Genetic variants associated with allergic rhinitis or psychiatric disorders identified through published GWAS studies and GWAS catalog searching.

9 Allergic rhinitis related GWAS studies assessed for eligibility

11 psychiatric disorders related GWAS studies assessed for eligibility (Anorexia nervosa, anxiety disorder ADHD, ASD, bipolar disorder, insomnia complaints, MDD, OCD, panic disorder, PTSD, schizophreniat)

Selected SNPs with a genome-wide (P < 5*10-8)

8 GWAS studies excluded for the inadequate genome-wide significant SNPs (ASD, insomnia complaints, MDD   OCD, Panic disorder, PTSD)

MR analysis was allowed only when the F statistic was > 10

7 Allergic rhinitis related GWAS studies excluded for weak instrument (F<10)

Use the valid SNPs to extract outcome's summary statistics from GWAS summary datasets

MR analysis and related sensitivity analysis
IVW method;   MR-Egger regression;
Weighted median method;   MR-PRESSO
MR-Egger method.

Perform power calculations, when IVW effect estimates were statistically significant (<0.05)

Results report