**Appendix 2. Mixed-effects regression models**

The main multiple mixed-effects regression models can be summarized as follows:

 **Multi-level models** vs. **Composite models**

|  |  |  |  |
| --- | --- | --- | --- |
| **Eq.****1.1-1.4** |  |  |  |

Where Yij is the outcome (SUA) for each individual “i” and visit “j”; is the level-1 intercept for individual i; is the level-1 slope for individual i; is the level-2 intercept of the random intercept ; is the level-2 intercept of the slope ; is a vector of fixed covariates for each individual *i* that are used to predict level-1 intercepts and slopes and included baseline age (Agebase) among other covariates. Xija, represents the main predictor variables (8 dietary components or the two dummy variables for GRS tertiles); and are level-2 disturbances; is the within-person level-1 disturbance. Of primary interest are the main effects of each exposure Xa (γ0a) and their interaction with *TIME* (γ1a), as described in a previous methodological paper.([1](#_ENREF_1))

**Reference**

1. Blackwell E, de Leon CF, Miller GE. Applying mixed regression models to the analysis of repeated-measures data in psychosomatic medicine. Psychosom Med 2006;68(6):870-8. doi: 01.psy.0000239144.91689.ca [pii]

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