1   **Supplementary material**

2   **Table 1: Effect of zinc fortification on plasma total phospholipid fatty acid composition in zinc**

3   **deficient subjects.**[†]

Fatty acids (% of total fatty acids)	Zn + filter *n* 28		Filter *n* 35		Intervention effect[‖] β-value
	Mean/Median	SD/ IQR	Mean/Median	SD/ IQR	
18 : 1*n*-9 (OA) [‡]		*n* 21		*n* 28	
Baseline	13·58	12·55, 14·54[‡]	13·44	12·72, 14·27	0·006 (-0·023,0·036)
Endpoint	13·09	11·83, 14·13	12·99	11·67, 14·21	
24 : 1*n*-9 (Nervonic)		*n* 20		*n* 28	
Baseline	1·35	0·48 [§]	1·41	0·51	0·230 (0·023, 0·438)
Endpoint	1·44	0·50	1·29	0·42	
18 : 2*n*-6 (LA) [‡]		*n* 21		*n* 28	
Baseline	15·74	13·76, 17·06	15·32	14·28, 16·68	0·014 (-0·016, 0·044)
Endpoint	18·16	15·37, 18·67	17·06	15·99, 18·55	
20 : 2*n*-6 (Eicosadienoic) [‡]		*n* 16		*n* 20	
Baseline	0·39	0·35, 0·43	0·38	0·32, 0·47	0·014 (-0·047, 0·076)
Endpoint	0·39	0·34, 0·42	0·35	0·30, 0·44	
20 : 3*n*-6 (DGLA) [§]		*n* 21		*n* 28	
Baseline	2·32	1·89, 2·95	2·30	1·83, 2·69	-0·005 (-0·096, 0·086)
Endpoint	2·42	1·94, 2·78	2·29	1·90, 2·87	
20 : 4*n*-6 (AA)		*n* 21		*n* 28	
Baseline	7·51	2·11	8·00	1·72	-0·059 (-1·047, 0·928)
Endpoint	8·39	1·55	8·54	2·13	
22 : 4*n*-6 (Adrenic)		*n* 15		*n* 19	
Baseline	0·50	0·15	0·49	0·14	-0·059 (-0·140, 0·023)
Endpoint	0·46	0·10	0·48	0·13	
22 : 5*n*-6 (n-6 DPA)		*n* 17		*n* 22	
Baseline	0·49	0·14	0·54	0·20	-0·026 (-0·160, 0·109)
Endpoint	0·49	0·20	0·48	0·18	
Total *n*-6 LCPUFA		*n* 21		*n* 28	
Baseline	9·86	2·57	10·31	1·97	-0·032 (-1·067, 1·004)
Endpoint	10·78	1·78	10·88	2·35	
18 : 3*n*-3 (ALA) [‖]		*n* 5		*n* 4	
Baseline	0·15	0·12	0·21	0·11	5·170 (2·592, 7·747)

Endpoint	0·11	0·03	0·23	0·18	
20 : 5n-3 (EPA)		*n 6*		*n 10*	
Baseline	0·24	0·08	0·20	0·07	0·024 (-0·115, 0·163)
Endpoint	0·25	0·14	0·23	0·07	
22 : 5n-3 (n-3 DPA) ‡		*n 13*		*n 18*	
Baseline	2·32	0·25, 0·40	2·30	0·31, 0·49	-0·010 (-0·102, 0·081)
Endpoint	0·40	0·31, 0·47	0·45	0·33, 0·53	
22 : 6n-3 (DHA)		*n 21*		*n 28*	
Baseline	1·62	0·67	1·64	0·54	0·062 (-0·175, 0·300)
Endpoint	1·63	0·51	1·62	0·55	
DGLA : LA ratio		*n 19*		*n 22*	
Baseline	0·15	0·05	0·15	6·74	-0·001 (-0·005, 0·003)
Endpoint	0·02	0·00	0·02	0·00	
AA : DGLA ratio		*n 21*		*n 28*	
Baseline	3·31	0·91	3·58	0·93	-0·158 (-0·802, 0·486)
Endpoint	3·67	1·00	3·91	1·35	
AA : LA ratio		*n 21*		*n 28*	
Baseline	0·50	0·14	0·52	0·11	-0·034 (-0·104, 0·037)
Endpoint	0·48	0·10	0·50	0·14	
n-6 DPA : DHA ratio		*n 17*		*n 22*	
Baseline	0·29	0·08	0·30	0·08	-0·041 (-0·100, 0·018)
Endpoint	0·29	0·10	0·28	0·10	

4 Abbreviations: OA, oleic acid; LA, linoleic acid; GLA, γ-linolenic acid; DGLA, dihomo-γ-linolenic acid, AA, arachidonic

5 acid; DPA, docosapentaenoic acid; ALA, α-linolenic acid; EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid;

6 LCPUFA, long chain polyunsaturated fatty acids

7 † Intervention effects estimated by one way ANCOVA adjusted for respective baseline value, sex, and BMI, Low PZn

8 concentration defined as <65 mg/dL for children aged <10 y (morning sampling), <57 mg/dL for children aged <10 y

9 (afternoon sampling), <70 mg/dL for females aged ≥10 y (morning fasting sampling), <66 mg/dL for females aged ≥10 y

10 (morning non-fasting sampling), < 59 mg/dL for females aged ≥10 y (afternoon sampling), <74 mg/dL for males aged ≥10 y

11 (morning fasting sampling), 70 mg/dL for males aged ≥10 y (morning non-fasting sampling), and <61 mg/dL for males aged

12 ≥10 y (afternoon sampling) [38]. Low sample sizes of ALA and EPA are due to peak area counts below 0.1% of the total

13 chromatogram.

14 † *B value*; 95% CI in parenthesis (all such values)

15 ‡ Data were log transformed to perform ANCOVA

16 § Data were squared to perform ANCOVA

17 ‖ Data were reciprocaly transformed to perform ANCOVA

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