**Additional file**

**Supplementary Table 1.** Food categories within the Healthy Nordic Food Index (HNFI), consumption data segmented by index scores

|  |  |  |
| --- | --- | --- |
|  |  | **HNFI segments** |
|  | **All** | **1** | **2** | **3** |
| Observations, n | 969 | 386 | 411 | 172 |
| **Food category:a, b** |  |  |  |  |
| Fish  *grams/day* *energy-adjusted* | 19 (12, 28)11 (7, 16) | 14 (9, 21) 8 (5, 11) | 21 (14, 29)12 (8, 18) | 25 (19, 36)15 (11, 20) |
| Cabbages *grams/day* *energy-adjusted* | 11 (4, 26) 6 (2, 15) |   4 (1, 11) 3 (1, 6) | 15 (7, 29) 9 (4, 16) | 30 (17, 58)19 (10, 34) |
| Whole grain rye  g*rams/day* *energy-adjusted* | 56 (26, 78)31 (18, 46) | 40 (21, 63)22 (12, 35) | 58 (33, 88)34 (21, 48) | 65 (55, 88)40 (31, 53) |
| Whole grain oats  g*rams/day* *energy-adjusted* | 17 (1, 72)11 (0, 43) |  1 (0, 25) 1 (0, 15) | 28 (1, 73)13 (1, 47) | 56 (22, 155)36 (14, 82) |
| Apples and pears  g*rams/day* *energy-adjusted* | 83 (37, 131)47 (21, 87) | 41 (18, 83)26 (11, 57) | 90 (42, 156)54 (28, 100) | 122 (86, 230)82 (53, 122) |
| Root vegetables  g*rams/day* *energy-adjusted* | 18 (7, 37) 9 (3, 23) |   7 (3, 18) 4 (2, 9) | 18 (7, 50)12 (5, 12) | 37 (27, 73)27 (15, 41) |
| aValues presented as medians and interquartile ranges.bEnergy-adjusted values in grams/day\*1000 kcal-1.  |

**Supplementary Table 2.** Food categories within the Baltic Sea Diet Score (BSDS), consumption data segmented by index scores

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|  |  | **BSDS segments** |
|  | **All** | **1** | **2** | **3** | **4** | **5** |
| Observations, n | 969 | 131 | 240 | 170 | 226 | 202 |
| **Food category:a, b** |  |  |  |  |  |  |
| Fruits and berries  g*rams/day* *energy-adjusted* | 90 (46, 161)55 (26, 96) | 40 (21, 65)22 (11, 44) | 63 (35, 115)34 (21, 63) | 89 (46, 142)57 (30, 95) | 120 (63, 180)68 (39, 100) | 138 (104, 238)100 (63, 145) |
| Vegetables  g*rams/day* *energy-adjusted* | 67 (35, 116)38 (19, 73) | 31 (14, 56)18 (8, 33) | 45 (26, 84)27 (15, 45) | 62 (38, 108)39 (22, 70) | 78 (48, 129)45 (27, 77) | 117 (78, 193)76 (45, 118) |
| Cereals  g*rams/day* *energy-adjusted* | 97 (56, 163)58 (35, 94) | 48 (24, 86)29 (15, 46) | 75 (45, 123)43 (27, 63) | 88 (50, 125)51 (35, 76) | 121 (82, 196)69 (47, 111) | 155 (103, 238)95 (66, 136) |
| Low-fat milk  g*rams/day* *energy-adjusted* | 198 (76, 402)125 (51, 219) | 59 (18, 198)34 (11, 113) | 178 (47, 404)102 (23, 209) | 209 (97, 402)128 (66, 231) | 213 (136, 416)130 (80, 223) | 269 (178, 452)180 (118, 256) |
| Fish  g*rams/day* *energy-adjusted* | 19 (12, 28)11 (7, 16) | 14 (6, 21)8 (4, 12) | 17 (9, 26)10 (6, 13) | 17 (12, 25)11 (7, 15) | 21 (14, 29)12 (8, 17) | 22 (16, 35)15 (9, 21) |
| Meat products  g*rams/day* *energy-adjusted* | 73 (52, 100)44 (33, 58) | 95 (65, 134)57 (42, 73) | 81 (61, 116)48 (37, 62) | 69 (50, 92)43 (33, 56) | 71 (50, 88)41 (31, 54) | 60 (45, 84)38 (28, 48) |
| aValues presented as medians and interquartile ranges.bEnergy-adjusted values in grams/day\*1000 kcal-1.  |



**Supplementary Figure 1.** Pearson correlation coefficients. Dietary choline and betaine intake (g/d\*1000 kcal-1) vs. plasma metabolite concentrations.

Legend: a - Choline. b - Betaine. c - Serine. d - Total homocysteine. \* P<0.05. \*\* P<0.01.



**Supplementary Figure 2.** Pearson correlation coefficients. HNFI food components (g/d\*1000 kcal-1) vs. plasma metabolite concentrations.

Legend: a - Choline. b - Betaine. c - Serine. d - Total homocysteine. \* P<0.05. \*\* P<0.01.



**Supplementary Figure 3.** Pearson correlation coefficients. BSDS food components (g/d\*1000 kcal-1) vs. plasma metabolite concentrations.

Legend: a - Choline. b - Betaine. c - Serine. d - Total homocysteine. \* P<0.05. \*\* P<0.01.