**Supplemental Table 8 IVW estimates for cholesterol traits affecting**

**the risk of coronary heart disease (positive control analysis)**

|  |  |  |  |
| --- | --- | --- | --- |
| Exposures | P value  for IVW | OR value | 95%CI |
| IVW-MR 1 |  |  |  |
| TC | 3.457e-14 | 1.430 | 1.304 ~ 1.569 |
| LDL-C | 6.397e-22 | 1.568 | 1.431 ~ 1.719 |
| HDL-C | 8.918e-14 | 0.743 | 0.687 ~ 0.804 |
| NonHDL-C | 1.396e-36 | 1.668 | 1.541 ~ 1.806 |
| Drug-target MR |  |  |  |
| HMGCR\_TC | 3.100e-05 | 1.518 | 1.247 ~ 1.847 |
| HMGCR\_LDL | 4.299e-05 | 1.411 | 1.196 ~ 1.663 |

1 IVW = Inverse variance weighted, MR = Mendelian randomization, TC = Total cholesterol, LDL-C = Low-density lipoprotein cholesterol, HDL-C = High-density lipoprotein cholesterol, NonHDL-C = Non high-density lipoprotein cholesterol, HMGCR\_TC = HMGCR-mediated total cholesterol, HMGCR\_LDL = HMGCR-mediated low-density lipoprotein cholesterol, OR = Odds ratio, 95%CI = 95% Confidence interval.

**Supplemental Table 9 MR estimates for cholesterol traits affecting**

**the risk of depression, schizophrenia and suicide attempts**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Exposures | Outcomes | MR methods | P value  for MR | OR value | 95%CI |
| TC | Depression | MR-PRESSO | 0.444 | 0.988 | 0.959 ~ 1.018 |
|  |  | MR-Egger | 0.670 | 0.988 | 0.937 ~ 1.043 |
|  | Schizophrenia | MR-PRESSO | 0.513 | 0.977 | 0.911 ~ 1.048 |
|  |  | MR-Egger | 0.793 | 1.018 | 0.892 ~ 1.162 |
|  | Suicide attempts | MR-PRESSO | 0.544 | 1.017 | 0.964 ~ 1.073 |
|  |  | MR-Egger | 0.475 | 0.969 | 0.889 ~ 1.056 |
| LDL-C | Depression | MR-PRESSO | 0.121 | 0.977 | 0.948 ~ 1.006 |
|  |  | MR-Egger | 0.632 | 0.987 | 0.937 ~ 1.040 |
|  | Schizophrenia | MR-PRESSO | 0.399 | 0.970 | 0.904 ~ 1.041 |
|  |  | MR-Egger | 0.777 | 0.983 | 0.874 ~ 1.106 |
|  | Suicide attempts | MR-PRESSO | 0.534 | 0.983 | 0.933 ~ 1.037 |
|  |  | MR-Egger | 0.399 | 0.968 | 0.897 ~ 1.044 |
| HDL-C | Depression | MR-PRESSO | 0.198 | 0.981 | 0.952 ~ 1.010 |
|  |  | MR-Egger | 0.184 | 0.967 | 0.920 ~ 1.016 |
|  | Schizophrenia | MR-PRESSO | 0.616 | 0.982 | 0.915 ~ 1.054 |
|  |  | MR-Egger | 0.190 | 0.916 | 0.803 ~ 1.044 |
|  | Suicide attempts | MR-PRESSO | 0.194 | 1.038 | 0.981 ~ 1.098 |
|  |  | MR-Egger | 0.523 | 1.029 | 0.943 ~ 1.121 |
| NonHDL-C | Depression | MR-PRESSO | 0.017 | 0.967 | 0.941 ~ 0.994 |
|  |  | MR-Egger | 0.314 | 0.977 | 0.933 ~ 1.022 |
|  | Schizophrenia | MR-PRESSO | 0.889 | 1.004 | 0.945 ~ 1.068 |
|  |  | MR-Egger | 0.796 | 1.015 | 0.907 ~ 1.136 |
|  | Suicide attempts | MR-PRESSO | 0.575 | 0.986 | 0.937 ~ 1.036 |
|  |  | MR-Egger | 0.632 | 0.981 | 0.908 ~ 1.060 |

1 MR = Mendelian randomization, TC = Total cholesterol, LDL-C = Low-density lipoprotein cholesterol, HDL-C = High-density lipoprotein cholesterol, NonHDL-C = Non high-density lipoprotein cholesterol, MR-PRESSO = Mendelian randomization pleiotropy RESidual sum and outlier, OR = Odds ratio, 95%CI = 95% Confidence interval.

**Supplemental Table 10 IVW estimates for potential confounding factors affecting**

**the risk of depression and suicide attempts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Exposures | Outcomes | P value  for IVW | OR value | 95%CI |
| Obesity | Depression | 0.578 | 1.011 | 0.972 ~ 1.051 |
| Coronary heart disease | Depression | 0.979 | 1.000 | 0.977 ~ 1.024 |
| Coronary heart disease | Suicide attempts | 0.488 | 0.983 | 0.936 ~ 1.032 |

1 IVW = Inverse variance weighted, OR = Odds ratio, 95%CI = 95% Confidence interval.