

Nut and peanut butter intake and the risk of colorectal cancer and its anatomical and molecular subtypes: the Netherlands Cohort Study

Carcinogenesis

Supplementary Tables 1-6 and Supplementary Figures 1-2

Lisette Nieuwenhuis^{1,*}, Colinda C.J.M. Simons², Matty P. Weijnen², and Piet A. van den Brandt^{1,2}

¹ Maastricht University Medical Center+, Care and Public Health Research Institute (CAPHRI), Department of Epidemiology, Maastricht, the Netherlands

² Maastricht University Medical Center+, GROW – School for Oncology and Developmental Biology, Department of Epidemiology, Maastricht, the Netherlands

* To whom correspondence should be addressed. Tel: +31 4338 82902; Fax: +31 4338 84128; Email: l.nieuwenhuis@maastrichtuniversity.nl

Supplementary Table 1. Age-adjusted HRs and 95%CI for colorectal cancer and anatomical subtypes in men, according to nut and peanut butter consumption; NLCS, 1986-2006

	Colorectal cancer				Colon cancer		Proximal colon cancer		Distal colon cancer		Rectal cancer	
	Median intake ^a	Person-years	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)
Total nut intake (g/day)												
0	0.0	8605	614	1.00 (reference)	397	1.00 (reference)	173	1.00 (reference)	218	1.00 (reference)	155	1.00 (reference)
0.1-<5	2.5	9509	668	0.99 (0.84-1.17)	426	0.98 (0.81-1.18)	196	1.04 (0.81-1.32)	213	0.89 (0.71-1.11)	168	0.98 (0.76-1.26)
5-<10	8.5	3896	252	0.92 (0.74-1.15)	170	0.96 (0.75-1.23)	78	1.02 (0.74-1.41)	82	0.84 (0.62-1.13)	48	0.69 (0.48-0.99)
10+	21.4	6936	459	0.96 (0.80-1.16)	303	0.99 (0.81-1.21)	142	1.08 (0.83-1.41)	155	0.91 (0.71-1.17)	104	0.85 (0.64-1.12)
P-trend				0.652		0.988		0.590		0.652		0.171
Continuous, per 5 g/day increment				1.00 (0.97-1.02)		0.99 (0.97-1.02)		1.00 (0.97-1.04)		0.99 (0.95-1.02)		1.00 (0.96-1.04)
Tree nuts (g/day)												
0	0.0	20837	1453	1.00 (reference)	935	1.00 (reference)	421	1.00 (reference)	488	1.00 (reference)	346	1.00 (reference)
0.1-<5	1.6	6615	439	0.95 (0.81-1.12)	289	0.97 (0.81-1.16)	130	0.97 (0.77-1.23)	147	0.95 (0.76-1.18)	109	0.99 (0.77-1.26)
5+	8.9	1494	101	0.97 (0.71-1.31)	72	1.07 (0.77-1.49)	38	1.25 (0.84-1.87)	33	0.94 (0.61-1.43)	20	0.80 (0.49-1.33)
P-trend				0.729		0.754		0.317		0.699		0.406
Continuous, per 5 g/day increment				0.98 (0.89-1.07)		1.00 (0.91-1.10)		1.03 (0.93-1.15)		0.96 (0.85-1.09)		0.96 (0.82-1.12)
Peanuts (g/day)												
0	0.0	9711	696	1.00 (reference)	448	1.00 (reference)	198	1.00 (reference)	241	1.00 (reference)	177	1.00 (reference)
0.1-<5	2.5	10376	718	0.99 (0.84-1.16)	462	0.99 (0.83-1.19)	216	1.07 (0.85-1.34)	226	0.89 (0.72-1.11)	178	0.95 (0.75-1.21)
5-<10	8.5	3216	197	0.90 (0.71-1.13)	133	0.95 (0.73-1.23)	58	0.96 (0.68-1.35)	70	0.91 (0.67-1.25)	35	0.61 (0.41-0.91)
10+	21.4	5643	382	1.00 (0.82-1.21)	253	1.04 (0.84-1.28)	117	1.11 (0.84-1.46)	131	0.98 (0.76-1.27)	85	0.85 (0.63-1.14)
P-trend				0.933		0.727		0.563		0.883		0.190
Continuous, per 5 g/day increment				1.00 (0.97-1.02)		0.99 (0.97-1.02)		1.00 (0.97-1.04)		0.99 (0.95-1.02)		1.00 (0.96-1.04)
Peanut butter (g/day)												
0	0.0	20730	1427	1.00 (reference)	929	1.00 (reference)	425	1.00 (reference)	476	1.00 (reference)	347	1.00 (reference)
0.1-<5	1.2	4995	318	0.96 (0.81-1.16)	208	0.98 (0.80-1.20)	94	0.98 (0.76-1.28)	106	0.96 (0.75-1.23)	70	0.85 (0.64-1.14)
5+	9.6	3220	248	1.16 (0.94-1.44)	159	1.16 (0.91-1.46)	70	1.13 (0.83-1.53)	86	1.21 (0.91-1.60)	58	1.10 (0.80-1.51)
P-trend				0.150		0.223		0.429		0.188		0.558
Continuous, per 5 g/day increment				1.03 (0.96-1.11)		1.03 (0.95-1.11)		1.04 (0.95-1.15)		1.02 (0.93-1.12)		0.99 (0.88-1.10)

^a Median intake in the subcohort

Supplementary Table 2. Age-adjusted HRs and 95%CI for colorectal cancer and anatomical subtypes in women, according to nut and peanut butter consumption; NLCS, 1986-2006

	Colorectal cancer				Colon cancer		Proximal colon cancer		Distal colon cancer		Rectal cancer	
	Median intake ^a	Person-years	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)	Cases	Age-adjusted HR (95%CI)
Total nut intake (g/day)												
0	0.0	13183	629	1.00 (reference)	452	1.00 (reference)	276	1.00 (reference)	163	1.00 (reference)	126	1.00 (reference)
0.1-<5	2.1	12150	606	1.09 (0.93-1.28)	462	1.16 (0.98-1.38)	261	1.09 (0.89-1.33)	189	1.29 (1.02-1.64)	106	0.94 (0.71-1.25)
5-<10	7.8	3762	149	0.91 (0.72-1.16)	125	1.08 (0.83-1.39)	71	1.03 (0.75-1.40)	49	1.12 (0.78-1.61)	14	0.42 (0.23-0.75)
10+	15.7	4223	190	1.00 (0.80-1.25)	148	1.09 (0.85-1.39)	95	1.16 (0.88-1.55)	51	1.01 (0.71-1.44)	31	0.80 (0.52-1.22)
P-trend				0.628		0.703		0.392		0.762		0.087
Continuous, per 5 g/day increment				1.00 (0.96-1.04)		1.02 (0.97-1.06)		1.02 (0.97-1.07)		1.01 (0.95-1.08)		0.94 (0.84-1.04)
Tree nuts (g/day)												
0	0.0	23269	1124	1.00 (reference)	835	1.00 (reference)	507	1.00 (reference)	306	1.00 (reference)	207	1.00 (reference)
0.1-<5	1.6	8228	368	0.95 (0.81-1.11)	289	1.00 (0.84-1.19)	159	0.91 (0.74-1.13)	122	1.14 (0.90-1.45)	55	0.77 (0.56-1.05)
5+	8.9	1821	82	0.97 (0.71-1.32)	63	1.00 (0.72-1.40)	37	0.98 (0.66-1.45)	24	1.03 (0.64-1.63)	15	0.96 (0.54-1.69)
P-trend				0.743		0.984		0.786		0.740		0.647
Continuous, per 5 g/day increment				0.97 (0.88-1.06)		0.98 (0.90-1.07)		1.00 (0.90-1.10)		0.96 (0.84-1.09)		0.92 (0.70-1.21)
Peanuts (g/day)												
0	0.0	15536	733	1.00 (reference)	531	1.00 (reference)	316	1.00 (reference)	201	1.00 (reference)	143	1.00 (reference)
0.1-<5	2.5	12435	608	1.10 (0.94-1.28)	473	1.18 (1.00-1.39)	278	1.18 (0.97-1.44)	182	1.17 (0.93-1.47)	101	0.92 (0.69-1.22)
5-<10	8.5	2442	96	0.92 (0.69-1.22)	76	1.01 (0.74-1.37)	39	0.90 (0.61-1.31)	33	1.11 (0.73-1.68)	12	0.57 (0.31-1.07)
10+	17.1	2905	137	1.06 (0.83-1.37)	107	1.15 (0.88-1.52)	70	1.29 (0.94-1.78)	36	0.99 (0.67-1.48)	21	0.82 (0.50-1.35)
P-trend				0.910		0.490		0.281		0.955		0.235
Continuous, per 5 g/day increment				1.01 (0.96-1.06)		1.03 (0.98-1.08)		1.03 (0.97-1.09)		1.03 (0.95-1.10)		0.93 (0.82-1.05)
Peanut butter (g/day)												
0	0.0	24266	1170	1.00 (reference)	866	1.00 (reference)	520	1.00 (reference)	323	1.00 (reference)	214	1.00 (reference)
0.1-<5	1.2	5866	269	0.99 (0.82-1.18)	208	1.03 (0.85-1.26)	119	0.99 (0.79-1.26)	86	1.13 (0.86-1.47)	46	0.92 (0.65-1.29)
5+	6.9	3186	135	0.91 (0.71-1.16)	113	1.03 (0.80-1.33)	64	0.98 (0.72-1.33)	43	1.03 (0.72-1.48)	17	0.62 (0.37-1.04)
P-trend				0.431		0.816		0.890		0.809		0.070
Continuous, per 5 g/day increment				0.95 (0.85-1.06)		1.00 (0.89-1.12)		0.98 (0.84-1.15)		1.03 (0.88-1.20)		0.78 (0.60-1.02)

^a Median intake in the subcohort

Supplementary Table 3. Multivariable-adjusted HRs and 95%CI for colon cancer according to total nut intake in strata of potential effect modifiers in men and women; NLCS, 1986-2006

	Men			P-trend	P-interaction	Women			P-trend	P-interaction
	Total nut consumption (g/day)					Total nut consumption (g/day)				
	0 g/day	0.1-<5 g/day	5+ g/day			0 g/day	0.1-<5 g/day	5+ g/day		
<i>Overall</i>										
Cases/person-years	394/8572	425/9484	473/10813			445/12925	457/12047	270/7900		
HR (95%CI) ^a	1 (reference)	0.99 (0.81-1.20)	0.97 (0.80-1.18)	0.777		1 (reference)	1.18 (0.99-1.41)	1.10 (0.89-1.37)	0.645	
<i>Body mass index</i>										
18.5-<25 kg/m ²										
Cases/person-years	181/4356	214/5391	237/5835			218/6697	248/6426	171/5163		
HR (95%CI) ^a	1 (reference)	0.93 (0.70-1.23)	0.98 (0.75-1.30)	0.899	0.836	1 (reference)	1.29 (1.00-1.65)	1.15 (0.86-1.53)	0.653	0.626
25+ kg/m ²										
Cases/person-years	213/4216	211/4093	236/4978			227/6229	209/5621	99/2737		
HR (95%CI) ^a	1 (reference)	1.04 (0.79-1.38)	0.93 (0.70-1.24)	0.504		1 (reference)	1.09 (0.83-1.42)	1.06 (0.75-1.49)	0.822	
<i>Nonoccupational physical activity</i>										
≤30 min/day										
Cases/person-years	74/1272	54/1541	65/1790			124/3415	124/2470	72/1354		
HR (95%CI) ^a	1 (reference)	0.61 (0.36-1.04)	0.68 (0.40-1.14)	0.372	0.074	1 (reference)	1.39 (0.97-1.99)	1.43 (0.93-2.21)	0.165	0.487
>30-≤60 min/day										
Cases/person-years	113/3097	132/2798	167/3404			132/4008	134/3786	91/2730		
HR (95%CI) ^a	1 (reference)	1.35 (0.96-1.92)	1.49 (1.06-2.09)	0.050		1 (reference)	1.22 (0.88-1.71)	1.20 (0.80-1.80)	0.487	
>60-≤90 min/day										
Cases/person-years	77/1480	95/1924	100/2345			108/2861	106/3011	64/1904		
HR (95%CI) ^a	1 (reference)	1.05 (0.65-1.69)	0.77 (0.48-1.24)	0.173		1 (reference)	0.97 (0.66-1.41)	0.93 (0.59-1.47)	0.782	
>90 min/day										
Cases/person-years	130/2723	144/3221	141/3274			81/2642	93/2780	43/1911		
HR (95%CI) ^a	1 (reference)	0.83 (0.57-1.19)	0.77 (0.52-1.12)	0.262		1 (reference)	1.05 (0.70-1.60)	0.75 (0.44-1.28)	0.198	
<i>Cigarette smoking status</i>										
Never										
Cases/person-years	59/1251	54/1570	57/1440			286/8206	267/7393	145/4174		
HR (95%CI) ^a	1 (reference)	0.91 (0.50-1.65)	0.95 (0.49-1.83)	0.962	0.671	1 (reference)	1.07 (0.85-1.34)	1.09 (0.82-1.45)	0.601	0.015
Former										
Cases/person-years	226/4339	256/5132	307/6097			81/1925	118/2668	56/2194		
HR (95%CI) ^a	1 (reference)	1.00 (0.76-1.30)	1.00 (0.78-1.30)	0.955		1 (reference)	1.40 (0.89-2.22)	0.79 (0.48-1.32)	0.075	
Current										
Cases/person-years	109/2981	115/2782	109/3276			78/2794	72/1986	69/1532		
HR (95%CI) ^a	1 (reference)	1.08 (0.75-1.54)	0.91 (0.62-1.34)	0.490		1 (reference)	1.28 (0.82-1.99)	1.73 (1.05-2.86)	0.041	
<i>Alcohol consumption</i>										
0 g/day										
Cases/person-years	76/2121	47/1188	36/751			179/5416	133/3355	50/1441		
HR (95%CI) ^a	1 (reference)	1.04 (0.61-1.75)	1.37 (0.76-2.47)	0.287	0.643	1 (reference)	1.22 (0.89-1.66)	1.04 (0.67-1.62)	0.883	0.870
0.1-<15 g/day										
Cases/person-years	180/3683	223/5229	216/4906			216/6051	267/7212	169/5121		
HR (95%CI) ^a	1 (reference)	0.89 (0.67-1.18)	0.94 (0.70-1.25)	0.884		1 (reference)	1.14 (0.89-1.45)	1.03 (0.77-1.37)	0.883	
≥15 g/day										
Cases/person-years	138/2768	155/3067	221/5156			50/1458	57/1479	51/1338		
HR (95%CI) ^a	1 (reference)	0.98 (0.70-1.37)	0.88 (0.64-1.19)	0.348		1 (reference)	1.50 (0.81-2.78)	1.74 (0.89-3.40)	0.164	
<i>Educational level</i>										
Low										
Cases/person-years	180/4237	152/4237	168/3670			264/8063	242/6252	121/3601		
HR (95%CI) ^a	1 (reference)	0.88 (0.66-1.18)	1.12 (0.82-1.52)	0.278	0.157	1 (reference)	1.23 (0.97-1.56)	1.08 (0.79-1.47)	0.819	0.317
Medium										
Cases/person-years	147/2840	160/3378	172/4339			146/4099	178/4479	113/3256		
HR (95%CI) ^a	1 (reference)	0.93 (0.66-1.30)	0.80 (0.57-1.11)	0.161		1 (reference)	1.29 (0.94-1.76)	1.13 (0.78-1.64)	0.832	
High										
Cases/person-years	67/1495	113/1869	133/2805			35/764	37/1316	36/1043		
HR (95%CI) ^a	1 (reference)	1.21 (0.75-1.95)	1.11 (0.71-1.75)	0.922		1 (reference)	0.69 (0.35-1.39)	0.90 (0.43-1.90)	0.867	
<i>Family history of colorectal cancer</i>										
No										
Cases/person-years	358/8052	380/9015	431/10160			393/12202	408/11287	247/7431		
HR (95%CI) ^a	1 (reference)	0.94 (0.77-1.16)	0.97 (0.79-1.18)	0.894	0.367	1 (reference)	1.20 (0.99-1.44)	1.15 (0.92-1.44)	0.398	0.368
Yes										
Cases/person-years	36/520	45/468	42/653			52/723	49/760	23/469		
HR (95%CI) ^a	1 (reference)	0.99 (0.38-2.57)	0.63 (0.23-1.76)	0.323		1 (reference)	0.92 (0.40-2.08)	0.87 (0.32-2.36)	0.804	

^a Adjusted for age (years; continuous), cigarette smoking (status (never/former/current), frequency (n/day; continuous, centered), and duration (years; continuous, centered)), BMI (18.5-<25/25+ kg/m²), nonoccupational physical activity (≤30/>30-≤60/>60-≤90/>90 min/day), educational level (low/medium/high), family history of colorectal cancer (no/yes), total energy intake (kcal/day; continuous), and alcohol consumption (0/0.1-<5/5-<15/15-<30/30+ g/day)

Supplementary Table 4. Multivariable-adjusted HRs and 95%CI for rectal cancer according to total nut intake in strata of potential effect modifiers in men and women; NLCS, 1986-2006

	Men			P-trend	P-interaction	Women			P-trend	P-interaction
	Total nut consumption (g/day)					Total nut consumption (g/day)				
	0 g/day	0.1-<5 g/day	5+ g/day			0 g/day	0.1-<5 g/day	5+ g/day		
<i>Overall</i>										
Cases/person-years	155/8572	167/9484	152/10813			126/12925	105/12047	44/7900		
HR (95%CI) ^a	1 (reference)	1.01 (0.78-1.31)	0.78 (0.60-1.03)	0.043		1 (reference)	0.94 (0.70-1.27)	0.58 (0.39-0.87)	0.005	
<i>Body mass index</i>										
18.5-<25 kg/m ²										
Cases/person-years	86/4356	68/5391	82/5835			66/6697	61/6426	27/5163		
HR (95%CI) ^a	1 (reference)	0.63 (0.44-0.92)	0.70 (0.48-1.01)	0.250	0.002	1 (reference)	1.07 (0.72-1.60)	0.57 (0.34-0.96)	0.006	0.639
25+ kg/m ²										
Cases/person-years	69/4216	99/4093	70/4978			60/6229	44/5621	17/2737		
HR (95%CI) ^a	1 (reference)	1.52 (1.04-2.21)	0.85 (0.56-1.30)	0.079		1 (reference)	0.83 (0.53-1.30)	0.63 (0.34-1.15)	0.145	
<i>Nonoccupational physical activity</i>										
≤30 min/day										
Cases/person-years	23/1272	20/1541	24/1790			40/3415	29/2470	6/1354		
HR (95%CI) ^a	1 (reference)	0.82 (0.38-1.76)	0.94 (0.44-1.98)	0.971	0.702	1 (reference)	1.06 (0.60-1.88)	0.33 (0.13-0.85)	0.015	0.431
>30-≤60 min/day										
Cases/person-years	49/3097	47/2798	50/3404			44/4008	29/3786	12/2730		
HR (95%CI) ^a	1 (reference)	1.15 (0.71-1.85)	1.12 (0.69-1.80)	0.751		1 (reference)	0.77 (0.45-1.32)	0.45 (0.21-0.94)	0.040	
>60-≤90 min/day										
Cases/person-years	26/1480	41/1924	32/2345			22/2861	27/3011	17/1904		
HR (95%CI) ^a	1 (reference)	1.58 (0.84-2.98)	0.77 (0.39-1.50)	0.122		1 (reference)	1.17 (0.59-2.32)	1.27 (0.58-2.72)	0.603	
>90 min/day										
Cases/person-years	57/2723	59/3221	46/3274			20/2642	20/2780	9/1911		
HR (95%CI) ^a	1 (reference)	0.74 (0.46-1.19)	0.54 (0.33-0.89)	0.025		1 (reference)	0.83 (0.39-1.76)	0.49 (0.19-1.27)	0.143	
<i>Cigarette smoking status</i>										
Never										
Cases/person-years	22/1251	20/1570	14/1440			65/8206	61/7393	24/4174		
HR (95%CI) ^a	1 (reference)	0.74 (0.32-1.70)	0.54 (0.21-1.41)	0.242	0.582	1 (reference)	1.08 (0.74-1.57)	0.76 (0.45-1.28)	0.247	0.521
Former										
Cases/person-years	76/4339	95/5132	99/6097			27/1925	21/2668	12/2194		
HR (95%CI) ^a	1 (reference)	1.05 (0.73-1.51)	0.88 (0.61-1.26)	0.339		1 (reference)	0.60 (0.26-1.37)	0.37 (0.15-0.94)	0.053	
Current										
Cases/person-years	57/2981	52/2782	39/3276			34/2794	23/1986	8/1532		
HR (95%CI) ^a	1 (reference)	1.03 (0.65-1.63)	0.68 (0.40-1.15)	0.096		1 (reference)	1.02 (0.55-1.91)	0.43 (0.18-1.04)	0.050	
<i>Alcohol consumption</i>										
0 g/day										
Cases/person-years	28/2121	14/1188	13/751			51/5416	26/3355	9/1441		
HR (95%CI) ^a	1 (reference)	1.02 (0.45-2.29)	1.67 (0.72-3.89)	0.214	0.441	1 (reference)	0.83 (0.50-1.40)	0.60 (0.27-1.29)	0.191	0.872
0.1-<15 g/day										
Cases/person-years	66/3683	85/5229	62/4906			59/6051	65/7212	25/5121		
HR (95%CI) ^a	1 (reference)	0.94 (0.64-1.38)	0.74 (0.50-1.11)	0.125		1 (reference)	0.92 (0.61-1.39)	0.49 (0.29-0.84)	0.006	
≥15 g/day										
Cases/person-years	61/2768	68/3067	77/5156			16/1458	14/1479	10/1338		
HR (95%CI) ^a	1 (reference)	1.05 (0.69-1.60)	0.71 (0.47-1.07)	0.043		1 (reference)	1.06 (0.40-2.80)	1.28 (0.47-3.53)	0.608	
<i>Educational level</i>										
Low										
Cases/person-years	94/4237	82/4237	65/3670			71/8063	54/6252	24/3601		
HR (95%CI) ^a	1 (reference)	0.89 (0.61-1.28)	0.75 (0.50-1.12)	0.175	0.404	1 (reference)	1.02 (0.69-1.51)	0.74 (0.44-1.25)	0.229	0.583
Medium										
Cases/person-years	47/2840	52/3378	57/4339			49/4099	40/4479	17/3256		
HR (95%CI) ^a	1 (reference)	0.95 (0.59-1.54)	0.83 (0.51-1.34)	0.421		1 (reference)	0.82 (0.49-1.38)	0.49 (0.25-0.96)	0.039	
High										
Cases/person-years	14/1495	33/1869	30/2805			6/764	11/1316	3/1043		
HR (95%CI) ^a	1 (reference)	1.70 (0.81-3.59)	1.04 (0.48-2.28)	0.427		1 (reference)	0.99 (0.23-4.17)	0.27 (0.04-1.71)	0.102	
<i>Family history of colorectal cancer</i>										
No										
Cases/person-years	146/8052	153/9015	143/10160			113/12202	98/11287	37/7431		
HR (95%CI) ^a	1 (reference)	0.97 (0.74-1.27)	0.78 (0.59-1.03)	0.059	0.354	1 (reference)	1.01 (0.74-1.37)	0.57 (0.37-0.87)	0.005	0.270
Yes										
Cases/person-years	9/520	14/468	9/653			13/723	7/760	7/469		
HR (95%CI) ^a	1 (reference)	1.47 (0.23-9.54)	0.43 (0.05-3.66)	0.270		1 (reference)	0.20 (0.03-1.23)	0.71 (0.17-3.06)	0.913	

^a Adjusted for age (years; continuous), cigarette smoking (status (never/former/current), frequency (n/day; continuous, centered), and duration (years; continuous, centered)), BMI (18.5-<25/25+ kg/m²), nonoccupational physical activity (≤30/>30-≤60/>60-≤90/>90 min/day), educational level (low/medium/high), family history of colorectal cancer (no/yes), total energy intake (kcal/day; continuous), and alcohol consumption (0/0.1-<5/5-<15/15-<30/30+ g/day)

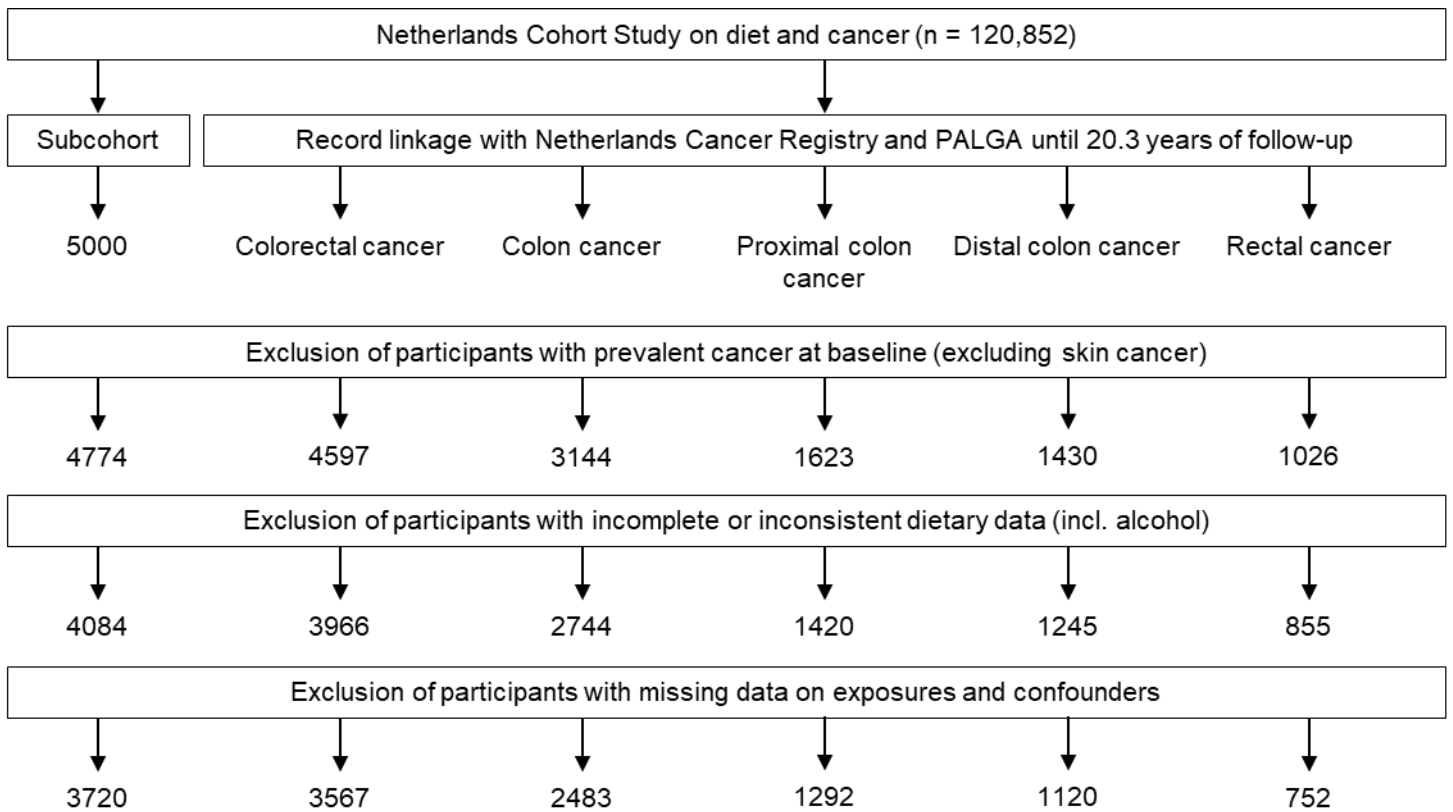
Supplementary Table 5. Median nut and peanut butter intake of colon and rectal cancer cases diagnosed over the follow-up period; NLCS, 1986-2006

Time between inclusion (September 1986) and colorectal cancer diagnosis (years)	Colon cancer				Rectal cancer			
	Men		Women		Men		Women	
	n	Median intake (g/day) (IQR)	n	Median intake (g/day) (IQR)	n	Median intake (g/day) (IQR)	n	Median intake (g/day) (IQR)
Total nut consumption								
0-<2	72	3.6 (0.0-10.7)	61	2.0 (0.0-5.8)	33	2.5 (0.0-5.8)	23	0.0 (0.0-1.0)
2-<4	71	4.3 (0.0-9.0)	82	1.0 (0.0-4.3)	46	2.3 (0.0-8.5)	23	0.9 (0.0-2.5)
4-<6	105	2.5 (0.0-7.8)	87	1.0 (0.0-4.3)	43	2.0 (0.0-7.0)	23	2.0 (0.0-4.9)
6-<8	129	2.0 (0.0-7.4)	120	1.0 (0.0-4.5)	45	0.0 (0.0-3.6)	26	1.0 (0.0-4.5)
8-<10	137	3.0 (0.5-8.5)	118	1.0 (0.0-4.3)	46	4.3 (1.0-13.2)	20	1.2 (0.0-3.2)
10-<12	167	2.5 (0.0-10.7)	102	1.4 (0.0-4.9)	56	2.3 (0.0-17.2)	29	0.8 (0.0-2.5)
12-<14	145	2.6 (0.0-8.5)	130	1.8 (0.0-4.3)	62	2.0 (0.0-4.9)	30	0.4 (0.0-2.5)
14-<16	146	3.9 (0.0-10.7)	147	1.8 (0.0-5.1)	48	3.3 (1.0-9.5)	37	1.3 (0.0-4.3)
16-<18	163	4.5 (0.0-12.8)	144	2.0 (0.0-6.2)	52	4.2 (0.0-10.7)	25	2.1 (0.0-3.6)
18+	161	3.3 (0.0-9.0)	196	1.8 (0.0-4.9)	44	3.6 (0.0-11.7)	41	1.0 (0.0-2.5)
p ^a		0.072		0.459		0.013		0.380

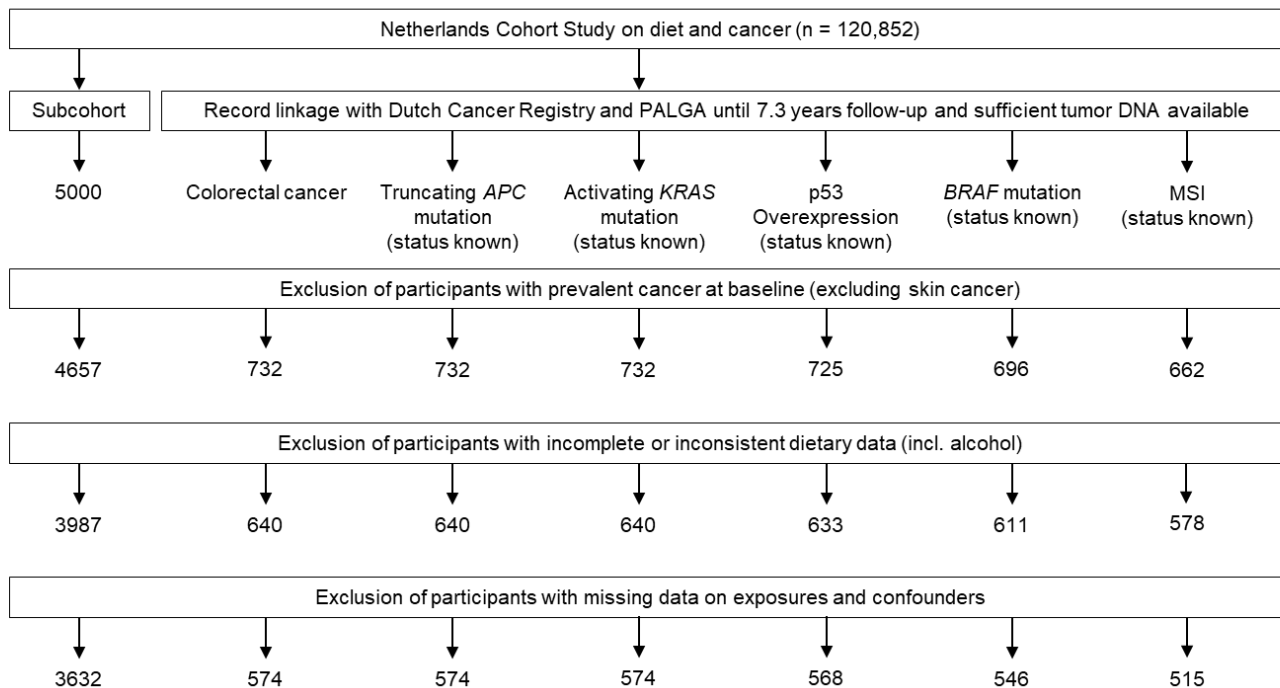
^a P-values based on Kruskal-Wallis tests

Supplementary Table 6. Baseline characteristics of subcohort members and cases per molecular subtype of colorectal cancer; NLCS, 1986-1993, excluding the first 2.3 years of follow-up

	Subcohort	No truncating mutation in APC	Truncating mutation in APC	No activating mutation in KRAS	Activating mutation in KRAS	No p53 over-expression	p53 over-expression	No BRAF mutation	BRAF mutation	MSS	MSI
Men											
N	1773	202	110	210	102	128	180	251	44	243	30
Age (years)	61.1 (4.2)	63.0 (4.3)	62.5 (3.9)	62.6 (4.2)	63.2 (4.2)	63.2 (4.1)	62.6 (4.2)	62.9 (4.2)	62.1 (4.3)	62.8 (4.1)	63.6 (4.5)
Body Mass Index (kg/m ²)	24.9 (2.6)	25.3 (2.7)	25.4 (3.0)	25.2 (2.8)	25.6 (2.9)	25.5 (3.1)	25.2 (2.6)	25.4 (2.9)	25.1 (2.4)	25.4 (2.9)	24.9 (2.2)
Ever cigarette smoker (%)	86.2	89.1	88.2	89.0	88.2	88.3	88.9	88.8	84.1	87.7	90.0
University or higher vocational education (%)	20.3	20.3	23.6	24.3	15.7	20.3	21.7	20.3	34.1	22.6	26.7
Non-occupational physical activity (min/day)	80.9 (67.2)	86.6 (70.5)	84.2 (82.4)	94.3 (84.5)	68.1 (44.6)	89.7 (88.7)	81.9 (59.2)	82.2 (70.7)	99.1 (89.4)	81.5 (72.2)	106.1 (96.8)
Family history of colorectal cancer (%)	5.6	12.9	12.7	12.9	12.8	14.8	11.7	13.9	9.1	14.4	10.0
Daily energy intake (kcal)	2169 (498)	2131 (418)	2134 (499)	2131 (464)	2136 (415)	2163 (458)	2107 (438)	2128 (460)	2151 (352)	2135 (455)	2151 (412)
Total nut intake (g/day)	8.0 (13.7)	7.5 (14.8)	6.1 (11.3)	6.3 (11.7)	8.5 (17.0)	6.2 (10.9)	7.6 (15.5)	7.1 (14.3)	6.1 (8.6)	7.1 (13.7)	6.5 (14.0)
Tree nut intake (g/day)	1.0 (3.4)	0.9 (3.1)	0.8 (3.6)	0.9 (3.3)	0.8 (3.2)	0.8 (3.0)	0.9 (3.5)	0.9 (3.5)	1.0 (2.8)	0.8 (2.9)	1.9 (6.6)
Peanut intake (g/day)	7.0 (12.9)	6.6 (14.1)	5.3 (10.6)	5.4 (10.7)	7.7 (16.7)	5.4 (10.2)	6.7 (14.7)	6.2 (13.5)	5.2 (8.0)	6.3 (13.1)	4.6 (11.0)
Peanut butter intake (g/day)	1.4 (4.2)	1.7 (4.3)	1.9 (5.0)	1.8 (4.5)	1.6 (4.7)	1.3 (3.6)	2.1 (5.2)	2.0 (5.0)	0.9 (2.4)	1.8 (4.9)	1.3 (2.7)
Alcohol intake (g/day)	15.0 (16.9)	15.3 (15.6)	17.1 (18.4)	16.0 (17.2)	15.9 (15.4)	14.8 (13.2)	16.7 (18.6)	16.5 (17.2)	14.0 (14.7)	16.9 (17.3)	11.9 (13.4)
Women											
N	1859	180	82	176	86	116	144	201	50	204	38
Age (years)	61.4 (4.2)	62.9 (3.9)	62.5 (4.0)	62.6 (4.0)	63.1 (3.8)	63.1 (3.9)	62.6 (4.0)	62.8 (3.9)	62.8 (4.0)	62.7 (3.9)	63.6 (4.3)
Body Mass Index (kg/m ²)	25.0 (3.5)	25.1 (3.4)	26.0 (3.7)	25.4 (3.4)	25.5 (3.7)	25.4 (3.5)	25.4 (3.5)	25.5 (3.6)	25.4 (3.5)	25.4 (3.5)	25.9 (4.2)
Ever cigarette smoker (%)	40.9	39.5	36.6	40.3	34.9	43.1	34.0	37.8	46.0	36.8	44.7
University or higher vocational education (%)	9.5	6.7	14.6	8.0	11.6	7.8	9.7	10.5	4.0	10.3	5.3
Non-occupational physical activity (min/day)	65.6 (50.8)	61.9 (46.3)	57.6 (41.8)	61.5 (43.5)	58.8 (47.9)	59.2 (40.9)	61.5 (48.2)	59.0 (43.4)	68.5 (52.2)	59.3 (43.7)	64.5 (55.7)
Family history of colorectal cancer (%)	6.1	10.0	9.8	11.4	7.0	12.9	7.6	10.0	10.0	11.3	7.9
Daily energy intake (kcal)	1685 (390)	1633 (358)	1728 (419)	1639 (374)	1710 (390)	1696 (405)	1639 (359)	1671 (397)	1620 (309)	1663 (387)	1638 (362)
Total nut intake (g/day)	4.4 (8.5)	3.9 (10.5)	3.4 (7.1)	3.3 (6.4)	4.5 (13.9)	5.2 (13.1)	2.6 (4.9)	3.9 (10.3)	3.7 (6.9)	3.8 (10.3)	2.8 (4.7)
Tree nut intake (g/day)	1.1 (4.0)	0.8 (3.3)	1.0 (3.0)	0.6 (1.9)	1.5 (4.9)	1.4 (4.4)	0.5 (1.7)	1.0 (3.5)	0.8 (2.6)	1.0 (3.6)	0.4 (0.7)
Peanut intake (g/day)	3.3 (7.0)	3.0 (8.0)	2.4 (5.5)	2.7 (5.6)	3.1 (9.9)	3.8 (9.7)	2.1 (4.5)	2.9 (7.9)	2.9 (5.2)	2.8 (7.7)	2.4 (4.7)
Peanut butter intake (g/day)	1.2 (3.6)	1.1 (3.3)	0.4 (1.2)	0.9 (2.9)	0.9 (2.7)	1.2 (3.5)	0.7 (2.2)	0.8 (2.4)	1.0 (4.1)	0.9 (3.0)	0.7 (1.5)
Alcohol intake (g/day)	5.9 (9.3)	6.0 (11.3)	5.4 (10.3)	5.9 (11.5)	5.7 (9.9)	6.3 (10.5)	5.4 (11.3)	5.5 (11.0)	7.8 (11.9)	5.2 (9.3)	8.9 (18.1)



Supplementary Figure 1. Flow diagram of the number of colorectal cancer cases and subcohort members; NLCS, 1986-2006



Supplementary Figure 2. Flow diagram of the number of colorectal cancer cases per molecular subtype and subcohort members; NLCS, 1986-1993, excluding the first 2.3 years of follow-up