Suppl Table 1. Distribution of energy intake from specific groups of ultra-processed foods among cases and controls (including t-test comparison)

Variable	Cas				Control				Paired ttest* On continuous variable
	Mean	Median	5th Pctl	95th Pctl	Mean	Median	5th Pctl	95th Pctl	
UPF	837.2	729.4	242.6	1706.1	826.7	640.9	187.8	1958.5	0.05
Carbonated beverages	129.4	25	0	768.1	154.4	23.2	0	818.2	0.45
Fruit juice beverages	14.1	5.5	0	51.9	9.2	2	0	37.4	<.0001
Yogurt and dairy-based drinks	36	7	0	208.3	35.9	4.5	0	206.9	0.03
Distilled alcoholic beverages	5.7	0	0	25.4	6.7	0	0	30.8	0.61
Industrial breads	53	41.7	0	158.3	42.5	20.5	0	124.4	<.0001
Breakfast cereals	54.9	34.1	0	176.1	54.6	17.1	0	216.2	<.0001
Confectionery	55	23.1	0	190.6	54.6	18.1	0	204	0.06
Packaged sweet snacks	27.8	10.7	0	96.1	22.5	5	0	96.1	<.0001
Packaged savory snacks	52.1	35.7	3.6	163	46.4	31	0	132.5	0.001
Cakes and desserts	135.9	103	10.8	362.9	129.5	85.1	9.1	380	0.10
Sausage and reconstituted meat	93.2	68.4	11.7	241.2	108.9	72.1	16	325	0.04
Ready-to-eat/heat food	151.9	126.1	26.6	360.7	134.9	101.7	20	334.2	0.12
Industrial cheese and cheese s	9.1	3.4	0	40.3	8.8	3.4	0	40.3	0.10

Variable	Cas				Control				Paired ttest* On continuous variable
	Mean	Median	5th Pctl	95th Pctl	Mean	Median	5th Pctl	95th Pctl	
Margarine and butter substitut	14.3	4.8	0	66.6	13.4	2.4	0	58.8	0.006
Other NOVA4 food	4.9	2.6	0	18.1	4.4	2	0	14.5	0.03

(*): Wilcoxon paired t-test on log-transformed variables

Suppl Table 2. Odds ratios (OR) and 95 % confidence interval (CI) for associations between Ultra Processed Food intake (as percentage of total caloric intake) and risk of breast cancer, overall and by receptor status

	Cases/controls	Model 1 [1] OR (95% CI)	Model 2 [2] OR (95% CI)
All breast cancer[3]			
Tertile 1	157/175	1.00 (ref.)	1.00 (ref.)
Tertile 2	170/175	1.21 (0.86-1.70)	1.51 (1.03 -2.21)
Tertile 3	198/175	1.37 (0.97-1.92)	2.32 (1.37-3.92)
P-trend		0.07	0.002
By receptors status			
ER positive			
Tertile 1	72/80	1.00 (ref.)	1.00 (ref.)
Tertil 2	65/80	0.93 (0.55-1.59)	1.30 (0.71-2.37)
Tertile 3	103/80	1.55 (0.90-2.64)	3.63 (1.57-8.40)
P-trend		0.11	0.003
ER negative			
Tertile 1	27/31	1.00 (ref.)	1.00 (ref.)
Tertile 2	38/31	1.32 (0.57-3.05)	1.56 (0.61-4.00)
Tertile 3	27/30	1.06 (0.45-2.45)	1.08 (0.26-4.49)
P-trend		0.92	0.88

Abbreviations: CI, confidence interval; OR, odds ratio.

[1]Model 1: odds ratios were estimated by logistic regression conditioned on age (± 3 years), city district of residence, and health insurance institution and adjusted for education (≤primary/secondary/>secondary), moderate intensity physical activity (continuous), number of full-term pregnancies (continuous), age at first full-term pregnancy (nulliparous/<20;[20-25[;≥25), breast feeding ever (yes/no), BMI (continuous) and total energy intake (continuous).

[2] Model 2: Additionally adjusted for energy intake from the other NOVA groups (NOVA1, NOVA2, NOVA3 added simultaneously in the model).

[3] Cut off points for tertiles are respectively: Tertile 1=<=21.1; tertile 2= 21.1-29.7; tertile 3= >29.7 % of total kcal/day

Suppl Table 3. Odds ratios (OR) and 95 % confidence interval (CI) for associations between intake of specifc subgroups of Ultra Processed Food and risk of breast cancer, overall and by receptor status

	Model 2 [1] OR (95% CI)	ER positive OR (95% CI)	ER negative OR (95% CI)
Carbonated beverages			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	0.96 (0.68-1.35)	0.83 (0.48-1.41)	0.87 (0.35-2.15)
Tertile 3	1.36 (0.90-2.05)	1.52 (0.78-2.99)	0.54 (0.16-1.77)
P-trend	0.19/0.25	0.32/43	0.33/0.58
Fruit juice beverages [Includes light and diet varieties]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertil 2	1.88 (1.26-2.79)	2.37 (1.23-4.56)	0.71 (0.28-1.78)
Tertile 3	2.97 (2.01-4.38)	3.22 (1.74-5.95)	1.36 (0.54-3.43)
P-trend	<0.0001/<0.0001	<0.0001/0.0002	0.53/0.58
Yogurt and dairy-based drinks			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.31 (0.93-1.84)	1.04 (0.60-1.82)	1.14 (0.43-3.00)
Tertile 3	1.22 (0.81-1.83)	1.83 (1.01-3.31)	0.63 (0.19-2.04)
P-trend	0.30/0.32	0.05/0.13	0.48/0.58
Distilled alcoholic beverages			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	0.96 (0.60-1.52)	0.79 (0.37-1.68)	1.52 (0.50-4.68)
Tertile 3	1.12 (0.82-1.52)	1.50 (0.91-2.47)	0.72 (0.29-1.79)
P-trend	0.49/0.49	0.11/0.21	0.54/0.58
Industrial breads			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.62 (1.12-2.34)	2.18 (1.17-4.03)	0.82 (0.34-2.01)
Tertile 3	1.98 (1.33-2.94)	2.42 (1.26-4.66)	1.41 (0.55-3.64)
P-trend	0.001/0.008	0.01/0.04	0.46/0.58
Breakfast cereals [Includes cereal bars]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.53 (1.07-2.18)	1.22 (0.68-2.18)	1.12 (0.41-3.05)
Tertile 3	1.73 (1.17-2.56)	1.47 (0.83-2.63)	0.81 (0.28-2.35)
P-trend	0.007/0.018	0.18/0.26	0.70/0.70
Confectionery [Includes chocolate and candy]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.36 (0.97-1.91)	1.41 (0.82-2.45)	1.74 (0.70-4.33)
Tertile 3	1.21 (0.83-1.76)	1.12 (0.62-2.02)	2.04 (0.74-5.61)
P-trend	0.29/0.32	0.75/0.80	0.16/0.52

Packaged sweet snacks [Includes cookies]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.12 (0.78-1.61)	1.39 (0.79-2.43)	1.27 (0.42-3.81)
Tertile 3	1.75 (1.22-2.50)	2.18 (1.27-3.73)	1.85 (0.70-4.91)
P-trend	0.003/0.012	0.005/0.04	0.22/0.52
Packaged savory snacks [Includes crackers, tacos, wafers]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.43 (0.99-2.07)	2.00 (1.06-3.79)	2.29 (0.81-6.48)
Tertile 3	1.54 (1.03-2.31)	1.79 (0.88-3.62)	2.34 (0.74-7.37)
P-trend	0.04/0.07	0.17/0.26	0.15/0.52
Cakes and desserts [Includes icecreams, pasteries, doughnuts, cakes]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.53 (1.06-2.22)	1.26 (0.72-2.23)	1.27 (0.47-3.44)
Tertile 3	1.83 (1.20-2.79)	1.86 (0.97-3.55)	3.84 (1.19-12.4)
P-trend	0.005/0.016	0.06/0.14	0.03/0.24
Sausage and reconstituted meat products [Includes bacon, ham, nuggests]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.01 (0.71-1.44)	0.90 (0.52-1.58)	1.53 (0.58-4.09)
Tertile 3	0.78 (0.51-1.18)	1.01 (0.52-1.94)	0.57 (0.17-1.90)
P-trend	0.27/0.32	0.99/0.99	0.51/0.58
Ready-to-eat/heat food [Includes sandwiches, burgers, hot-dogs, instant soups]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.86 (1.27-2.72)	3.02 (1.60-5.70)	0.96 (0.36-2.58)
Tertile 3	1.97 (1.30-2.99)	2.71 (1.33-5.53)	5.53 (1.71-18.0)
P-trend	0.002/0.01	0.009/0.04	0.003/0.048
Cheese and cheese substitutes			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.37 (0.99-1.90)	1.15 (0.67-1.95)	1.42 (0.58-3.50)
Tertile 3	1.27 (0.84-1.92)	1.23 (0.69-2.19)	1.92 (0.62-5.90)
P-trend	0.18/0.25	0.48/0.55	0.25/0.52
Margarine and butter substitutes			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)

Tertile 2	1.74 (1.21-2.51)	1.67 (0.94-2.98)	3.19 (1.05-9.73)
Tertile 3	1.47 (1.03-2.10)	1.26 (0.73-2.17)	1.89 (0.65-5.50)
P-trend	0.02/0.04	0.37/0.46	0.26/0.52
Other G4 food [Includes sauces, gravies, jam, mayonnaise, artificial sweeteners]			
Tertile 1	1.00 (ref.)	1.00 (ref.)	1.00 (ref.)
Tertile 2	1.10 (0.77-1.56)	1.18 (0.68-2.06)	0.94 (0.38-2.32)
Tertile 3	1.30 (0.91-1.85)	1.54 (0.89-2.66)	2.00 (0.72-5.58)
P-trend	0.14/0.22	0.12/0.21	0.19/0.52

[1]Model : odds ratios were estimated by logistic regression conditioned on age (± 3 years), city district of residence, and health insurance institution and adjusted for education (≤primary/secondary/>secondary), moderate intensity physical activity (continuous), number of full-term pregnancies (continuous), age at first full-term pregnancy (nulliparous/<20;[20-25[;≥25), breast feeding ever (yes/no), BMI (continuous) and total energy intake (continuous) and energy intake from the other NOVA groups (NOVA1, NOVA2, NOVA3 added simultaneously in the model).

P-trend presents the significance of the test for trend before and after correction for multiple comparison using the Benjamini-Hochberg correction to control for multiple comparisons.

Suppl Table 4. Spearman correlations between total industrial trans fatty acids and ultraprocessed foods overall and by specific food items adjusted for analytical batches and case-control status

	Variable	Correlation	P-value
NOVA4	**NOVA4**	0.11	0.08
subNova4 #	**subNova4 #**	0.21	0.0005
NOVAsub29	**Yogurt and dairy-based drinks**	0.14	0.02
NOVAsub31	**Industrial breads**	0.13	0.04
NOVAsub33	**Confectionery [Includes chocolate and candy]**	0.11	0.07
NOVAsub36	**Cakes and desserts [Includes icecreams, pasteries, doughnuts, cakes]**	0.24	<.0001
NOVAsub38	**Ready-to-eat/heat food [Includes sandwiches, burgers, hot-dogs, instant soups]**	0.15	0.01
NOVAsub40	**Margarine and butter substitutes**	0.10	0.09