	-1.12 (-4.78;2.54)	0.547	1.78 (-0.15;3.71)	0.070	8.44 (-2.89;19.78)	0.144

Note: ^alog-transformed variable. ^bEuthyroidism was the reference category. Analyses were adjusted for sociodemographic variables (age, race, educational level) and health conditions (BMI, physical activity, diabetes and smoking)

Supplementary table S2. Crude and adjusted linear association between thyroid parameters, subclinical hypothyroidism and amino acids according to age groups.

	Valine		Leucine		Isoleucine		Alanine	
	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p
Adults (<50 years-old)								
TSH^a	3.25 (-1.37;7.86)	0.168	3.06 (-0.47;6.60)	0.089	2.21 (0.23;4.19)	0.029	17.45 (7.25;27.65)	0.001
FT4	-10.76 (-20.62;-0.89)	0.033	-0.56 (-8.13;7.01)	0.884	-6.23 (-10.46;-2.00)	0.004	-17.18 (-39.05;4.70)	0.124
FT3	45.38 (1.21;89.56)	0.044	53.94 (20.17;87.70)	0.002	7.44 (-11.54;26.41)	0.442	4.38 (-93.61;102.38)	0.930
FT3:FT4 ratio	77.74 (38.11;117.38)	<0.001	43.89 (13.49;74.28)	0.005	30.32 (13.30;47.34)	<0.001	83.85 (-4.23;171.94)	0.062
Subclinical hypo^b	1.70 (-4.08;7.48)	0.565	0.23 (-4.19;4.66)	0.917	1.32 (-1.16;3.81)	0.297	15.23 (2.48;27.98)	0.019
Older adults (≥50 years-old)								
TSH^a	0.08 (-4.02;4.18)	0.969	1.12 (-2.00;4.24)	0.482	0.32 (-1.40;2.03)	0.718	13.11 (4.51;21.70)	0.003
FT4	-2.78 (-12.01;6.46)	0.555	-0.74 (-7.76;6.28)	0.837	-2.52 (-6.38;1.33)	0.199	-10.29 (-29.68;9.10)	0.298
FT3	26.88 (-0.22;53.99)	0.052	10.81 (-9.85;31.46)	0.305	-0.37 (-11.70;10.96)	0.949	35.52 (-21.44;92.47)	0.222
FT3:FT4 ratio	24.43 (-3.17;52.03)	0.083	11.82 (-9.20;32.85)	0.270	4.21 (-7.33;15.74)	0.475	52.97 (-4.99;110.94)	0.073
Subclinical hypo^b	1.09 (-3.95;6.13)	0.671	1.07 (-2.78;4.92)	0.585	2.32 (0.20;4.44)	0.032	7.93 (-2.69;18.55)	0.144

Note: ^alog-transformed variables. ^bEuthyroidism was the reference category. Analyses were adjusted for sociodemographic variables (sex, race, educational level) and health conditions (BMI, physical activity, diabetes and smoking)

Supplementary table S3. Crude and adjusted linear association between thyroid parameters, subclinical hypothyroidism and amino acids according to the presence of diabetes.

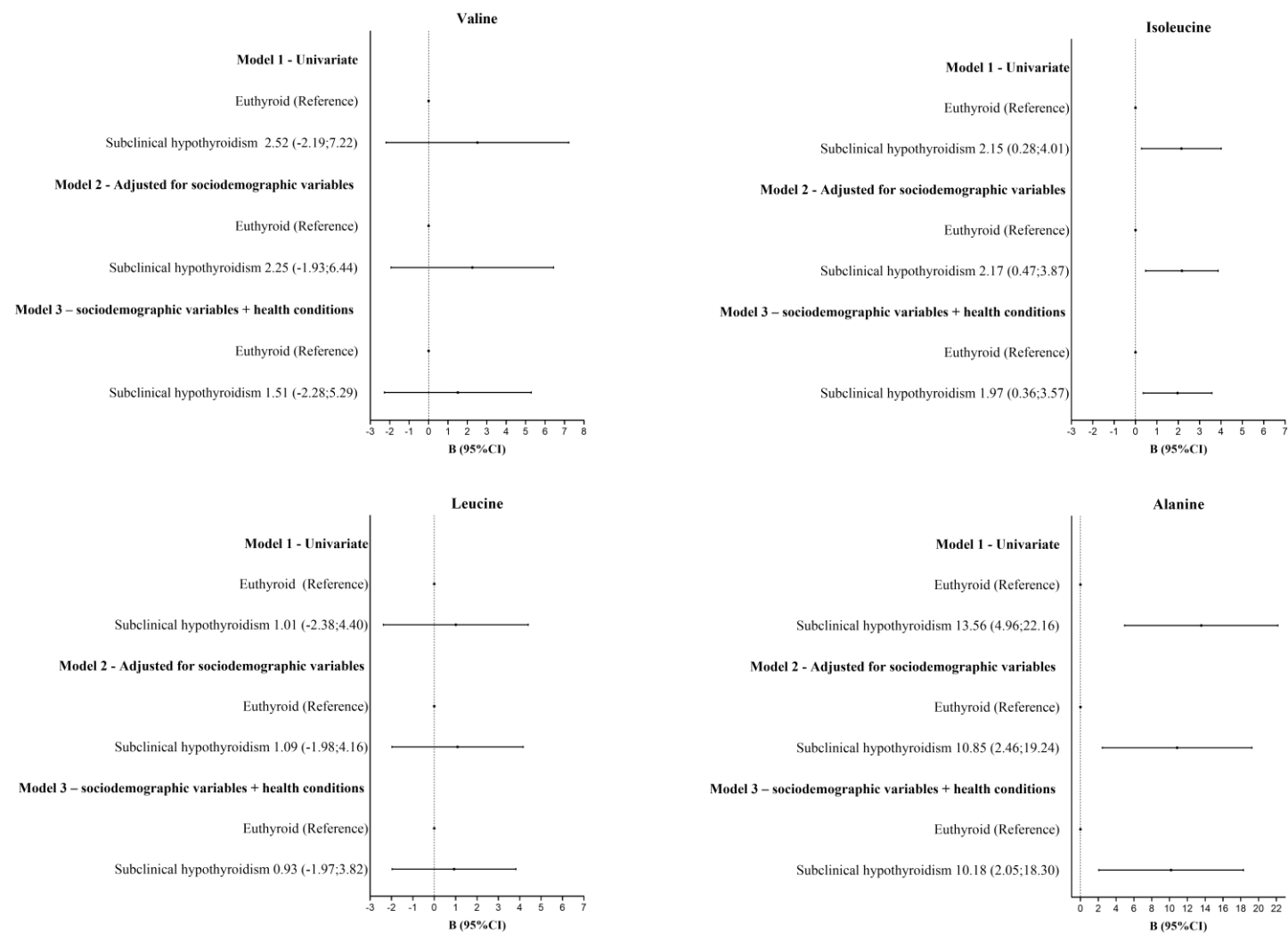
	Valine		Leucine		Isoleucine		Alanine	
	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p
Absence of diabetes								
TSH^a	1.79 (-1.43;5.00)	0.276	2.33 (-0.16;4.82)	0.067	1.04 (-0.32;2.40)	0.134	15.91 (8.86;22.95)	<0.001
FT4	-11.47 (-18.62;-4.33)	0.002	-4.76 (-10.30;0.78)	0.092	-6.92 (-9.94;-3.90)	<0.001	-22.15 (-37.85;-6.45)	0.006
FT3	64.18 (31.35;97.01)	<0.001	50.23 (24.80;75.66)	<0.001	10.23 (-3.69;24.15)	0.150	31.29 (-40.98;103.55)	0.396
FT3:FT4 ratio	78.26 (50.02;106.51)	<0.001	46.82 (24.90;68.74)	<0.001	31.27 (19.31;43.23)	<0.001	98.80 (36.56;161.03)	0.002
Subclinical hypo^b	1.57 (-2.36;5.50)	0.433	0.67 (-2.38;3.72)	0.669	1.59 (-0.08;3.26)	0.062	9.14 (0.50;17.77)	0.038
Presence of diabetes								
TSH^a	-0.86 (-9.63;7.92)	0.848	0.31 (-6.03;6.65)	0.924	1.33 (-2.33;4.99)	0.476	7.48 (-9.69;24.65)	0.393
FT4	20.96 (2.56;39.37)	0.026	15.82 (2.52;29.11)	0.020	9.60 (1.93;17.28)	0.014	21.60 (-14.53;57.73)	0.241
FT3	11.75 (-24.54;48.05)	0.526	0.13 (-26.11;26.36)	0.992	-4.05 (-19.19;11.09)	0.600	43.13 (-27.88;114.15)	0.234
FT3:FT4 ratio	-9.26 (-50.58;32.05)	0.660	-15.10 (-44.94;14.74)	0.321	-14.58 (-31.79;2.62)	0.097	34.61 (-46.26;115.48)	0.402
Subclinical hypo^b	1.45 (-10.09;13.00)	0.805	2.80 (-5.57;11.17)	0.512	4.36 (-0.48;9.20)	0.077	13.64 (-9.05;36.33)	0.239

Note: ^alog-transformed variables. ^bEuthyroidism was the reference category. Analyses were adjusted for sociodemographic variables (age, sex, race, educational level) and health conditions (BMI, physical activity, and smoking)

Supplementary table S4. Crude and adjusted linear association between thyroid parameters and amino acids for euthyroid participants exclusively.

	Valine		Leucine		Isoleucine		Alanine	
	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p	B (CI 95%)	p
TSH^a	1.74 (-2.44;5.93)	0.415	3.63 (0.46;6.81)	0.025	0.28 (-1.50;2.05)	0.759	18.90 (9.98;27.82)	<0.001
FT4	-3.78 (-10.81;3.24)	0.291	0.19 (-5.14;5.52)	0.944	-3.02 (-5.99;-0.04)	0.047	-9.91 (-24.91;5.09)	0.195
FT3	32.46 (8.94;55.97)	0.007	17.49 (-0.37;35.34)	0.055	2.19 (-7.79;12.16)	0.668	36.00 (-14.25;86.26)	0.160
FT3:FT4 ratio	36.09 (12.82;59.37)	0.002	14.66 (-3.03;32.34)	0.104	9.91 (0.03;19.78)	0.049	60.89 (11.15;110.63)	0.016

Note: ^alog-transformed variables. Analyses were adjusted for sociodemographic variables (age, sex, race, educational level) and health conditions (BMI, physical activity, diabetes and smoking)



Supplementary Figure S1. Forest plots showing crude and adjusted linear association between subclinical hypothyroidism and amino acids. Note: B represents the slope coefficient of the regression line