

The feasibility and preliminary effects of compassion-based interventions for individuals with acquired brain injury: A scoping review

Supplementary File

Part A: Searching strategy

1. PubMed

ID	Keyword	Search term	Articles
#1	Brain injury	"Brain Injuries"[MeSH] OR "Cerebrovascular Disorders"[MeSH]	531,248
#2		((("brain injur*"[tiab] OR "brain hemorrhag*"[tiab] OR "traumatic brain injur*"[tiab] OR "TBI"[tiab] OR "diffuse brain injur*"[tiab] OR "chronic brain injur*"[tiab] OR "acute brain injur*"[tiab] OR "acquired brain injur*"[tiab]) OR ("brain ischemi*"[tiab] OR "brain infarct*"[tiab]) OR ("transient ischemic attack"[tiab] OR "stroke"[tiab] OR "Cerebrovascular disease"[tiab] OR "hemorrhagic stroke"[tiab] OR "ischemic stroke"[tiab]))	461,822
#3		#1 OR #2	740,829
#4	Self-compassion	"Self-Compassion"[MeSH Terms]	383
#5		("self-compassion"[tiab] OR "compassion"[tiab] OR "compassionate"[tiab] OR "loving-kindness meditation"[tiab] OR "compassion meditation"[tiab] OR "Compassion-focused therapy"[tiab] OR "Mindful self-compassion"[tiab] OR ("compassion training"[tiab] AND "cultivating"[tiab]) OR "Cognitively based compassion training"[tiab] OR "Compassion-based intervention"[tiab])	18,159
#6		#4 OR #5	18,174
#7		#3 AND #6 Full text and English	131

2. CINAHL

ID	Keyword	Search term	Articles
S1	Brain injury	MH "Brain Injuries+" OR MH "Cerebrovascular Disorders+"	159,768
S2		TI ((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*)) OR AB ((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*))	166,974
S3		S1 OR S2	228,025
S4	Self-compassion	MH "Self-Compassion" OR MH "Compassion"	5,391
S5		TI ("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation") OR AB ("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation")	12,657
S6		S4 OR S5	14,742
S7		S3 AND S6 Full text, English	21

3. Web of Science

ID	Keyword	Search term	Articles
1	Brain injury	((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*)) (Title) or ((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*)) (Abstract)	613,333
2	Self-compassion	("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation") (Title) or ("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation") (Abstract)	25,473
3		#1 AND #2 Articles and Fulltext	98

4. APA PsycINFO

ID	Keyword	Search term	Articles
S1	Brain injury	DE "Traumatic Brain Injury" OR DE "Brain Concussion" OR DE "Chronic Traumatic Encephalopathy" OR DE "Brain Damage" OR DE "Periventricular Leukomalacia" OR DE "Brain Injuries" OR DE "Head Injuries" OR DE "Cerebrovascular Accidents"	74,326
S2		TI (((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*))) OR AB (((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*)))	92,843
S3		S1 OR S2	113,660
S4	Self-compassion	DE "Compassion" OR DE "Compassion Focused Therapy" OR DE "Self-Compassion"	3,902
S5		TI (("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation")) OR AB (("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation"))	17,814
S6		S4 OR S5	17,897
S7		S3 AND S6 Full text and English	24

5. EMBASE

ID	Keyword	Search term	Articles
S1	Brain injury	'brain injury'/exp OR 'cerebrovascular disease'/exp	1,186,137
S2		'brain injur*':ab,ti OR 'brain hemorrhag*':ab,ti OR 'brain trauma*':ab,ti OR 'traumatic brain injur*':ab,ti OR tbi:ab,ti OR 'diffuse brain injur*':ab,ti OR 'chronic brain injur*':ab,ti OR 'acute brain injur*':ab,ti OR 'acquired brain injur*':ab,ti OR 'brain ischemi*':ab,ti OR 'brain infarct*':ab,ti OR 'transient ischemic attack*':ab,ti OR stroke*:ab,ti OR 'cerebrovascular disease*':ab,ti OR 'hemorrhagic stroke*':ab,ti OR 'ischemic stroke*':ab,ti	92,843
S3		S1 OR S2	1,329,417
S4	Self-compassion	'compassion'/exp OR 'self-compassion'/exp	1,701
S5		'compassion*':ab,ti OR 'compassion-focused therapy':ab,ti OR 'mindful self-compassion':ab,ti OR 'cognitively based compassion training':ab,ti OR 'loving-kindness meditation':ab,ti OR 'compassion meditation':ab,ti	23,611
S6		S4 OR S5	23,886
S7		S3 AND S6 Full text and English	189

6. Scopus

ID	Keyword	Search term	Articles
1	Brain injury	TITLE-ABS-KEY-AUTH (((brain AND injur* OR brain AND hemorrhag* OR brain AND trauma* OR traumatic AND brain AND injur* OR tbi OR diffuse AND brain AND injur* OR chronic AND brain AND injur* OR acute AND brain AND injur* OR acquired AND brain AND injur*) OR (brain AND ischemi* OR brain AND infarct*) OR (transient AND ischemic AND attack* OR stroke* OR cerebrovascular AND disease* OR hemorrhagic AND stroke* OR ischemic AND stroke*))))	270,084
2	Self-compassion	TITLE-ABS-KEY-AUTH ((("compassion*" OR "compassion-focused therapy" OR "mindful self-compassion" OR "cognitively based compassion training" OR "loving-kindness meditation" OR "compassion meditation")))	38,472
3		#1 AND #2 Full text and English	57

7. Cochrane Library

ID	Keyword	Search term	Articles
S1	Brain injury	MeSH descriptor: [Brain Injuries] explode all trees OR MeSH descriptor: [Cerebrovascular Disorders] explode all trees	28,927
S2		((((brain injur* OR brain hemorrhag* OR brain trauma* OR traumatic brain injur* OR TBI OR diffuse brain injur* OR chronic brain injur* OR acute brain injur* OR acquired brain injur*) OR (brain ischemi* OR brain infarct*) OR (transient ischemic attack* OR stroke* OR cerebrovascular disease* OR hemorrhagic stroke* OR ischemic stroke*)))):ti,ab,kw	98,979
S3		S1 OR S2	102,638
S4	Self-compassion	MeSH descriptor: [Empathy] explode all trees OR MeSH descriptor: [Self-Compassion] explode all trees	997
S5		((((compassion* OR (compassion NEXT focused NEXT therapy) OR (mindful NEXT self-compassion) OR (cognitively NEXT based NEXT compassion NEXT training) OR (loving-kindness NEXT meditation) OR (compassion NEXT meditation))))):ti,ab,kw	2773
S6		S4 OR S5	3424
S7		S3 AND S6	61

Part B

Summary of the critical appraisal of randomized controlled trials based on ROB2

		Risk of bias domains					
		D1	D2	D3	D4	D5	Overall
Study	O'Neill et al (2012)	-	+	+	-	+	-
	Campbell, I. N., et al (2019)	+	+	+	-	-	-
	Künzi et al. (2022)	+	+	+	-	+	-

Domains:
D1: Bias arising from the randomization process.
D2: Bias due to deviations from intended intervention.
D3: Bias due to missing outcome data.
D4: Bias in measurement of the outcome.
D5: Bias in selection of the reported result.

Judgement
- Some concerns
+ Low

Summary of the critical appraisal of a non-randomized controlled trial study based on ROBIN – I

		Risk of bias domains							
		D1	D2	D3	D4	D5	D6	D7	Overall
Study	Ashworth et al (2015)	X	+	+	+	+	-	+	X

Domains:
D1: Bias due to confounding.
D2: Bias due to selection of participants.
D3: Bias in classification of interventions.
D4: Bias due to deviations from intended interventions.
D5: Bias due to missing data.
D6: Bias in measurement of outcomes.
D7: Bias in selection of the reported result.

Judgement
X Serious
- Moderate
+ Low

Summary of the critical appraisal of qualitative study by Joanna Briggs Institute scale

	Yes	No	Unclear
1. Is there congruity between the philosophical or theoretical positioning of the study and the methodological approach that has been adopted	☒	☐	☐
2. Is there congruity between the research methodology and the research question or objectives?	☒	☐	☐
3. Is there congruity between the research methodology and the methods used to collect data?	☒	☐	☐
4. Is there congruity between the research methodology and the representation and analysis of data?	☒	☐	☐
5. Is there congruity between the research methodology and the interpretation of results?	☒	☐	☐
6. Is there a statement locating the researcher culturally or theoretically?	☐	☒	☐
7. Is the influence of the researcher on the research, and vice- versa, addressed?	☐	☒	☐
8. Are participants, and where appropriate, their voices, adequately represented?	☒	☐	☐
9. Is the research ethical according to current criteria, and for recent studies, is there evidence of ethical approval by an appropriate body?	☒	☐	☐
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	☒	☐	☐

Part C

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	Page 1, line 2
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.	Page 1, lines 4 - 24
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.	Page 4 (lines 72 – 82)
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.	Page 4 (lines 75 - 78)
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.	Page 4 (lines 87-90)
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.	Page 6 (line 127–136)
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.	Page 5 (lines 102 – 104; lines 117–119)
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Supplementary file (Page 31 – 38)
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Page 6, 7 (lines 122 – 147)
Data charting process‡	10	Describe the methods of charting data from the 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.	Page 7 (lines 141 – 147)
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Page 7 (lines 148 – 155)

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
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).	Page 8 (lines 157 – 163)
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	Page 7 (line 148 – 155)
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.	Page 8 (lines 166 – 172)
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Page 8,9 (lines 174 – 181)
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Page 14,15 (lines 311 – 321)
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.	Page 8-10
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Page 11 - 15
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.	Page 15 (lines 324 - 339)
Limitations	20	Discuss the limitations of the scoping review process.	Page 20 (lines 434 – 445)
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.	Page 20, 21 (lines 447 – 464)
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.	Title page