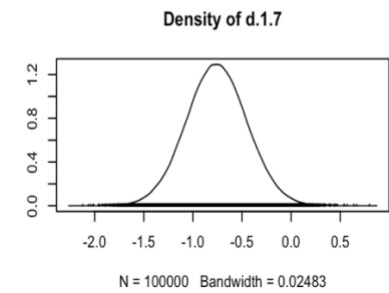
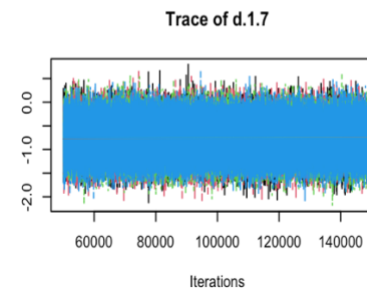
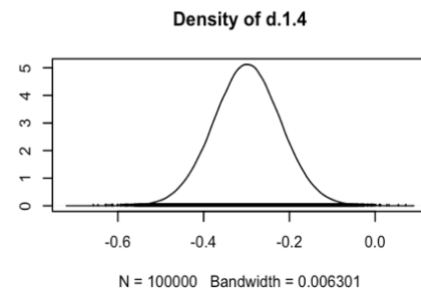
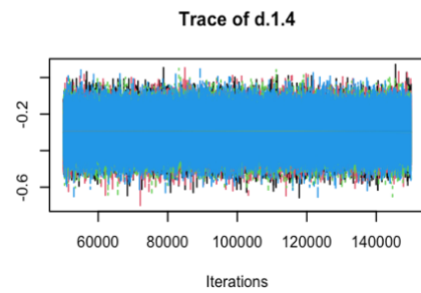
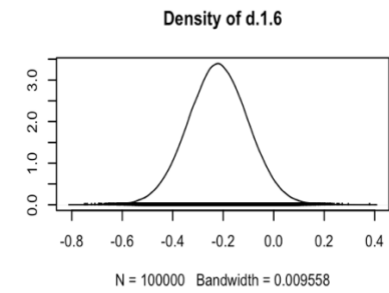
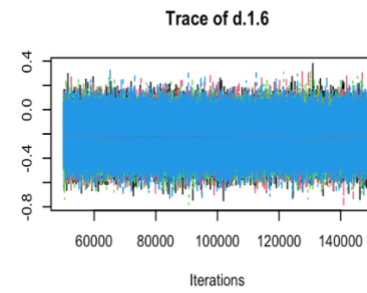
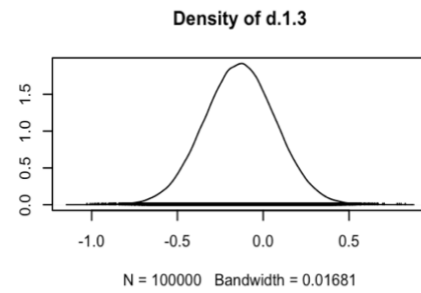
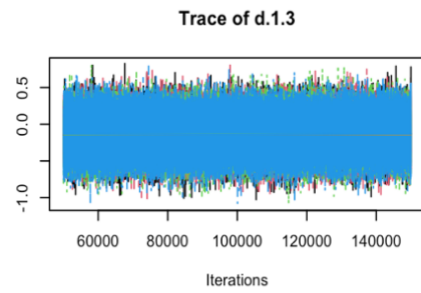
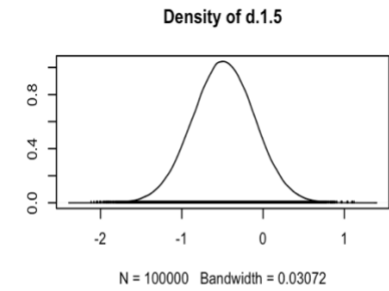
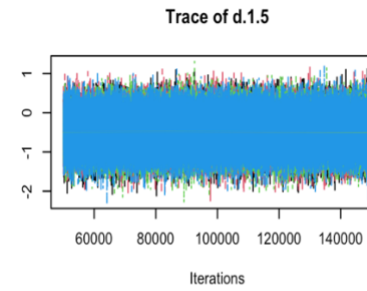
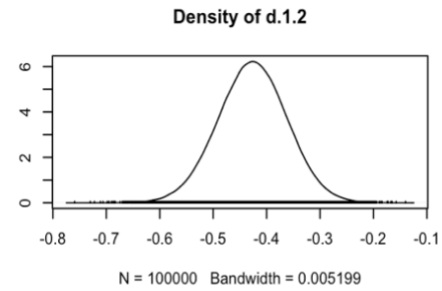
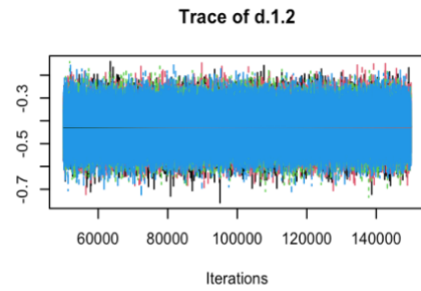
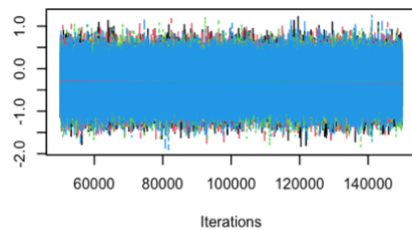


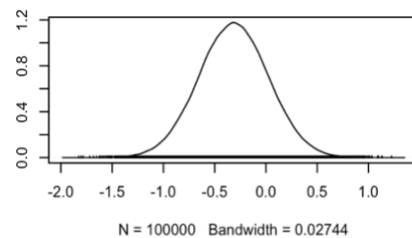
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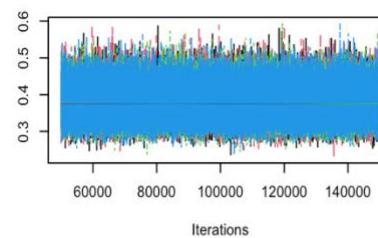
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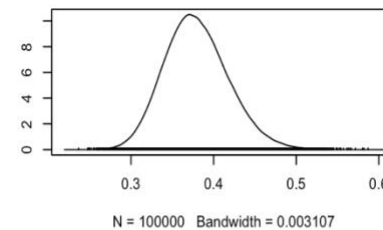
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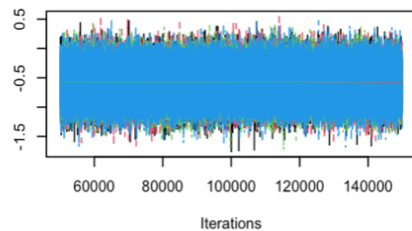
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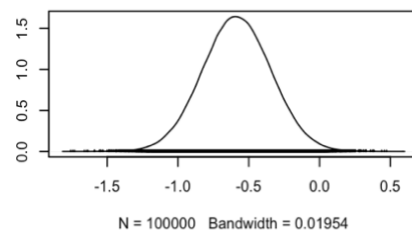
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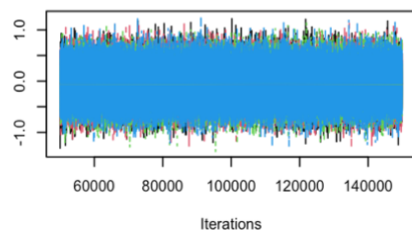
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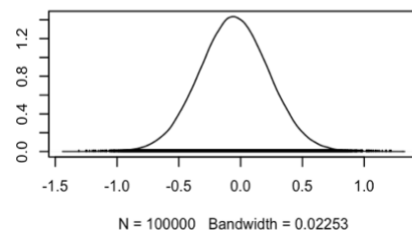
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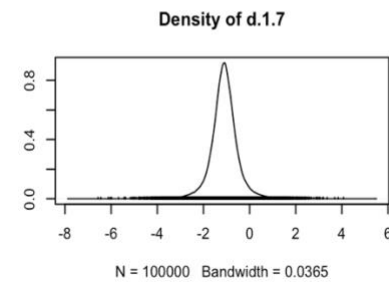
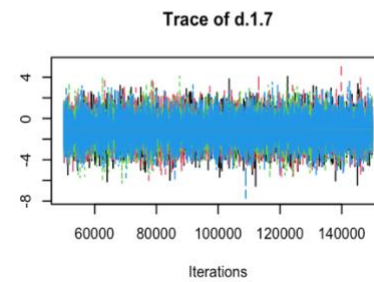
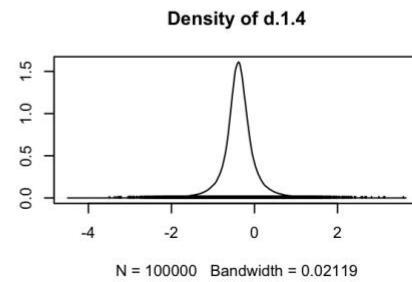
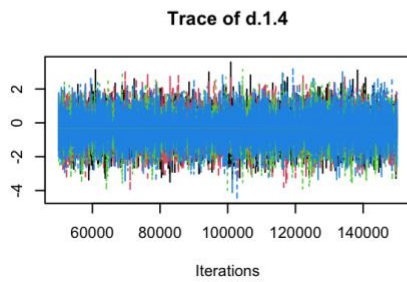
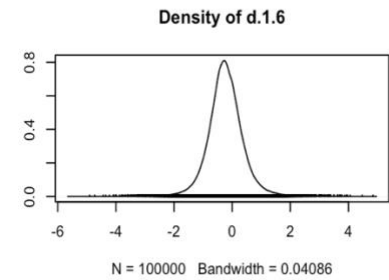
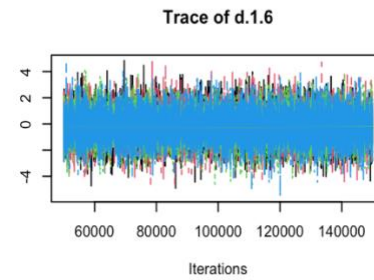
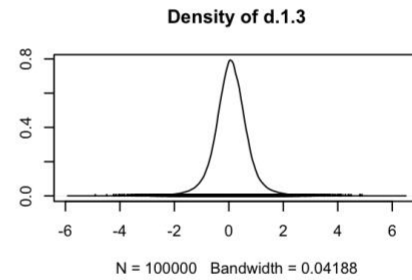
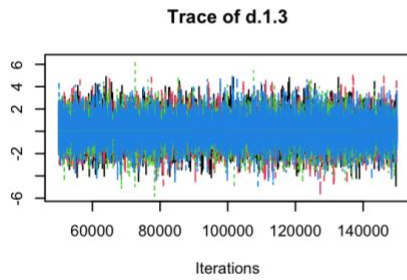
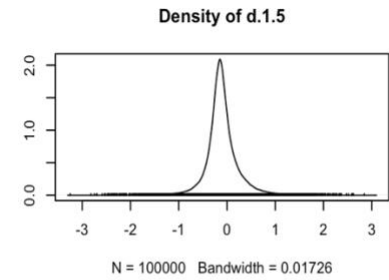
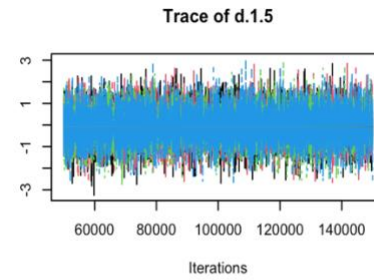
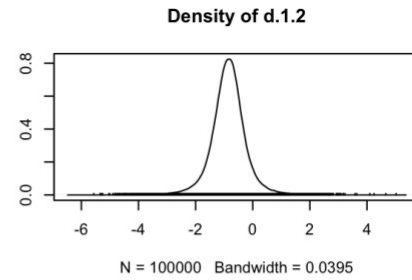
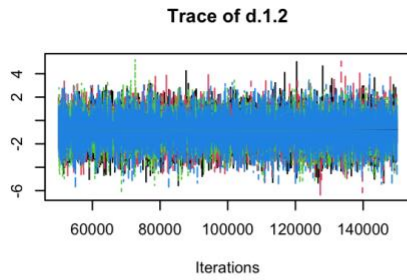
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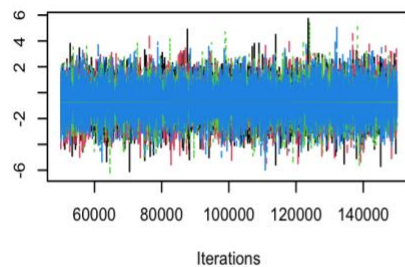
Density of d.4.10



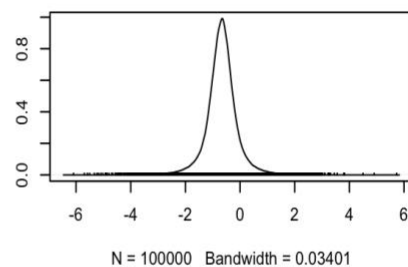
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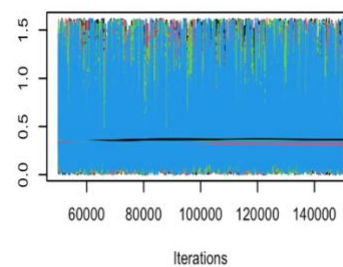
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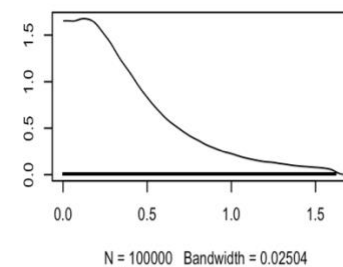
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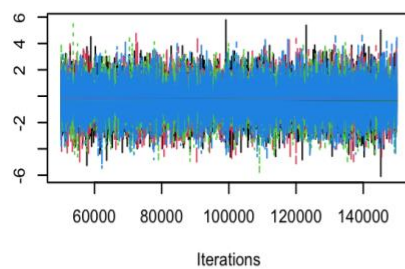
Trace of sd.d



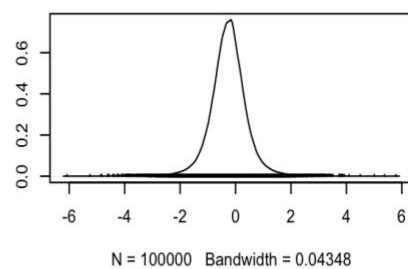
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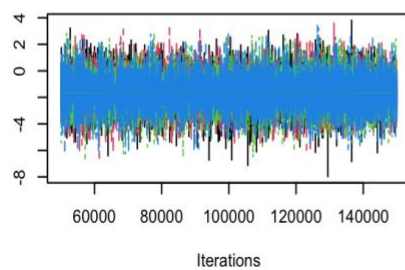
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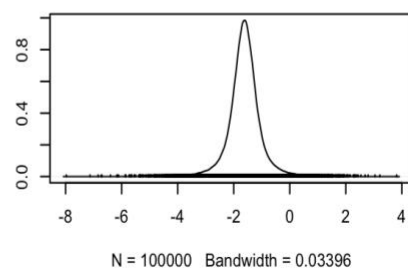
Density of d.1.9



Trace of d.2.10



Density of d.2.10



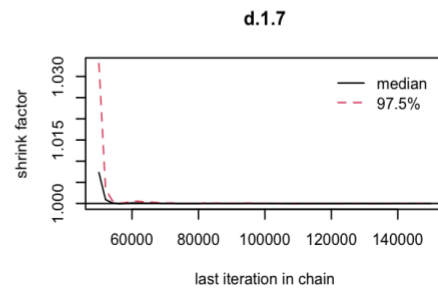
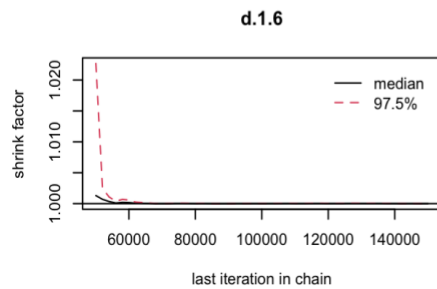
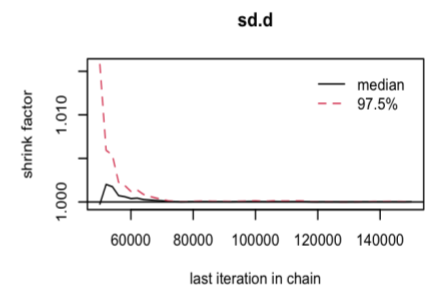
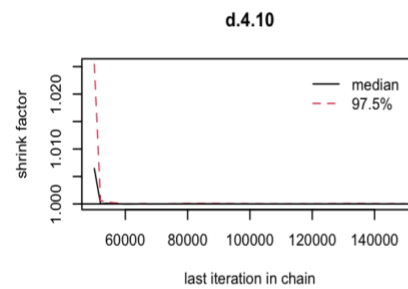
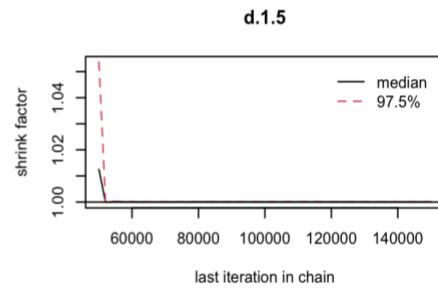
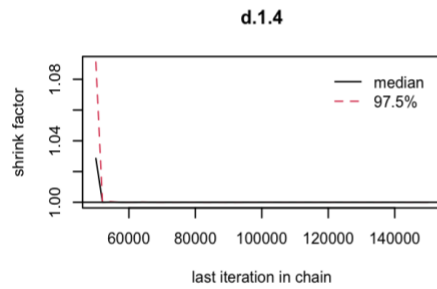
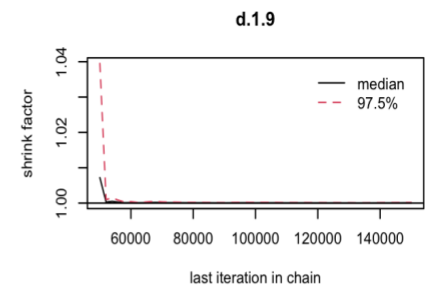
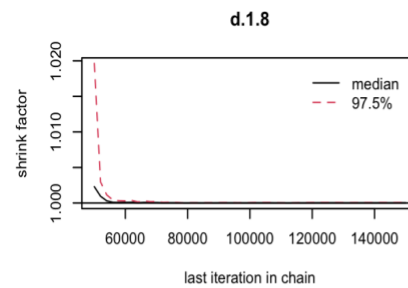
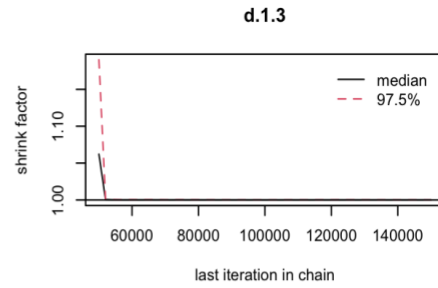
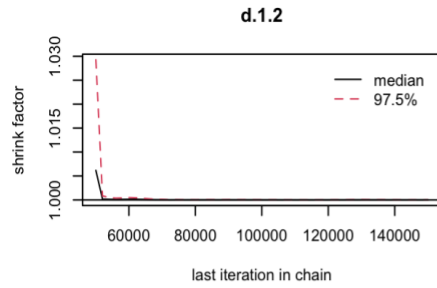
Supplementary Figure 1 Convergence of the four Markov Chain Monte Carlo (MCMC) chains established by of the history feature.

A. History feature for non-pharmacological interventions reduce depression.

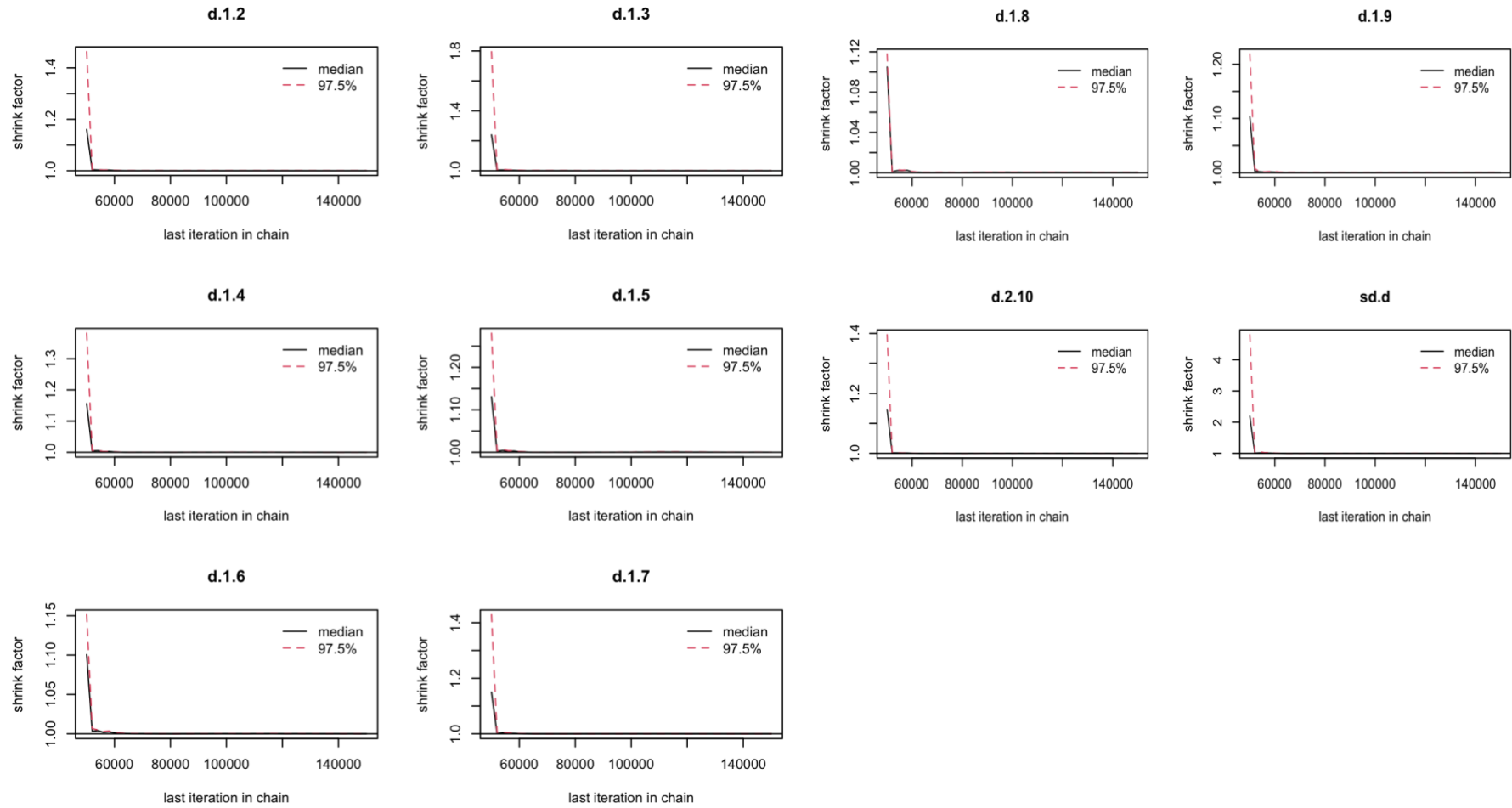
B. History feature for pharmacological interventions reduce depression.

In each Bayesian inference analysis, four independent MCMC chains are generated and running 10,000 sample iterations per chain simultaneously.

A



B



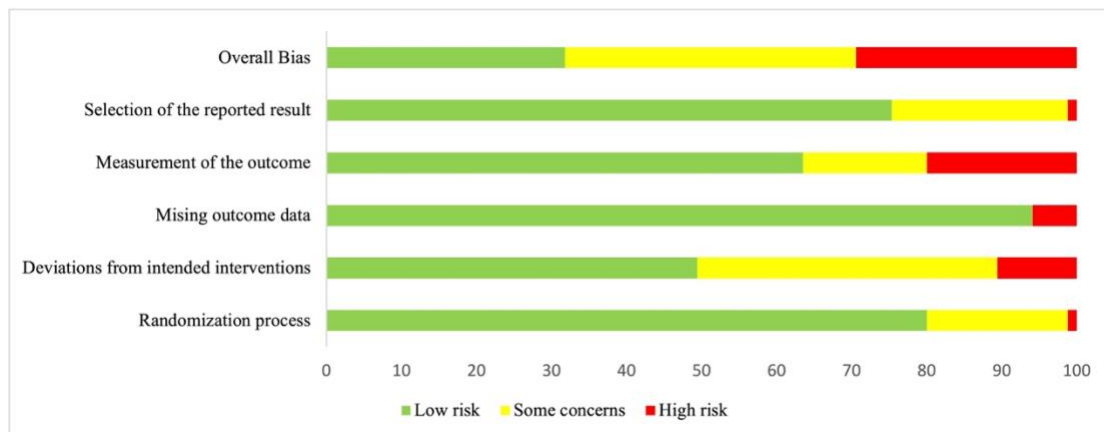
Supplementary Figure 2 Convergence of the four Markov Chain Monte Carlo (MCMC) chains established by of the Brooks-Gelman-Rubin diagnostic feature.

A. Brooks-Gelman-Rubin diagnostic feature for non-pharmacological interventions reduce depression.

B. Brooks-Gelman-Rubin diagnostic feature for pharmacological interventions reduce depression.

In each Bayesian inference analysis, four independent MCMC chains are generated and running 10,0000 sample iterations per chain simultaneously.

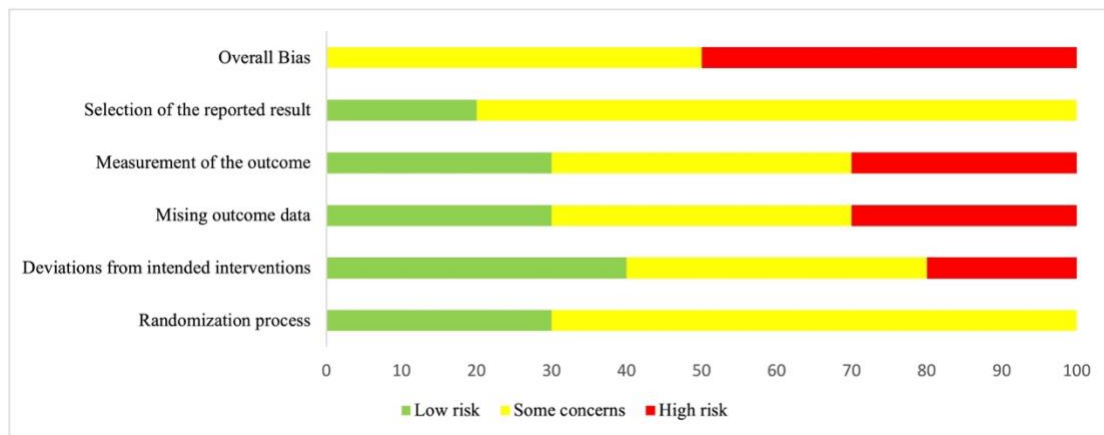
A



Study ID	D1	D2	D3	D4	D5	Overall	
Yeon Hee Kim	!	!	+	-	-	-	+
William Breitbart	+	+	+	+	+	+	!
Katrin Hardoerfer	!	-	-	-	!	-	-
Kurt Kroenke	+	!	+	+	+	!	
M.J. Murphy	+	!	+	+	+	!	D1 Randomisation process
Marc Serfaty	!	!	+	-	+	-	D2 Deviations from the intended interventions
Gary Rodin	+	+	+	+	+	+	D3 Missing outcome data
Di Shao	!	!	+	-	+	-	D4 Measurement of the outcome
Jane McCusker	+	+	+	+	+	+	D5 Selection of the reported result
A.M.F.Krebber	+	+	+	+	+	+	
Vanessa Strong	+	+	+	-	+	-	
Xiaomei Dong	!	!	+	+	+	!	
Wenwei Ren	+	+	+	+	+	+	
Lisa A. Cadmus	+	!	+	!	!	!	
Panagiotis Pelekasis	!	+	+	-	+	-	
Di Shao	!	+	+	-	!	-	
Zhen Guo	!	-	+	!	+	-	
Elin Borosund	!	!	+	-	+	-	
MF Damholdt	+	+	+	+	+	+	
Roy A. Willems	+	!	+	!	+	!	
Richard Branstrom	+	-	+	+	+	-	
Florien W.Boele	-	!	+	+	!	-	
Penelope Schofield	+	!	+	+	+	!	
William Breitbart	+	+	+	+	+	+	
S.Dolbeault	+	+	+	!	+	!	
Kimlin Ashing	+	+	+	+	+	+	
Ummavathy Periasamy	+	!	+	!	+	!	
Sue Hall	+	!	+	!	+	!	
Barrie R. Cassileth	+	!	+	-	+	-	
Lism M Gudenkauf	+	+	+	!	+	!	
H.S. Vadiraja	+	+	+	+	!	!	
Miek C. Jong	+	-	+	+	!	-	
Elizabeth Foley	+	+	+	+	+	+	
Harvey Max Chochinov	+	+	+	+	+	+	
PeiHua Wu	+	!	+	-	+	-	
Gitta Kleijn	+	+	+	+	+	+	
Mandy Ho	+	!	+	+	+	!	
Yan SUN	!	+	+	!	!	!	
Victoria White	+	!	+	+	+	!	

Rianne Henrica Johanna Golsteijn	+	!	+	+	+	!
Holger Cramer	+	+	+	+	+	+
Eva Rames Nissen	+	+	+	+	+	+
Lara Traeger	+	!	+	+	+	!
Ana-Maria Vranceanu	+	+	+	!	+	!
Jannike L. Salchow	!	+	+	!	+	!
Talita Uchoa Lima	+	!	+	+	+	+
Caroline J. Hoffman	+	+	+	+	+	+
N. van der Spek	+	!	+	+	+	!
Jiemin Zhu	+	+	+	+	+	+
Kathrin Milbury	+	+	+	+	+	+
Josee Savard	+	+	+	+	+	+
Lene Thorsen	+	+	+	+	+	+
Jane Turner	+	+	+	+	+	+
Laura Q. Rogers	+	!	+	+	+	!
Joseph A Greer	+	+	+	+	+	+
Cecile A	+	+	+	+	+	+
Susan K Lutgendorf	+	+	+	+	+	+
Linda Witek Janusek	+	+	+	!	+	!
Kerry A. Sherman	+	+	+	+	+	+
Julienne E. Bower	+	+	+	+	!	!
Young Ho Yun	+	+	+	+	+	+
Young Ho Yun	+	+	+	+	!	+
Meg Wise, MLS	!	+	+	+	!	+
Cecilia Arving	!	!	+	+	!	+
S K Smith	!	+	+	+	!	+
Annette Stanton	+	!	+	+	+	!
Rainbow T.H. Ho	+	!	+	!	!	!
Morten Quist	+	+	+	+	!	!
Satoko Handa	+	+	+	+	!	!
Nanette Mutrie	+	+	+	+	+	+
Ji Young Kim	+	!	+	+	+	!
Inger Schou Bredal	+	!	+	!	+	!
Colleen A Cuthbert	+	!	+	+	!	!
Kajal Gokal	+	!	+	+	!	!
M Dieng	+	+	+	+	+	+
Kerry S. Courneya	+	+	+	+	+	+
Pernille Envold Bidstrup	+	+	+	+	+	+
Sean R Zion	+	+	+	+	!	!
Nasib Babaei	!	+	+	+	!	+
Yening Zhang	!	!	+	!	+	!
Lena Saltbaek	+	+	+	+	+	+
Jose A E Custers	+	!	+	+	+	+
Isabel Alves	+	!	+	+	+	!
Yufan Yuan	+	!	+	+	+	+
Huimin Sui	+	!	+	+	!	+

B

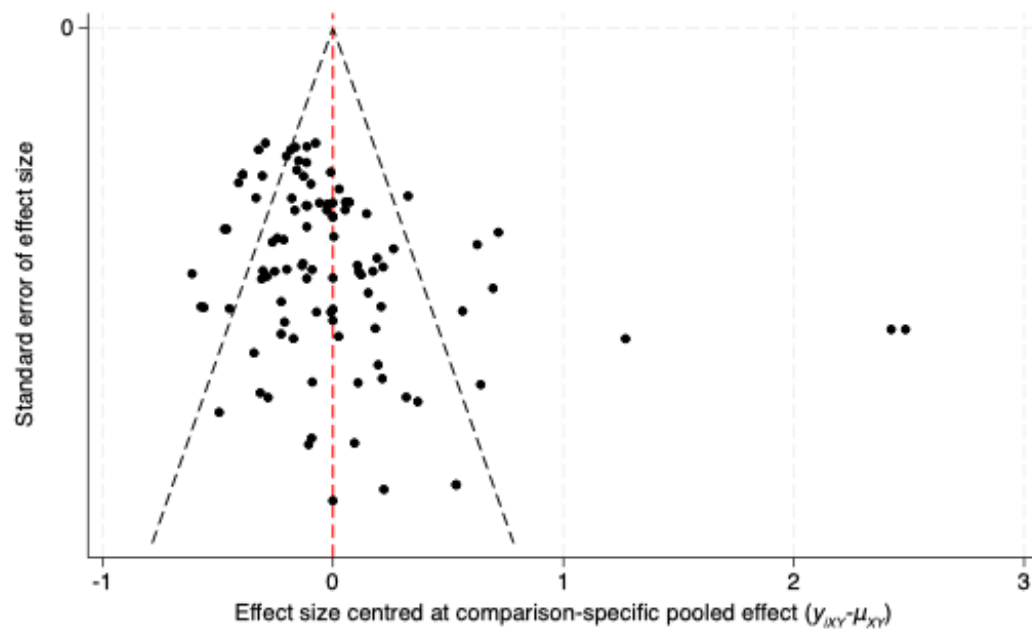


Study ID	D1	D2	D3	D4	D5	Overall	
Eylem Sahin Cankurtaran Elvan Qzalp	Low risk	Some concerns	Some concerns	Low risk	Low risk	Some concerns	Low risk
Razavi D	Some concerns	High risk	Some concerns	High risk	Some concerns	High risk	Some concerns
Dominique L. Musselman	Low risk	Low risk	Some concerns	Some concerns	Some concerns	Some concerns	Low risk
By Gary R. Morrow	Some concerns	Low risk	Low risk	Some concerns	Low risk	Some concerns	Low risk
Joseph A. Roscoe	Some concerns	Low risk	Low risk	High risk	Some concerns	High risk	D1 Randomisation process
KEES VAN HEERINGEN	Some concerns	High risk	High risk	High risk	Some concerns	High risk	D2 Deviations from the intended interventions
By Michael J.Fisch	Some concerns	Some concerns	High risk	Low risk	Some concerns	High risk	D3 Missing outcome data
Carlos Centeno	Some concerns	Low risk	High risk	Low risk	Some concerns	High risk	D4 Measurement of the outcome
Ng Chong Guan	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	D5 Selection of the reported result
Ebrahim Salehifar	Low risk	Some concerns	Low risk	Some concerns	Some concerns	Some concerns	

Supplementary Figure 3 Results of the risk of bias assessment using Cochrane Randomized Trials Risk of Bias tool (RoB2).

- The risk of bias assessment for non-pharmacological interventions reduce depression in cancer patients.
- The risk of bias assessment for pharmacological interventions reduce depression in cancer patients.

A

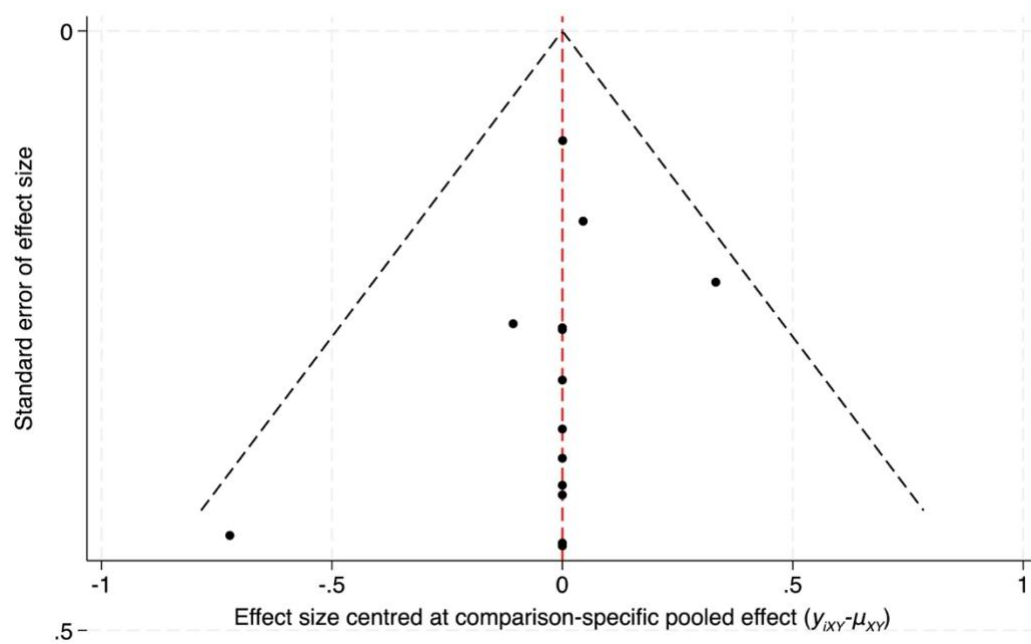


Begg's test $P=0.02$

Egger's test $P=0.09$

After metatrim $Q=273.02$ on 74 degrees of freedom ($p < 0.01$)

B



Begg's test $P=0.59$

Egger's test $P=0.55$

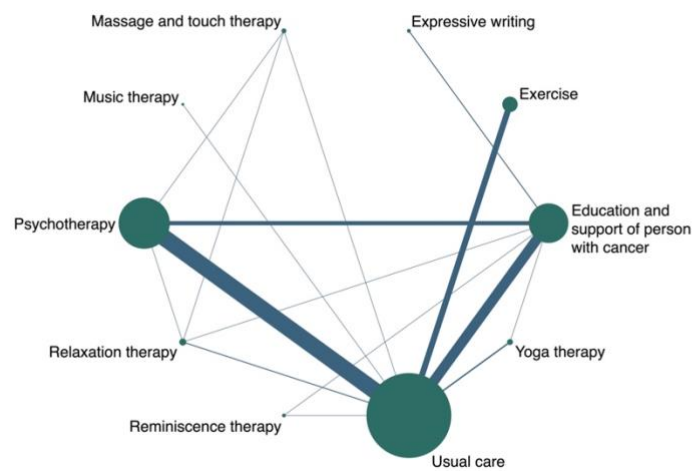
Supplementary Figure 4 Funnel plot.

A. Funnel plot of non-pharmacological interventions reduce depression in cancer patients.

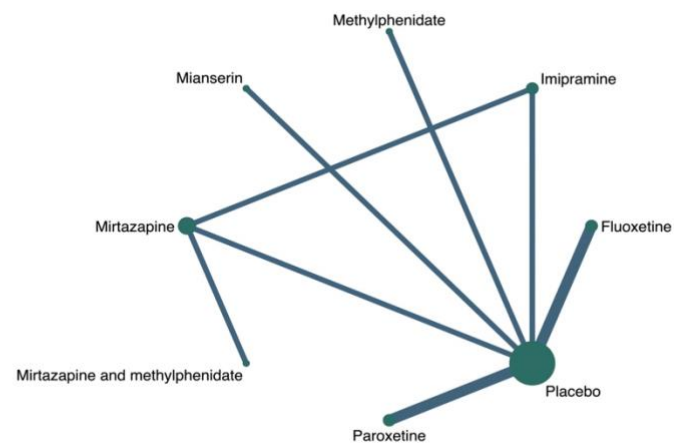
B. Funnel plot of pharmacological interventions reduce depression in cancer patients.

We used Begg's test and Egger's test to assess the symmetry of the funnel plot, if $P > 0.05$, the funnel plot is proved to be symmetrical and may not have publication bias; and if $P < 0.05$, the results were tested for robustness using the "Metatrim" method.

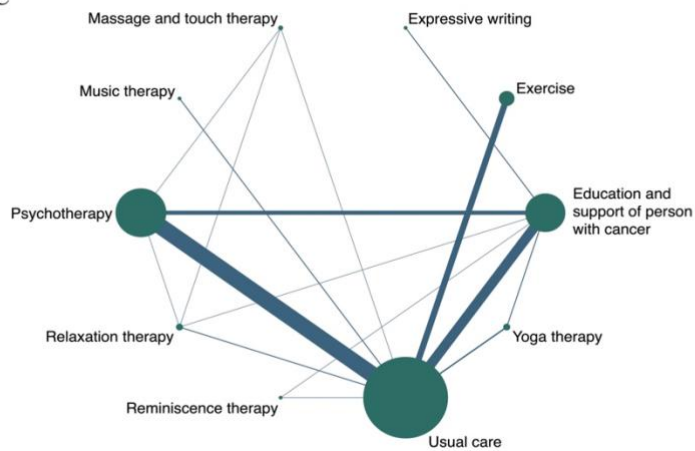
A



B



C



Supplementary Figure 5. Network diagram of sensitivity analysis.

A: Network diagram of non-pharmacological interventions (Exclude sample size < 40).

B: Network diagram of pharmacological interventions (Exclude sample size < 40).

C: Network diagram of non-pharmacological interventions (Exclude unclear intervention time).

Each intervention is represented as a node, and direct comparisons of the two interventions in the RCT are shown as links between nodes. The size of the nodes reflects the number of patients treated, and the width of each edge is proportionally weighted according to the number of comparisons.

A

Usual care	-0.34 (-0.92, 0.23)	-0.42 (-0.55, -0.29)	-0.20 (-0.65, 0.24)	-0.29 (-0.45, -0.14)	-0.48 (-1.23, 0.27)	-0.22 (-0.46, 0.01)	-0.75 (-1.36, -0.14)	-0.08 (-0.97, 0.80)	-0.58 (-1.06, -0.10)
	Expressive writing	-0.07 (-0.66, 0.51)	0.14 (-0.58, 0.86)	0.05 (-0.50, 0.61)	-0.14 (-1.07, 0.80)	0.12 (-0.5, 0.75)	-0.41 (-1.25, 0.43)	0.26 (-0.80, 1.32)	-0.24 (-0.98, 0.51)
		Psychotherapy	0.22 (-0.24, 0.68)	0.13 (-0.05, 0.31)	-0.07 (-0.82, 0.70)	0.20 (-0.07, 0.47)	-0.34 (-0.94, 0.28)	0.33 (-0.56, 1.23)	-0.16 (-0.65, 0.32)
Usual care			Yoga therapy	-0.09 (-0.55, 0.37)	-0.28 (-1.15, 0.59)	-0.02 (-0.52, 0.48)	-0.55 (-1.31, 0.20)	0.12 (-0.88, 1.11)	-0.38 (-1.03, 0.27)
-0.36 (-0.94, 0.23)	Expressive writing			Education and support of person with cancer	-0.19 (-0.94, 0.56)	0.07 (-0.21, 0.35)	-0.46 (-1.09, 0.17)	0.21 (-0.69, 1.11)	-0.29 (-0.78, 0.20)
-0.43 (-0.56, -0.30)	-0.07 (-0.67, 0.51)	Psychotherapy			Reminiscence therapy	0.26 (-0.53, 1.05)	-0.27 (-1.24, 0.70)	0.40 (-0.77, 1.56)	-0.10 (-0.99, 0.79)
-0.14 (-0.55, 0.28)	0.22 (-0.48, 0.92)	0.29 (-0.14, 0.72)	Yoga therapy			Exercise	-0.53 (-1.19, 0.13)	0.14 (-0.78, 1.06)	-0.36 (-0.89, 0.18)
-0.30 (-0.46, -0.15)	0.05 (-0.51, 0.61)	0.13 (-0.06, 0.31)	-0.17 (-0.59, 0.25)	Education and support of person with cancer			Massage and touch therapy	0.67 (-0.41, 1.75)	0.17 (-0.52, 0.87)
-0.49 (-1.24, 0.27)	-0.13 (-1.07, 0.81)	-0.06 (-0.82, 0.71)	-0.35 (-1.21, 0.51)	-0.18 (-0.94, 0.58)	Reminiscence therapy			Music therapy	-0.50 (-1.51, 0.51)
-0.22 (-0.46, 0.02)	0.14 (-0.49, 0.76)	0.21 (-0.06, 0.48)	-0.08 (-0.56, 0.39)	0.08 (-0.20, 0.37)	0.27 (-0.53, 1.06)	Exercise			Relaxation therapy
-0.76 (-1.37, -0.15)	-0.40 (-1.24, 0.44)	-0.33 (-0.94, 0.28)	-0.62 (-1.36, 0.12)	-0.46 (-1.08, 0.17)	-0.27 (-1.24, 0.70)	-0.54 (-1.20, 0.12)	Massage and touch therapy		
-0.31 (-0.99, 0.36)	0.04 (-0.85, 0.93)	0.12 (-0.57, 0.80)	-0.18 (-0.97, 0.61)	-0.01 (-0.70, 0.68)	0.17 (-0.84, 1.19)	-0.09 (-0.81, 0.62)	0.45 (-0.47, 1.36)	Music therapy	
-0.59 (-1.07, -0.10)	-0.23 (-0.98, 0.52)	-0.16 (-0.64, 0.33)	-0.45 (-1.08, 0.18)	-0.28 (-0.78, 0.21)	-0.10 (-0.99, 0.79)	-0.37 (-0.90, 0.17)	0.17 (-0.53, 0.87)	-0.27 (-1.10, 0.56)	Relaxation therapy

B

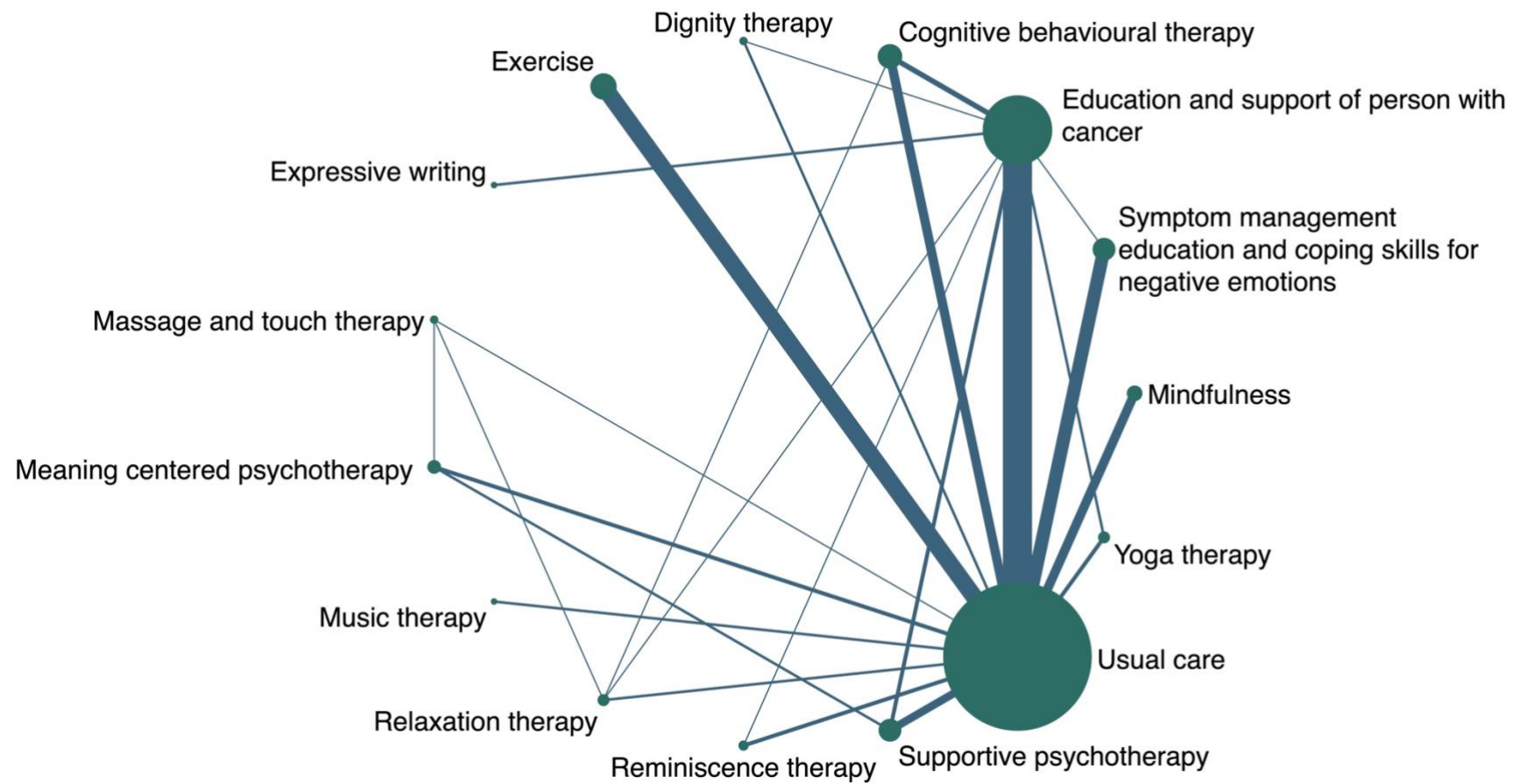
Placebo	-2.47 (-4.18, -0.74)	-0.85 (-2.09, 0.39)	0.09 (-1.18, 1.35)	-0.38 (-1.19, 0.45)	-0.23 (-1.10, 0.52)	-1.10 (-2.32, 0.12)	-0.67 (-1.86, 0.52)
—	Mirtazapine and methylphenidate	1.62 (0.43, 2.80)	2.55 (0.80, 4.28)	2.09 (0.20, 4.00)	2.23 (0.28, 4.08)	1.38 (-0.74, 3.46)	1.80 (-0.29, 3.89)
—	—	Mirtazapine	0.94 (-0.34, 2.19)	0.47 (-1.00, 1.96)	0.61 (-0.92, 2.03)	-0.25 (-1.99, 1.48)	0.18 (-1.54, 1.90)
—	—	—	Imipramine	-0.47 (-1.96, 1.05)	-0.33 (-1.88, 1.13)	-1.19 (-2.94, 0.58)	-0.76 (-2.48, 0.99)
—	—	—	—	Fluoxetine	0.15 (-1.08, 1.23)	-0.72 (-2.19, 0.74)	-0.29 (-1.75, 1.14)
—	—	—	—	—	Paroxetine	-0.86 (-2.27, 0.65)	-0.44 (-1.82, 1.06)
—	—	—	—	—	—	Mianserin	0.42 (-1.28, 2.13)
—	—	—	—	—	—	—	Methylphenidate

Supplementary Figure 6. Network meta-analysis for of sensitivity analysis.

A: Pooled standardized mean differences (SMD) (95% credible intervals) for non-pharmacological interventions (Exclude sample size < 40) (upper triangle) and non-pharmacological interventions (Exclude unclear intervention time) (lower triangle).

B: Pooled standardized mean differences (SMD) (95% credible intervals) for pharmacological interventions (Exclude sample size < 40) (upper triangle).

Data in each cell are SMD (95% credible intervals) for the comparison of column-defining treatment versus row-defining treatment (upper triangle) and SMD (95% credible intervals) for the comparison of row-defining treatment versus column-defining treatment (lower triangle)

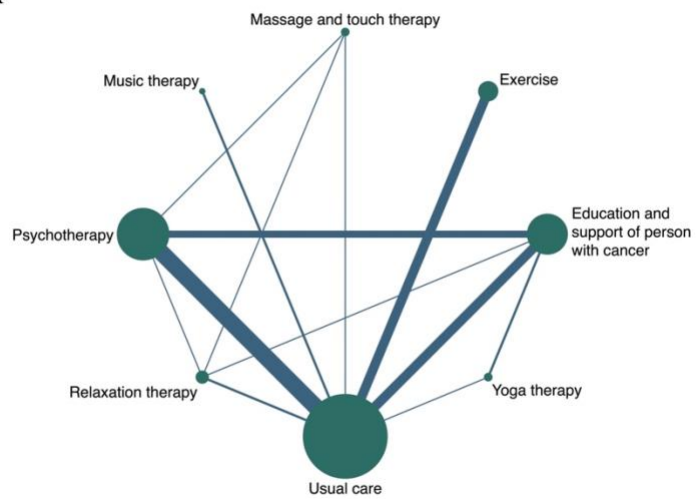


Supplementary Figure 7. Network diagram of efficacy of non-pharmacological interventions.

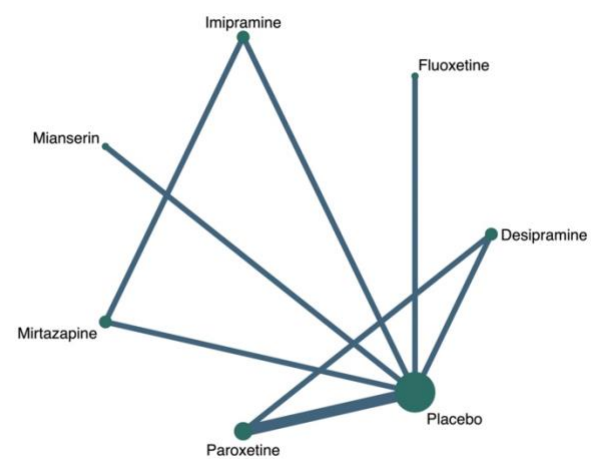
Usual care	-0.22 (-0.43, 0.00)	-0.69 (-1.29, -0.10)	-0.12 (-0.63, 0.39)	-0.31 (-0.93, 0.31)	-0.38 (-0.82, 0.07)	-0.31 (-0.84, 0.20)	-0.49 (-0.72, -0.26)	-0.39 (-0.79, 0.00)	-0.24 (-0.49, 0.02)	-0.12 (-0.50, 0.26)	-0.26 (-0.41, -0.12)	-0.60 (-0.84, -0.36)	-0.35 (-0.64, -0.07)	-1.11 (-1.54, -0.68)
—	Exercise	-0.47 (-1.11, 0.16)	0.10 (-0.45, 0.66)	-0.09 (-0.75, 0.57)	-0.16 (-0.65, 0.33)	-0.10 (-0.66, 0.47)	-0.27 (-0.58, 0.04)	-0.17 (-0.62, 0.28)	-0.02 (-0.35, 0.31)	0.09 (-0.34, 0.53)	-0.04 (-0.30, 0.21)	-0.38 (-0.70, -0.06)	-0.13 (-0.49, 0.22)	-0.89 (-1.37, -0.40)
—	—	Massage and touch therapy	0.58 (-0.21, 1.36)	0.38 (-0.48, 1.25)	0.31 (-0.35, 0.98)	0.38 (-0.41, 1.17)	0.20 (-0.44, 0.84)	0.30 (-0.29, 0.89)	0.46 (-0.17, 1.08)	0.57 (-0.14, 1.28)	0.43 (-0.18, 1.04)	0.10 (-0.54, 0.73)	0.34 (-0.32, 1.00)	-0.41 (-1.15, 0.32)
—	—	—	Dignity therapy	-0.19 (-1.00, 0.61)	-0.26 (-0.94, 0.41)	-0.20 (-0.92, 0.52)	-0.37 (-0.93, 0.18)	-0.27 (-0.92, 0.37)	-0.12 (-0.69, 0.44)	-0.01 (-0.64, 0.63)	-0.15 (-0.66, 0.37)	-0.48 (-1.04, 0.08)	-0.23 (-0.82, 0.35)	-0.99 (-1.66, -0.32)
—	—	—	—	Music therapy	-0.07 (-0.84, 0.70)	-0.01 (-0.82, 0.81)	-0.18 (-0.84, 0.48)	-0.08 (-0.82, 0.66)	0.07 (-0.60, 0.75)	0.18 (-0.55, 0.92)	0.05 (-0.59, 0.69)	-0.29 (-0.96, 0.38)	-0.04 (-0.73, 0.64)	-0.80 (-1.56, -0.04)
—	—	—	—	—	Relaxation therapy	0.06 (-0.61, 0.74)	-0.11 (-0.61, 0.39)	-0.01 (-0.58, 0.56)	0.14 (-0.37, 0.65)	0.25 (-0.33, 0.84)	0.12 (-0.34, 0.57)	-0.22 (-0.69, 0.26)	0.03 (-0.50, 0.56)	-0.73 (-1.35, -0.11)
—	—	—	—	—	—	Expressive writing	-0.17 (-0.74, 0.39)	-0.07 (-0.73, 0.57)	0.08 (-0.49, 0.64)	0.19 (-0.44, 0.82)	0.05 (-0.45, 0.55)	-0.28 (-0.84, 0.28)	-0.04 (-0.63, 0.56)	-0.79 (-1.46, -0.12)
—	—	—	—	—	—	—	SME and CSE for negative emotions	0.10 (-0.36, 0.56)	0.25 (-0.09, 0.59)	0.36 (-0.08, 0.81)	0.23 (-0.04, 0.49)	-0.11 (-0.44, 0.22)	0.14 (-0.22, 0.50)	-0.62 (-1.11, -0.13)
—	—	—	—	—	—	—	—	Meaning centered psychotherapy	0.15 (-0.27, 0.57)	0.26 (-0.28, 0.81)	0.13 (-0.29, 0.54)	-0.21 (-0.66, 0.25)	0.04 (-0.45, 0.53)	-0.72 (-1.30, -0.13)
—	—	—	—	—	—	—	—	—	Supportive psychotherapy	0.11 (-0.34, 0.57)	-0.02 (-0.30, 0.25)	-0.36 (-0.70, -0.02)	-0.11 (-0.50, 0.27)	-0.87 (-1.37, -0.37)
—	—	—	—	—	—	—	—	—	—	Yoga therapy	-0.14 (-0.53, 0.25)	-0.47 (-0.92, -0.03)	-0.23 (-0.70, 0.25)	-0.98 (-1.56, -0.41)
—	—	—	—	—	—	—	—	—	—	—	Education and support of person with cancer	-0.33 (-0.58, -0.08)	-0.09 (-0.41, 0.23)	-0.84 (-1.29, -0.40)
—	—	—	—	—	—	—	—	—	—	—	—	Cognitive behavioural therapy	0.25 (-0.12, 0.62)	-0.51 (-1.00, -0.02)
—	—	—	—	—	—	—	—	—	—	—	—	—	Mindfulness	-0.75 (-1.27, -0.24)
—	—	—	—	—	—	—	—	—	—	—	—	—	—	Reminiscence therapy

Supplementary Figure 8 Network meta-analysis of non-pharmacological interventions
 SME and CSE for negative emotions = Symptom management education and coping skills for negative emotions.
 Data in each cell are SMD (95% credible intervals) for the comparison of column-defining treatment versus row-defining treatment.

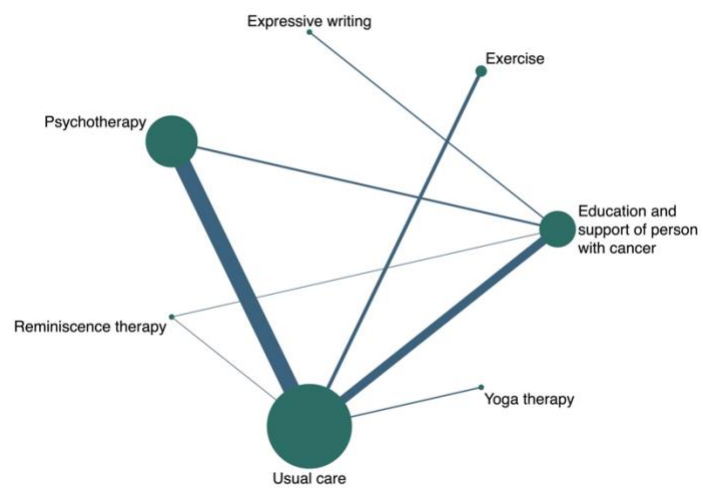
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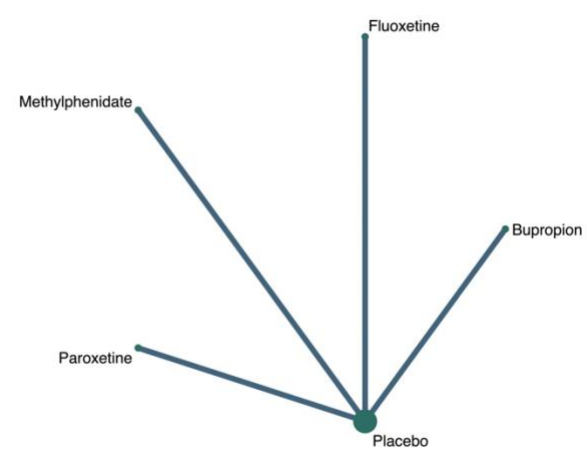
B



C



D



Supplementary Figure 9. Network diagram for subgroup analysis by age.

A: Network diagram of non-pharmacological interventions (Age < 55).

B: Network diagram of pharmacological interventions (Age < 55).

C: Network diagram of non-pharmacological interventions (Age $\geq$ 55).

D: Network diagram of pharmacological interventions (Age $\geq$ 55).

Each intervention is represented as a node, and direct comparisons of the two interventions in the RCT are shown as links between nodes. The size of the nodes reflects the number of patients treated, and the width of each edge is proportionally weighted according to the number of comparisons.

A

Usual care	-0.48 (-0.67, -0.29)	-0.07 (-0.59, 0.46)	-0.26 (-0.48, -0.04)	-0.23 (-0.52, 0.05)	-0.79 (-1.38, -0.20)	-0.31 (-0.95, 0.33)	-0.60 (-1.06, -0.13)
	Psychotherapy	0.41 (-0.12, 0.95)	0.22 (-0.02, 0.46)	0.24 (-0.10, 0.59)	-0.31 (-0.89, 0.27)	0.17 (-0.50, 0.84)	-0.12 (-0.59, 0.36)
		Yoga therapy	-0.20 (-0.71, 0.31)	-0.17 (-0.77, 0.42)	-0.73 (-1.50, 0.05)	-0.24 (-1.07, 0.58)	-0.53 (-1.22, 0.15)
Usual care			Education and support of person with cancer	0.03 (-0.33, 0.39)	-0.53 (-1.14, 0.08)	-0.05 (-0.72, 0.63)	-0.34 (-0.81, 0.15)
-0.43 (-1.13, 0.27)	Expressive writing			Exercise	-0.56 (-1.21, 0.10)	-0.07 (-0.78, 0.62)	-0.36 (-0.90, 0.18)
-0.39 (-0.58, -0.20)	0.04 (-0.68, 0.76)	Psychotherapy			Massage and touch therapy	0.48 (-0.39, 1.35)	0.19 (-0.47, 0.86)
-0.21 (-0.93, 0.51)	0.22 (-0.79, 1.22)	0.18 (-0.57, 0.93)	Yoga therapy			Music therapy	-0.29 (-1.07, 0.51)
-0.38 (-0.64, -0.11)	0.05 (-0.60, 0.70)	0.01 (-0.3, 0.33)	-0.17 (-0.94, 0.61)	Education and support of person with cancer			Relaxation therapy
-0.52 (-1.39, 0.34)	-0.10 (-1.18, 0.98)	-0.14 (-1.02, 0.75)	-0.31 (-1.45, 0.81)	-0.15 (-1.01, 0.72)	Reminiscence therapy		
-0.19 (-0.62, 0.24)	0.23 (-0.59, 1.06)	0.19 (-0.27, 0.67)	0.02 (-0.82, 0.86)	0.18 (-0.32, 0.69)	0.33 (-0.63, 1.30)	Exercise	

B

Placebo	-0.85 (-2.42, 0.72)	0.08 (-1.51, 1.66)	-0.29 (-1.80, 1.22)	-0.06 (-1.08, 1.13)	-0.19 (-1.68, 1.38)	-1.10 (-2.64, 0.44)
	Mirtazapine	0.93 (-0.66, 2.52)	0.56 (-1.62, 2.74)	0.79 (-1.05, 2.79)	0.65 (-1.49, 2.88)	-0.25 (-2.44, 1.95)
		Imipramine	-0.37 (-2.56, 1.82)	-0.13 (-1.98, 1.88)	-0.28 (-2.43, 1.97)	-1.18 (-3.39, 1.04)
Placebo			Fluoxetine	0.23 (-1.56, 2.18)	0.09 (-2.01, 2.28)	-0.81 (-2.96, 1.35)
-0.44 (-1.33, 0.45)	Fluoxetine			Paroxetine	-0.14 (-1.70, 1.35)	-1.04 (-3.02, 0.78)
-0.13 (-0.99, 0.73)	0.31 (-0.92, 1.54)	Paroxetine			Desipramine	-0.91 (-3.12, 1.22)
-0.67 (-1.61, 0.27)	-0.23 (-1.53, 1.06)	-0.54 (-1.82, 0.74)	Methylphenidate			Mianserin
-0.26 (-1.36, 0.84)	0.18 (-1.22, 1.58)	-0.13 (-1.52, 1.25)	0.41 (-1.04, 1.86)	Bupropion		

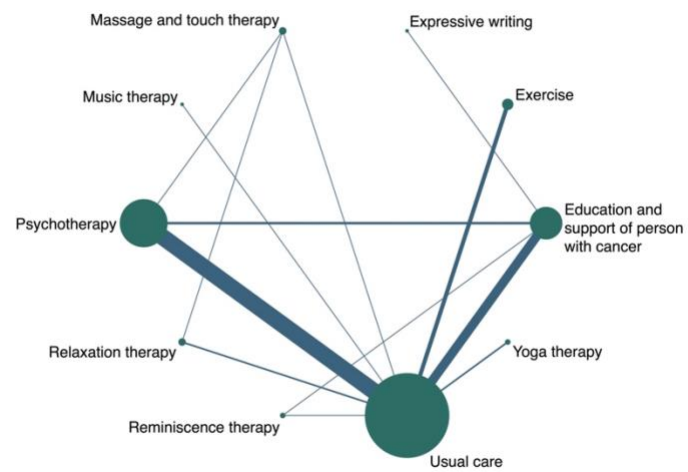
Supplementary Figure 10. Network meta-analysis for subgroup analysis by age.

A: Pooled standardized mean differences (SMD) (95% credible intervals) for non-pharmacological interventions in patients with Age < 55 (upper triangle) and non-pharmacological interventions in patients with Age ≥ 55 (lower triangle).

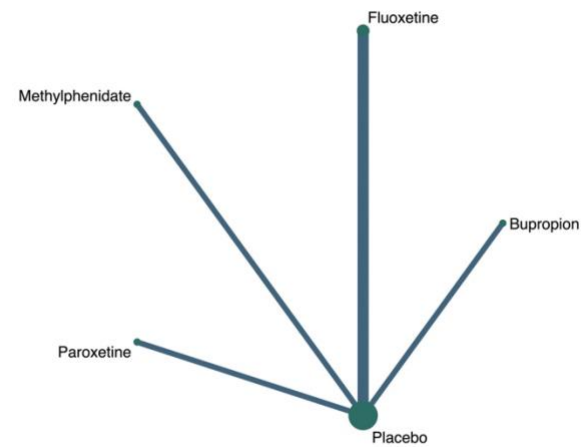
B: Pooled standardized mean differences (SMD) (95% credible intervals) for pharmacological interventions in patients with Age < 55 (upper triangle) and pharmacological interventions in patients with Age ≥ 55 (lower triangle).

Data in each cell are SMD (95% credible intervals) for the comparison of column-defining treatment versus row-defining treatment (upper triangle) and SMD (95% credible intervals) for the comparison of row-defining treatment versus column-defining treatment (lower triangle)

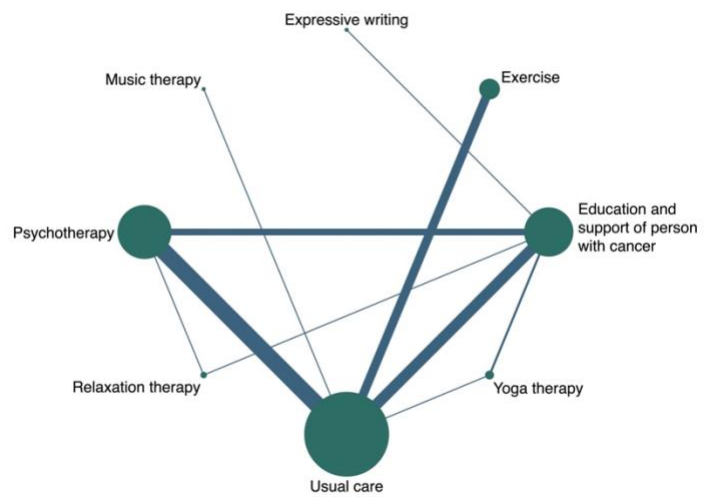
A



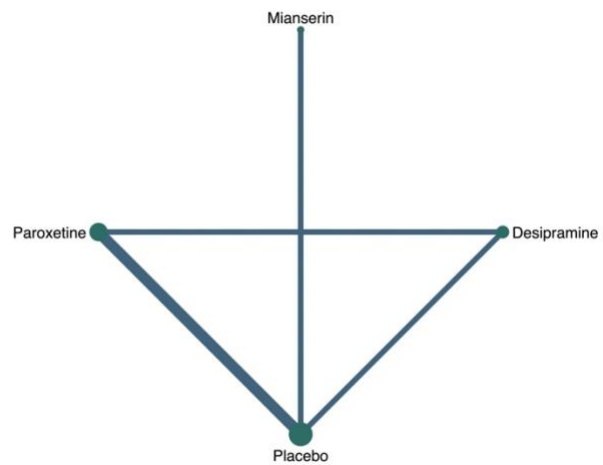
B



C



D



Supplementary Figure 11. Network diagram for subgroup analysis by cancer type.

A: Network diagram of non-pharmacological interventions (No Breast).

B: Network diagram of pharmacological interventions (No Breast).

C: Network diagram of non-pharmacological interventions (Breast).

D: Network diagram of pharmacological interventions (Breast).

Each intervention is represented as a node, and direct comparisons of the two interventions in the RCT are shown as links between nodes. The size of the nodes reflects the number of patients treated, and the width of each edge is proportionally weighted according to the number of comparisons.

A

Usual care	-0.26 (-1.21, 0.68)	-0.43 (-0.63, -0.23)	-0.21 (-0.93, 0.50)	-0.26 (-0.53, 0.00)	-0.47 (-1.33, 0.39)	-0.19 (-0.61, 0.24)	-0.68 (-1.38, 0.01)	-0.08 (-1.08, 0.92)	-0.30 (-1.02, 0.40)
	Expressive writing	-0.17 (-1.13, 0.79)	0.05 (-1.14, 1.24)	0.00 (-0.91, 0.91)	-0.21 (-1.45, 1.05)	0.08 (-0.96, 1.11)	-0.42 (-1.59, 0.76)	0.18 (-1.19, 1.56)	-0.04 (-1.22, 1.14)
		Psychotherapy	0.22 (-0.52, 0.96)	0.17 (-0.14, 0.48)	-0.04 (-0.91, 0.84)	0.24 (-0.22, 0.72)	-0.25 (-0.95, 0.45)	0.35 (-0.67, 1.37)	0.13 (-0.60, 0.85)
Usual care			Yoga therapy	-0.05 (-0.81, 0.71)	-0.26 (-1.38, 0.86)	0.02 (-0.80, 0.86)	-0.47 (-1.47, 0.53)	0.13 (-1.10, 1.36)	-0.10 (-1.10, 0.91)
-0.38 (-1.10, 0.34)	Expressive writing			Education and support of person with cancer	-0.21 (-1.06, 0.66)	0.08 (-0.42, 0.58)	-0.42 (-1.16, 0.32)	0.18 (-0.85, 1.22)	-0.04 (-0.80, 0.71)
-0.40 (-0.58, -0.22)	-0.02 (-0.75, 0.71)	Psychotherapy			Reminiscence therapy	0.28 (-0.67, 1.24)	-0.22 (-1.32, 0.89)	0.39 (-0.93, 1.71)	0.16 (-0.95, 1.27)
-0.08 (-0.57, 0.42)	0.30 (-0.54, 1.15)	0.32 (-0.19, 0.84)	Yoga therapy			Exercise	-0.50 (-1.31, 0.32)	0.11 (-0.98, 1.19)	-0.12 (-0.95, 0.71)
-0.28 (-0.48, -0.08)	0.10 (-0.59, 0.80)	0.12 (-0.10, 0.35)	-0.2 (-0.69, 0.29)	Education and support of person with cancer			Massage and touch therapy	0.60 (-0.62, 1.82)	0.38 (-0.47, 1.23)
-0.24 (-0.51, 0.03)	0.14 (-0.63, 0.91)	0.16 (-0.16, 0.49)	-0.16 (-0.73, 0.41)	0.04 (-0.30, 0.38)	Exercise			Music therapy	-0.22 (-1.45, 1.00)
-0.63 (-1.59, 0.32)	-0.25 (-1.45, 0.95)	-0.23 (-1.20, 0.74)	-0.55 (-1.63, 0.53)	-0.36 (-1.33, 0.62)	-0.39 (-1.39, 0.60)	Music therapy			Relaxation therapy
-0.91 (-1.57, -0.25)	-0.53 (-1.48, 0.41)	-0.51 (-1.16, 0.14)	-0.83 (-1.64, -0.03)	-0.64 (-1.28, 0.02)	-0.67 (-1.39, 0.04)	-0.28 (-1.44, 0.88)	Relaxation therapy		

B

Placebo	-0.38 (-0.94, 0.20)	-0.13 (-0.87, 0.61)	-0.67 (-1.51, 0.18)	-0.26 (-1.28, 0.75)
	Fluoxetine	0.25 (-0.70, 1.17)	-0.29 (-1.31, 0.72)	0.12 (-1.05, 1.26)
		Paroxetine	-0.54 (-1.66, 0.58)	-0.13 (-1.37, 1.12)
Placebo			Methylphenidate	0.41 (-0.91, 1.73)
-0.06 (-1.09, 1.12)	Paroxetine			Bupropion
-0.20 (-1.68, 1.37)	-0.15 (-1.69, 1.34)	Desipramine		
-1.10 (-2.64, 0.44)	-1.04 (-3.01, 0.77)	-0.90 (-3.11, 1.22)	Mianserin	

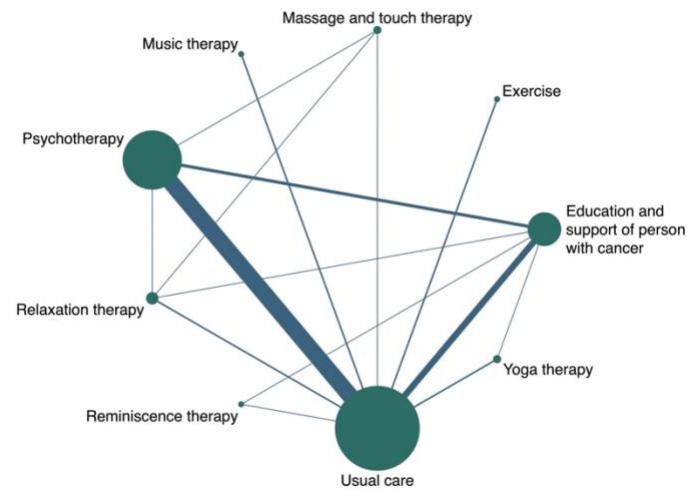
Supplementary Figure 12. Network meta-analysis for subgroup analysis by cancer type.

A: Pooled standardized mean differences (SMD) (95% credible intervals) for non-pharmacological interventions in patients with No Breast (upper triangle) and non-pharmacological interventions in patients with Breast (lower triangle).

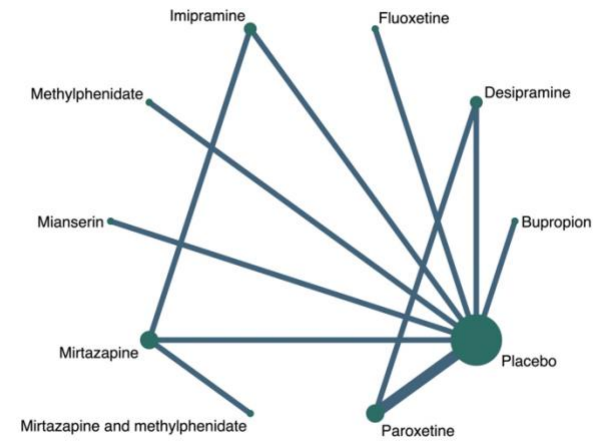
B: Pooled standardized mean differences (SMD) (95% credible intervals) for pharmacological interventions in patients with No Breast (upper triangle) and pharmacological interventions in patients with Breast (lower triangle).

Data in each cell are SMD (95% credible intervals) for the comparison of column-defining treatment versus row-defining treatment (upper triangle) and SMD (95% credible intervals) for the comparison of row-defining treatment versus column-defining treatment (lower triangle)

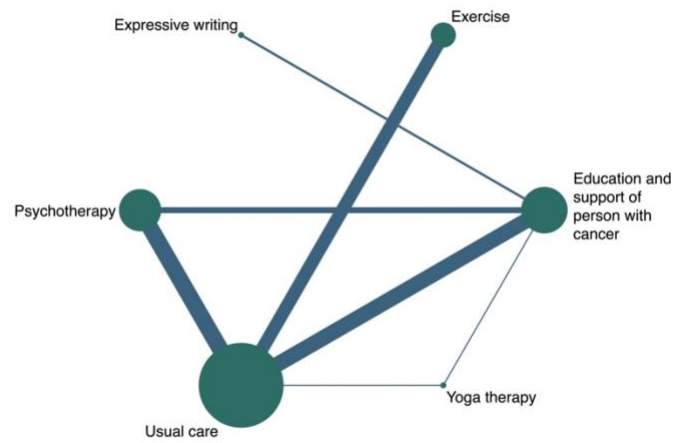
A



B



C



Supplementary Figure 13. Network diagram for subgroup analysis by duration of intervention.

A: Network diagram of non-pharmacological interventions (duration < 12 weeks).

B: Network diagram of pharmacological interventions (duration < 12 weeks).

C: Network diagram of non-pharmacological interventions (duration $\geq$ 12 weeks).

Each intervention is represented as a node, and direct comparisons of the two interventions in the RCT are shown as links between nodes. The size of the nodes reflects the number of patients treated, and the width of each edge is proportionally weighted according to the number of comparisons.

A

Usual care	-0.42 (-0.63, -0.21)	-0.08 (-0.70, 0.55)	-0.35 (-0.66, -0.05)	-0.51 (-1.43, 0.41)	-0.01 (-0.72, 0.71)	-0.75 (-1.48, -0.01)	-0.33 (-1.12, 0.46)	-0.58 (-1.17, 0.00)
	Psychotherapy	0.34 (-0.31, 1.00)	0.07 (-0.27, 0.41)	-0.09 (-1.03, 0.85)	0.41 (-0.32, 1.16)	-0.33 (-1.06, 0.40)	0.09 (-0.72, 0.91)	-0.16 (-0.76, 0.43)
		Yoga therapy	-0.28 (-0.92, 0.37)	-0.43 (-1.54, 0.67)	0.07 (-0.87, 1.02)	-0.67 (-1.63, 0.29)	-0.25 (-1.26, 0.76)	-0.51 (-1.35, 0.34)
Usual care			Education and support of person with cancer	-0.16 (-1.08, 0.76)	0.35 (-0.42, 1.12)	-0.40 (-1.17, 0.39)	0.03 (-0.82, 0.87)	-0.23 (-0.85, 0.39)
-0.33 (-0.84, 0.19)	Expressive writing			Reminiscence therapy	0.51 (-0.65, 1.67)	-0.24 (-1.41, 0.94)	0.19 (-1.03, 1.40)	-0.07 (-1.15, 1.01)
-0.45 (-0.63, -0.27)	-0.12 (-0.65, 0.41)	Psychotherapy			Exercise	-0.75 (-1.77, 0.28)	-0.32 (-1.39, 0.74)	-0.58 (-1.50, 0.34)
-0.28 (-0.89, 0.33)	0.05 (-0.73, 0.84)	0.17 (-0.46, 0.80)	Yoga therapy			Massage and touch therapy	0.43 (-0.66, 1.50)	0.16 (-0.67, 0.99)
-0.28 (-0.46, -0.10)	0.05 (-0.43, 0.53)	0.17 (-0.05, 0.39)	0.01 (-0.62, 0.62)	Education and support of person with cancer			Music therapy	-0.26 (-1.24, 0.72)
-0.26 (-0.49, -0.04)	0.06 (-0.50, 0.63)	0.18 (-0.10, 0.48)	0.02 (-0.64, 0.66)	0.01 (-0.28, 0.31)	Exercise			Relaxation therapy

B

Placebo	-2.47 (-5.18, 0.23)	-0.85 (-2.78, 1.09)	0.08 (-1.86, 2.03)	-0.29 (-2.18, 1.61)	0.08 (-1.14, 1.57)	-0.12 (-1.91, 1.80)	-1.10 (-3.02, 0.82)	-0.67 (-2.56, 1.23)	-0.26 (-2.22, 1.71)
—	Mirtazapine and methylphenidate	1.62 (-0.27, 3.51)	2.55 (-0.18, 5.27)	2.18 (-1.11, 5.49)	2.56 (-0.34, 5.70)	2.34 (-0.86, 5.71)	1.36 (-1.93, 4.69)	1.80 (-1.50, 5.11)	2.21 (-1.12, 5.55)
—	—	Mirtazapine	0.93 (-1.01, 2.89)	0.56 (-2.14, 3.29)	0.94 (-1.30, 3.42)	0.73 (-1.88, 3.49)	-0.25 (-2.97, 2.47)	0.18 (-2.52, 2.89)	0.59 (-2.16, 3.35)
—	—	—	Imipramine	-0.37 (-3.07, 2.36)	0.02 (-2.23, 2.51)	-0.20 (-2.83, 2.57)	-1.18 (-3.91, 1.57)	-0.75 (-3.47, 1.97)	-0.34 (-3.09, 2.43)
—	—	—	—	Fluoxetine	0.38 (-1.84, 2.82)	0.17 (-2.42, 2.88)	-0.81 (-3.50, 1.88)	-0.38 (-3.07, 2.29)	0.03 (-2.69, 2.76)
—	—	—	—	—	Paroxetine	-0.22 (-2.10, 1.58)	-1.19 (-3.66, 1.04)	-0.75 (-3.22, 1.46)	-0.36 (-2.85, 1.92)
—	—	—	—	—	—	Desipramine	-0.98 (-3.71, 1.61)	-0.55 (-3.28, 2.05)	-0.15 (-2.90, 2.50)
—	—	—	—	—	—	—	Mianserin	0.43 (-2.27, 3.13)	0.84 (-1.91, 3.58)
—	—	—	—	—	—	—	—	Methylphenidate	0.41 (-2.32, 3.15)
—	—	—	—	—	—	—	—	—	Bupropion

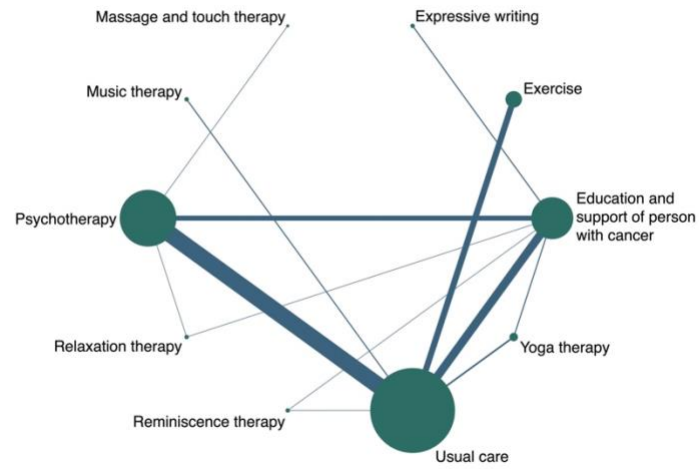
Supplementary Figure 14. Network meta-analysis for subgroup analysis by duration of intervention.

A: Pooled standardized mean differences (SMD) (95% credible intervals) for non-pharmacological interventions in patients with duration < 12 weeks (upper triangle) and non-pharmacological interventions in patients with ≥ 12 weeks (lower triangle).

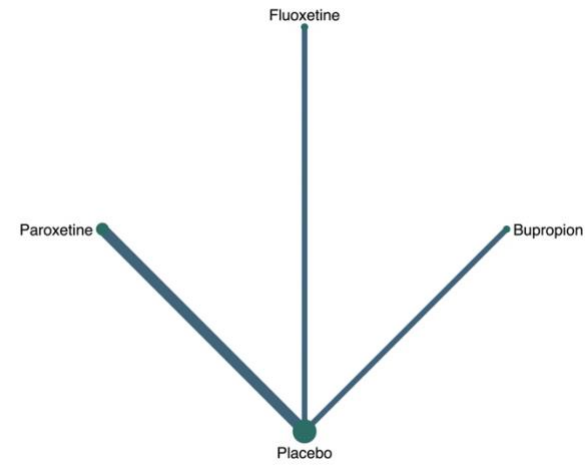
B: Pooled standardized mean differences (SMD) (95% credible intervals) for pharmacological interventions in patients with duration < 12 weeks (upper triangle).

Data in each cell are SMD (95% credible intervals) for the comparison of column-defining treatment versus row-defining treatment (upper triangle) and SMD (95% credible intervals) for the comparison of row-defining treatment versus column-defining treatment (lower triangle)

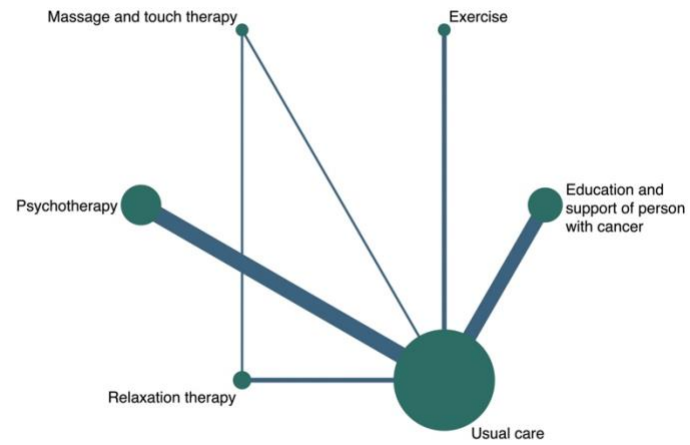
A



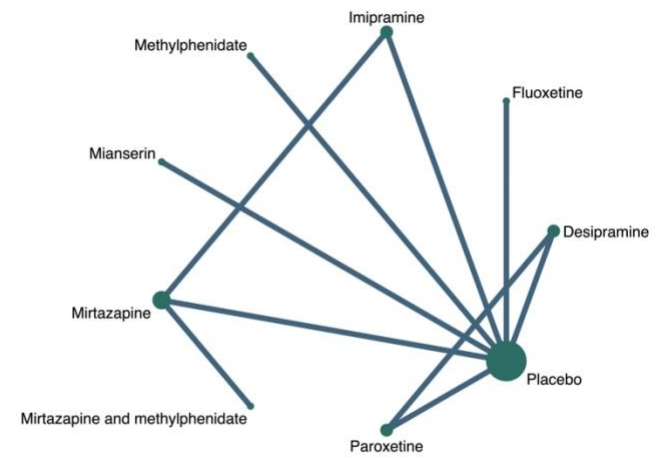
B



C



D



Supplementary Figure 15. Network diagram for subgroup analysis by depression severity.

A: Network diagram of non-pharmacological interventions (No or mild).

B: Network diagram of pharmacological interventions (No or mild).

C: Network diagram of non-pharmacological interventions (Moderate or severe).

D: Network diagram of pharmacological interventions (Moderate or severe).

Each intervention is represented as a node, and direct comparisons of the two interventions in the RCT are shown as links between nodes. The size of the nodes reflects the number of patients treated, and the width of each edge is proportionally weighted according to the number of comparisons.

A

[illegible]

B

Placebo	-2.46 (-5.42, 0.51)	-0.85 (-2.96, 1.27)	0.08 (-2.05, 2.20)	-0.29 (-2.38, 1.79)	0.60 (-1.57, 2.75)	0.14 (-2.03, 2.31)	-1.10 (-3.20, 1.01)	-0.67 (-2.75, 1.41)
	Mirtazapine and methylphenidate	1.62 (-0.47, 3.69)	2.54 (-0.44, 5.52)	2.17 (-1.46, 5.80)	3.06 (-0.58, 6.72)	2.60 (-1.06, 6.28)	1.36 (-2.27, 5.00)	1.80 (-1.84, 5.41)
		Mirtazapine	0.92 (-1.21, 3.07)	0.56 (-2.42, 3.53)	1.44 (-1.56, 4.47)	0.98 (-2.03, 4.03)	-0.26 (-3.23, 2.73)	0.18 (-2.80, 3.15)
Placebo			Imipramine	-0.37 (-3.35, 2.62)	0.52 (-2.49, 3.54)	0.06 (-2.96, 3.10)	-1.18 (-4.17, 1.81)	-0.75 (-3.72, 2.22)
0.44 (-0.18, 1.06)	Fluoxetine			Fluoxetine	0.89 (-2.11, 3.89)	0.43 (-2.56, 3.45)	-0.82 (-3.76, 2.16)	-0.37 (-3.32, 2.55)
0.23 (-0.16, 0.71)	-0.21 (-0.92, 0.59)	Paroxetine			Paroxetine	-0.46 (-2.61, 1.71)	-1.70 (-4.72, 1.32)	-1.27 (-4.27, 1.73)
0.26 (-0.66, 1.18)	-0.18 (-1.28, 0.92)	0.02 (-1.02, 1.01)	Bupropion			Desipramine	-1.24 (-4.28, 1.78)	-0.81 (-3.83, 2.19)
							Mianserin	0.44 (-2.54, 3.38)
								Methylphenidate

Supplementary Figure 16. Network meta-analysis for subgroup analysis by depression severity

A: Pooled standardized mean differences (SMD) (95% credible intervals) for non-pharmacological interventions in patients with No or mild depression (upper triangle) and non-pharmacological interventions in patients with Moderate or severe depression (lower triangle).

B: Pooled standardized mean differences (SMD) (95% credible intervals) for pharmacological interventions in patients with Moderate or severe depression (upper triangle) and pharmacological interventions in patients with No or mild depression (lower triangle).

Data in each cell are SMD (95% credible intervals) for the comparison of column-defining treatment versus row-defining treatment (upper triangle) and SMD (95% credible intervals) for the comparison of row-defining treatment versus column-defining treatment (lower triangle)