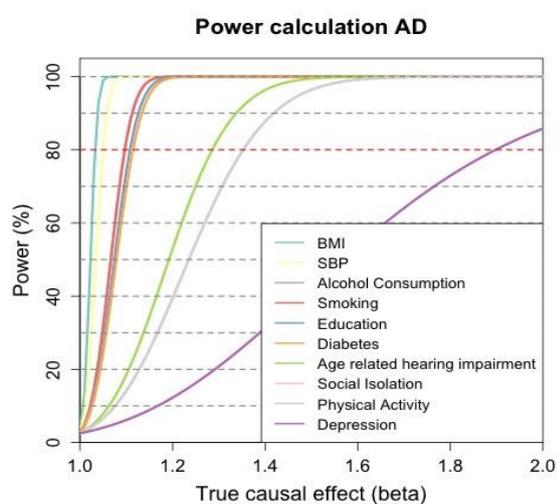


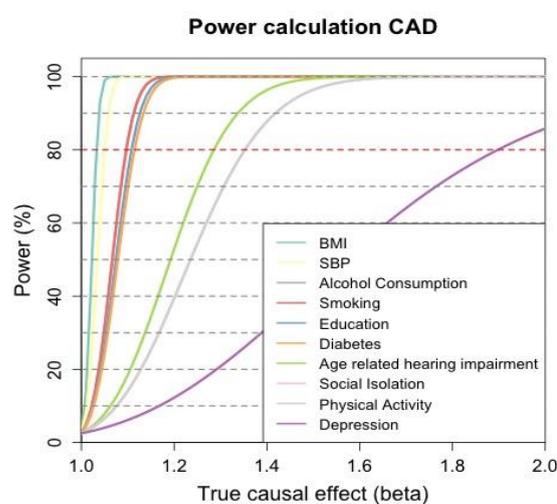
## Supplementary Analysis

### Power analysis

Supplementary Figure 1 shows the power curves for each of the ten risk factors against different values for the true causal effect beta for Alzheimer's Disease with GWAS data provided by Bellenguez et al. (2022) GWAS. Supplementary Figure 2 shows the power curves for the ten risk factors against different values of the true causal effect beta for CAD using GWAS data provided by Nelson et al., (2017).



Supplementary Figure 1: power curves for AD



Supplementary Figure 2: power curves for CAD

We conducted additional 2-sample MR analyses investigating the effect of BMI, SBP and smoking on CAD. The results showed significant positive effects in the expected direction. In other words, our results indicate that genetic risk of higher BMI (IVW estimate = 0.41, 95% CI: 0.35;0.48,  $p < .0001$ ), genetic risk of higher SBP (IVW estimate = 0.63, 95% CI: 0.49;0.76,  $p < .0001$ ) and genetic risk of greater levels of lifetime smoking (IVW estimate = 0.49, 95% CI: 0.36;0.62,  $p < .0001$ ) are causally associated with greater risk of CAD.