

## **Diet-related inflammation is associated with worse COVID-19 outcomes in the UK Biobank Cohort**

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### **Supplemental materials**

**Supplemental table 1.** Sensitivity analyses on associations between DII, E-DII, and COVID-19 incidence, severity, and death in the UK Biobank

**Supplemental figure 1.** Study selection procedure

**Supplemental figure 2.** Nonlinearity plots for associations between DII and COVID-19 incidence, severity, and death in the UK Biobank.

**Supplemental figure 3.** Stratified analyses of associations between DII and COVID-19 incidence, severity, and death in the UK Biobank. RR showed for per SD increase in the DII. Model adjusted for age, sex, ethnicity, deprivation index, smoking status, history of heart diseases, cancer, and type 2 diabetes, physical activity, sleep duration except for the stratified factors.

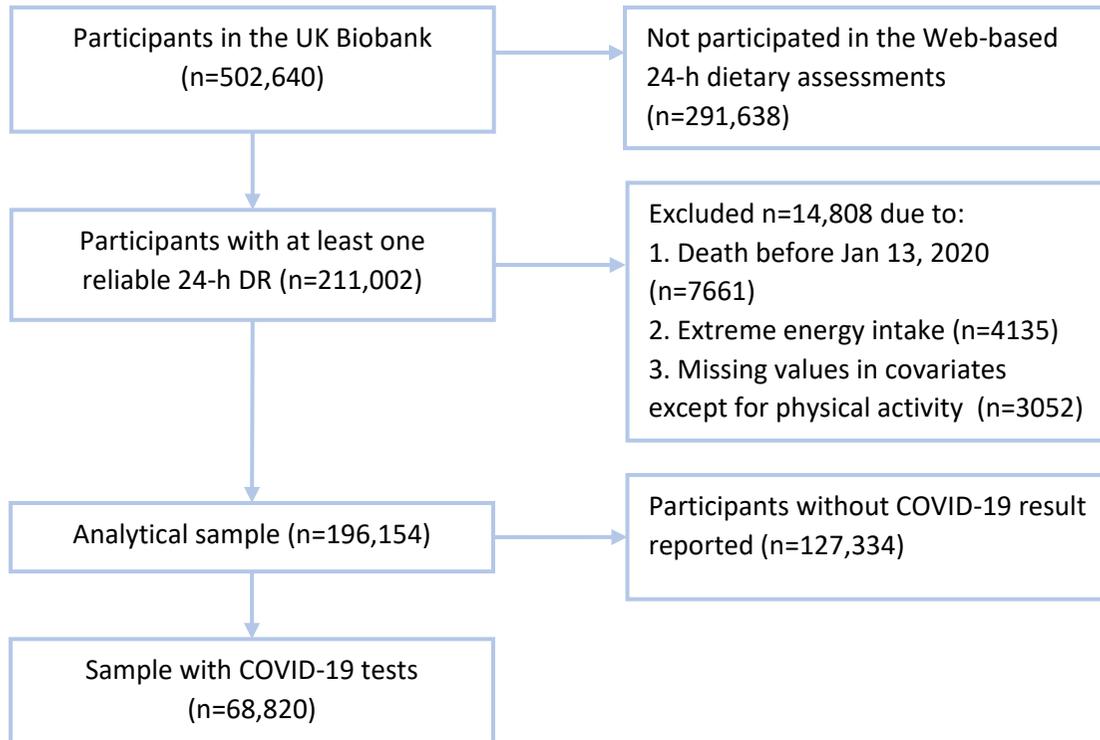
**Supplemental figure 4.** Stratified analyses of associations between E-DII and COVID-19 incidence, severity, and death in the UK Biobank. RR showed for per SD increase in the E-DII. Model adjusted for age, sex, ethnicity, deprivation index, smoking status, history of heart diseases, cancer, and type 2 diabetes, physical activity, sleep duration except for the stratified factors.

**Supplemental table 1.** Sensitivity analyses for associations between DII, E-DII, and COVID-19 incidence in the UK Biobank

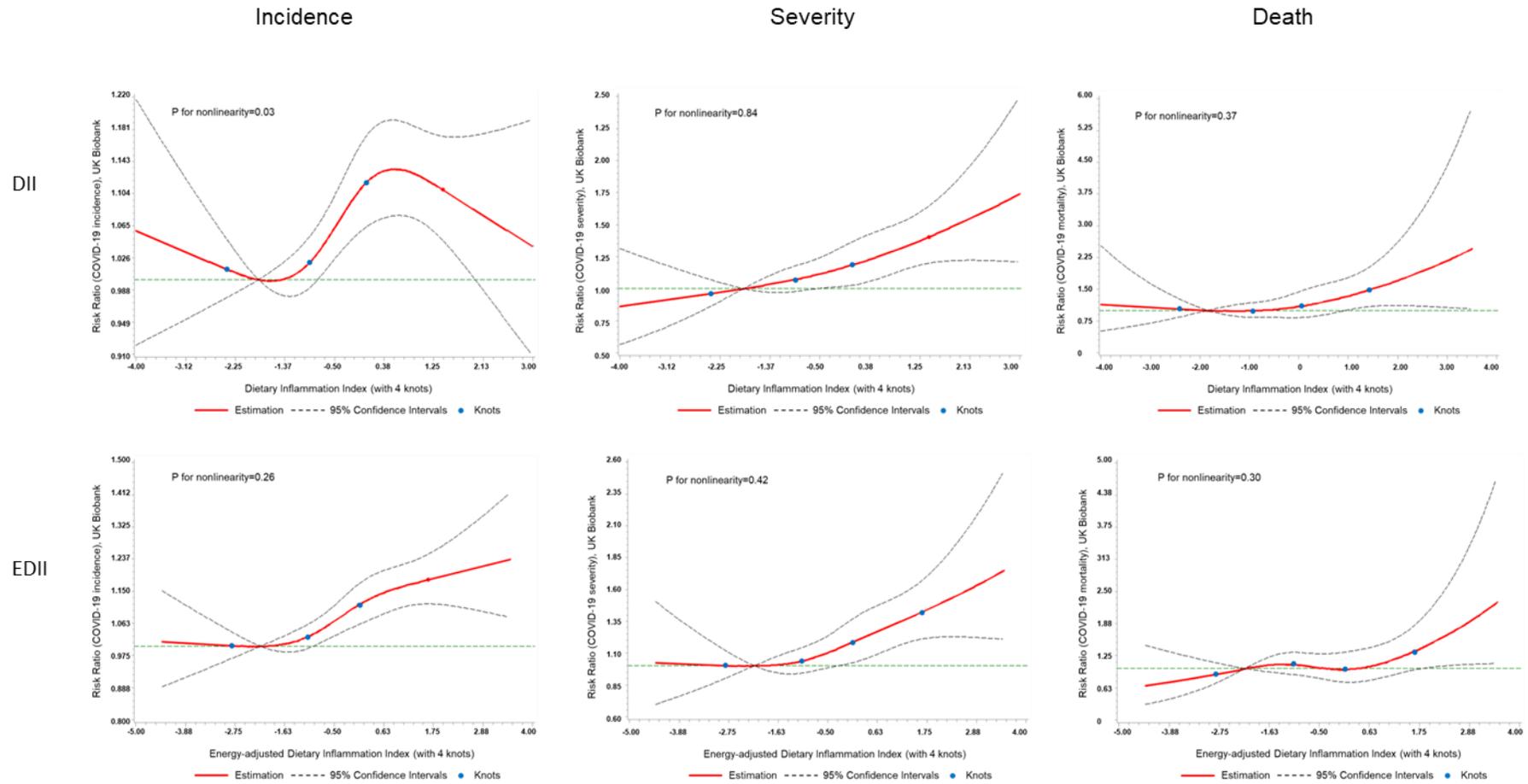
|   | Quintile 1    | Quintile 2       | Quintile 3       | Quintile 4       | Quintile 5       | P for trend |
|---|---------------|------------------|------------------|------------------|------------------|-------------|
| <b>DII</b>  |               |                  |                  |                  |                  |             |
| Among participants with at least one COVID-19 report (n=68,820)           | 1 (reference) | 0.99 (0.93-1.04) | 1.06 (1.00-1.12) | 1.07 (1.01-1.13) | 1.05 (1.00-1.11) | 0.004       |
| Any positive reports in incidence or severity or death (n=196,154)        | 1 (reference) | 0.99 (0.94-1.06) | 1.09 (1.03-1.16) | 1.09 (1.03-1.15) | 1.10 (1.04-1.17) | < 0.001     |
| Excluded participants with missing values in physical activity (n=167013) | 1 (reference) | 1.01 (0.95-1.08) | 1.09 (1.02-1.16) | 1.09 (1.03-1.16) | 1.11 (1.05-1.19) | < 0.001     |
| <b>E-DII</b>  |               |                  |                  |                  |                  |             |
| Among participants with at least one COVID-19 report (n=68,820)           | 1 (reference) | 1.04 (0.98-1.10) | 1.02 (0.97-1.08) | 1.12 (1.06-1.18) | 1.14 (1.08-1.20) | < 0.001     |
| Any positive reports in incidence or severity or death (n=196,154)        | 1 (reference) | 1.06 (0.99-1.12) | 1.04 (0.98-1.11) | 1.15 (1.09-1.22) | 1.17 (1.10-1.23) | < 0.001     |
| Excluded participants with missing values in physical activity (n=167013) | 1 (reference) | 1.06 (0.99-1.13) | 1.02 (0.96-1.09) | 1.15 (1.08-1.23) | 1.18 (1.11-1.26) | < 0.001     |

Model adjusted for age, sex, ethnicity, deprivation index, smoking status (except for non-smokers analyses), history of heart diseases, cancer, and type 2 diabetes, physical activity, sleep duration.

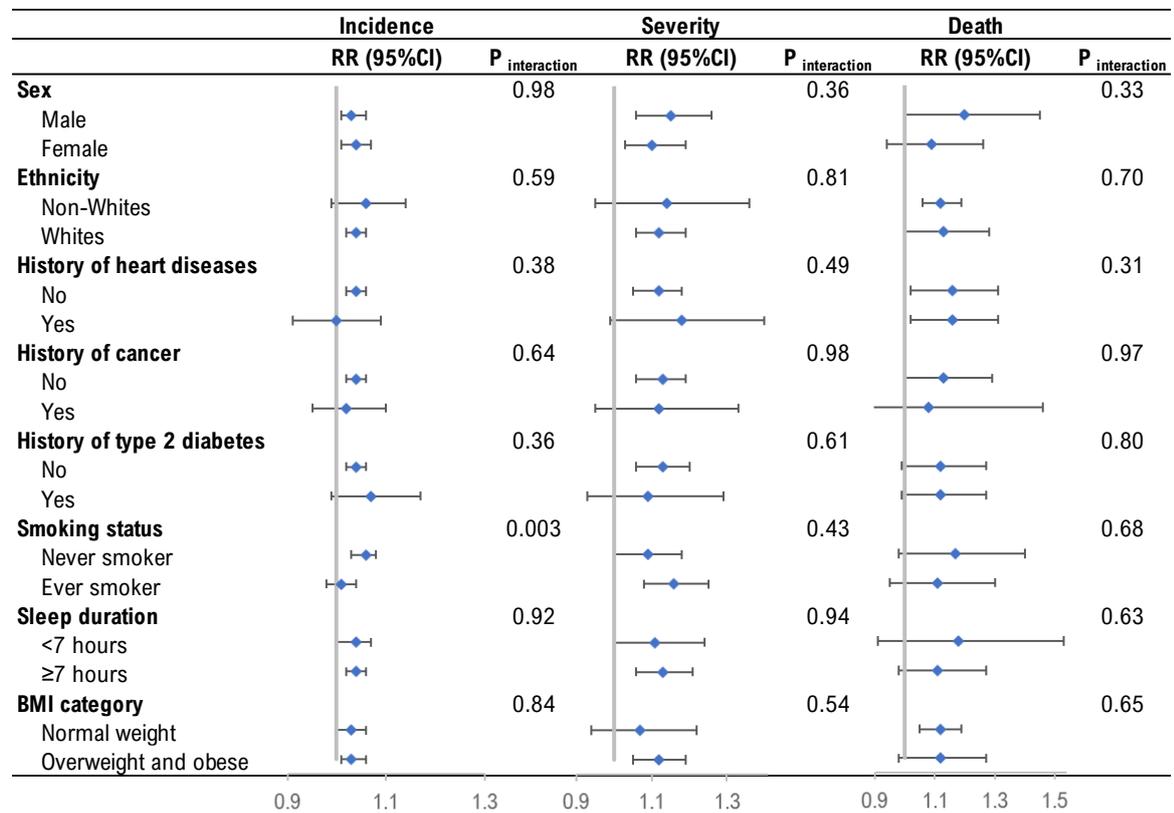
**Supplemental figure 1.** Study selection procedure



**Supplemental figure 2.** Nonlinearity plots for associations between DII/E-DII and COVID-19 incidence, severity, and death in the UK Biobank.



**Supplemental figure 3.** Stratified analyses of associations between DII and COVID-19 incidence, severity, and death in the UK Biobank. RR is presented per SD increase in DII. Model adjusted for age, sex, ethnicity, deprivation index, smoking status, history of heart diseases, cancer, and type 2 diabetes, physical activity, sleep duration except for the stratified factors.



**Supplemental figure 4.** Stratified analyses of associations between E-DII and COVID-19 incidence, severity, and death in the UK Biobank. RR presented per SD increase in E-DII. Model adjusted for age, sex, ethnicity, deprivation index, smoking status, history of heart diseases, cancer, and type 2 diabetes, physical activity, sleep duration except for the stratified factors.

