

Supplemental Materials

1. Search Strategy (p 2)
2. Review Strategy (p 3)
3. Note on Search and Review Strategies (p 4)
4. References for All Included Studies (p 5-6)
5. Supplementary Table: Characteristics of Mental Health First Aid Evaluations Used to Assess Efficacy in the Systematic Review (p 7-8)
6. Supplementary Figure: Study Selection for Systematic Review of Mental Health First Aid (p 9)
7. Supplementary Figure: Mental Health First Aid Behavioral and Mental Health Outcomes Measured in the Literature (p 10)
8. Supplementary Table: Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2009 Checklist (p 11)
9. Supplementary Table: Comparison of Mental Health First Aid and Psychological First Aid (p 12)

1. Search Strategy

Pubmed

Searches conducted on February 27, 2019, April 3, 2020, and March 9, 2021

((psychological first aid) OR mental health first aid) OR psychological crisis intervention) OR mental health crisis intervention

PsycINFO

Searches conducted on February 27, 2019, April 3, 2020, and March 9, 2021

Multi-field search for *psychological first aid OR mental health first aid OR psychological crisis intervention OR mental health crisis intervention*

PTSDpubs

Searches conducted on February 27, 2019, April 3, 2020, and March 9, 2021

(psychological first aid) OR (mental health first aid) OR (psychological crisis intervention) OR (mental health crisis intervention)

EMBASE

Searches conducted on February 27, 2019, April 3, 2020, and March 9, 2021

psychological first aid OR mental health first OR psychological crisis intervention OR mental health crisis intervention

2. Review Strategy

Studies were manually reviewed for inclusion by title, abstract, then full paper.

Inclusion criteria

- Peer-reviewed
- Comparative or evaluative study
- At least one trainee behavior or recipient mental health outcome of Mental Health First Aid (MHFA) evaluated

Exclusion criteria at each review phase:

Title

- Does not reference an intervention
- Commentary, opinion piece, protocol, or review
- Not in a peer-reviewed journal
- Not in English

Abstract

Same as title review, plus:

- Intervention not explicitly PFA or MHFA by name or adapted from PFA or MHFA
- Outcomes evaluated are only related to training

Full Paper

Same as title and abstract review, plus:

- Other non-evaluation
- Intervention is PFA or adapted from PFA
- No outcome related to trainee behavior or recipient mental health
- Full paper unavailable

3. Note on Search and Review Strategies

The original manuscript concept was to be a systematic review of the evidence supporting Mental Health First Aid (MHFA) and Psychological First Aid (PFA). At the full paper review stage, the distinctions between the two interventions became clear (Table S1) and the decision was made to synthesize them separately.

Of the 57 full papers that were excluded for reason “not MHFA intervention”, 26 were PFA evaluations.

4. References for All Included Studies

- Armstrong G, Sutherland G, Pross E, Mackinnon A, Reavley N, Jorm AF. Talking about suicide: An uncontrolled trial of the effects of an Aboriginal and Torres Strait Islander mental health first aid program on knowledge, attitudes and intended and actual assisting actions. *PLoS one*. 2020;15(12):e0244091.
- Ashoorian D, Albrecht KL, Baxter C, et al. Evaluation of Mental Health First Aid skills in an Australian university population. *Early Intervention in Psychiatry*. 2019;13(5):1121-1128.
- Banh MK, Chaikind J, Robertson HA, et al. Evaluation of mental health first aid USA using the mental health beliefs and literacy scale. *American Journal of Health Promotion*. 2019;33(2):237-247.
- Bond KS, Reavley NJ, Kitchener BA, Kelly CM, Oakes J, Jorm AF. Evaluation of the effectiveness of online mental health first aid guidelines for helping someone experiencing gambling problems. *Advances in Mental Health*. 2020:1-12.
- Carpini JA, Chandra J, Lin J, et al. Mental health first aid by Australian tertiary staff: Application rates, modes, content, and outcomes. *Early Intervention in Psychiatry*. 2020.
- Currie R, Davidson K. An evaluation of the initial impact of using educational psychologists to deliver NHS Scotland's 'Scottish Mental Health First Aid: Young People' training programme. *Educational and Child Psychology*. 2015;32(1).
- Fisher H, Harding S, Bell S, et al. Delivery of a Mental Health First Aid training package and staff peer support service in secondary schools: a process evaluation of uptake and fidelity of the WISE intervention. *Trials*. 2020;21(1):1-13.
- Hart LM, Jorm AF, Paxton SJ. Mental health first aid for eating disorders: Pilot evaluation of a training program for the public. *BMC psychiatry*. 2012;12(1):98.
- Hart LM, Jorm AF, Paxton SJ, Cvetkovski S. Mental health first aid guidelines: an evaluation of impact following download from the World Wide Web. *Early Intervention in Psychiatry*. 2012;6(4):399-406.
- Hart LM, Mason RJ, Kelly CM, Cvetkovski S, Jorm AF. 'teen Mental Health First Aid': a description of the program and an initial evaluation. *International journal of mental health systems*. 2016;10(1):3.
- Hart LM, Bond KS, Morgan AJ, et al. Teen Mental Health First Aid for years 7–9: a description of the program and an initial evaluation. *International journal of mental health systems*. 2019;13(1):71.
- Hung MS, Chow MC, Chien WT, Wong PY. Effectiveness of the Mental Health First Aid programme for general nursing students in Hong Kong: A randomised controlled trial. *Collegian*. 2021;28(1):106-113.
- Jensen KB, Morthorst BR, Vendsborg PB, Hjorthøj C, Nordentoft M. Effectiveness of Mental Health First Aid training in Denmark: a randomized trial in waitlist design. *Social Psychiatry and Psychiatric Epidemiology*. 2016;51(4):597-606.
- Jorm AF, Kitchener BA, O'Kearney R, Dear KB. Mental health first aid training of the public in a rural area: a cluster randomized trial [ISRCTN53887541]. *BMC psychiatry*. 2004;4(1):33.
- Jorm AF, Kitchener BA, Fischer J-A, Cvetkovski S. Mental health first aid training by e-learning: a randomized controlled trial. *Australian & New Zealand Journal of Psychiatry*. 2010;44(12):1072-1081.
- Jorm AF, Kitchener BA, Sawyer MG, Scales H, Cvetkovski S. Mental health first aid training for high school teachers: a cluster randomized trial. *BMC psychiatry*. 2010;10(1):51.
- Kelly CM, Mithen JM, Fischer JA, et al. Youth mental health first aid: a description of the program and an initial evaluation. *International Journal of Mental Health Systems*. 2011;5(1):4.
- Kitchener BA, Jorm AF. Mental health first aid training for the public: evaluation of effects on knowledge, attitudes and helping behavior. *BMC psychiatry*. 2002;2(1):1-6.
- Kitchener BA, Jorm AF. Mental health first aid training in a workplace setting: a randomized controlled trial [ISRCTN13249129]. *BMC psychiatry*. 2004;4(1):23.

- Mendenhall AN, Jackson SC, Hase S. Mental Health First Aid USA in a rural community: Perceived impact on knowledge, attitudes, and behavior. *Social Work in Mental Health*. 2013;11(6):563-577.
- Morgan AJ, Fischer J-AA, Hart LM, et al. Does Mental Health First Aid training improve the mental health of aid recipients? The training for parents of teenagers randomised controlled trial. *BMC psychiatry*. 2019;19(1):99.
- Morgan AJ, Fischer J-AA, Hart LM, et al. Long-term effects of Youth Mental Health First Aid training: randomized controlled trial with 3-year follow-up. *BMC psychiatry*. 2020;20(1):1-11.
- Rodgers G, Burns S, Crawford G. "I was able to actually do something useful": evaluating the experiences of university students after completing Mental Health First Aid: a mixed-methods study. *Advances in Mental Health*. 2019:1-23.
- Svensson B, Hansson L. Effectiveness of mental health first aid training in Sweden. A randomized controlled trial with a six-month and two-year follow-up. *PLoS One*. 2014;9(6):e100911.
- Svensson B, Hansson L, Stjernswärd S. Experiences of a mental health first aid training program in Sweden: a descriptive qualitative study. *Community mental health journal*. 2015;51(4):497-503.
- Svensson B, Hansson L. Mental health first aid for the elderly: A pilot study of a training program adapted for helping elderly people. *Aging & mental health*. 2017;21(6):595-601.
- Thombs DL, Gonzalez JMR, Osborn CJ, Rossheim ME, Suzuki S. Resident assistant training program for increasing alcohol, other drug, and mental health first-aid efforts. *Prevention Science*. 2015;16(4):508-517.
- Uribe Guajardo MG, Slewa-Younan S, Kitchener BA, Mannan H, Mohammad Y, Jorm AF. Improving the capacity of community-based workers in Australia to provide initial assistance to Iraqi refugees with mental health problems: an uncontrolled evaluation of a Mental Health Literacy Course. *International journal of mental health systems*. 2018;12(1):2.
- Uribe Guajardo MG, Kelly C, Bond K, Thomson R, Slewa-Younan S. An evaluation of the teen and Youth Mental Health First Aid training with a CALD focus: an uncontrolled pilot study with adolescents and adults in Australia. *International Journal of Mental Health Systems*. 2019;13(1):73.
- Witry MJ, Fadare O, Pudlo A. Pharmacy professionals' preparedness to use Mental Health First Aid (MHFA) behaviors. *Pharmacy Practice*. 2020;18(4).
- Witry M, Karamese H, Pudlo A. Evaluation of participant reluctance, confidence, and self-reported behaviors since being trained in a pharmacy Mental Health First Aid initiative. *PloS one*. 2020;15(5):e0232627.

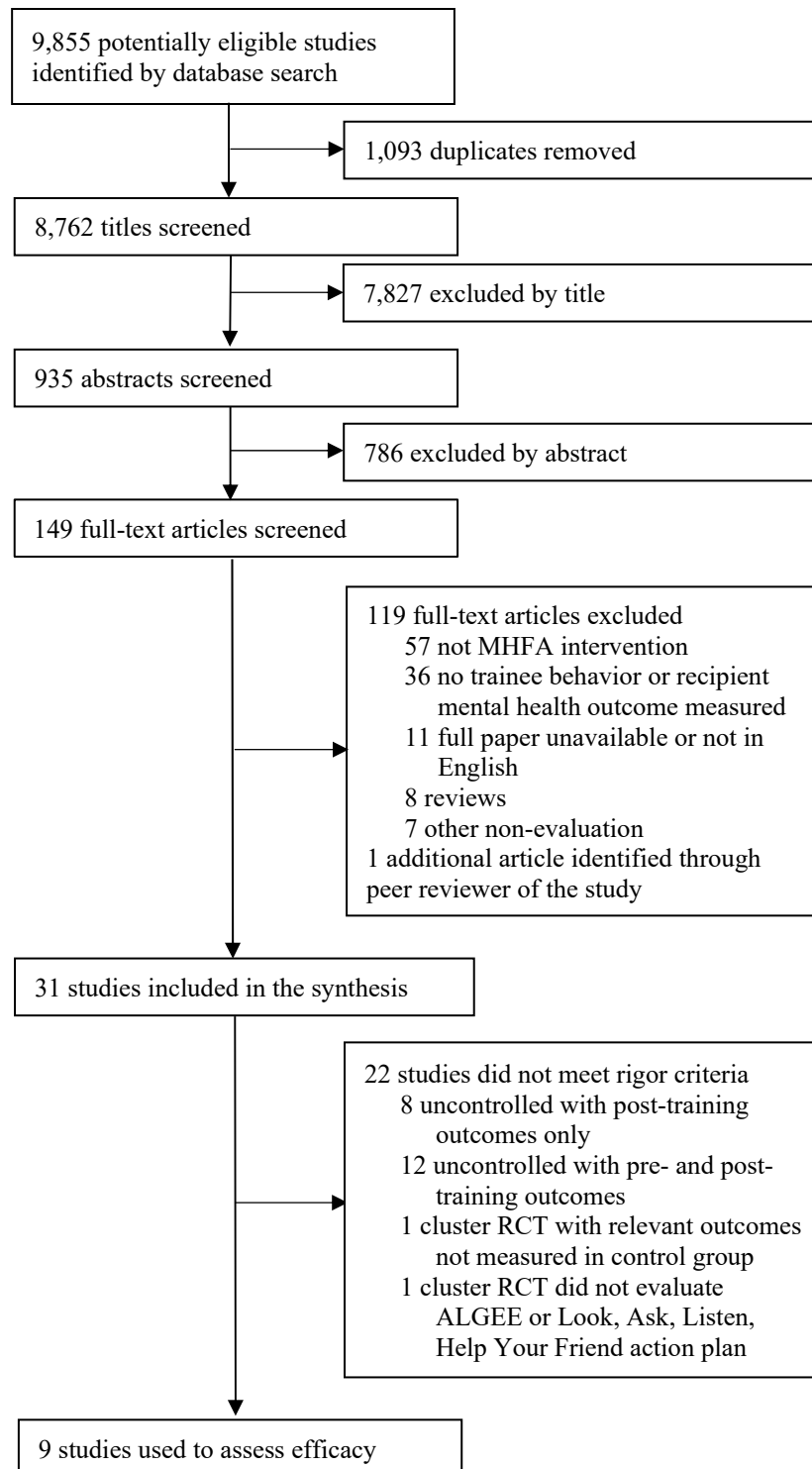
5. Supplementary Table: Characteristics of Mental Health First Aid Evaluations Used to Assess Efficacy in the Systematic Review

Citation	Included in previous systematic reviews of MHFA	Country	Type of MHFA Evaluated	Trainee Background	Trainer Background	Mode of Training	Training Contact Hours	Study Design	Control Group	Trainee Sample Size (analytic)	Post-training measurement period	Outcomes measured	Conclusion*
Hung et al., 2021	N	China	Adult MHFA	Undergraduate nursing students	Accredited MHFA instructors	In-person	12	RCT	Waitlist	332	6 months	Trainee Use of First Aid Skills (Reported by Trainee)	Positive effect
Jensen et al., 2016	Y	Denmark	Adult MHFA	Employees	Accredited MHFA instructors, mostly psychologists or social workers	In-person	12	RCT	Waitlist	538	6 months	Trainee Use of First Aid Skills (Reported by Trainee)	No effect
Jorm, Kitchener, O'Keamey, et al., 2004	Y	Australia	Adult MHFA	Members of the public (rural)	Trained educators	In-person	9	Cluster RCT	Waitlist	753	4 months	Trainee Use of First Aid Skills (Reported by Trainee)	Positive effect
Jorm, Kitchener, Fischer, et al., 2010	Y	Australia	Adult MHFA	Members of the public	N/A	Online	N/A	RCT	e-learning CD or waitlist	262	6 months	Trainee Use of First Aid Skills (Reported by Trainee)	No effect
Jorm, Kitchener, Sawyer, et al., 2010	Y	Australia	Youth MHFA	High school teachers	Accredited Youth MHFA instructors (educators and mental health specialists)	In-person	14	Cluster RCT	Waitlist	327	6 months	Trainee Use of First Aid Skills (Reported by Trainee)	No effect
												Trainee Use of First Aid Skills (Reported by Recipient)	Partial positive effect (received more information but not help)
												Recipient Mental Health (Reported by Recipient)	No effect
Kitchener, Jorm, 2004	Y	Australia	Adult MHFA	Governmental employees	Betty A. Kitchener, founder of MHFA Australia	In-person	9	RCT	Waitlist	301	5 months	Trainee Use of First Aid Skills (Reported by Trainee)	No effect
Morgan et al., 2019	N	Australia	Youth MHFA	Parents of adolescents	Accredited Youth	In-person	14	RCT	Australian Red Cross Provide	322	12 months,	Trainee Use of First Aid Skills	No effect at either time point

					MHFA instructor				First Aid course		24 months	(Reported by Trainee)	
												Helpfulness of trainee's actions (Reported by Recipient)	No effect at either time point
												Recipient Mental Health (Reported by Trainee)	No effect at either time point
												Recipient Mental Health (Reported by Recipient)	Psychological distress: negative effect at 12 months, no effect at 24 months; mental health: no effect at either time point
Morgan et al., 2020	N	Australia	Youth MHFA	Parents of adolescents	Accredited Youth MHFA instructor	In-person	14	RCT	Australian Red Cross Provide First Aid course	149	36 months	Trainee Use of First Aid Skills (Reported by Trainee)	No effect
												Helpfulness of trainee's actions (Reported by Recipient)	No effect
												Recipient Mental Health (Reported by Trainee)	No effect
												Recipient Mental Health (Reported by Recipient)	No effect
Svensson, Hansson, 2014	Y	Sweden	Adult MHFA	Employees in the public sector	Instructors with experience in mental health	In-person	12	RCT	Waitlist	155	24 months	Trainee Use of First Aid Skills (Reported by Trainee)	Positive effect

MHFA=Mental Health First Aid; RCT=Randomized Controlled Trial; Y=Yes; N=No; N/A=Not applicable; studies were evaluated for effect using a 5% level of significance; includes only studies meeting minimum rigor criteria (compared pre- and post-training outcomes, had control groups, and evaluated a form of MHFA that explicitly taught the ALGEE or Look, Ask, Listen, Help Your Friend action plan).

6. Supplementary Figure: Study Selection for Systematic Review of Mental Health First Aid



7. Supplementary Figure: Mental Health First Aid Behavioral and Mental Health Outcomes Measured in the Literature

Outcome type Reported by	Trainee use of first aid skills		Helpfulness of trainee's actions		Recipient mental health	
	Trainee	Recipient	Trainee	Recipient	Trainee	Recipient
Studies						

1=Ashoorian et al., 2018; 2=Armstrong et al., 2020; 3=Banh et al., 2019; 4=Bond et al., 2020; 5=Carpini et al., 2020; 6=Currie, Davidson, 2015; 7=Fisher et al., 2020; 8=Hart, Jorm, Paxton, 2012; 9=Hart, Jorm, Paxton, Cvetkovski, 2012; 10=Hart, Mason, et al., 2016; 11=Hart, Bond, et al., 2019; 12=Hung et al., 2021; 13=Jensen et al., 2016; 14=Jorm, Kitchener, O'Kearney, et al., 2004; 15=Jorm, Kitchener, Fischer, et al., 2010; 16=Jorm, Kitchener, Sawyer, et al., 2010; 17=Kelly et al., 2011; 18=Kitchener, Jorm, 2002; 19=Kitchener, Jorm, 2004; 20=Mendenhall, et al., 2013; 21=Morgan et al., 2019; 22=Morgan et al., 2020; 23=Rodgers et al., 2019; 24=Svensson, Hansson, 2014; 25=Svensson et al., 2015; 26=Svensson, Hansson, 2017; 27=Thombs et al., 2015; 28=Uribe Guajardo et al., 2018; 29=Uribe Guajardo et al., 2019; 30=Witry, Fadare, Pudlo, 2020; 31=Witry, Karamese, Pudlo, 2020

- Randomized Controlled Trial
- Cluster Randomized Controlled Trial
- Uncontrolled with pre- and post-training outcomes
- Uncontrolled with post-training outcomes only

8. Supplementary Table: Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2009 Checklist

Section/Topic	#	Checklist Item	Reported on Page #
Title			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
Abstract			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
Introduction			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3-5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
Methods			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6-7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	6
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	6-7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	8
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	N/A
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	N/A

9. Supplementary Table: Comparison of Mental Health First Aid and Psychological First Aid

	Mental Health First Aid¹	Psychological First Aid¹⁻⁴
Overall intervention goals	Teach trainees how to identify and respond to signs of mental health problems Improve mental health literacy and reduce stigma	Decrease initial psychological distress post-trauma Improve preparedness, resilience, and long-term coping
Setting	Any community (e.g. neighborhood, school, workplace)	Post-disaster or other emergency setting
Trainer background	Mental health professionals or other Mental Health First Aid accredited instructors	Mental health professionals
Trainee background	Member of the public or members of specific communities	First responders, helping professions
Standardized trainee toolkit	Yes, ALGEE action plan	No

ALGEE=Assess for risk of suicide or harm, Listen nonjudgmentally, Give reassurance and information, Encourage appropriate professional help, and Encourage self-help and other support strategies

1. Schreiber M, Gurwitch R. Listen, protect, and connect: psychological first aid for children and parents. https://www.ready.gov/sites/default/files/documents/files/PFA_Parents.pdf. Accessed September 20, 2020.
2. World Health Organization, War Trauma Foundation, World Vision International. Psychological first aid: guide for field workers. https://www.who.int/mental_health/publications/guide_field_workers/en/. 2011. Accessed September 20, 2020.
3. Brymer M, Jacobs A, Layne C et al. Psychological first aid: field operations guide. 2nd ed. 2006. www.nctsn.org and www.ncptsd.va.gov. Accessed September 20, 2020.
4. Everly Jr GS, McCabe OL, Semon NL, Thompson CB, Links JM. The development of a model of psychological first aid for non-mental health trained public health personnel: The Johns Hopkins RAPID-PFA. *Journal of public health management and practice*. 2014;20:S24-S29.