**Supplementary Table 1**: clinical-demographic characteristics of the included patients from GSRD (**A**), STAR\*D (**B**) and GENDEP (**C**). Mean ± standard deviation was reported for continuous variables and distribution and/or percentage for binary variables. TRD=treatment-resistant depression. MADRS=Montgomery-Asberg Depression Rating Scale. QIDS-C16=16 items Quick Inventory of Depressive Symptomatology-Clinician Rated. SSRIs=serotonin selective reuptake inhibitors; SNRIs=serotonin noradrenaline reuptake inhibitors. NaSSAs=Noradrenergic and specific serotonergic antidepressants. TCAs=tricyclic antidepressants. NDRI=noradrenaline-dopamine reuptake inhibitors. SARIs=Serotonin antagonist and reuptake inhibitors. NRIs=noradrenaline reuptake inhibitors. FGAs=first generation antipsychotics; SGAs=second generation antipsychotics.

**A**

|  |  |
| --- | --- |
| **Variable** | **Description** |
| Number of patients after quality control | 1148 |
| Age | 51.93±13.91 |
| Gender (F/M) | 758/390 |
| Antidepressant treatment (%) | SSRIs (52.06%); SNRIs (23.83%); NaSSAs (8.58%); TCAs (5.25%); agometaline (4.89%); NDRIs (2.27%); SARIs (1.99%); vortioxetine (0.43%); MAOIs (0.35%); NRIs (0.21%); Tianeptine (0.14%) |
| Antidepressant combinations (%) | 365 (31.79%) |
| Augmentation with mood stabilizers (%) | 36 (3.14%) |
| Augmentation with antipsychotics (%) | SGAs (27.87%); FGAs (3.92%) |
| Baseline depression severity (MADRS) | 34.53±7.54 |
| TRD (%) | 480 (41.81%) |
| Responders (%) | 390 (33.97%) |
| Non-Responders (%) | 279 (24.30%) |
| Age at onset | 36.57±15.39 |
| Ethnicity | Caucasian |
| Number of available genetic variants after quality control | 7,605,870 |

**B**

|  |  |
| --- | --- |
| **Variable** | **Description** |
| Number of patients after quality control | 1316 |
| Age | 42.74±13.34 |
| Gender (F/M) | 783/533 |
| Treatment | Level 1: citalopram (100%)  Level 2: monotherapy with sertraline (16.13%), bupropion (14.43%), venlafaxine (16.65%), cognitive therapy (4.77%) or citalopram; augmentation with bupropion (19.13%), buspirone (20.05%) or cognitive therapy (8.82%) |
| Baseline depression severity (QIDS-C16) | 16.27±3.16 |
| TRD (%) | 795 (60.41%) |
| Responders (%) | 324 (24.62%) |
| Non-Responders (%) | 197 (14.97%) |
| Age at onset | 25.24±14.65 |
| Ethnicity | Caucasian |
| Number of available genetic variants after quality control | 7,664,608 |

**C**

|  |  |
| --- | --- |
| **Variable** | **Description** |
| Number of patients after quality control | 761 |
| Age | 42.18±11.52 |
| Gender (F/M) | 474/287 |
| Treatment | Citalopram (56.64%); nortriptyline (43.36%) |
| Baseline depression severity (MADRS) | 28.82±6.76 |
| TRD (%) | 103 (13.53%) |
| Responders (%) | 220 (28.91%) |
| Non-Responders (%) | 438 (57.56%) |
| Age at onset | 31.90±10.56 |
| Ethnicity | Caucasian |
| Number of available genetic variants after quality control | 7,767,483 |