**Supplemental Method 2**: Post-hoc power analysis

In a post-hoc power analysis, conducted using Stata 15 and GPOWER 3.1 softwares, we determined the combined statistical power of the main effect of the dietary urate index and its interaction with time within a simplified OLS regression model. The effect size was determined by comparing two linear regression models, one with dietary urate index and dietary urate index by Time, and another without those two parameters. This partial R2 was used to obtain this effect size. From this input, a type I error of 0.05, and a sample size of 3,661 (repeated visits with at least one SUA), yielded a power of ~0.99.

When applied to AA and Whites, the power is reduced to: 0.98 and 0.53, respectively. Thus, there was more power to detect a relationship between dietary urate index and SUAbase or SUArate among AA vs. among Whites.

\*\*Total population\*\*

//Full model//

reg labresuricacid c.time##c.Agew1center50 c.time##sex c.time##race c.time##pir c.time##edubr c.time##married c.time##smoke c.time##currdrugs c.time##c.bmicenter30 c.time##c.g\_totalcenter c.time##c.f\_totalcenter c.time##c.v\_totalcenter c.time##c.m\_othcenter c.time##c.discfat\_oilcenter c.time##c.discfat\_solcenter **c.diet\_urat\_indexcenter##c.time** c.time##c.invmillsuricdiet if selecturicdietfinal==1

//Partial model//

reg labresuricacid c.time##c.Agew1center50 c.time##sex c.time##race c.time##pir c.time##edubr c.time##married c.time##smoke c.time##currdrugs c.time##c.bmicenter30 c.time##c.g\_totalcenter c.time##c.f\_totalcenter c.time##c.v\_totalcenter c.time##c.m\_othcenter c.time##c.discfat\_oilcenter c.time##c.discfat\_solcenter c.time##c.invmillsuricdiet if selecturicdietfinal==1

\*\*AA\*\*

//Full model//

reg labresuricacid c.time##c.Agew1center50 c.time##sex c.time##race c.time##pir c.time##edubr c.time##married c.time##smoke c.time##currdrugs c.time##c.bmicenter30 c.time##c.g\_totalcenter c.time##c.f\_totalcenter c.time##c.v\_totalcenter c.time##c.m\_othcenter c.time##c.discfat\_oilcenter c.time##c.discfat\_solcenter **c.diet\_urat\_indexcenter##c.time** c.time##c.invmillsuricdiet if selecturicdietfinal==1 & race==1

//Partial model//

reg labresuricacid c.time##c.Agew1center50 c.time##sex c.time##race c.time##pir c.time##edubr c.time##married c.time##smoke c.time##currdrugs c.time##c.bmicenter30 c.time##c.g\_totalcenter c.time##c.f\_totalcenter c.time##c.v\_totalcenter c.time##c.m\_othcenter c.time##c.discfat\_oilcenter c.time##c.discfat\_solcenter c.time##c.invmillsuricdiet if selecturicdietfinal==1 & race==1

\*\*White\*\*

//Full model//

reg labresuricacid c.time##c.Agew1center50 c.time##sex c.time##race c.time##pir c.time##edubr c.time##married c.time##smoke c.time##currdrugs c.time##c.bmicenter30 c.time##c.g\_totalcenter c.time##c.f\_totalcenter c.time##c.v\_totalcenter c.time##c.m\_othcenter c.time##c.discfat\_oilcenter c.time##c.discfat\_solcenter **c.diet\_urat\_indexcenter##c.time** c.time##c.invmillsuricdiet if selecturicdietfinal==1 & race==0

//Partial model//

reg labresuricacid c.time##c.Agew1center50 c.time##sex c.time##race c.time##pir c.time##edubr c.time##married c.time##smoke c.time##currdrugs c.time##c.bmicenter30 c.time##c.g\_totalcenter c.time##c.f\_totalcenter c.time##c.v\_totalcenter c.time##c.m\_othcenter c.time##c.discfat\_oilcenter c.time##c.discfat\_solcenter c.time##c.invmillsuricdiet if selecturicdietfinal==1 & race==0

