Table 1.

Summary of Included Articles

First Author, Year	Prospective or Retrospective Identification of TRD	Study Region	Study Design	Mean Depression Score	Threshold Depression Score	Total No. of Participants	Reported Risk Factor/ Predictor Categories
Anttila 2007[14]	Retrospective	Finland	Case-control	NA	NA	511	Genetic
Balestri 2016[a],[15]	Prospective	Europe	Cohort	MADRS, mean (SD): Total = 31.30 (6.18) Resistant = 32.37 (6.37) Non-resistant = 30.89 (6.07)	MADRS > 22	355	Mental
Brenner 2020[16]	Retrospective	Sweden	Case-control	NA	NA	121,669	Mental
Carvalho 2017[17]	Prospective	Portugal	Cohort	BDI, mean (SD) [range]: 27.81 (7.40) [20.0–48.0]	BDI > 20	80	Genetic
Cepeda 2018[18]	Prospective/retrospective	United States	Cohort	NA	NA	230,801	Mental, physical, demographic
Döme 2021[19]	Retrospective	Hungary	Cohort	NA	NA	99,531	Mental, physical, demographic
de Diego-Adeliño 2014[20]	Retrospective	Spain	Case-control	HDRS, mean (SD): Resistant = 20.8 (4.9) Remitted = 2.1 (0.9) First-episode = 14.6 (7.5)	HDRS > 14	18	Mental, demographic, imaging
Dudek 2010[21]	Retrospective	Poland	Case-control	NA	HDRS < 18	1,051	Mental, demographic
Fabbri 2015[a],[b],[22]	Retrospective	Other: Europe and United States	Cohort		European = no cutoff Italian sample => ≥ 13 HDRS STAR*D = ≥ 14 HDRS	European MDD = 287, European BP = 86, Italian = 90, STAR*D = 1,892	Genetic
Fabbri 2017[a],[b],[23]	Retrospective	Europe*	Cohort	HDRS, mean (SD): 22.30 (5.29) MADRS, mean (SD): 30.55 (6.14)	MADRS ≥ 22	220	Genetic
Fabbri 2018[a],[b],[24]	Retrospective	Europe*	Cohort	NA	MADRS ≥ 22	NA	Genetic
Fabbri 2019[a],[b],[25]	Retrospective	UK, Europe,* and United States	Cohort	NA	MADRS ≥ 22	3,225	Genetic
Fabbri 2020[a],[b],[26]	Retrospective	United States and Europe*	Cohort	MADRS, mean (SD): 33.85 (7.69)	MADRS ≥ 22	1209	Genetic
Fabbri 2021[27]	Retrospective	UK	Cohort	NA	MADRS ≥ 22	EXCEED = 8,926 of which 1,271 (14.24%) MDD; UKB = 230,096 of which 19,979 (8.68%) MDD	Mental, physical, demographic, personality, genetic
Gronemann 2018[28]	Prospective/retrospective	Denmark	Cohort	ICD severity codes: Mild (10.2%) Moderate (16.8%) Severe (24.8%)	NA	222,480	Mental
Gronemann 2020[29]	Prospective/retrospective	Denmark	Cohort	ICD severity codes: Mild (11.2%) Moderate (19.5%) Severe (28.1%)	NA	194,074	Mental, physical, demographic
Guo 2012[30]	Retrospective	China	Case-control	HDRS, mean (SD): Resistant = 24.52 (4.17) Responsive = 25.89 (6.26)	HDRS ≥ 18	18	Mental, imaging
Guo 2012[31]	Retrospective	China	Case-control	HDRD, mean (SD): Resistant = 23.89 (3.69) Responsive = 25.58 (6.32)	HDRS ≥ 18	23	Mental, imaging
He 2016[32]	Retrospective	China	Case-control	HDRS, mean (SD): Resistant = 23.94 (3.79) Responsive = 25.59 (6.31)	HDRS ≥ 18	17	Mental, imaging
Huang 2018[33]	Retrospective	Taiwan	Case-control	HDRS (17-item), mean (SD): TRD = 19.6 (10.3) Non-TRD MDD = 10.86 (7.2)	NA	68	Mental
Huang 2020[34]	Prospective/retrospective	Taiwan	Cohort	ICD severity codes: Severe 45.9%	NA	31,422	Mental, physical, demographic, other
Huang 2023[35]	Retrospective	China	Case-control	NA	NA	1,151	Mental, physical, demographic, other
Jeng 2018[36]	Retrospective	Taiwan	Cohort	NA	NA	127,194	Physical
Kautzky 2017[a],[37]	Retrospective	Europe*	Cohort	NA	MADRS ≥ 22	480	Mental, physical, demographic
Kautzky 2018[a],[38]	Prospective	Europe*	Cohort	NA	MADRS ≥ 22	552	Mental, other
Kautzky 2019[a],[39]	Prospective	Europe*	Cross-sectional	NA	MADRS ≥ 22	916	Mental
Kraus 2023[40]	Retrospective	Europe*	Cohort	NA	NA	892	Physical,
Lähteenvuo 2022[41]	Prospective/retrospective	Finland	Cohort	ICD severity codes: Mild (18.8%) Moderate (26.4%) Severe (17.9%) Unknown (37%)	NA	177,144	Mental, demographic
López-Solà 2020[42]	Prospective	Spain	Case-control	HDRS, mean (SD): Resistant = 17.64 (8.57) Non-resistant = 13.67 (8.65)	NA	229	Mental, other
Lauden 2021[43]	Retrospective	Israel	Cross-sectional	NA	NA	6,270	Physical
Li 2013[44]	Prospective	China	Cohort	NA	NA	948	Genetic
Li 2019[45]	Retrospective	Multinational	Cross-sectional	HDRS, mean (SD): TRD = 23.8 (2.6) Non-TRD MDD = 24.1 (2.6)	NA	21,920	Mental, demographic
Liberman 2020[46]	Prospective/retrospective	United States	Cohort	NA	NA	35,246	Mental, physical, demographic
Liu 2021[47]	Retrospective	United States	Cross-sectional	NA	NA	Humana: 2,987,264 Optum: 5,532,986 Total: 8,520,250	Demographic, other
Maes 2009[48]	Prospective	Belgium	Cohort	NA	NA	57	Biological
Mandelli 2016[a],[49]	Retrospective	Europe*	Cross-sectional	MADRS, mean (SD): Blue-collar = 23 (11.6) Self-employed = 23.1 (12.2) White-collar = 24.3 (10.6) Manager = 24.9 (8.2)	NA	647	Mental, demographic
Milanesi 2015[50]	Retrospective	Italy	Non-randomized experimental	NA	NA	627	Genetic
Minelli 2015[51]	Retrospective	Italy	Cross-sectional	NA	NA	1,088	Genetic
Nie 2018[b],[52]	Prospective	United States	Cohort	NA	NA	NA	Mental
O'Dushlaine 2014[b],[53]	Retrospective	United States	Cohort	NA	NA	1,263	Genetic
Park 2021[54]	Prospective/retrospective	Korea	Cohort	NA	NA	15,887	Mental, demographic
Perlis 2013[b],[55]	Prospective	United States	Cohort	NA	NA	2,555	Mental, demographic, other
Petersen 2002[56]	Retrospective	United States	Cross-sectional	NA	HDRS ≥ 18	158	Mental
Qiao 2018[82]	Retrospective	China	Cohort	HDRS, mean (SD): TRD = 28.67 (5.71) Non-TRD MDD = 29.95 (5.33)	HDRS ≥ 17	206	Mental, biological
Sagud 2013[57]	Retrospective	Croatia	Cross-sectional	HDRS, mean (SD): TRD = 27.7 (6.3) Non-TRD MDD = 26.1 (5.9)	NA	203	Mental, biological
Santos 2016[58]	Prospective	Portugal	Non-randomized experimental	BDI, mean (SD): 27.81 (7.40)	BDI > 20 threshold	80	Genetic
Santos 2015[59]	Retrospective	Portugal	Cohort	BDI, mean (SD): 27.81 (7.40)	BDI > 20 threshold	80	Genetic
Scherrer 2016[60]	Prospective/retrospective	United States	Cohort	NA	NA	6,169	Physical, other
Sherbourne 2004[61]	Prospective	United States	Cohort	NA	NA	542	Mental, demographic
Souery 2007[a],[62]	Retrospective	Europe*	Cross-sectional	NA	HDRS ≤ 17	702	Mental
Sternat 2018[63]	Retrospective	Canada	Cross-sectional	NA	NA	160	Mental, demographic
Takahashi 2013[64]	Retrospective	Japan	Non-randomized experimental	HDRS, mean (SD): 18.31 (4.04)	HDRS ≥ 14	128	Personality
Takahashi 2013[65]	Retrospective	Japan	Non-randomized experimental	HDRS, mean (SD): 18.31 (4.04)	HDRS ≥ 14	240	Personality
Wang 2022[66]	Retrospective	China	Non-randomized experimental	HDRS, mean (SD): TRD = 29.40 (5.02) Non-TRD MDD = 22.41 (3.6)	NA	261	Genetic
Wu 2022[67]	Retrospective	China	Case-control	HDRS, mean (SD): TRD = 32.87 (0.55)	NA	90	Biological
Yamasaki 2020[68]	Retrospective	Japan	Non-randomized experimental	HDRS, mean (SEM): TRD = 18.5 (18.1–18.9) Non-TRD MDD = 16.7 (16.2–17.2)	NA	42	Biological
Zhang 2014[69]	Retrospective	China	Non-randomized experimental	HDRS, mean (SD): TRD = 24.0 (2.7) Non-TRD MDD = 24.1 (2.6)	HDRS ≥ 17	1,569	Genetic

[a]Article from the European Group for the Study of Resistant Depression (GSRD).
[b]Article from STAR*D.
*Patient population is from the GSRD European cohort, which includes individuals from Belgium, France, Italy, Israel, Austria, and Greece.
Abbreviations: BDI = Beck Depression Inventory, HDRS = Hamilton Depression Rating Scale, ICD = International Classification of Diseases, MADRS = Montgomery-Asberg Depression Rating Scale, NA = not applicable, SEM = standard error of the mean, STAR*D = Sequenced Treatment Alternatives to Relieve Depression, TRD = treatment-resistant depression, UKB = UK Biobank.