

Supplementary Materials

1. Tables

Table S1. Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist. Retrieved from Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., Lewin, S., ... Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine*, 169(7), 467–473. <https://doi.org/10.7326/M18-0850>

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3-5
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	5
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	5
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	6; Table 1
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	6
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Table S2
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	6-7
Data charting	10	Describe the methods of charting data from the	7; Figure S1

process‡		included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Figure S1
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Click here to enter text.
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	7
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	7; Figure 1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	7-8; Tables S3-S5
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Click here to enter text.
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	8-15; Tables 2-4
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	15-16; Tables 2-4; Figure 3
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	16-22
Limitations	20	Discuss the limitations of the scoping review process.	22-23
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	23-24
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	24-25

Table S2. Search strategy for each database used.

Database	Search Strategy
ISI Web of Knowledge	(((TS=(depress* OR "major depressive disorder")) AND TS=(suicid* OR "suicide thoughts" OR "death thoughts" OR "suicidal ideation" OR "suicide ideators" OR "suicide attempt*" OR "suicide behavior" OR parasuicide)) AND TS=(neuroimaging OR "brain image" OR "magnetic resonance imaging" OR MRI OR "functional magnetic resonance imaging" OR "functional MRI" OR fMRI OR "resting state fMRI" OR "functional connectivity" OR "diffusion MRI" OR "DTI" OR "white matter" OR "structural connectivity" OR "structural MRI" OR "gray matter" OR "cortical thickness" OR volume)) AND DT=(Article)) AND LA=(English)
Pubmed	((depress*[Title/Abstract] OR "major depressive disorder"[Title/Abstract]) AND (suicid*[Title/Abstract] OR "suicide thoughts"[Title/Abstract] OR "death thoughts"[Title/Abstract] OR "suicidal ideation"[Title/Abstract] OR "suicide ideators"[Title/Abstract] OR "suicide attempt*" [Title/Abstract] OR "suicide behavior"[Title/Abstract] OR parasuicide[Title/Abstract])) AND (neuroimaging[Title/Abstract] OR "brain image"[Title/Abstract] OR "magnetic resonance imaging"[Title/Abstract] OR MRI[Title/Abstract] OR "functional magnetic resonance imaging"[Title/Abstract] OR "functional MRI"[Title/Abstract] OR fMRI[Title/Abstract] OR "resting state fMRI"[Title/Abstract] OR "functional connectivity"[Title/Abstract] OR "diffusion MRI"[Title/Abstract] OR "DTI"[Title/Abstract] OR "white matter"[Title/Abstract] OR "structural connectivity"[Title/Abstract] OR "structural MRI"[Title/Abstract] OR "gray matter"[Title/Abstract] OR "cortical thickness"[Title/Abstract] OR volume[Title/Abstract]) Filters: English, Humans
Scopus	(TITLE-ABS-KEY (depress* OR "major depressive disorder") AND TITLE-ABS-KEY (suicid* OR "suicide thoughts" OR "death thoughts" OR "suicidal ideation" OR "suicide ideators" OR "suicide attempt*" OR "suicide behavior" OR parasuicide) AND TITLE-ABS-KEY (neuroimaging OR "brain image" OR "magnetic resonance imaging" OR mri OR "functional magnetic resonance imaging" OR "functional MRI" OR fmri OR "resting state fMRI" OR "functional connectivity" OR "diffusion MRI" OR "DTI" OR "white matter" OR "structural connectivity" OR "structural MRI" OR "gray matter" OR "cortical thickness" OR volume)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English"))

Table S3. Sample characteristics of the included studies focusing on suicidal ideation.

Author (Year)	Groups n	Age (M±SD or Med(IQR))	Females n(%)	Medicated ^a n(%)	Primary suicidal measure
STRUCTURAL					
Taylor (2015)	21 SI (10 SA)	33.5±9.1	11(52%)	0(0%)	SI: MINI Suicidality Scale
	53 DC	37.5±8.9	41(77%)		
	91 HC	29.9±9.1	56(62%)		
Kim (2019)	24 SI (8 SA)	55.5(16.0)	21(88%)	0(0%)	SI: MINI Suicidality Scale
	24 DC	55.5(13.0)	22(92%)		
	25 HC	55.0(8.5)	17(68%)		
Wang (2021)	153 SI	23.0(5.0)	114(79%)		SI: BSSI
	44 DC	23.0(9.0)	30(21%)		
He (2022)	33 Severe SI	31.9±7.8	23(70%)	0(0%)	SI: MADRS item 10 (no SI, score 0; score; severe SI ≥ 4 score)
	64 Mild SI	31.9±7.5	46(72%)		
	32 DC	33.3±7.7	21(66%)		
	60 HC	32.9±7.5	49(82%)		
Kang (2022)	87 MDD (50 SA)	32.0(11.2)	45(52%)	Medicated ^b	SI: BSSI
DIFFUSION					
Taylor (2015)	21 SI (10 SA)	33.5±9.1	11(52%)	0(0%)	SI: MINI Suicidality Scale
	53 DC	37.5±8.9	41(77%)		
	91 HC	29.9±9.1	56(62%)		
Myung (2016)	24 SI (8 SA)	55.5(16.0)	21(88%)	0(0%)	SI: MINI Suicidality Scale
	25 DC	55.0(10.0)	23(92%)		
	31 HC	56.0(11.0)	22(71%)		
Chen (2021a)	44 SI (0 SA)	41.6±12.0	24(55%)		SI: MINI Suicidality Scale; Beck Intent Scale
	56 DC	45.6±10.5	32(57%)		
	55 HC	39.4±10.7	46(84%)		
Liu (2021)	69 SI	40.8±10.9	39(57%)	0(0%)	SI: “ <i>thought of engaging in an act end life</i> ”; Interview and medical reco
	59 DC	39.5±11.3	28(47%)		
	50 HC	42.5±11.2	26(52%)		
Reis (2022)	25 MDD (3 SA)	37.44±12.3	16(64%)	0(0%)	SI: BSSI
FUNCTIONAL					
<i>Resting-state fMRI</i>					
Du (2017)	28 SI (0 SA)	32.5±9.9	21(75%)	0(0%)	SI: SSI items 4 or 5 > 0
	20 DC	37.1±10.6	16(80%)		
	30 HC	35.7±10.2	18(60%)		
Kim (2017)	23 SI (7 SA)	Total sample: 56(12)	20(87%)	0(0%)	SI: MINI Suicidality Scale
	23 DC		21(91%)		
	36 HC		27(75%)		
Li (2018)	28 SI (0 SA)	32.5±9.9	21(75%)	0(0%)	SI: SSI items 4 or 5 > 0
	20 DC	37.1±10.6	16(80%)		
	30 HC	35.7±10.2	18(60%)		
Liao (2018)	28 SI (0 SA)	32.5±9.9	21(75%)	0(0%)	SI: SSI items 4 or 5 > 0
	20 DC	37.1±10.6	16(80%)		
	30 HC	35.7±10.2	18(60%)		
Wei (2018)	15 SI (3 SA)	32.5±11.4	15(100%)		SI: SSI item 4
	24 DC (3 SA)	33.5±6.7)		
	39 HC	29.2±9.3	24(100%)		

			39(100%)			
Qiao (2020)	43 SI (0 SA)	33.1±11.5	22(51%)	0(0%)	SI: BSSI items 4 or 5 > 0	SI severity: BSSI
	38 DC	34.2±9.4	21(55%)			
	35 HC	32.6±8.8	20(57%)			
Chen (2021b)	35 SI (0 SA)	41.1±11.8	20(57%)		SI: MINI Suicidality Scale	
	32 DC	47.9±9.0	19(59%)			
	44 HC	42.0±9.3	37(84%)			
Tang (2021)	15 SI	25.8±ND	13(87%)	15(100%)	SI: Structured clinical interview from DSM-5;	SI severity: BSSI
	15 HC	32.2±ND	12(80%)		BSSI score > 6	
Wang (2021)	153 SI	23.0(5.0)	114(79%)		SI: BSSI	
	44 DC	23.0(9.0)	30(21%)			
Fan (2022)	59 SI	41.6±10.6	36(61%)		SI: HDRS item 3	
	47 DC	36.9±12.5	19(40%)			
	69 HC	38.6±12.3	38(55%)			
He (2022)	33 severe SI	31.9±7.8	23(70%)	0(0%)	SI: MADRS item 10 (mild SI, 1-3 score; severe SI ≥ 4 score)	
	64 mild SI	31.9±7.5	46(72%)			
	32 DC	33.3±7.7	21(66%)			
	69 HC	32.9±7.5	49(71%)			
Li (2022a)	33 SI	24.5±5.8	23(70%)	0(0%)	SI: SSI score > 3	SI severity: SSI
	56 DC	26.0±5.1	29(52%)			
	48 HC	27.5±6.0	25(52%)			
Li (2022b)	36 SI	25.1±6.3	25(69%)	0(0%)	SI: SSI score > 3	
	66 DC	29.4±9.4	37(56%)			
	57 HC	30.5±7.8	31(54%)			
Ouyang (2022)	52 MDD	30.6±9.3	24(46%)	43(83%)	SI: HDRS item 3 score	
	21 HC	27.0±5.9	11(52%)			
Reis (2022)	25 MDD (3 SA)	38.2±12.4	16(64%)	0(0%)	SI: BSSI	
Yang (2022a)	59 SI	26.1±8.6	42(71%)	0(0%)	SI: SSI items 4 or 5 > 0	SI severity: SSI
	22 DC	28.2±10.2	10(45%)			
	60 HC	26.5±8.3	33(55%)			

Footnotes: a, Number and percentage of all patients medicated; b, undetermined number of medicated patients. *Abbreviations:* BDI, Beck Depression Inventory; BSSI, Beck Scale for Suicidal Ideation (self-report); DC, patient control group; DSM, Diagnostic and Statistical Manual of Mental Disorders; HC, healthy control group; HDRS,

Hamilton Depression Rating Scale; MADRS, Montgomery-Asberg Depression Rating Scale; MDD, major depressive disorder; MINI, Mini International Neuropsychiatric Interview; SA, previous history of suicide attempt; SI, suicidal ideation group; SSI, Scale for Suicide Ideation (interview).

Table S4. Sample characteristics of the included studies focusing on suicidal behavior.

Author (Year)	Groups n	Age (M±SD or Med(IQR))	Females n(%)	Medicated ^a n (%)	Primary suicidal measures	Other suicidal measures
STRUCTURAL						
Ehrlich (2005)	62 SA 40 DC	Total sample: 26.7±5.5	Total sample: 68(67%)	Medicated ^b	SA: Medical records (lifetime)	Lethality of SA: scale created by Smith et al. (1984) ^c
Jia (2010)	16 SA 36 DC 52 HC	34.2±13.7 34.7±12.5 37.1±16.0	11(69%) 16(44%) 28(54%)	0(0%)	SA: “ <i>self-destructive act with some degree of intent to die</i> ” (lifetime)	
Peng (2014)	20 SA 18 DC 28 HC	27.8±7.2 31.1±7.4 28.6±5.5	13(65%) 12(67%) 15(54%)	38(100%)	SA: Medical records (lifetime)	
Chen (2015)	17 SA	36.0±12.8	12(71%)	0(0%)	SA: “ <i>self-destructive act causing physical</i>	

	19 DC	38.0±13.2	7(37%)		<i>harm with a history of at least some intent to die” (past month)</i>	
	28 HC	32.0±10.4	17(61%)			
Colle (2015)	24 SA	44.2±11.9	15(63%)	27(43%)	SA: “ <i>self-destructive act with some intent to end one’s life</i> ”; Interview and medical records (past month and lifetime)	
	39 DC	47.7±12.6	22(56%)			
Lee (2016)	19 SA	42.0±10.8	11(58%)	38(100%)	SA: Interview and medical records (lifetime)	SI severity: BSSI; Lethality of SA: Risk-Rescue Rating
	19 DC	41.1±15.2	9(47%)			
Lee (2018)	13 SA	31.9±10.0	12(92%)		SA: “ <i>any act carried out with a certain intent to die</i> ”; Interview (lifetime)	SI severity: SSI
	20 HC	33.6(6.2)	13(65%)			
Jollant (2018)	32 SA	37.2±11.8	23(72%)	66(100%)	SA: “ <i>any acts carried out with some intent to die</i> ” (lifetime)	
Jena sample	34 DC	35.7±11.9	25(74%)			
	34 HC	36.7±9.8	25(74%)			
Jollant (2018)	17 SA	37.6±10.2	14(82%)	0(0%)	SA: “ <i>any acts carried out with some intent to die</i> ” (lifetime)	
Montreal sample	26 DC	41.0±11.0	19(73%)			
	66 HC	32.3±7.4	36(55%)			
Kang (2020a)	19 SA	42.0±10.8	11(58%)	38(100%)	SA: “ <i>self-destructive behavior with intent to end one’s own life</i> ”; Interview and medical records (lifetime)	SI severity: BSSI; Lethality of SA: Risk-Rescue Rating
	19 DC	41.1±15.2	9(47%)			
Kang (2020b)	47 SA	32.3±10.9	27(57%)	61(65%)	SA: “ <i>history of potentially harmful behavior to self in any form, with intention of ending one’s own life</i> ”; Interview and Medical records (lifetime)	SI severity: BSSI
	47 DC	33.2±9.4	26(55%)			
	109 HC	32.0±10.2	61(56%)			
Yang (2020)	68 SA	32.8±11.0	54(79%)	0(0%)	SA: “ <i>self-destructive act leading to physical harm with some degree of intent to die</i> ”; Interview with patients, families, friends, and medical records (lifetime)	SI severity: Nurses’ Global Assessment of Suicide Risk Scale
	119 DC	34.6±10.6	65(55%)			
	103 HC	32.1±9.1	67(65%)			
DIFFUSION						
Jia (2010)	16 SA	34.2±13.7	11(69%)	0(0%)	SA: “ <i>self-destructive act with some degree of intent to die</i> ” (lifetime)	
	36 DC	34.7±12.5	16(44%)			
	52 HC	37.1±16.0	28(54%)			
Jia (2014)	23 SA	36.3±14.5	15(65%)	0(0%)	SA: “ <i>self-destructive act with intent to die</i> ” (past month)	
	40 DC	34.0±14.5	19(48%)			
	46 HC	33.3±11.4	25(54%)			

Olvet (2014)	13 SA 39 DC 46 HC	33.4±13.3 37.1±11.4 30.3±9.3	7(54%) 24(62%) 21(46%)	0(0%)	SA: Interview and medical records (lifetime)	SI severity: SSI Intent of SA: Beck Suicide Intent Scale
Chen (2021c)	44 SA 56 DC 55 HC	41.3±9.4 45.5±10.5 39.4±10.7	37(84%) 32(57%) 46(84%)		SA: MINI Suicidality; Beck Suicide Intent Scale (lifetime)	
Zhang (2021)	34 SA 45 DC 59 HC	25.9±10.7 28.9±10.9 31.6±9.2	22(65%) 27(60%) 40(68%)	54(68%)	SA: “ <i>self-injurious act committed with at least some intent to die</i> ” (lifetime)	
FUNCTIONAL						
<i>Resting-state fMRI</i>						
Kang (2017)	19 SA 19 DC	42.0±10.8 41.1±15.2	11(58%) 9 (47%)	38(100%)	SA: “ <i>self-destructive behavior with intent to end one’s life</i> ”; Interview and medical records (lifetime)	SI severity: BSSI; Lethality of SA: Risk-Rescue Rating
Lee (2019)	12 SA 20 HC	29.8±8.5 33.4±6.4	11(92%) 12(60%)		SA: “ <i>any activity carried out with a certain intent to die</i> ”; Medical records (lifetime)	SI severity: SSI
Wagner (2019) Jena sample	26 SA 23 DC 28 HC	36.8±11.1 35.1±11.3 36.7±9.0	19(73%) 19(83%) 19(68%)	66(100%)	SA: “ <i>any acts carried out with some intent to die</i> ” (lifetime)	
Wagner (2019) Montreal sample	16 SA 20 DC 38 HC	37.8±10.5 40.7±10.3 33.1±8.2	13(81%) 14(70%) 20(53%)	0(0%)	SA: “ <i>any acts carried out with some intent to die</i> ” (lifetime)	
Weng (2019)	33 SA 32 DC 44 HC	43.6±7.8 47.9±9.0 42.0±9.3	30(91%) 19(59%) 37(84%)		SA: MINI Suicidality (lifetime)	
Qiu (2020)	41 SA 35 DC	20.1±3.4 19.8±4.3	28(68%) 23(66%)		SA: C-SSRS (past 6 months)	SI severity: SSI; C-SSRS
Shu (2020)	21 SA 38 HC	22.2±3.0 23.0±2.2	13(62%) 21(55%)	0(0%)	SA: C-CASA (lifetime)	SI severity: SSI
Yang (2020)	68 SA 119 DC 103 HC	32.8±11.0 34.6±10.6 32.1±9.1	54(79%) 65(55%) 67(65%)	0(0%)	SA: “ <i>self-destructive act leading to physical harm with some degree of intent to die</i> ”; Interview with patients, families, friends, and medical	SI severity: Nurses’ Global Assessment of Suicide Risk Scale

					records (lifetime)	
Chen (2021d)	15 SA	34.0±14.0	10(67%)	0(0%)	SA: “self-destructive act causing physical harm with the intent to die” (past month)	
	35 DC	35.0±13.0	15(43%)			
	37 HC	31.0±13.0	22(59%)			
Shu (2022)	25 SA	22.1±2.8	15(60%)	0(0%)	SA: C-CASA (lifetime)	SI severity: SSI
	38 HC	23.0±2.2	21(55%)			
Yang (2022b)	24 SA	33.5±9.5	16(67%)	0(0%)	SA: “self-destructive act leading to physical harm with some degree of intention to die” (lifetime)	SI severity: HDRS item 3
	27 DC	31.0±11.7	13(48%)			
	30 HC	32.8±8.4	14(47%)			
Task fMRI						
Richard-Devantoy (2016)	25 SA	40.3±9.7	15(60%)	0(0%)	SA: “any acts carried out with the intent to die”; Columbia Suicide History Form (lifetime)	SI: SSI Intent of SA: Beck Suicide Intent Scale
	22 DC	41.3±11.4	15(60%)			
	27 HC	33.8±7.1	17(60%)			
Baek (2017)	10 SA	MDD: 27.7	MDD:12(55%	Medicated ^b	SA: Interview and custom-made questionnaire (lifetime)	SI severity: SSI
	12 DC)			
	22 HC	28.8	12(55%)			

Footnotes: a, Number and percentage of all patients medicated; b, undetermined number of medicated patients; c, continuous scale retrieved from Smith, K., Conroy, R.W., Ehler, B. D. (1984). Lethality of suicide attempt rating scale. *Suicide and Life-Threatening Behavior*, 14(4), 215-242. <https://doi.org/10.1111/j.1943-278x.1984.tb00678.x>
Abbreviations: BSSI, Beck Scale for Suicidal Ideation (self-report); C-SSRS, Columbia-Suicide Severity Rating Scale; C-CASA, Columbia Classification Algorithm of Suicide Assessment; DC, patient control group; HC, healthy control group; HDRS, Hamilton Depression Rating Scale; MDD, MDD, major depressive disorder; MINI, Mini International Neuropsychiatric Interview; SA, suicide attempt group; SI, suicidal ideation; SSI, Scale for Suicide Ideation (interview).

Table S5. Sample characteristics of the included studies focusing on the transition between suicidal ideation and behavior.

Author (Year)	Group s n	Age (M±SD or Med(IQR))	Female s n(%)	Medicated ^a n(%)	Primary suicidal measures	Other suicidal measures
FUNCTIONAL						
Resting-state fMRI						
Wagner (2021)	53 SA	38.0±11.1	37(70%)	68(50%)	SA: “self-inflicted, potentially injurious behavior with a nonfatal outcome for which there is evidence (either explicit or implicit) of intent to die” (lifetime)	SI: HDRS item 3 score > 0 (past 2 weeks); BDI item 9 > 0 (past 2 weeks)
	40 SI	37.0 ±12.2)			
	42 DC	37.5±11.8	31(78%)			
	107 HC	35.3±9.9)			
			23(55%))		
			68(64%))		

Task fMRI

Ai (2018)	18 SA	37.7±9.7	14(78%	Medicated ^b SA: “Have you ever made a serious attempt to end your life, for instance by harming or poisoning yourself or by getting into an accident?” – Yes/No question (lifetime) SI: SSI
	32 SI	36.2±10.9)	
	54 DC	37.6±10.4	16(81%	
	26 HC	39.0±7.9)	
			34(63%	
)		
		13(50%		
)		

Footnotes: a, Number and percentage of all patients medicated; b, undetermined number of medicated patients. *Abbreviations:* BDI, Beck Depression Inventory; DC, patient control group; HC, healthy control group; HDRS, Hamilton Depression Rating Scale; SA, suicide attempt group; SI, suicidal ideation group; SSI, Scale for Suicide Ideation (interview).

2. Figures

Figure S1. Data extraction form.

Data Extraction Form	Classification according to suicidality measures * Info available in the Excel file: (1) SA: main focus on suicide attempts; (2) SI: main focus on suicidal ideation; (3) SA vs. SI: compare suicide attempters with suicide ideators	Sex (Females) Number(%) of females per group (e.g., SA: 10(70%), DC: 10(70%), HC: 10(70%))	Medication status n(%) patients using medication; Might be indicated per group or the total in the sample
— <i>*Obrigatório</i>	<input type="radio"/> SA <input type="radio"/> SI <input type="radio"/> SA vs. SI <input type="radio"/> Outra:	A sua resposta	A sua resposta
Publication information	Methods - Participants SA, suicide attempters; SI, suicide ideators; DC, depressed control; HC, healthy controls	Depression severity scale	Suicidality and related measures SA, suicide attempters; SI, suicide ideators; DC, depressed control; HC, healthy controls
1st author last name (Year) * E.g.: Chase(2022)	Note: - If some information is missing in the papers, move to the next question. - If the information is reported, but using different descriptive statistics (e.g. median, IQR) report it indicating the descriptive statistics used (e.g. Median(IQR), SA: 20(2); DC: 20(6))	<input type="radio"/> HDRS/HAM-D <input type="radio"/> BDI <input type="radio"/> MADRS <input type="radio"/> Outra:	Note: - If some information is missing in the papers, move to the next question. - If the information is reported, but using different descriptive statistics (e.g. median, IQR) report it indicating the descriptive statistics used (e.g. Median(IQR), SA: 20(2); DC: 20(6))
A sua resposta	Recruitment setting	Depression severity score Mean (standard deviation) per group (e.g., SA: 30(4.5); DC:30(6); HC: 30(3))	Scale used to allocate participants to groups If the study included groups, how were they defined?
doi	A sua resposta	A sua resposta	<input type="radio"/> C-SSRS <input type="radio"/> MINI <input type="radio"/> HDRS/HAM-A <input type="radio"/> MADRS <input type="radio"/> Outra:
A sua resposta	Sample size Number of participants per group (e.g., SA: 20; DC: 20; HC: 20)	Age of onset (years) Mean (standard deviation) per group (e.g., SA: 30(4.5); DC:30(6))	Suicidal ideation scale Name of the scale used
Country	A sua resposta	A sua resposta	<input type="radio"/> C-SSRS <input type="radio"/> Beck Scale for Suicide Ideation (Self-report) <input type="radio"/> Scale for Suicide Ideation (Interview) <input type="radio"/> Suicidal Ideation Questionnaire <input type="radio"/> Outra:
A sua resposta	Age (years) Mean (standard deviation) per group (e.g., SA: 30(4.5); DC:30(6); HC: 30(3))	Illness duration (years) Mean (standard deviation) per group (e.g., SA: 30(4.5); DC: 30(6.5))	
		A sua resposta	
Timeframe of the suicide ideation scale	Time elapse since last attempt Mean (standard deviation); Number days/months/years (e.g., 6 months)	MRI modality	
<input type="radio"/> past 24h <input type="radio"/> past week <input type="radio"/> past month <input type="radio"/> Lifetime <input type="radio"/> Outra:	A sua resposta	<input type="checkbox"/> Structural <input type="checkbox"/> Diffusion <input type="checkbox"/> Functional: Resting-state <input type="checkbox"/> Functional: Task	
Severity of suicidal ideation Mean(standard deviation) per group (e.g., SA:10(3.4); DC: 0(0))	Lethality of suicide attempts scale Name of the scale used	Analyses performed and software used	
A sua resposta	A sua resposta	A sua resposta	
Number of suicide attempts Mean (standard deviation) of suicide attempts per group (e.g., SA: 5(2); SI: 1(0.5)) or number (n) of participants with history of suicide attempts per group(e.g., SA: 5; SI: 1)	Lethality of suicide attempts score Mean(standard deviation) per group		
A sua resposta	A sua resposta		
Timeframe of suicide attempts	Family history of attempted/completed suicide Number(%) per group		
<input type="radio"/> past 24h <input type="radio"/> past week <input type="radio"/> past month <input type="radio"/> lifetime <input type="radio"/> Outra:	A sua resposta		
	Methods - MRI		
	Scanner magnetic field strength		
	<input type="radio"/> 1.5T <input type="radio"/> 3T <input type="radio"/> Outra:		
		Results Include the direction of the contrasts, brain region coordinates, p-values and multiple comparison corrections performed.	
		Main findings	
		A sua resposta	
		Enviar	Limpar formulário

References

- Ai, H., van Tol, M.-J., Marsman, J.-B. C., Veltman, D. J., Ruhé, H. G., van der Wee, N. J. A., Opmeer, E. M., & Aleman, A. (2018). Differential relations of suicidality in depression to brain activation during emotional and executive processing. *Journal of Psychiatric Research*, *105*, 78–85. <https://doi.org/10.1016/j.jpsychires.2018.08.018>
- Baek, K., Kwon, J., Chae, J.-H., Chung, Y. A., Kralik, J. D., Min, J.-A., Huh, H., Choi, K. M., Jang, K.-I., Lee, N.-B., Kim, S., Peterson, B. S., & Jeong, J. (2017). Heightened aversion to risk and loss in depressed patients with a suicide attempt history. *Scientific Reports*, *7*(1), 11228. <https://doi.org/10.1038/s41598-017-10541-5>
- Chen, V. C.-H., Chou, Y.-S., Tsai, Y.-H., Huang, Y.-C., McIntyre, R. S., & Weng, J.-C. (2021b). Resting state functional connectivity and brain network abnormalities in depressive patients with suicidal ideation. *Brain Topography*, *34*(2), 234–244. <https://doi.org/10.1007/s10548-020-00817-x>
- Chen, V. C.-H., Kao, C.-J., Tsai, Y.-H., Cheok, M. T., McIntyre, R. S., & Weng, J.-C. (2021a). Assessment of disrupted brain structural connectome in depressive patients with suicidal

- ideation using generalized q-sampling MRI. *Frontiers in Human Neuroscience*, *15*, 711731.
<https://doi.org/10.3389/fnhum.2021.711731>
- Chen, V. C.-H., Kao, C.-J., Tsai, Y.-H., McIntyre, R. S., & Weng, J.-C. (2021c). Mapping brain microstructure and network alterations in depressive patients with suicide attempts using generalized q-sampling MRI. *Journal of Personalized Medicine*, *11*(3), 174.
<https://doi.org/10.3390/jpm11030174>
- Chen, Z., Xia, M., Zhao, Y., Kuang, W., Jia, Z., & Gong, Q. (2021d). Characteristics of intrinsic brain functional connectivity alterations in major depressive disorder patients with suicide behavior. *Journal of Magnetic Resonance Imaging*, *54*(6), 1867–1875.
<https://doi.org/10.1002/jmri.27784>
- Chen, Z., Zhang, H., Jia, Z., Zhong, J., Huang, X., Du, M., Chen, L., Kuang, W., Sweeney, J. A., & Gong, Q. (2015). Magnetization transfer imaging of suicidal patients with major depressive disorder. *Scientific Reports*, *5*(1), 9670. <https://doi.org/10.1038/srep09670>
- Colle, R., Chupin, M., Cury, C., Vandendrie, C., Gressier, F., Hardy, P., Falissard, B., Colliot, O., Ducreux, D., & Corruble, E. (2015). Depressed suicide attempters have smaller hippocampus than depressed patients without suicide attempts. *Journal of Psychiatric Research*, *61*, 13–18.
<https://doi.org/10.1016/j.jpsychires.2014.12.010>
- Du, L., Zeng, J., Liu, H., Tang, D., Meng, H., Li, Y., & Fu, Y. (2017). Fronto-limbic disconnection in depressed patients with suicidal ideation: A resting-state functional connectivity study. *Journal of Affective Disorders*, *215*, 213–217. <https://doi.org/10.1016/j.jad.2017.02.027>
- Ehrlich, S., Breeze, J. L., Hesdorffer, D. C., Noam, G. G., Hong, X., Alban, R. L., Davis, S. E., & Renshaw, P. F. (2005). White matter hyperintensities and their association with suicidality in depressed young adults. *Journal of Affective Disorders*, *86*(2–3), 281–287.
<https://doi.org/10.1016/j.jad.2005.01.007>

- Fan, D., He, C., Liu, X., Zang, F., Zhu, Y., Zhang, H., Zhang, H., Zhang, Z., & Xie, C. (2022). Altered resting-state cerebral blood flow and functional connectivity mediate suicidal ideation in major depressive disorder. *Journal of Cerebral Blood Flow & Metabolism*, 42(9), 1603–1615. <https://doi.org/10.1177/0271678X221090998>
- He, M., Ping, L., Chu, Z., Zeng, C., Shen, Z., & Xu, X. (2022). Identifying changes of brain regional homogeneity and cingulo-opercular network connectivity in first-episode, drug-naïve depressive patients with suicidal ideation. *Frontiers in Neuroscience*, 16:856366, 1-11. <https://doi.org/10.3389/fnins.2022.856366>
- Jia, Z., Huang, X., Wu, Q., Zhang, T., Lui, S., Zhang, J., Amatya, N., Kuang, W., Chan, R. C. K., Kemp, G. J., Mechelli, A., & Gong, Q. (2010). High-Field magnetic resonance imaging of suicidality in patients with major depressive disorder. *American Journal of Psychiatry*, 167(11), 1381–1390. <https://doi.org/10.1176/appi.ajp.2010.09101513>
- Jia, Z., Wang, Y., Huang, X., Kuang, W., Wu, Q., Lui, S., Sweeney, J., & Gong, Q. (2014). Impaired frontothalamic circuitry in suicidal patients with depression revealed by diffusion tensor imaging at 3.0 T. *Journal of Psychiatry & Neuroscience*, 39(3), 170–177. <https://doi.org/10.1503/jpn.130023>
- Jollant, F., Wagner, G., Richard-Devantoy, S., Köhler, S., Bär, K.-J., Turecki, G., & Pereira, F. (2018). Neuroimaging-informed phenotypes of suicidal behavior: A family history of suicide and the use of a violent suicidal means. *Translational Psychiatry*, 8(1), 120. <https://doi.org/10.1038/s41398-018-0170-2>
- Kang, J., Kim, A., Kang, Y., Han, K.-M., & Ham, B.-J. (2022). The indirect effect of prefrontal gray matter volume on suicide attempts among individuals with major depressive disorder. *Experimental Neurobiology*, 31(2), 97–104. <https://doi.org/10.5607/en22008>
- Kang, S.-G., Cho, S.-E., Na, K.-S., Lee, J. S., Joo, S. W., Cho, S.-J., Son, Y.-D., & Lee, Y. J. (2020a). Differences in brain surface area and cortical volume between suicide attempters and

- non-attempters with major depressive disorder. *Psychiatry Research: Neuroimaging*, 297, 111032. <https://doi.org/10.1016/j.psychresns.2020.111032>
- Kang, W., Shin, J., Han, K., Kim, A., Kang, Y., Kang, J., Tae, W., Paik, J., Lee, H., Seong, J., & Ham, B. (2020b). Local shape volume alterations in subcortical structures of suicide attempters with major depressive disorder. *Human Brain Mapping*, 41(17), 4925–4934. <https://doi.org/10.1002/hbm.25168>
- Kim, K., Shin, J.-H., Myung, W., Fava, M., Mischoulon, D., Papakostas, G. I., Choi, K. W., Na, E. J., Seo, S. W., Seong, J.-K., & Jeon, H. J. (2019). Deformities of the globus pallidus are associated with severity of suicidal ideation and impulsivity in patients with major depressive disorder. *Scientific Reports*, 9(1), 7462. <https://doi.org/10.1038/s41598-019-43882-4>
- Kim, Y. J., Park, H. J., Jahng, G.-H., Lee, S. M., Kang, W. S., Kim, S. K., Kim, T., Cho, A. R., & Park, J. K. (2017). A pilot study of differential brain activation to suicidal means and DNA methylation of CACNA1C gene in suicidal attempt patients. *Psychiatry Research*, 255, 42–48. <https://doi.org/10.1016/j.psychres.2017.03.058>
- Lee, S., Lee, S. M., Kang, W. S., Jahng, G.-H., Ryu, C.-W., & Park, J. K. (2019). Altered resting-state functional connectivity in depressive disorder patients with suicidal attempts. *Neuroscience Letters*, 696, 174–178. <https://doi.org/10.1016/j.neulet.2018.12.037>
- Lee, S. M., Lee, S., Kang, W. S., Jahng, G.-H., Park, H. J., Kim, S. K., & Park, J. K. (2018). Gray matter volume reductions were associated with TPH1 polymorphisms in depressive disorder patients with suicidal attempts. *Psychiatry Investigation*, 15(12), 1174–1180. <https://doi.org/10.30773/pi.2018.11.01>
- Lee, Y. J., Kim, S., Gwak, Ah. R., Kim, S. J., Kang, S.-G., Na, K.-S., Son, Y.-D., & Park, J. (2016). Decreased regional gray matter volume in suicide attempters compared to suicide non-attempters with major depressive disorders. *Comprehensive Psychiatry*, 67, 59–65. <https://doi.org/10.1016/j.comppsy.2016.02.013>

- Li, H., Chen, Z., Gong, Q., & Jia, Z. (2020). Voxel-wise meta-analysis of task-related brain activation abnormalities in major depressive disorder with suicide behavior. *Brain Imaging Behav.*, *14*(4), 1298–1308. <https://doi.org/10.1007/s11682-019-00045-3>
- Li, J., Duan, X., Cui, Q., Chen, H., & Liao, W. (2018). More than just statics: Temporal dynamics of intrinsic brain activity predicts the suicidal ideation in depressed patients. *Psychological Medicine*, *49*(5), 852–860. <https://doi.org/10.1017/S0033291718001502>
- Li, W., Wang, C., Lan, X., Fu, L., Zhang, F., Ye, Y., Liu, H., Wu, K., Lao, G., Chen, J., Li, G., Zhou, Y., & Ning, Y. (2022a). Aberrant dynamic functional connectivity of posterior cingulate cortex subregions in major depressive disorder with suicidal ideation. *Frontiers in Neuroscience*, *16*, 937145. <https://doi.org/10.3389/fnins.2022.937145>
- Li, W., Wang, C., Lan, X., Fu, L., Zhang, F., Ye, Y., Liu, H., Zhou, Y., & Ning, Y. (2022b). Resting-state functional connectivity of the amygdala in major depressive disorder with suicidal ideation. *Journal of Psychiatric Research*, *153*, 189–196. <https://doi.org/10.1016/j.jpsychires.2022.07.001>
- Liao, W., Li, J., Duan, X., Cui, Q., Chen, H., & Chen, H. (2018). Static and dynamic connectomics differentiate between depressed patients with and without suicidal ideation. *Human Brain Mapping*, *39*(10), 4105–4118. <https://doi.org/10.1002/hbm.24235>
- Liu, X., He, C., Fan, D., Zang, F., Zhu, Y., Zhang, H., Zhang, Z., Zhang, H., & Xie, C. (2021). Alterations of core structural network connectome associated with suicidal ideation in major depressive disorder patients. *Translational Psychiatry*, *11*(1), 243. <https://doi.org/10.1038/s41398-021-01353-3>
- May, A. M., & Klonsky, E. D. (2016). What distinguishes suicide attempters from suicide ideators? A meta-analysis of potential factors. *Clinical Psychology: Science and Practice*, *23*(1), 5–20. <https://doi.org/10.1111/cpsp.12136>

- Myung, W., Han, C. E., Fava, M., Mischoulon, D., Papakostas, G. I., Heo, J.-Y., Kim, K. W., Kim, S. T., Kim, D. J. H., Kim, D. K., Seo, S. W., Seong, J.-K., & Jeon, H. J. (2016). Reduced frontal-subcortical white matter connectivity in association with suicidal ideation in major depressive disorder. *Translational Psychiatry*, *6*(6), e835–e835. <https://doi.org/10.1038/tp.2016.110>
- Olvet, D. M., Peruzzo, D., Thapa-Chhetry, B., Sublette, M. E., Sullivan, G. M., Oquendo, M. A., Mann, J. J., & Parsey, R. V. (2014). A diffusion tensor imaging study of suicide attempters. *Journal of Psychiatric Research*, *51*, 60–67. <https://doi.org/10.1016/j.jpsychires.2014.01.002>
- Ouyang, X., Long, Y., Wu, Z., Liu, D., Liu, Z., & Huang, X. (2022). Temporal stability of dynamic default mode network connectivity negatively correlates with suicidality in major depressive disorder. *Brain Sciences*, *12*(9), 1263. <https://doi.org/10.3390/brainsci12091263>
- Peng, H., Wu, K., Li, J., Qi, H., Guo, S., Chi, M., Wu, X., Guo, Y., Yang, Y., & Ning, Y. (2014). Increased suicide attempts in young depressed patients with abnormal temporal–parietal–limbic gray matter volume. *Journal of Affective Disorders*, *165*, 69–73. <https://doi.org/10.1016/j.jad.2014.04.046>
- Qiao, D., Zhang, A., Sun, N., Yang, C., Li, J., Zhao, T., Wang, Y., Xu, Y., Wen, Y., Zhang, K., & Liu, Z. (2020). Altered Static and Dynamic Functional Connectivity of Habenula Associated With Suicidal Ideation in First-Episode, Drug-Naïve Patients With Major Depressive Disorder. *Frontiers in Psychiatry*, *11*, 608197. <https://doi.org/10.3389/fpsy.2020.608197>
- Qiu, H., Cao, B., Cao, J., Li, X., Chen, J., Wang, W., Lv, Z., Zhang, S., Fang, W., Ai, M., & Kuang, li. (2020). Resting-state functional connectivity of the anterior cingulate cortex in young adults depressed patients with and without suicidal behavior. *Behavioural Brain Research*, *384*, 112544. <https://doi.org/10.1016/j.bbr.2020.112544>
- Reis, J., Vieira, R., Portugal-Nunes, C., Coelho, A., Magalhães, R., Moreira, P. S., Ferreira, S., Picó-Pérez, M., Sousa, N., Dias, N., & Bessa, J. M. (2022). Suicidal ideation is associated with

- reduced functional connectivity and white matter integrity in drug-naïve patients with major depression. *Frontiers in Psychiatry*, *13*, 1–11. <https://doi.org/10.3389/fpsyt.2022.838111>
- Richard-Devantoy, S., Ding, Y., Lepage, M., Turecki, G., & Jollant, F. (2016). Cognitive inhibition in depression and suicidal behavior: A neuroimaging study. *Psychological Medicine*, *46*(5), 933–944. <https://doi.org/10.1017/S0033291715002421>
- Shu, Y., Kuang, L., Huang, Q., & He, L. (2020). Fractional amplitude of low-frequency fluctuation (fALFF) alterations in young depressed patients with suicide attempts after cognitive behavioral therapy and antidepressant medication cotherapy: A resting-state fMRI study. *Journal of Affective Disorders*, *276*, 822–828. <https://doi.org/10.1016/j.jad.2020.07.038>
- Shu, Y., Wu, G., Bi, B., Liu, J., Xiong, J., & Kuang, L. (2022). Changes of functional connectivity of the subgenual anterior cingulate cortex and precuneus after cognitive behavioral therapy combined with fluoxetine in young depressed patients with suicide attempt. *Behavioural Brain Research*, *417*, 113612. <https://doi.org/10.1016/j.bbr.2021.113612>
- Smith, K., Conroy, R.W., Ehler, B. D. (1984). Lethality of suicide attempt rating scale. *Suicide and Life-Threatening Behavior*, *14*(4), 215-242. <https://doi.org/10.1111/j.1943-278x.1984.tb00678.x>
- Tang, N., Sun, C., Wang, Y., Li, X., Liu, J., Chen, Y., Sun, L., Rao, Y., Li, S., Qi, S., & Wang, H. (2021). Clinical response of major depressive disorder patients with suicidal ideation to individual target-transcranial magnetic stimulation. *Frontiers in Psychiatry*, *12*, 768819. <https://doi.org/10.3389/fpsyt.2021.768819>
- Taylor, W. D., Boyd, B., McQuoid, D. R., Kudra, K., Saleh, A., & MacFall, J. R. (2015). Widespread white matter but focal gray matter alterations in depressed individuals with thoughts of death. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *62*, 22–28. <https://doi.org/10.1016/j.pnpbp.2015.05.001>

- Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., Lewin, S., ... Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine*, *169*(7), 467–473. <https://doi.org/10.7326/M18-0850>
- Wagner, G., de la Cruz, F., Köhler, S., Pereira, F., Richard-Devantoy, S., Turecki, G., Bär, K.-J., & Jollant, F. (2019). Connectomics-based functional network alterations in both depressed patients with suicidal behavior and healthy relatives of suicide victims. *Scientific Reports*, *9*(1), 14330. <https://doi.org/10.1038/s41598-019-50881-y>
- Wagner, G., Li, M., Sacchet, M. D., Richard-Devantoy, S., Turecki, G., Bär, K.-J., Gotlib, I. H., Walter, M., & Jollant, F. (2021). Functional network alterations differently associated with suicidal ideas and acts in depressed patients: An indirect support to the transition model. *Translational Psychiatry*, *11*(1), 100. <https://doi.org/10.1038/s41398-021-01232-x>
- Wang, W., Kang, L., Zhang, N., Guo, X., Wang, P., Zong, X., Yao, L., Bai, H., Cheng, J., Tu, N., Feng, H., Wang, G., Bu, L., Wang, F., & Liu, Z. (2021). The interaction effects of suicidal ideation and childhood abuse on brain structure and function in major depressive disorder patient. *Neural Plasticity*, *2021*, 1–10. <https://doi.org/10.1155/2021/7088856>
- Wei, S., Chang, M., Zhang, R., Jiang, X., Wang, F., & Tang, Y. (2018). Amygdala functional connectivity in female patients with major depressive disorder with and without suicidal ideation. *Annals of General Psychiatry*, *17*(1), 37. <https://doi.org/10.1186/s12991-018-0208-0>
- Weng, J.-C., Chou, Y.-S., Tsai, Y.-H., Lee, C.-T., Hsieh, M.-H., & Chen, V. (2019). Connectome analysis of brain functional network alterations in depressive patients with suicidal attempt. *Journal of Clinical Medicine*, *8*(11), 1966. <https://doi.org/10.3390/jcm8111966>
- Yang, J., Palaniyappan, L., Xi, C., Cheng, Y., Fan, Z., Chen, C., Zhang, M., Pan, Y., Tao, H., Ouyang, X., Yang, J., & Liu, Z. (2022a). Aberrant integrity of the cortico-limbic-striatal

circuit in major depressive disorder with suicidal ideation. *Journal of Psychiatric Research*, *148*, 277–285. <https://doi.org/10.1016/j.jpsychires.2022.02.003>

Yang, C., Duan, Y., Lei, L., Liu, P., Zhang, A., Li, G., Sun, N., Wang, Y., Liu, Z., & Zhang, K. (2022b). Altered cingulum functioning in major depressive disorder patient with suicide attempts: A resting-state functional magnetic resonance imaging study. *Frontiers in Neuroscience*, *16*, 849158. <https://doi.org/10.3389/fnins.2022.849158>

Yang, Y., Chattun, M. R., Yan, R., Zhao, K., Chen, Y., Zhu, R., Shi, J., Wang, X., Lu, Q., & Yao, Z. (2020). Atrophy of right inferior frontal orbital gyrus and frontoparietal functional connectivity abnormality in depressed suicide attempters. *Brain Imaging and Behavior*, *14*(6), 2542–2552. <https://doi.org/10.1007/s11682-019-00206-4>

Zhang, H., Li, H., Yin, L., Chen, Z., Wu, B., Huang, X., Jia, Z., & Gong, Q. (2021). Aberrant white matter microstructure in depressed patients with suicidality. *Journal of Magnetic Resonance Imaging*, *55*(4), 1141–1150. <https://doi.org/10.1002/jmri.27927>