Table I

Basic information of included studies

Author, Year	Study design	Intervention	Control	Outcome				
				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Dudau et al., 2023	Animal study, rat, 21 days	Group I: Control, vehicle per oral Group II: CUR (150 mg/kg) ip Group III: Escitalopram (20 mg/kg) ip	Group IV: Reserpine (1.5 mg/kg) ip Group V: Reserpine and CUR (150 mg/kg) ip Group VI: Reserpine (1.5 mg/kg)and escitalopram (20 mg/kg) ip	Reserpinised rat: 0.6 ± 1.2 Control: 4.6 ± 4.6, p=0.004	NI	NI	NI	NI
Chang et al., 2016	Animal study, rat (n=30), 45 days	Group I: Sham control Group II: Olfactory bulbectomy (lesion) Group II: CUR (10 mg/kg) Group III: CUR (20 mg/kg) Group IV: CUR (40 mg/kg)	Group I: Sham control Group II: Olfactory bulbectomy (lesion) Group II: CUR (10 mg/kg) Group III: CUR (20 mg/kg) Group IV: CUR (40 mg/kg)	CUR treatment reduced the number peeping and rearing 27.1, 24.1 and 18.6 at 10, 20 and 40 mg/kg respectively Sham: 15.1 Olfactory bulbectomy: 30.3	NI	CUR treatment significantly increased the serotonin level 162.3, 210.3 and 257.7 ng/g at 10, 20 and 40 mg/kg respectively Sham: 279.2 Olfactory bulbectomy: 141.4 ng/g	CUR treatment significantly increased the dopamine level 247.4, 265.8 and 290.6 ng/g at 10, 20 and 40 mg/kg respectively Sham: 315 Olfactory bulbectomy: 215.5 ng/g	CUR treatment significantly increased the noradrenaline level 273, 299.5 and 335 ng/g at 10, 20 and 40 mg/kg respectively Sham: 351 Olfactory bulbectomy: 250.5 ng/g olfactory

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)

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Author, Year	Study design	Intervention	Control	Outcome				
				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Gazal et al., 2013	Animal study, female rat (n=30), 15 days	Group I: Control, vehicle per oral Group II: Ketamine (25 mg/kg) Group III: CUR 20 mg/kg Group IV: Ketamine (25 mg/kg)/CUR (50 mg/kg) Group V: Saline 45 mg/kg twice a day Group VI: Lithium chloride (45 mg/kg) twice a day From the 8th to the 14th day the animals also received saline or ketamine (25 mg/kg) once a day, total 4 experiments	Group I: Control, vehicle per oral Group II: Ketamine (25 mg/kg) Group III: CUR 20 mg/kg Group IV: Ketamine (25 mg/kg)/CUR (50 mg/kg) Group V: Saline 45 mg/kg twice a day Group VI: Lithium chloride (45 mg/kg) twice a day From the 8th to the 14th day the animals also received saline or ketamine (25 mg/kg), once a day, total four experimental	CUR pretreatment: [F(2,26) =4.11, p<0.05] Ketamine treatment: [F(1,26)= 16.93, p<0.05] Interaction: [F(2,26)=7.99, p<0.05]) Lithium chloride pretreatment: [F(1,23)= 8.4, p<0.01] Ketamine treatment: [F(1,23) =23.08, p<0.01] Interaction: [F(1,23)=13.99, p<0.01]) No changes in the anxiety behavior were observed for % central crossings after ketamine treatment, (CUR pretreatment: [F(2,36) =0.60, p=0.55] Ketamine treatment: [F(1,36) =0.28, p=0.59] Interaction: [F(2,36)=0.25, p=0.77]) and (Lithium chloride pretreatment: [F(1,20)=0.005, p=0.93] Ketamine treatment: [F(1,20) =0.60, p=0.44]	NI	NI	NI	NI

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Author, Year	Study design	Intervention	Control	Outcome				
				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Pan et al., 2021	Animal study, male mice (n=30), 5 days	J147 as derivative CUR dissolved in DMSO and diluted with polyethylene glycol 660 hydroxy stearate solution as the working solution or vehicle Imipramine (10 mg/kg) J147 2.5 mg/kg J147 5 mg/kg J147 10 mg/kg	J147 as derivative CUR dissolved in DMSO and diluted with polyethylene glycol 660 hydroxy stearate solution as the working solution or vehicle Imipramine (10 mg/kg) J147 2.5 mg/kg J147 5 mg/kg J147 10 mg/kg	NI	NI	Control: 363.3 ± 15.4 J147 2.5 mg/kg: 398.8 ± 21.4 J147 5 mg/kg: 444.1 ± 23.6 J147 10 mg/kg: 461.8 ± 22.2 Imipramine 10 mg/kg: 466.3 ± 14.0	Control: 61.7 ± 2.9 J147 2.5 mg/kg: 63.7 ± 7.2 J147 5 mg/kg: 63.8 ± 5.9 J147 10 mg/kg: 66.5 ± 6.6 Imipramine 10 mg/kg: 62.3 ± 6.9	Control: 238.2 ± 13.6 J147 2.5 mg/kg: 262.1 ± 11.5 J147 5 mg/kg: 297.3 ± 18.1 J147 10 mg/kg: 311.5 ± 20.1 Imipramine 10 mg/kg: 300.6 ± 16.7
Arora et al., 2011	Animal study, rat (n=48), 5 days	Group I: Control, vehicle per oral Group II: Reserpine (1 mg/kg) sc for 3 consecutive days Group III, IV, V: Reserpinised rats receiving CUR (100, 200 and 300 mg/kg) ip for 2 days after reserpine (i.e. day 4 and 5) Group VI: CUR (300 mg/kg) ip	Group I: Control, vehicle per oral Group II: Reserpine (1 mg/kg) sc for 3 consecutive days Group III, IV, V: Reserpinised rats receiving CUR (100, 200 and 300 mg/kg) ip for two day after reserpine (i.e. day 4 and 5) Group VI: CUR (300 mg/kg) ip	NI	NI	Reserpine: 8.2 ± 0.04 Reserpine + CUR 10: 1.6 ± 0.0 Reserpine + CUR 20: 2.5 ± 0.0 Reserpine + CUR 30: 4.3 ± 0.0 CUR 30: 8.3 ± 0.0	Reserpine: 2.1 ± 0.01 Reserpine + CUR 10: 0.8 ± 0.0 Reserpine + CUR 20: 1.0 ± 0.0 Reserpine + CUR 30: 1.1 ± 0.0 CUR 30: 2.1 ± 0.0	NI

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Fahmy et al., 2024	Animal study, male rat (n=35), 15 days	Group I: Control, vehicle ip Group II: Reserpine (0.2 mg/kg) daily for 14 days Group III: Reserpine (0.2 mg/kg) daily + CUR (45 mg/kg) 10 days Group IV: Reserpine (0.2 mg/kg) daily + Oral ZnO NPs 5.6 mg/kg for 10 days Group V: Reserpine (0.2 mg/kg) daily + Oral Zn(cur)O NPs 45 mg/kg for 10 days	Group I: Control, vehicle ip Group II: Reserpine (0.2 mg/kg) daily for 14 days Group III: Reserpine (0.2 mg/kg) + CUR (45 mg/kg) 10 days Group IV: Reserpine (0.2 mg/kg) daily + Oral ZnO NPs 5.6 mg/kg for 10 days Group V: Reserpine (0.2 mg/kg) daily + Oral Zn(cur)O NPs 45 mg/kg for 10 days	NI	NI	Group I: 25.1 ± 2.3 Group II: 13.3 ± 2.2 Group III: 22.2 ± 1.3 Group IV: 20.9 ± 2.9 Group V: 31.42 ± 2.6	Group I: 19.5 ± 2.0 Group II: 10.9 ± 0.4 Group III: 11.5 ± 0.7 Group IV: 10.8 ± 0.4 Group V: 12.5 ± 2.1	Group I: 4.4 ± 0.3 Group II: 1.3 ± 0.1 Group III: 1.84 ± 0.2 Group IV: 1.7 ± 0.2 Group V: 1.9 ± 0.5
Madiha et al., 2019	Animal study, rat (n=30), 25 days	Group I: Control, vehicle per oral Group II: CUR (100 mg/kg) po Group III: Rotenone (1.5 mg/kg) sc Group IV: Pre-CUR + Rotenone Group V: Post-Cur + Rotenone	Group I: Control Group II: CUR (100 mg/kg) po Group III: Rotenone (1.5 mg/kg) sc Group IV: Pre-CUR + Rotenone Group V: Post-Cur + Rotenone	NI	NI	Group I: 332.2 ± 2.3 Group II: NI Group III: 152.7 ± 1.4 Group IV: 284.0 ± 2.4 Group V: 243.0 ± 3.5	Group I: 1341.7 ± 17.5 Group II: NI Group III: 97.8 ± 3.1 Group IV: 138.3 ± 1.5 Group V: 1083.3 ± 5.6	NI

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Zhao et al., 2014	Animal study, mice (n=49)	Sham mice Vehicle CUR (15 mg/kg) CUR (45 mg/kg) CCI –> peripheral injury mice Vehicle CUR (5 mg/kg) CUR (15 mg/kg) CUR (45 mg/kg)	Sham mice Vehicle CUR (15 mg/kg) CUR (45 mg/kg) CCI –> peripheral injury mice Vehicle CUR (5 mg/kg) CUR (15 mg/kg) CUR (45 mg/kg)	NI	NI	Vehicle + vehicle 538.5 ± 22.4 Vehicle + DSP-4 524.3 ±30.6 Vehicle + PCPA 192.9±17.7 CUR 45 mg/kg + vehicle 572.0 ± 31.5 CUR 45 mg/kg + DSP -4 549.3 ± 27.4 CUR 45 mg/kg + PCPA 208.1 ± 23.8		Vehicle + vehicle 427.8 ± 27.2 Vehicle + DSP-4 143.7 ± 15.4 Vehicle + PCPA 405.0 ± 12.9 CUR 45 mg/kg + vehicle 440.3 ± 22.1 CUR 45 mg/kg + DSP-4 128.7 ± 26.4 Cur 45 mg/kg + PCPA 418.6 ± 17.8
Moorkoth, et al., 2021	Animal study, mice (n=30), 1, 3 and 6 hours before FST	Group I: Control, vehicle per oral Group II: Escitalopram (10 mg/kg) per oral Group III: Dehydroz-ingerone 100 mg/kg per oral, 1 hour before FST Group IV: Dehydroz-ingerone 100 mg/kg per oral, 3 hour before FST Group V: Dehydroz-ingerone 100 mg/kg per oral, 6 hour before FST	Group I: Control, vehicle per oral Group II: Escitalopram (10 mg/kg) per oral Group III: Dehydroz-ingerone 100 mg/kg per oral, 1 hour before FST Group IV: Dehydroz-ingerone 100 mg/kg per oral, 3 hour before FST Group V: Dehydroz-ingerone 100 mg/kg per oral, 6 hour before FST	Number of crossing line Baseline 1st day Group I: 6.8 ± 1.3 Group II: (F4, 12 = 14.4, p = 0.0023) Group III: (F4,12 = 14.4, p = 0.9187) Group IV: (F4,12 = 14.4, p = 0.8140) Group V: (F4,12 = 14.4, p = 0.1320) 7th day Group I: 4.3 ± 0.5 Group II: (F4,13 = 17.1, p = 0.0004)	Immobility time, sec Baseline 1st day Group I: 3.3 ± 0.1 Group II: (F4,22 = 19.0 with p<0.0001) Group III: (F4,22 = 19.0, p<0.0001) Group IV: (F4,22 = 19.0, p = 0.0124) Group V: (F4,22 = 19.0, p = 0.9998) 7th day Group I: 3.3 ± 0.1 Group II: F4,17 = 18.7, p = 0.0055	7th day Group I: 4103.5 ± 43.43 ng/g of tissue Group II: Increase serotonin (p < 0.0001) Group III: Highest increase serotonin (p<0.0001) Group IV: Lower than group 3 (p <0.0001 for all three neurotransmitters) Group V: Lower than group 4, p <0.0001	7th day Group I: 5310.4 ± 31.48 Group II: Increase dopamine (p < 0.0001) Group III: Highest increase dopamine (p<0.0001), nora-drenaline (p <0.0001) and seroto-nin (p<0.0001) Group IV: Lower than group III (p<0.0001 for all three neuro-transmitters)	7th day Group I: 817.3 ± 6.58 Group II: In-crease nora-drenaline (p = 0.0008) Group III: High-est increase noradrenaline (p <0.0001) Group IV: Lower than group III (p <0.0001 for all three neuro-transmitters)

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Moorkoth, et al., 2021	Animal study, mice (n=30), 1, 3, and 6 hours before FST			Group III: (F4,13 = 17.1, p = 0.898) Group IV: (F4,13 = 17.1, p = 0.8613) Group V: (F4,13 = 17.1, p = 0.2929) Number of centre square entry Baseline 1st day Group I: 1.8 ± 0.2 Group II: (F4,18 = 16.6, p <0.0001) Group III: (F4,18 = 16.6, p = 0.0005) Group IV: (F4,18 = 16.6, p = 0.0141) Group V: (F4,18 = 16.6, p = 0.2098) 7th day Group I: 2.5 ± 0.3 Group II: (F4, 12 = 16.4, p = 0.0027) Group III: (F4, 12 = 16.4, p = 0.3723) Group IV: (F4, 12 = 16.4, p = 0.3723) Group V: (F4, 12 = 16.4, p = 0.1675)	Group III: (F4,22 = 19.0, p<0.0001) Group IV: (F4,22 = 19.0, p =0.0124) Group V: (F4,22 =19.0, p= 0.9998) 7th day Group I: 3.3 ± 0.1 Group II: F4,17 = 18.7, p= 0.0055 Group III: F4,17 = 18.7, p= 0023) Group IV: (3.1 ± 0.2) Group V: (F4,17 = 18.7, p= 0.9529)		Group V: Lower than group 4, (p <0.0001)	Group V: Lower than group 4, p = 0.1214

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Sartim et al., 2021	Animal study, mice (n=30)	Group I: Vehicle Group II : CBD 3 mg/kg Group III : CBD 10 mg/kg Group IV : CBD 30 mg/kg Group V: Imipramine 30 mg/kg	Group I: Vehicle Group II : Ketamine 2.5 mg/kg Group III : Ketamine 5 mg/kg Group IV : Ketamine 10 mg/kg Group V: Imipramine 30 mg/kg	None of the tested doses changed the distance travelled performed by animals in the OFT (n = 8–13, F4,55= 0.5656, p>0.05) S-Ketamine None of the tested doses changed the distance travelled performed by animals in the OFT (n=5–7, F4,29 = 1.147,	NI	NI	NI	NI
Zhai et al., 2024	Animal study, female mice, Chronic unpredictable mild stress (CUMS) 4 weeks followed by drugs adiministration 2 weeks	120 successful model of CUMS mice, divided into 8 groups (n=15) Group I: CUMS model Group II: EEGS low = EEGS-L (5 mg/kg/day) Group III: EEGS moderate = EEGS-M (25 mg/kg/day) Group IV: EEGS high = EEGS-H (125 mg/kg/day) Group V: FLU (10 mg/kg/day) Group VI: CA 10 mg/kg/day Group VII: t-p-CA 10 mg/kg/day 8. CA+t-p-CA 10 mg/kg/day + 10 mg/kg/day CA and t-p-CA mixed in a ratio of 1:1 respectively	Control group, which was not exposed to CUMS= received an equivalent volume of saline	1. Control (99.1 ± 8.7 sec for central time; 41.3 ± 3.4 times for central number) 2. Model group (47.1 ± 1.9 sec, p<0.001) and number (19.8 ± 0.8 times, p<0.001) to cross the central zone were shortened 3. EEGS-M = time in central zone 78.2 ± 5.23 sec, p<0.05) and number in central zone 34.3 ± 2.2 times, p<0.01) 4. CA + t-p-CA = increase the time (77.8 ± 33.7 sec, p< 0.1) and number (31.7 ± 1.9 times, p<0.05) to cross the central zone	1. Control (96.9 ± 3.4 sec) 2. Model group (170.1 ± 2.8 sec, p<0.001) were significantly prolonged 3. EEGS-H in the mice, the immobility time 137.1 ± 5.9 sec, p<0.01) was shortened most significantly 4. EEGS-M = immobility time 124.6 ± 4.0 sec, p<0.001) 5. EEGS-M = time in central zone 78.2 ± 5.2 sec, p<0.05) and number in central zone 34.3 ± 2.2 times, p<0.01) 4. CA + t-p-CA = significantly shorten the TST of immobility time (140.7 ± 7.8 sec, p<0.05)	1. Control (20.1 ± 0.9 ng/mL for 5-HT) 2. CUMS (11.0 ± 0.6 ng/mL, p<0.001 for 5-HT) 3. EEGS-M was as effective as FLU compared with the model group 4. Up-regulation impact of 5-HT and NE by the combined effect of chlorogenic acid and trans-p-coumaric acid (p<0.05) was better than any monomer alone		1. Control group (10.15 ± 0.69 ng/mL for NE) 2. CUMS group NE (6.53 ± 0.61 ng/mL, P <0.01) 3. EEGS-M was as effective as FLU compared with the model group. 4. Up-regulation impact of 5-HT and NE by the combined effect of chlorogenic acid and trans-p-coumaric acid (p<0.05) was better than any monomer alone

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Zhai et al., 2024		All treatments were administered via oral gavage for 14 consecutive days after dissolution in saline						
Bhatt, et al., 2022	Animal study, mice (n=36)	Group I: Control, vehicle per oral Group II: FLU 20 mg/kg, ip Group III: IMP 20 mg/kg Group IV: CSR-50 (leaf extract at 50 mg/kg, per oral) Group V: FLU 10 mg/kg + CSR 25 mg/kg	Group I: Control, vehicle per oral Group II: FLU 20 mg/kg, ip Group III: IMP 20 mg/kg Group IV: CSR-50 (leaf extract at 50 mg/kg, per oral) Group V: FLU 10 mg/kg + CSR 25 mg/kg	NI	1. Control 136.7 ± 8.069 2. FLU 20 mg/kg, ip 98.2 ± 7.6 3. IMP 107.2 ± 5.9 4. CSR-50 = 103.8 ± 4.7 5. FLU 10 + CSR 25 = 100.0 ± 10.3 6. IMP 10 + CSR 25 = 113.3 ± 3.0	NI	NI	NI
Chi et al., 2022	Animal study, rat (n=48), 14 days	Group I: Control, vehicle per oral Group II: Model depression (LPS- induced) 0.3 mg/kg ip Group III: LPS (90 g/kg) + LBRD group gavage 2 h post LPS injection Group IV: LPS + FLU 2 mg/kg 2 hours post LPS injection	Group I: Control, vehicle per oral	NI	NI	Control = 367.0 ± 14.1 Model group = 268.0 ± 7.5 LPS + LBRD = 304.0 ± 15.4	Control= 79.2 ± 2.1 Model= 62.7 ± 1.8 LPS + LBRD = 69.8 ± 2.7	NI

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Sasaki, et al. 2022	Animal study, mice (n=28), 7 days	Group I: Control, vehicle per oral Group II: Bupropion 20 mg/kg Group III: ME 50 and 100 mg/kg Group IV: ME 100 mg/kg	Group I: Control, vehicle per oral Group II: Bupropion 20 mg/kg Group III: ME 50 and 100 mg/kg Group IV: ME 100 mg/kg.	NI	1. Control = 64.6 ± 13.3 sec --> 81.0 ± 7.7 sec --> 103.8 ± 12.8 sec --> 139.4 ± 5.7 sec, --> 140.3 ± 8.0 sec --> 158.0 ± 12.2 sec, and 169.6 ± 9.9 sec 2. Positive control (bupropion 20 mg/kg) = 61.1 ± 8.3 sec --> 58.6 ± 6.0 sec -->58.2 ± 6.5 sec -->70.8 ± 2.5 sec -->65.7 ± 10.0 sec -->59.0 ± 9.9 sec, and 62.1 ± 10.5 sec 3. ME 50 mg/kg = 65.5 ± 6.1 sec -->62.0 ± 9.8 sec -->56.8 ± 13.3 sec -->68.8 ± 8.3 sec -->73.5 ± 4.6 sec --> 70.3 ± 11.9 sec and 71.7 ± 8.4 sec 4. ME 100 mg/kg.= 65.7 ± 6.6 sec -->96.0 ± 11.8 sec --> 119.0 ± 11.4 sec --> 123.0 ± 10.2 sec --> 124.0 ± 12.3 sec --> 133.6 ± 11.2 sec --> and 154.4 ± 8.9 sec	NI	NI	NI

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				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Sasaki, et al. 2021	Animal study, mice (n=28), 7 days	Group I: Control, vehicle per oral Group II: TST-induced + water Group III: TST-induced + low-dose RE (10 mg/kg) Group IV: TST-induced+ high-dose RE (100 mg/kg) RE was dissolved in drinking water and orally administered to the animals	Group I: Control, vehicle per oral Group II: TST-induced + water Group III: TST-induced + low-dose RE (10 mg/kg) Group IV: TST-induced+ high-dose RE (100 mg/kg) RE was dissolved in drinking water and orally administered to the animals	NI	1. TST-induced model : increase in immobility time, day 1-7 (88.5 ± 17.1 sec -> 100.0 ± 11.9 sec -> 118.3 ± 19.4 sec -> 119.3 ± 13.8 sec ->142.3 ± 22.9 sec -> 147.5 ± 16.9 sec, and 166.5 ± 22.7 sec 2. RE 100 mg/kg: decrease in the immobility time, day 1-7 (72.3 ± 21.9 sec -> 68.25 ± 14.7 sec -> 73.6 ± 21.3 sec ->64.8 ± 20.9 sec ->63.0 ± 21.8 sec ->52.8 ± 16.3 sec, and 59.0 ± 20.8 sec) 3. RE 10 mg/kg: decrease in immobility time at only day 7 (76.5 ± 11.8 sec ->93.8 ± 16.6 sec ->111.0 ± 11.5 sec ->111.3 ± 19.0 sec ->117.3 ± 10.8 sec->117.5 ± 26.8 sec, and 134.0 ± 14.5 sec)	NI	NI	NI

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)

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Author, Year	Study design	Intervention	Control	Outcome				
				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Amoateng et al., 2018	Animal study, mice (n=98), 1 hour	Experiment 1 Pretreated with Group I: SNE 100 mg/kg, per oral Group II: SNE 300 mg/kg, per oral Group III: SNE 1000 mg/kg, per oral Group IV: FLU 3 mg/kg, per oral Group V: FLU 10 mg/kg, per oral Group VI: FLU 30 mg/kg, per oral Group VII: Control, vehicle per oral 1 hour before FST Experiment 2 Pretreated with Group I: SNE 100 mg/kg, per oral Group II: SNE 300 mg/kg, per oral Group III: SNE 1000 mg/kg, per oral Group IV: FLU 3 mg/kg, per oral Group V: FLU 10 mg/kg, per oral Group VI: FLU 30 mg/kg, per oral	Experiment 1 Pretreated with Group I: SNE 100 mg/kg, oral Group II: SNE 300 mg/kg, oral Group III: SNE 1000 mg/kg, oral Group IV: FLU 3 mg/kg, oral Group V: FLU 10 mg/kg, oral Group VI: FLU 30 mg/kg, oral Group VII: Control, vehicle per oral 1 hour before FST Experiment 2 Pretreated with Group I: SNE 100 mg/kg, per oral Group II: SNE 300 mg/kg, per oral Group III: SNE 1000 mg/kg, per oral Group VI: FLU 3 mg/kg, per oral Group V: FLU 10 mg/kg, per oral Group VI: FLU 30 mg/kg, per oral	NI	Immobility score Vehicle = 33.7 ± 2.4 SNE 100 mg/kg = 11.0 ± 2.3 FLU 3 mg/kg = 12.2 ± 1.0 Swinging score Vehicle = 19.0 ± 2.0 SNE 100 mg/kg = 43.2 ± 2.4 FLU 3 mg/kg = 42.6 ± 1.0 Curling score Vehicle = 7.1 ± 0.9 SNE 100 mg/kg = 5.6 ± 1.2 FLU 3 mg/kg = 5.2 ± 0.7	NI	NI	NI

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)

Table I

Basic information of included studies

Author, Year	Study design	Intervention	Control	Outcome				
				Open field test (OFT)	Tail suspension test (TST)	Serotonin	Dopamine	Noradrenaline
Sharma et al., 2022	Animal study, rat (n=60), 28 days	Group I: Control, vehicle per oral Group II: CUMS Group III: CUMS + EAM 150 mg/kg Group IV: CUMS + EAM 300 mg/kg Group V: CUMS + Imipramine 15 mg/kg for 7 days after the development of depression. One hour later receiving the final dose of EAM (150 and 300 mg/kg) on day 35, all rats underwent antidepressant activity tests	Group I: Control, vehicle per oral Group II: CUMS Group III: CUMS + EAM 150 mg/kg Group IV: CUMS + EAM 300 mg/kg Group V: CUMS + imipramine 15 mg/kg for 7 days after the development of depression. One hour later receiving the final dose of EAM (150 and 300 mg/kg) on day 35, all rats underwent antidepressant activity tests	EAM (300 mg/kg) enhanced the behavioural parameters in the open field test such as ambulation from 26.5 ± 2.1 to 56.5 ± 1.8, rearing from 8.3 ± 0.7 to 19.0 ± 0.6, time spent in centre from 9.2 ± 0.9 to 17.2 ± 0.8 sec, total distance travelled from 2.36 ± 0.1 to 4.7 ± 0.1 m	EAM (300 mg/kg) significantly reduced the immobility time during the tail suspension test from 208.7 ± 4.7 sec to 108.8 ± 4.8 s	NI	NI	NI
Kurnianingsih et al., 2024	Animal study, mice (n=25), 14 days	Group I: Control, vehicle per oral Group II: Stress Group III: Stress + Anthocyanin extract 10 mg/kg Group IV: Stress + Anthocyanin extract 20 mg/kg Group V: Stress + Anthocyanin extract 40 mg/kg	Group I: Control, vehicle per oral Group II: Stress Group III: Stress + Anthocyanin extract 10 mg/kg Group IV: Stress + Anthocyanin extract 20 mg/kg Group V: Stress + Anthocyanin extract 40 mg/kg	Travel distance Stressed mice had 495.4 cm shorter distance movement than the control. The antrocyanin extract reduced the delta of travelled distance by about 306.6 cm, 248.8 cm, and 231.1 cm	NI	NI	Brain dopamine levels in stress-exposed mice (10.5 ± 0.2 ng/mL) were lower than control (13.0 ± 0.2 ng/mL). Anthocyanin administration increased brain dopamine higher than control for a dose of 10 mg/kg (14.6 ± 0.5 ng/mL) and 20 mg/kg (13.4 ± 0.2 ng/mL)	NI

CBD (Cannabidiol); CCI (Chronic constriction injury); CSR (*Cochlospermum religiosum*); CUMS (Chronic unpredictable mild stress); CUR (Curcumin); EAM (hydroethanolic extract of *Aegle marmelos* leaves); EEGS (Ethanol extract from *G. procumbens* stems); FLU (Fluoxetine); IMP (Imipramine); LBRD (Lily bulb and Rehmannia decoction); LPS (Lipopolysaccharide); ME (Microalgae extract); RE (*Rosmarinus officinalis* extract); SNE (*Synedrella nodiflora* extract)