

Idames pilot study

Dietary intake

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Preliminary considerations on 24HDR

- ▶ In general, the decision on how many days should be covered by 24HDR to obtain a satisfactory estimate of the consumption /intake of specific foods/ nutrients depends on several factors, including the statistical characteristics of the specific variable(s) of interest, including among the others:
 - ▶ Mean consumption/ intake
 - ▶ Between-day variability



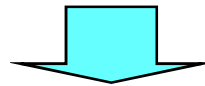
Data analysis

- ▶ Description of the study population (participants in local cohort studies, including 4 EPIC centers)
- ▶ Distribution of macronutrients, energy and food groups according to 24h dietary recalls (24HDR)
- ▶ Reliability measures (1st vs 2nd 24HDR)
- ▶ **The study is still ongoing, here we present very preliminary results!**



Idames 24HDR - Feasibility

400 Invited subjects



IDAMES Centre	Total response rate		Total participation rate - EFPQ		First 24-H D Recall		Second 24-H D Recall		Third 24-H D Recall	
	N	%	N	%	N	%	N	%	N	%
Estonia	77	96.3%	70	87.5%	69	98.6%	63	90.0%	29	41.4%
Germany	74	92.5%	55	68.8%	55	100.0%	50	90.9%	48	87.3%
Italy	66	82.5%	48	60.0%	43	89.6%	31	64.6%	3	6.3%
Norway	60	75.0%	30	37.5%	24	80.0%	11	36.7%	1	3.3%
Spain	72	90.0%	59	73.8%	19	32.2%	0	0.0%	0	0.0%
Overall	349	87.3%	262	65.5%	210	80.2%	155	59.2%	81	30.9%



24HDR Recalls by Gender

Females

Country	24H D Recall			Overall
	First	Second	Third	
<i>Estonia</i>	32	30	15	77
<i>Germany</i>	29	26	26	81
<i>Italy</i>	18	15	2	35
<i>Norway</i>	24	11	1	36
<i>Spain</i>	10	0	0	10
Overall	113	82	44	239

Males

Country	24H D Recall			Overall
	First	Second	Third	
<i>Estonia</i>	37	33	14	84
<i>Germany</i>	26	24	22	72
<i>Italy</i>	25	16	1	42
<i>Spain</i>	9	0	0	9
Overall	97	73	37	207



Study population characteristics

Females (n=113)

		Age (yrs)		Height (cm)		Weight (kg)		BMI (Kg/m ²)	
Country	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Estonia	32	33.7	13.2	167.8	5.7	71.3	16.6	25.4	6.1
Germany	29	64.1	6.8	163.2	7.3	71.7	16.2	26.9	5.5
Italy	18	66	5.6	152.2	37.1	65.2	13.3	25.3	5.2
Norway	24	55.8	4.0	167.9	8.3	70.2	12.6	25.1	5.8
Spain	10	60.8	6.1	159.7	6.9	62.2	6	24.4	2
Overall	113	53.8	15.6	163.4	16.7	69.4	14.6	25.6	5.5



Study population characteristics

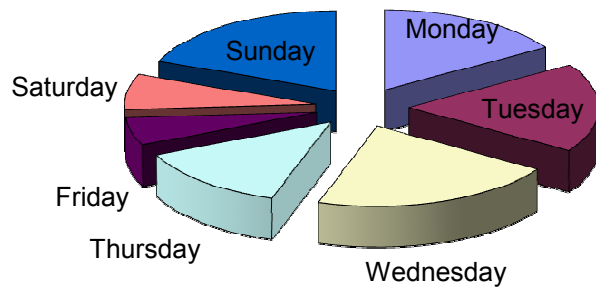
Males (n = 97)

		Age (yrs)		Height (cm)		Weight (kg)		BMI (Kg/m2)	
Country	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Estonia	37	34.6	12.4	182.3	6.8	86.0	11.9	25.9	4.0
Germany	26	65.5	6.7	177.4	8.0	85.0	12.2	27.0	3.5
Italy	25	62.0	11.5	174.6	5.7	80.3	9.3	26.4	2.9
Spain	9	62.8	5.0	171.9	7.6	80.1	8.9	27.1	2.8
Overall	97	52.9	17.4	177.9	7.8	83.7	11.3	27.0	2.3

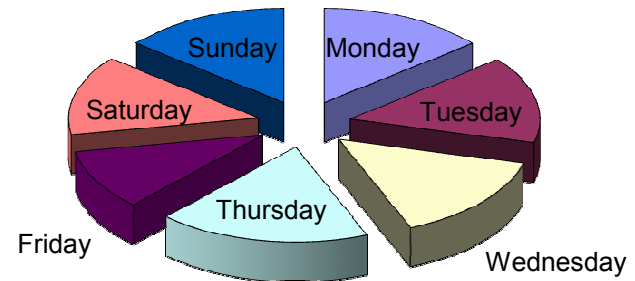


Days of the week distribution

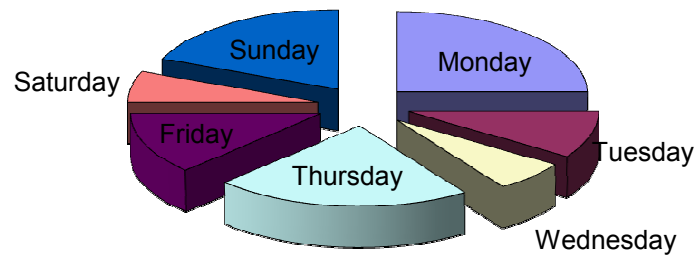
**1st 24HDR
(N = 210)**



**2nd 24HDR
(N = 155)**

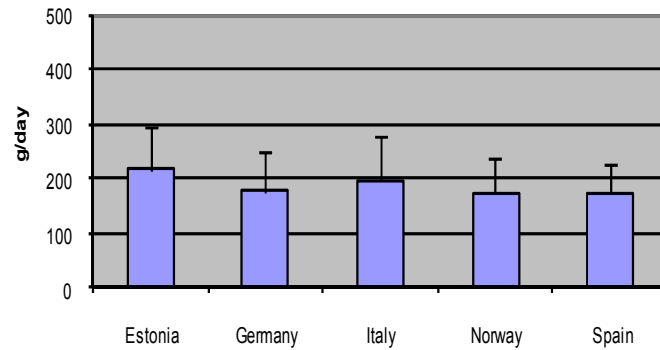


**3rd 24HDR
(N = 81)**

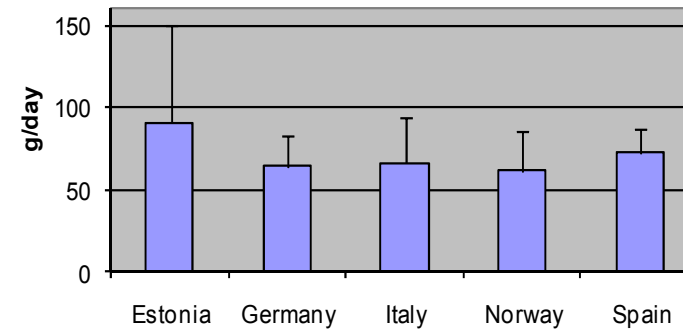


Macronutrients and energy – First 24HDR Females (n = 113)

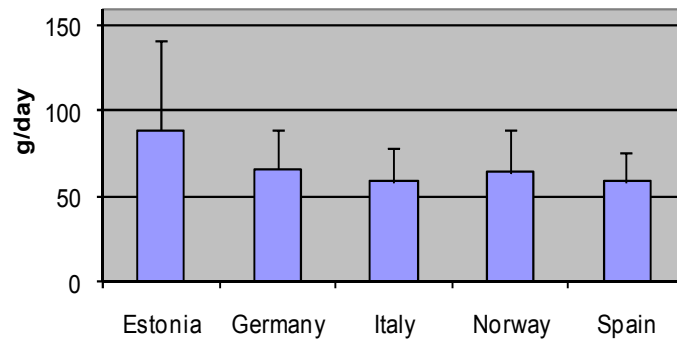
Carbohydrate intake



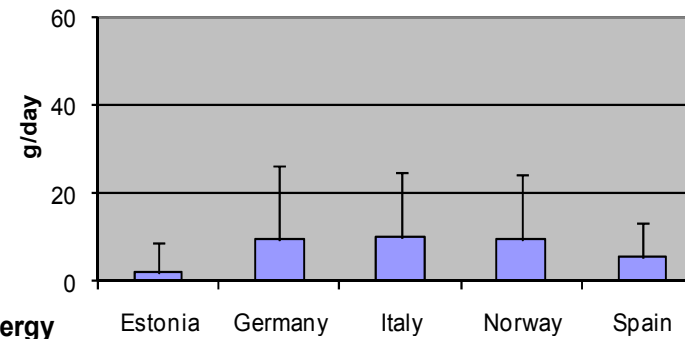
Protein intake



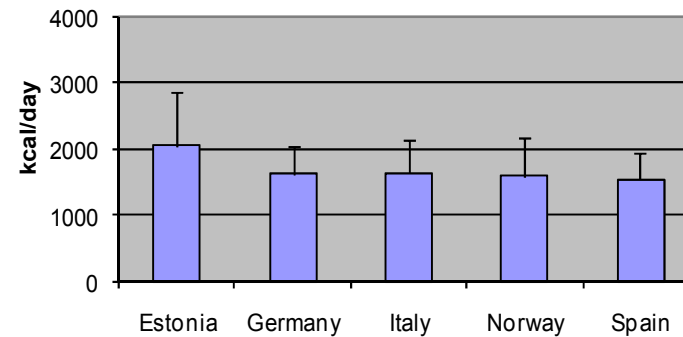
Fat intake



Alcohol intake



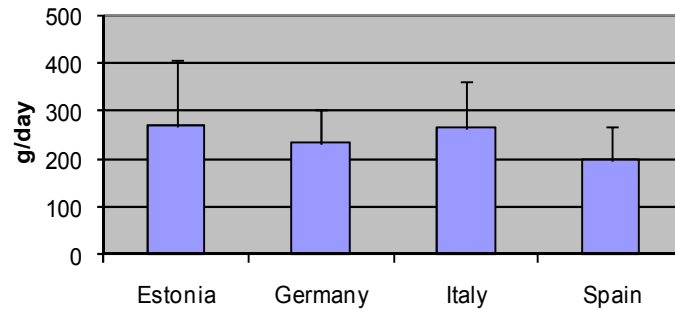
Energy



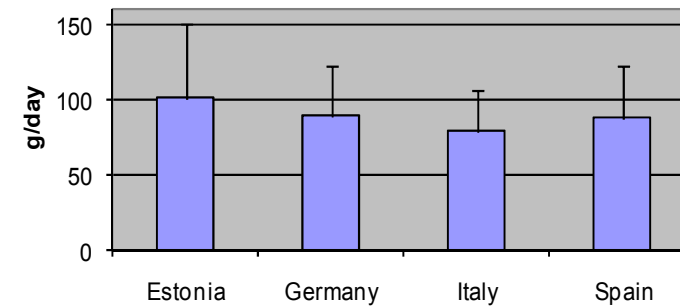
Macronutrients and energy – First 24HDR

Males (n = 97)

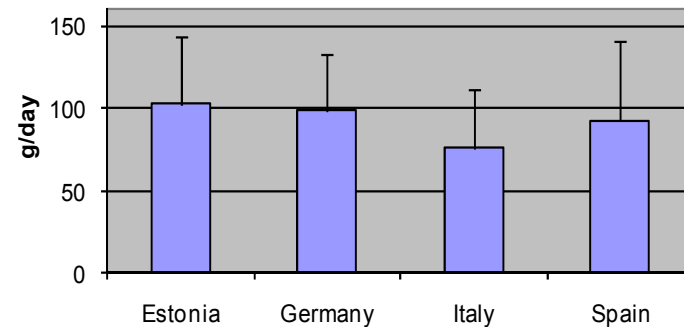
Carbohydrate intake



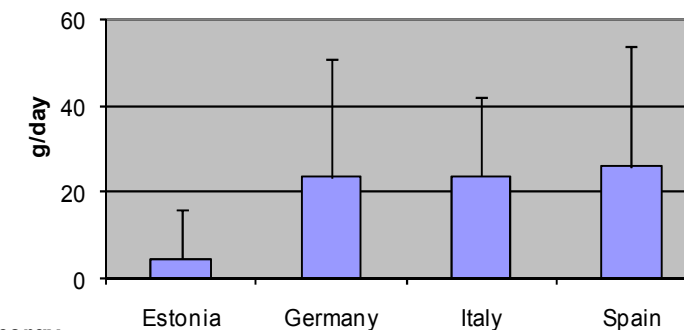
Protein intake



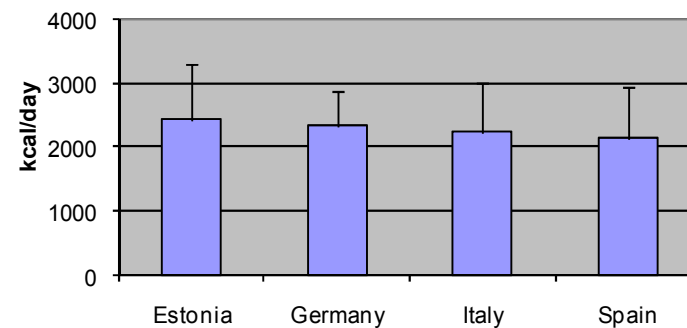
Fat intake



Alcohol intake



Energy



Food groups – First 24HDR

Females (n = 113)

	Estonia		Germany		Italy		Norway		Spain	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Potatoes, tubers (g/day)</i>	94.3	92.3	109.9	110.8	47.5	98.8	74.6	146.9	66.6	66.0
<i>Vegetables (g/day)</i>	121.9	200.1	122.0	125.4	176.0	122.6	165.9	144.8	151.9	83.1
<i>Fruits (g/day)</i>	179.5	243.7	211.7	174.4	338.7	229.2	219.5	196.9	194.0	170.0
<i>Cereals (g/day)</i>	187.1	191.3	121.1	80.3	207.9	81.8	192.6	177.5	434.8	277.4

	Animal products									
	Estonia		Germany		Italy		Norway		Spain	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Dairy products (g/day)</i>	395.0	352.9	276.1	184.0	244.2	117.0	263.9	230.6	490.8	168.6
<i>Meat & derivatives (g/day)</i>	132.6	185.6	99.9	100.7	98.5	74.6	69.5	69.9	82.2	88.9
<i>Fish & crustaceans (g/day)</i>	67.9	96.9	14.1	36.6	11.7	31.3	49.3	68.9	76.3	99.0
<i>Eggs (g/day)</i>	6.7	35.4	21.0	36.1	1.1	3.5	19.9	36.1	25.3	34.9

	Other products									
	Estonia		Germany		Italy		Norway		Spain	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Oils & Fats (g/day)</i>	14.2	17.6	23.1	17.2	17.9	12.8	14.2	13.1	33.7	24.9
<i>Cakes & Biscuits (g/day)</i>	36.6	62.9	37.9	80.9	35.9	59.0	20.1	39.4	14.6	18.3
<i>Condiments, sauces (g/day)</i>	62.6	76.1	26.4	36.0	17.2	26.7	20.3	24.8	5.4	17.1



Food groups – First 24HDR

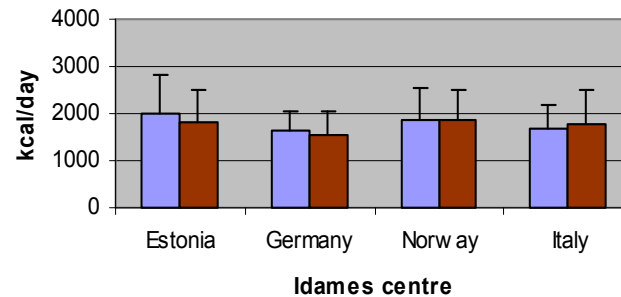
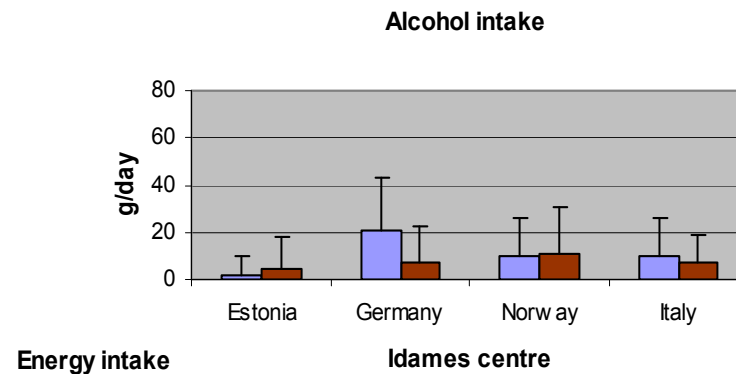
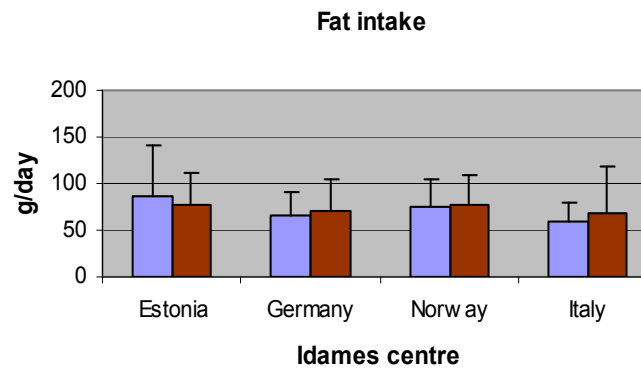
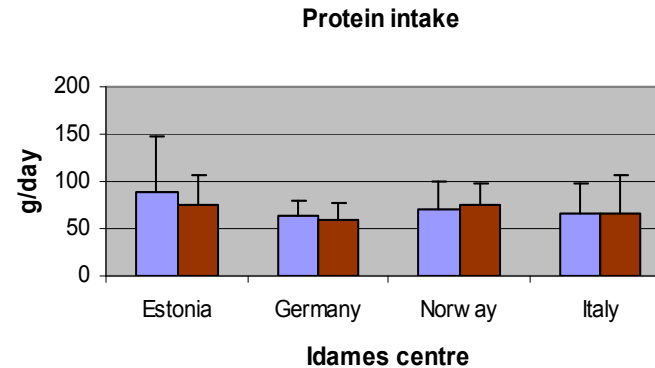
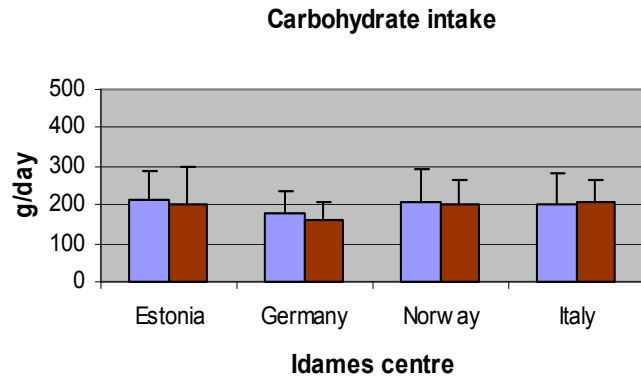
Males (n = 97)

	Vegetal products							
	Estonia		Germany		Italy		Spain	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Potatoes, tubers (g/day)</i>	179.0	188.0	147.9	129.1	53.8	127.3	78.4	46.8
<i>Vegetables (g/day)</i>	82.1	95.4	144.4	105.9	214.6	148.5	236.9	152.3
<i>Fruits (g/day)</i>	72.6	122.1	222.3	225.3	338.7	220.9	293.3	332.5
<i>Cereals (g/day)</i>	182.3	124.7	202.3	129.4	343.7	184.7	330.6	271.9

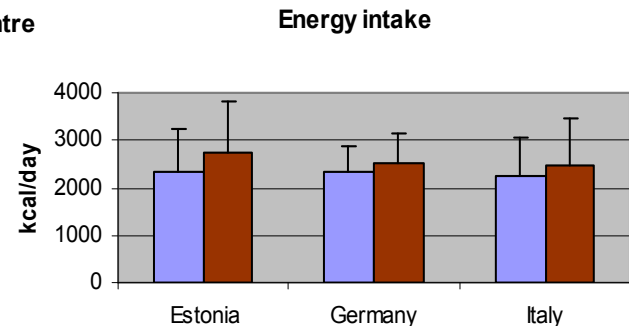
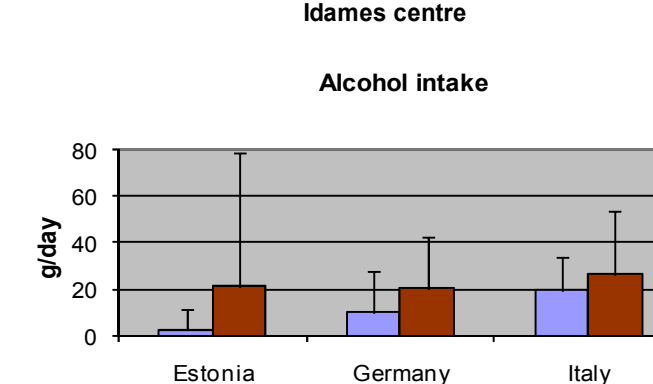
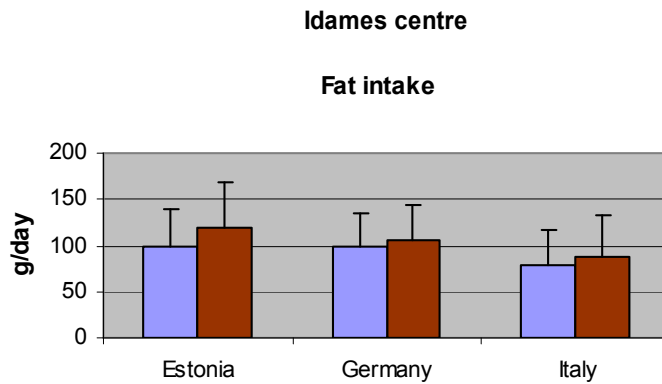
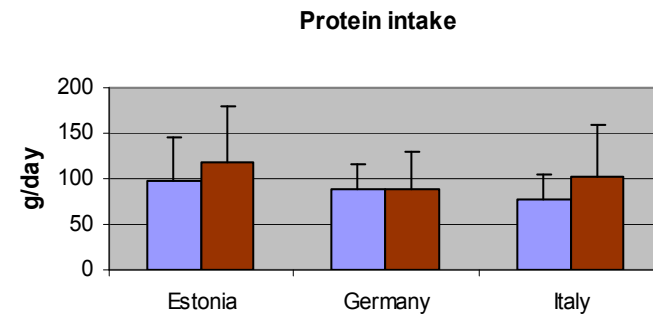
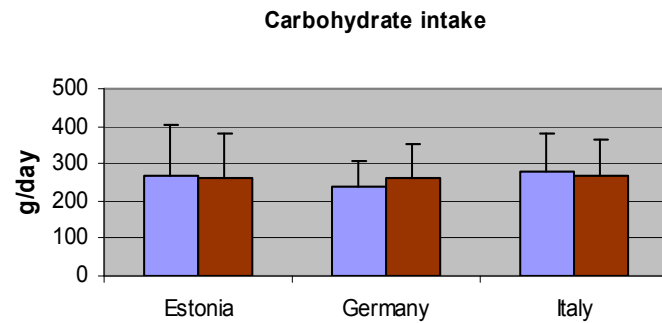
	Animal products							
	Estonia		Germany		Italy		Spain	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Dairy products (g/day)</i>	521.0	460.3	280.2	252.9	172.5	135.1	484.8	225.3
<i>Meat & derivatives (g/day)</i>	173.6	134.5	149.2	119.2	124.8	113.6	224.2	170.2
<i>Fish & crustaceans (g/day)</i>	44.8	94.3	25.4	68.2	22.6	47.3	93.3	94.2
<i>Eggs (g/day)</i>	13.9	39.6	18.5	42.7	13.3	43.8	31.8	58.3

	Other products							
	Estonia		Germany		Italy		Spain	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Oils & Fats (g/day)</i>	16.3	21.2	40.6	26.5	31.8	19.3	43.2	28.9
<i>Cakes & Biscuits (g/day)</i>	116.3	182.8	62.3	97.8	40.7	55.2	24.0	43.9
<i>Condiments, sauces (g/day)</i>	62.4	82.7	23.3	32.9	30.8	41.5	0.0	0.0

Comparison between First (I) and Second (II) 24HDR Macronutrients – Females (n = 81)

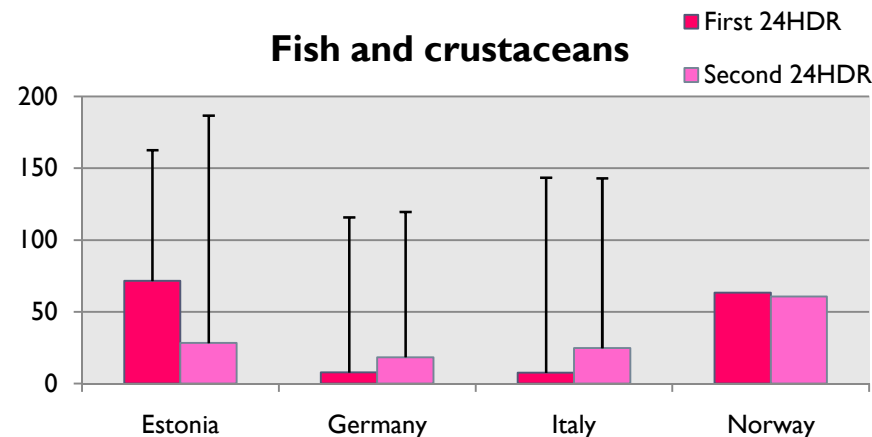
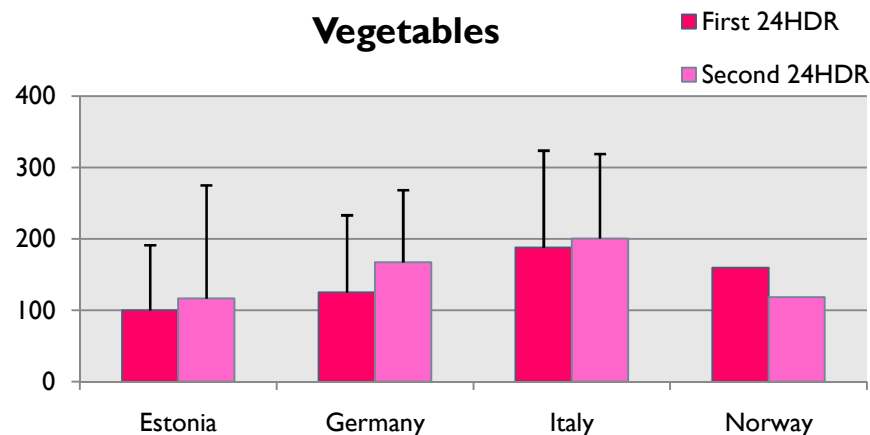


Comparison between First (I) and Second (II) 24HDR Macronutrients – Males (n = 72)



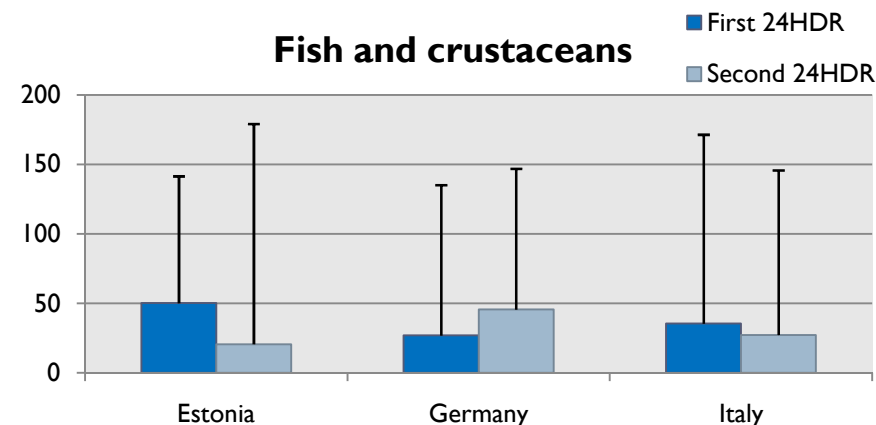
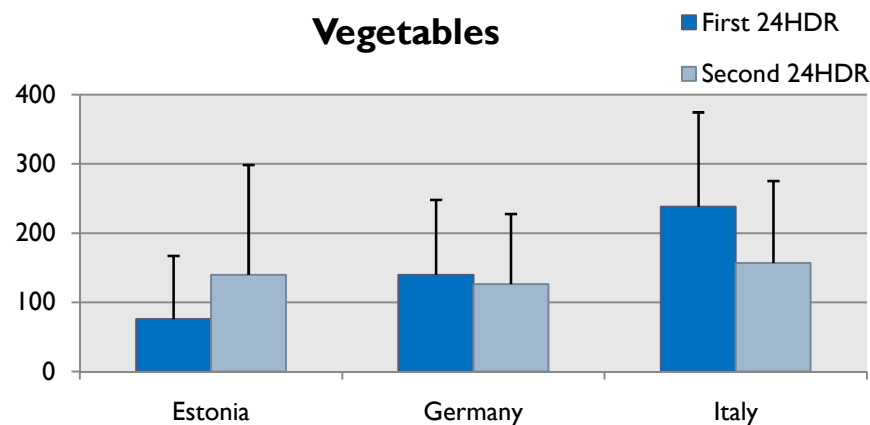
Differences between First (I) and Second (II) 24HDR Food groups daily consumption– Females (n = 81)

	Estonia		Germany		Italy		Norway	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI
<i>Cereals (g)</i>	-5.7	(-82.0; 70.6)	4.6	(-32.8; 42.0)	8.1	(-43.7; 59.8)	125.7	(-50.0; 301.4)
<i>Vegetables (g)</i>	-16.6	(-84.9; 51.7)	-42.1	(-94.9; 10.6)	-12.8	(-96.3; 70.7)	41.4	(-40.8; 123.7)
<i>Fruits (g)</i>	9.0	(-82.7; 100.7)	-24.0	(-121.9; 73.8)	32.6	(-83.4; 148.7)	29.2	(-54.6; 113.1)
<i>Dairy products (g)</i>	5.7	(-134.1; 145.6)	86.7	(14.7; 158.7)	62.3	(-13.4; 138.0)	-4.8	(-248.7; 239.2)
<i>Meat & derivatives (g)</i>	27.5	(-60.3; 115.2)	5.3	(-39.9; 50.4)	-3.3	(-111.8; 105.1)	-29.4	(-77.2; 18.4)
<i>Fish & crustaceans (g)</i>	43.2	(-1.2; 88.3)	-10.7	(-33.9; 12.6)	-17.2	(-50.8; 16.4)	2.5	(-34.3; 39.3)



Differences between First (I) and Second (II) 24HDR Food groups daily consumption– Males (n = 72)

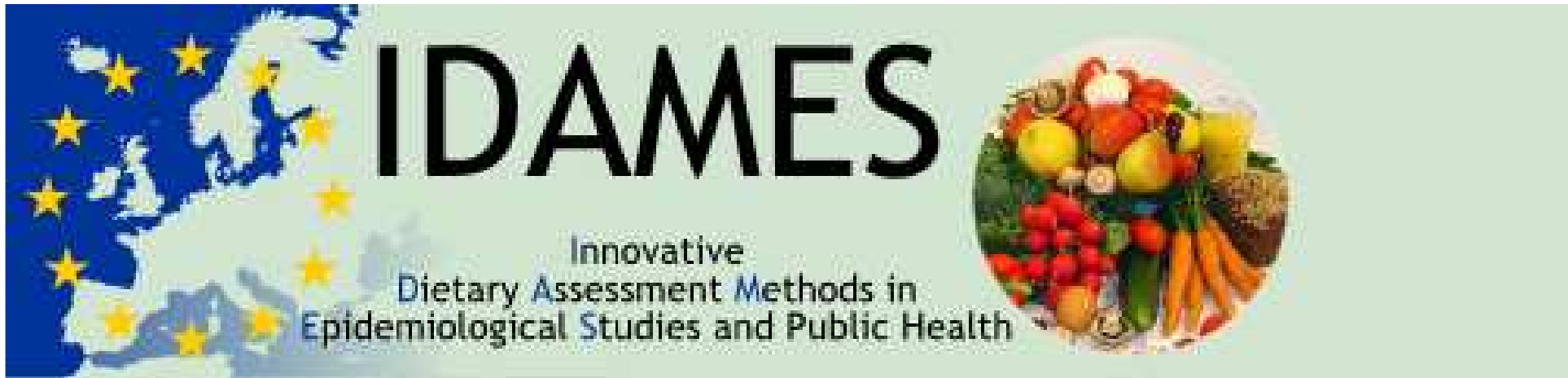
	Estonia		Germany		Italy	
	Mean	95% CI	Mean	95% CI	Mean	95% CI
<i>Cereals (g)</i>	-64.7	(-134.0; 4.7)	21.7	(-34.9; 78.3)	16.4	(-123.2; 156.0)
<i>Vegetables (g)</i>	-64.1	(-135.9; 7.7)	13.6	(-46.2; 73.4)	81.6	(19.9; 143.4)
<i>Fruits (g)</i>	6.3	(-41.2; 53.8)	-13.1	(-74.5; 48.2)	104.7	(-39.3; 248.8)
<i>Dairy products (g)</i>	50.8	(-92.1; 193.6)	-60.5	(-176.3; 55.2)	-29.3	(-108.1; 49.4)
<i>Meat & derivatives (g)</i>	-121	(-204.5; -37.8)	7.1	(-53.8; 68.0)	-120.9	(-250.8; 9.0)
<i>Fish & crustaceans (g)</i>	29.6	(-6.5; 65.7)	-18.7	(-49.2; 11.9)	8.2	(-41.1; 57.4)



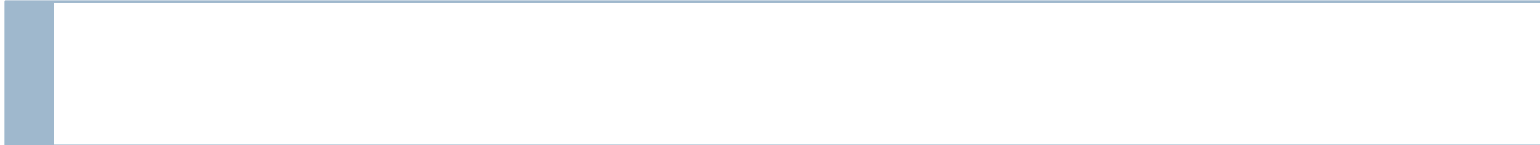
Reliability measures (1° 24 HDR vs 2° 24HDR)

	Males (N = 72)		Females (N = 81)	
	Intraclass correlation		Intraclass correlation	
	Crude	Adjusted*	Crude	Adjusted*
<i>Protein</i>	0.30	0.29	0.29	0.27
<i>Carbohydrates</i>	0.42	0.41	0.44	0.42
<i>Fats</i>	0.35	0.31	0.21	0.23
<i>Alcohol</i>	0.34	0.23	0.33	0.30
<i>% E from Carbohydrates</i>	0.29	0.25	0.20	0.19
<i>% E from Fats</i>	0.23	0.15	0.15	0.15
<i>% E from Proteins</i>	0.09	0.06	0.18	0.17
<i>% E from Alcohol</i>	0.37	0.23	0.34	0.30
<i>Energy</i>	0.36	0.35	0.38	0.39
<i>Potatoes, tubers</i>	0.29	0.18	0.08	0.01
<i>Fruits</i>	0.54	0.35	0.44	0.37
<i>Cereals</i>	0.25	0.12	0.22	0.16
<i>Dairy products</i>	0.44	0.43	0.38	0.35
<i>Meat & derivatives</i>	0.13	0.08	0.07	0.05
<i>Oils & Fats</i>	0.48	0.29	0.52	0.47
<i>Cakes & Biscuits</i>	0.38	0.24	0.39	0.14

* Adjusted for country and weekend (y/n)



Thank you!



ISTITUTO PER LO STUDIO
E LA PREVENZIONE ONCOLOGICA