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de Pablo, Paola; Romaguera, Dora; Fisk, Helena L; Calder, Philip C; Quirke, Anne-Marie; Cartwright, Alison J; Panico, Salvatore; Mattiello, Amalia; Gavrila, Diana; Navarro, Carmen; Sacerdote, Carlotta; Vineis, Paolo; Tumino, Rosario; Ollier, William E; Michaud, Dominique S; Riboli, Elio; Venables, Patrick J; Fisher, Benjamin A

DOI:

[10.1136/annrheumdis-2017-212274](https://doi.org/10.1136/annrheumdis-2017-212274)

Document Version

Peer reviewed version

Citation for published version (Harvard):

de Pablo, P, Romaguera, D, Fisk, HL, Calder, PC, Quirke, A-M, Cartwright, AJ, Panico, S, Mattiello, A, Gavrila, D, Navarro, C, Sacerdote, C, Vineis, P, Tumino, R, Ollier, WE, Michaud, DS, Riboli, E, Venables, PJ & Fisher, BA 2018, 'High erythrocyte levels of the n-6 polyunsaturated fatty acid linoleic acid are associated with lower risk of subsequent rheumatoid arthritis in a Southern European nested case-control study.', *Annals of the Rheumatic Diseases*. <https://doi.org/10.1136/annrheumdis-2017-212274>

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:

Checked for eligibility: 26/01/2018

Published in *Annals of the Rheumatic Diseases* on 07/02/2018

DOI: 10.1136/annrheumdis-2017-212274

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High erythrocyte levels of the n-6 polyunsaturated fatty acid linoleic acid are associated with lower risk of subsequent rheumatoid arthritis in a Southern European nested case-control study.

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Online Supplementary Table 1. Multivariate negative binomial regression models on the association between serum cytokines and erythrocyte membrane linoleic acid (LA), total n-3 PUFA, n-6 PUFA, and the n-3/n-6 PUFA ratio in the control population.

	TNF	IL-1	IL-2	IL-4	IL-5	IL-6	IL-10	IL-12	IL-13	IFN- γ
	RR 95% CI*	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI
Fatty acids										
LA										
Model 1	1.09 (1.04-1.15)	1.0 (0.94-1.19)	0.99 (0.89-1.10)	0.84 (0.78-0.91)	0.55 (0.48-0.62)	1.07 (1.02-1.12)	0.62 (0.56-.68)	0.76 (0.65-0.88)	0.53 (0.45-0.62)	1.06 (0.98-1.14)
Model 2	1.11 (1.06-1.17)	1.03 (0.93-1.15)	0.90 (0.78-1.04)	0.88 (0.81-0.95)	0.78 (0.69-0.89)	1.08 (1.03-1.14)	0.87 (0.78-0.96)	0.84 (0.71-0.99)	0.78 (0.66-0.91)	0.90 (0.82-0.98)
n-3PUFA										
Model 1	1.12 (1.00-1.26)	0.89 (0.75-1.06)	1.51 (1.16-1.96)	0.93 (0.77-1.11)	0.30 (0.22-0.43)	0.99 (0.89-1.10)	0.32 (0.24-0.42)	0.74 (0.52-1.05)	0.27 (0.18-0.41)	0.95 (0.77, 1.16)
Model 2	1.09 (0.97-1.23)	0.86 (0.72-1.01)	1.45 (1.10-1.93)	1.01 (0.84-1.21)	0.88 (0.67-1.16)	0.96 (0.87-1.07)	0.88 (0.71-1.09)	0.91 (0.62-1.34)	0.85 (0.60-1.19)	0.78 (0.64-0.95)
n-6 PUFA										
Model 1	1.06 (1.02-1.10)	1.07 (1.00-1.15)	0.99 (0.88-1.12)	0.88 (0.82-0.93)	0.63 (0.59-0.67)	1.05 (1.02-1.09)	0.69 (0.66-0.73)	0.77 (0.71-0.85)	0.61 (0.56-0.66)	1.11 (1.05-1.17)
Model 2	1.06 (1.01-1.10)	1.12 (1.04-1.19)	0.99 (0.88-1.12)	0.92 (0.86-0.98)	0.81 (0.75-0.88)	1.06 (1.02-1.10)	0.87 (0.81-0.92)	0.80 (0.73-0.88)	0.81 (0.73-0.90)	0.99 (0.93, 1.06)
Ratio n-3/n-6**										
Model 1	1.15 (0.64-2.07)	0.38 (0.16-0.92)	4.70 (1.27-17.3)	3.07 (1.22-7.68)	228 67-777	0.67 (0.40-1.12)	244 (83-720)	10.9 (2.30-51.45)	339 (75-1539)	0.31 (0.11-0.87)
Model 2	1.04 (0.57-1.90)	0.24 (0.10-0.57)	5.54 (1.30-23.5)	2.43 (0.97-6.08)	6.12 (1.70-22)	0.62 (0.37-1.06)	3.54 (1.27-9.83)	11.7 (2.65-51.55)	7.06 (1.41-35.24)	0.48 (0.18-1.27)

* The exponentiated regression coefficients (relative risk [RR]) have interpretation as a ratio of means. Model 1: Age- and sex-adjusted; Model 2: Model 1 with further adjustment for BMI, country of origin and smoking status; ** Log-transformed for analyses. Results in bold indicate p<0.05.

Online Supplementary Table 2. Multivariate negative binomial regression models on the association between serum cytokines and erythrocyte membrane linoleic acid (LA), total n-3 PUFA, n-6 PUFA, and the n-3/n-6 PUFA ratio in the pre-RA group.

	TNF	IL-1	IL-2	IL-4	IL-5	IL-6	IL-10	IL-12	IL-13	IFN- γ
	RR 95% CI*	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI	RR 95% CI
Fatty acids										
LA										
Model 1	1.12 (1.05-1.18)	1.03 (0.88-1.21)	1.04 (0.90-1.20)	0.97 (0.85-1.11)	0.99 (0.87-1.13)	0.84 (0.78-0.91)	0.99 (0.89-1.09)	0.91 (0.77-1.06)	1.01 (0.86-1.18)	1.08 (0.98-1.19)
Model 2	1.13 (1.05-1.22)	1.21 (1.02-1.43)	1.02 (0.85-1.23)	1.03 (0.88-1.22)	0.84 (0.71-0.98)	0.86 (0.78-0.95)	0.93 (0.83-1.05)	0.79 (0.64-0.97)	0.80 (0.66-0.97)	1.07 (0.95-1.21)
n-3 PUFA										
Model 1	0.92 (0.77-1.08)	0.84 (0.57-1.26)	0.92 (0.63-1.35)	0.93 (0.65-1.32)	1.04 (0.73-1.46)	1.16 (0.95-1.43)	0.93 (0.73-1.20)	0.97 (0.65-1.42)	1.16 (0.77-1.75)	0.95 (0.73-1.22)
Model 2	0.87 (0.73-1.02)	0.81 (0.54-1.23)	0.85 (0.55-1.32)	0.87 (0.60-1.26)	0.93 (0.65-1.34)	1.09 (0.89-1.34)	0.89 (0.67-1.17)	0.99 (0.64-1.55)	1.00 (0.64-1.56)	0.90 (0.68-1.19)
n-6 PUFA										
Model 1	1.05 (0.99-1.10)	1.07 (0.96-1.20)	1.08 (0.96-1.22)	1.03 (0.92-1.14)	0.99 (0.89-1.10)	0.97 (0.91-1.03)	1.01 (0.93-1.08)	0.98 (0.87-1.11)	1.00 (0.88-1.14)	1.06 (0.98-1.15)
Model 2	1.03 (0.97-1.09)	1.19 (1.05-1.35)	1.06 (0.92-1.21)	1.05 (0.93-1.19)	0.95 (0.86-1.06)	1.00 (0.944-1.07)	0.99 (0.91-1.07)	0.93 (0.80-1.07)	0.94 (0.83-1.08)	1.05 (0.96-1.15)
Ratio n-3/n-6**										
Model 1	0.36 (0.15-0.86)	0.15 (0.02-1.27)	0.22 (0.02-1.95)	0.52 (0.07-3.77)	1.32 (0.21-7.93)	3.23 (0.97-10.7)	0.68 (0.18-2.55)	1.12 (0.12-10.25)	1.98 (0.22-17.6)	0.33 (0.08-1.37)
Model 2	0.33 (0.14-0.82)	0.06 (0.01-0.53)	0.25 (0.02-2.54)	0.32 (0.04-2.50)	1.45 (0.24-8.87)	1.49 (0.42-5.20)	0.69 (0.17-2.74)	2.05 (0.18-22.44)	1.82 (0.20-16.3)	0.34 (0.08-1.51)

* The exponentiated regression coefficients (relative risk [RR]) have interpretation as a ratio of means. Model 1: Age- and sex-adjusted; Model 2: Model 1 with further adjustment for BMI, country of origin and smoking status. ** Log-transformed for analyses. Results in bold indicate p<0.05.