# Resilience and Coping:
## The Effectiveness of Community-Based Group Mental Health Interventions after a Critical Incident

Review of the Evidence
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Toronto Public Health

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## Key Messages

- Debriefing is not currently recommended as an effective intervention in the aftermath of a critical traumatic incident. Research is required to determine whether debriefing could be useful in specific circumstances.

- There is potential efficacy of early internet-delivered interventions in reducing mental health symptoms among trauma exposed individuals experiencing elevated mental health symptoms. However, additional high-quality, amply powered studies are necessary.

## Executive Summary

Community violence is a serious public health issue. In 2018, the Toronto Board of Health passed a motion which included a request for the Medical Officer of Health to conduct a research project on community violence exposure, health impacts, mitigation and prevention. This report contributes to the research project through a rapid evidence review on the effectiveness of group mental health interventions to support resilience and coping in the aftermath of a critical violent/traumatic incident.

Systematic reviews investigating the effectiveness of mental health interventions in the aftermath of a critical violent/traumatic incident were identified through a literature search. These reviews were subsequently reviewed and appraised for quality: four out of seven were rated strong, one moderate and two weak. Three main types of group interventions were identified: debriefing, online interventions, and emergent interventions.

Findings indicate that debriefing is not currently recommended as an effective intervention for reducing negative mental health outcomes such as PTSD and depression in the aftermath of a violence/critical traumatic incident. Further research is required to determine whether debriefing could be effective in specific circumstances.

Online interventions show potential efficacy for reducing mental health symptoms among trauma exposed individuals experiencing elevated mental health symptoms. Additional high-quality, amply powered studies are necessary to make more definitive conclusions.

Yoga was identified as an emergent intervention. However, due to methodological issues within the reviewed studies, there was no strong evidence for yoga as an effective post-traumatic intervention for PTSD, depression, or anxiety symptoms.

Other interventions examined in this review included family interventions as well as specific programs for Black female survivors of violence. No conclusions can be drawn due to the inadequate body of evidence.

Considering the above findings, recommendations include:

- Explore the current and future role of the TPH Community Support Team given findings on debriefing.
- Pursue further collaboration with various partners to determine opportunities and gaps in how we collectively respond to violent/critical incidents.
- Consider completing another rapid review examining population health interventions to respond to violent/critical incidents.
- Partner with other public health units, as well as community and academic partners, to explore the development and evaluation of population level post-trauma interventions in order to build upon the current evidence base.

# 1.0 Introduction

On March 5, 2018, the Toronto Board of Health passed a motion which recognized community violence as a social determinant of health. The motion included a request for the Medical Officer of Health to conduct a research project on community violence exposure, health impacts, mitigation strategies and prevention (City of Toronto, 2018). This report contributes to the research project through a rapid evidence review on the effectiveness of group mental health interventions to support resilience and coping in the aftermath of a critical violent/traumatic incident.

A critical incident is any event that has sufficient impact to overwhelm the usually effective coping skills of individuals, groups or communities (City of Toronto, 2017). In many urban areas, a significant type of critical incident entails exposure to community violence which is defined as intentional acts of interpersonal violence often committed in public areas by individuals who are not intimately related to the victim. Community violence can involve individual or group conflicts such as fights among gangs and other groups, retaliatory violence, and/or fights in relation to illicit economic activities (National Child Traumatic Stress Network, n.d.). Other forms of critical incidents include natural disasters, fires and significant medical emergencies or accidents (Katz, 2017).

This review specifically focusses on group interventions because the Toronto Public Health (TPH) Community Support Team (CST) currently provides brief group-based psycho-social support to residents and service providers in the aftermath of a critical incident. Findings from this rapid evidence review will help to inform future CST planning.

# 2.0 Methodology

## 2.1 Research Question

To determine the scope of this review, the following research question was developed using the PICO framework. The research question, search, and screening process are outlined below.

**Research Question**: What is the effectiveness of community based group mental health interventions on individual and community resilience and coping in the aftermath of a critical violent/traumatic incident?

**Population (P):** People (adults & children) living and working in urban settings exposed to critical incidents.

**Intervention (I):** Any community based intervention

**Comparison (C):** No intervention

**Outcome (O):** Individual and community resilience and coping

## 2.2 Literature Search

A literature search was conducted by a Toronto Public Health Librarian. Various electronic databases were searched for systematic reviews (see Table 1).

**Table 1: Research Question, Databases & Keywords**

| |
|---|
| **Research Question:**<br>What is the effectiveness of community based group mental health interventions on individual and community resilience and coping in the aftermath of a critical violent/traumatic incident? |
| **Dates Searched:**<br>January 2013 to December 28, 2018 |
| **Databases Searched:**<br>• CINAHL<br>• Health Evidence<br>• Medline<br>• Psych & Behavioural Sciences Collection<br>• SocIndex |
| **Keywords:**<br>• "Exposure to violence" or "trauma" AND<br>• "Bystander" or "observer" or "victim" or "survivor" or "citizen" AND<br>• "City" or "community" or "neighbor*" AND<br>• "Crisis emergenc*" or "crisis episode*" or "crisis event*" or "crisis situation*"<br><br>Keywords and indexed terms (where available) were searched for each of the search concepts listed above. Keyword searches were limited to specific fields such as: title, abstract or author supplied keywords. Results were limited to 2013 onwards and limited to study systematic reviews, reviews or meta-analyses. |

## 2.3 Inclusion and Exclusion Criteria

Table 2 describes the inclusion and exclusion criteria used to identify studies relevant to the research question.

**Table 2: Inclusion & Exclusion Criteria**

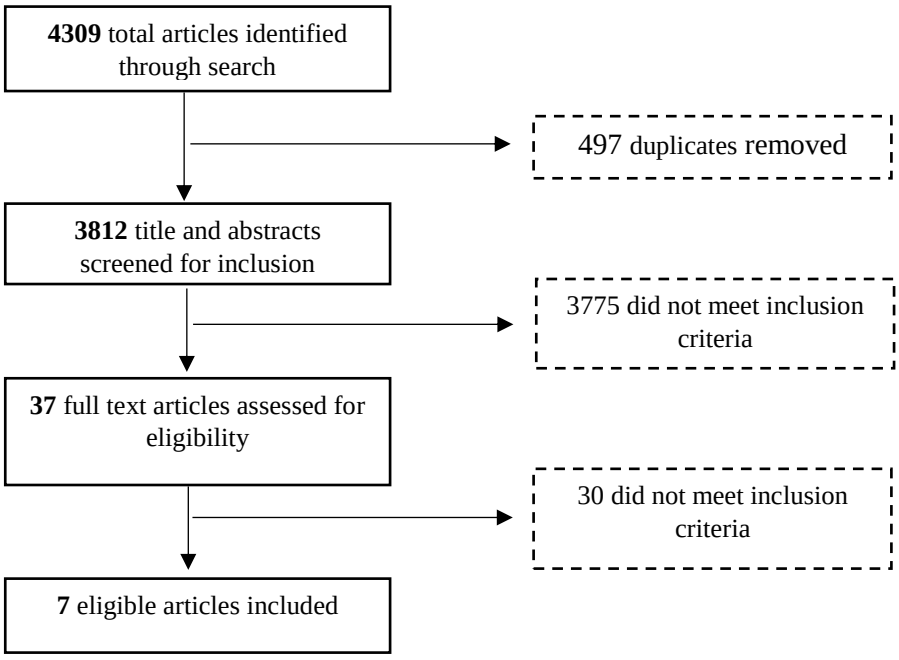
| | INCLUDE | EXCLUDE |
|---|---|---|
| **Dates** | • January 2013 to December 28, 2018 | • Anything before January 2013 |
| **Language** | • English | • Non-English |
| **Types of Studies** | • Systematic Reviews<br>• Meta-Analysis | • Single studies<br>• Review studies<br>• Qualitative studies<br>• Grey literature<br>• Guidelines |
| **Geographic Location** | • North America, England, Australia, New Zealand, Western Europe<br>• High income countries | • Middle and low income countries |
| **Populations** | • Across the lifespan (child-seniors)<br>• People living in urban settings | • Rural communities<br>• Armed forces/First Responders (police/paramedics/fire/first aiders)<br>• Non-human |
| **Exposure of Interest** | • Community violence<br>• Violent incident<br>• Critical incident<br>• Traumatic incident | • Intimate partner/domestic violence<br>• Bullying<br>• War/political conflict<br>• Natural disasters/severe weather/climate change |
| **Intervention** | • Any community-based group intervention | • Psychotherapy<br>• Individual psychiatric care<br>• Interventions specifically for people with defined mental illness<br>• Peer support<br>• Hospital interventions |

## 2.4 Search Results

Based on the above search strategy, the librarian shared an EndNote database to be screened by two authors (MJ & JP). A total of 3812 (497 duplicates removed) titles and/or abstracts were screened independently based on inclusion/exclusion criteria.

A total of 37 full-text articles were reviewed for relevance, with an additional 30 excluded as they did not meet the inclusion criteria. In the end, a total of seven articles were included and appraised for quality. The overall search process is summaries in Figure 1.

**Figure 1: Flow Diagram for Search Results**




## 2.5 Quality Assessment

The seven reviews were appraised for quality using the "Quality Assessment Tool-Review Articles" published by Health Evidence™. Five of the reviews were independently appraised by two authors (MJ, JP). Discrepancy in scores was resolved through discussion with the third author (DC). The remaining two reviews were critically appraised by two staff at Health Evidence and their ratings were retrieved from www.healthevidence.org.

The "Quality Assessment Tool-Review Articles" tool uses a ten-point quality assessment score based on the following criteria:

1. A clearly focused question
2. Inclusion criteria explicitly stated
3. Comprehensive search strategy
4. Adequate number of years covered in the search
5. Description of level of evidence
6. Assessment of the methodological rigour of primary studies
7. Methodological quality of primary studies assessed by two reviewers and results given
8. Tests of homogeneity or assessment of similarity of results conducted and reported
9. Appropriate weighting of primary studies
10. Author's interpretation of results were supported by the data

Each criterion, worth one point each, was given equal weight in the overall assessment score. The overall score, out of ten, classified reviews into three categories: Strong (Score 8-10),

Moderate (Score 5-7), and Weak (Score ≤ 4). The quality of the seven relevant reviews was appraised as follows:

- 4 strong reviews
- 1 moderate review
- 2 weak reviews

Appendix A – Quality Assessment Summary provides the scoring details.

## 2.6 Data Extraction

Review characteristics and key outcome data from all reviews were extracted (see Appendix B) by two authors (MJ, JP) and verified by the third author (DC).

The following study characteristics were extracted:

- General information (first author, year of publication, review title, Health Evidence Score)
- Review details (purpose, population, intervention types, intervention setting, number of studies)
- Key outcome measurements (primary outcome)
- Results (main results, key message)
- Comments and limitations

## 3.0 Findings

The purpose of this rapid review was to identify how community based group mental health interventions impact individual and community resilience and coping in the aftermath of a critical violent/traumatic incident. The findings are listed by intervention type.

**Debriefing Interventions**

Three systematic reviews examined the efficacy, comparative effectiveness and harms of interventions to prevent PTSD symptoms in adults following a traumatic incident.
Forneris et al. (2013; rated strong) found that Critical Incident Stress Debriefing (CISD) did not reduce the incidence or severity of PTSD symptoms at several follow-up intervals spanning 2 weeks to 11 months. Further, CISD was not found to decrease symptoms of depression or anxiety.

Gartlehner et al. (2013; rated strong) found that debriefing interventions were not effective in reducing or preventing symptoms of PTSD after critical incidents such as crime and assault. In their review, the authors only found low strength evidence to suggest that debriefing delivered in the first 10 hours of an incident led to fewer post-incident symptoms when compared to interventions delivered after 48 hours.

Brooks et al. (2018; rated moderate) examined psychological interventions for employee wellbeing during or after disasters. The authors found that psychological debriefing can have long-term positive effects on PTSD, depression and anxiety. However, the authors found evidence to suggest that psychological debriefing is also associated with harm to participants by way of lower quality of life and less improvement in PTSD. Overall, the authors state that psychological debriefing as a post-disaster intervention is not supported by the evidence and that more research is needed to determine whether debriefing could be useful in some circumstances.

### Online Interventions

Ennis et al. (2018; rated strong) examined internet-delivered interventions intended to be delivered immediately following trauma exposure. This particular review was included because components of some internet-delivered interventions were conducted on a group basis, albeit in virtual form. The authors found that *indicated* interventions (delivered to those experiencing some level of traumatic distress) were significantly more effective in reducing poor mental health symptoms than *selected* interventions (those delivered to an entire sample after trauma regardless of psychopathology symptoms). In fact, the review found that selected interventions were either no better or marginally better than control conditions.

### Emergent Interventions

Nguyen-Feng et al. (2018; rated strong) explored the effectiveness of yoga interventions for psychological symptoms (PTSD, depression and anxiety) following traumatic life events. They reported large effects sizes for PTSD, moderate effect sizes for depression, and small effects for anxiety. Due to the low quality and high risk of bias within the individual studies, the authors state that there is no strong evidence for yoga as an effective post-traumatic intervention for PTSD, depression, and anxiety symptoms.

### Other Interventions

Two systematic reviews (rated weak) examined other post-trauma interventions. Sabri & Gielen (2018) reviewed the efficacy of various integrated multicomponent interventions on outcomes (including mental health) for Black female survivors of violence. However, due to the inadequate body of evidence, no conclusions can be drawn.

Slobodin & de Jong (2015) explored the effectiveness of family interventions for a range of trauma-related problems among immigrants and refugees. The authors were unable to draw definitive conclusions due to a shortage of methodologically rigorous research.

## 4.0 Limitations

The main limitations of the systematic reviews assessed within this report are as follows:

- There was significant heterogeneity between studies within and across the reviews due to differences in populations, study designs, intervention types, and mental health outcome

measures. Additionally, there was little consistency within and across reviews regarding what constituted debriefing.

- Although a majority of reviews were strongly rated, many noted significant methodological weaknesses in the literature. These included: high risk of bias, low strength of evidence, inadequate randomization, and small sample size. Methodological issues made it difficult to draw strong conclusions.

- Due to the lack of longitudinal studies, there was limited evidence on the potential long term effects of interventions.

There were also limitations associated with the inclusion criteria used in this rapid review:

- The search strategy focused on systematic reviews written in English and indexed in CINAHL, Health Evidence, MEDLINE, Psych & Behavioural Sciences Collection and SocINDEX. Reviews listed outside the searched databases and written in languages other than English may have been excluded.

- Many of the systematic reviews included studies on individual psychological interventions and also included group interventions, making it difficult or impossible to separate studies that fit our inclusion criteria. As a result, some systematic reviews could not be used for the purposes of our study.

## 5.0 Discussion

Results from this rapid review have implications for how to engage and support communities after traumatic incidents. A public health approach recognizes that community violence is a complex issue that requires a wide range of expertise, collaboration and partnership across sectors, including community agencies and groups (Centres for Disease Control and Prevention, 2019). In addition to preventing community violence, there is a need to identify targeted and universal mental health promotion interventions which enhance protective factors and support the psychosocial well-being of individuals and communities after critical incidents.

As identified in this review, there currently is no good evidence to support debriefing as an effective intervention to mitigate negative mental health outcomes in the aftermath of critical/violent incidents. Keeping in mind the limitations of the individual studies in the review, debriefing is probably no better than control conditions and has the potential to do psychological harm. Our review echoes a recommendation by the World Health Organization (2012) which states: "Psychological debriefing should not be used for people exposed recently to a traumatic event as an intervention to reduce the risk of posttraumatic stress, anxiety or depressive symptoms." Since completing our literature search a systematic review was published (Guay et al., 2019; rated strong) which found no proof for the efficacy of debriefing compared to other interventions or a control group.

This finding raises concerns regarding the current and ongoing role of TPH's Community Support Team (CST). The CST responds to critical violent/traumatic incidents by providing brief group-based psycho-social support to residents and service providers. As part of its response, the CST uses debriefing to provide groups with opportunities to: a) explore reactions related to the traumatic event; b) discuss effective coping strategies and; c) obtain referral information for additional support. The literature is unclear as to which debriefing components are ineffective or potentially harmful. However, TPH could consider which elements of its current CST service can be implemented in alternative formats, outside the context of debriefing. This could include providing information resources online.

More evidence is needed to support significant investments in online interventions for supporting those impacted by critical incidents. Online interventions hold promise not only in regards to positive psychological outcomes, but potential cost effectiveness as well. This is particularly salient as public services are increasingly expected to provide services more efficiently. Public health units could play a role in building upon the current evidence by implementing and evaluating low-cost online interventions, working in partnership to share limited resources.

## 6.0 Recommendations

Based on the findings presented in this rapid review, the following recommendations should be considered:

- Explore the current and future role of the CST given findings on debriefing.

- Pursue further collaboration with community partners and other City of Toronto Divisions to determine opportunities and gaps in how we collectively respond to violent and critical incidents.

- Consider completing another rapid review examining population health interventions to respond to violent/critical incidents. This review could explore the impact of population health interventions across the lifespan and diverse communities.

- Partner with other public health units, as well as community and academic partners, to explore the development and evaluation of population level post-trauma interventions in order to build upon the current evidence base.

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Sabri, B., & Gielen, A. (2017). Integrated multicomponent interventions for safety and health risks among black female survivors of violence: A systematic review. *Trauma, Violence & Abuse*, *20*(5), 720-731.

World Health Organization. (2012). *Psychological debriefing in people exposed to a recent traumatic event.* Retrieved September 9, 2019: https://www.who.int/mental_health/mhgap/evidence/other_disorders/q5/en/

Slobodin, O., & de Jong, J. T. (2015). Family interventions in traumatized immigrants and refugees: A systematic review. Transcultural Psychiatry, 52(6), 723-742.

# Appendix A: Quality Assessment Summary

**Quality Appraisal Rating: Strong (Score 8-10); Moderate (Score 5-7); Weak (4 or less)****

| Study Details | | Quality Assessment Criteria (HE Tool) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Author** | **Year** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **Total/10** | **Rating** |
| Brooks et al. | 2018 | x | | | x | x | x | | x | x | | 6 | Moderate |
| Ennis et al. | 2018 | x | x | | x | x | x | x | x | | x | 9 | Strong |
| Forneris et al. | 2013 | x | x | x | x | x | | x | x | x | x | 9 | Strong* |
| Gartlehner et al. | 2013 | x | x | x | x | x | x | x | x | x | x | 10 | Strong* |
| Nguyen-Feng et al. | 2018 | x | x | x | x | x | x | x | x | x | x | 10 | Strong |
| Sabri & Gielen. | 2017 | x | x | | | | | | | | | 2 | Weak |
| Slobodin, & de Jong | 2015 | x | x | | x | x | | | | | | 4 | Weak |

X - Scored Yes for that criterion
* - Health Evidence Rating

****Criteria for quality assessment:**
(1) clearly focused question; (2) appropriate inclusion criteria to select primary studies; (3) comprehensive search strategy described; (4) search strategy covered adequate number of years; (5) description of level of evidence; (6) assessment of methodological quality; (7) results transparent (two independent reviewers quality assessed); (8) appropriate to combine/compare studies; (9) appropriate methods for combining results; (10) author's interpretations are supported by the data.

## Appendix B: Data Extraction Table

| General Information | Details of Review | Key Outcomes Measures | Results | Comments/ Limitations |
|---|---|---|---|---|
| **Authors:**<br>Brooks et al.<br><br>**Year:**<br>2018<br><br>**Title:**<br>Training and post-disaster interventions for the psychological impacts on disaster-exposed employees: A systematic review<br><br>**Health Evidence Score:**<br>6/10 | **Purpose:**<br>Review psychological interventions aimed at improving staff wellbeing during or after disasters or traumatic incidents.<br><br>**Population:**<br>Employees in any occupational group who have been involved in a disaster or potential disaster<br><br>**Intervention Types:**<br>Any form of psychological intervention designed to help employees either during or after a disaster.<br><br>**Intervention Setting:**<br>Workplace<br><br>**Studies:** 15 | • Coping skills<br>• Employee wellbeing<br>• Employee resilience | **Main Results:**<br>Three post-disaster studies suggested that workplace interventions, such as Critical Incident Stress Debriefing (CISD) debriefings can have long-term positive effects (e.g. PTSD, depression, anxiety), with ideally more than one session being most helpful.<br><br>One study found that participants who were debriefed reported significantly higher scores on the GHQ-12 (General Quality of Life Survey) than those who were not debriefed, and showed less improvement in PTSD.<br><br>Other interventions, such as the "512 Psychological Intervention Model", CBT, psychoeducation and meditation were all found to be useful in improving psychological symptoms. These studies were among the highest scoring studies in the quality appraisal.<br><br>Four studies explored how useful participants rated the interventions. Results were not especially positive overall. In one study, 80% of participants found debriefing useful, but 2 other studies suggested that participants did not find them particularly helpful.<br><br>**Key messages**:<br>Overall, there is little evidence of what kind of post-disaster workplace interventions are most useful.<br><br>The effectiveness of debriefing is likely dependent on factors such as how and when it is carried out, what it includes and how many sessions are provided. The authors discourage debriefing interventions due to potential harm. | **Comments:**<br>10 of the 15 studies explore the effects of interventions designed to improve psychological wellbeing after disasters. Only these 10 studies were within the scope of this EIDM project.<br><br>**Limitations:**<br>The small number of relevant studies, many of which identify different interventions, means authors cannot identify which intervention is most successful. Many studies had small sample sizes and high dropout rates, making results difficult to generalize.<br><br>There was little consistency within articles regarding what constituted debriefing.<br><br>The quality appraisal tool used for this review did not include questions to specifically assess the quality of interventions, which may have been useful to look examine the potential of bias.<br><br>In the post-disaster studies, there was no attempt to differentiate the results of different workplaces, and it was difficult to ascertain which aspects of debriefing are important in terms of outcomes.<br><br>Lack of longitudinal studies means there was no evidence on the potential long-term effects of psychological debriefing. |

| General Information | Details of Review | Key Outcomes Measures | Results | Comments/ Limitations |
|---|---|---|---|---|
| **Author:**<br>Ennis et al.<br><br>**Year:**<br>2018<br><br>**Title:**<br>Internet-Delivered Early Interventions for Individuals Exposed to Traumatic Events: Systematic Review<br><br>**Health Evidence Score:**<br>8/10 | **Purpose:**<br>Review internet-delivered intervention intended to be delivered acutely following trauma exposure and the empirical data on mental health symptom change following these interventions.<br><br>**Population:**<br>Trauma exposed individuals<br><br>**Intervention Types:**<br>Interventions delivered online via a computer or mobile phone platform<br><br>**Intervention Setting:**<br>Online<br><br>**Studies:** 7 | • Mental health outcomes | **Main Results:**<br>Study interventions were categorized as *selected* (delivered to an entire sample after trauma regardless of psychopathology symptoms) or *indicated* (delivered to those endorsing some level of posttraumatic distress).<br><br>In controlled studies of selected interventions, the interventions were not better than control conditions in reducing mental health symptoms. There was one exception to this finding in that one study found marginally statistically significant decreases in PTSD and depression symptoms in the intervention group as compared with the control group.<br><br>In the three studies where interventions were indicated, there were significant reductions on some mental health symptoms compared to control conditions.<br><br>**Key Messages**:<br>Data suggest that potential efficacy of indicated early internet-delivered interventions in reducing mental health symptoms among trauma-exposed individuals experiencing elevated mental health symptoms. However, more high-quality, adequately powered studies are necessary before concrete conclusions can be drawn. | **Comments:**<br>The lack of research on internet-based interventions following traumatization is interesting, given the potential low cost and wide-reaching impact of such prevention efforts.<br><br>**Limitations**:<br>The quality of included studies ranged from fair to good. Most studies did not employ gold standard clinician-administered assessments and lacked long-term follow-up data.<br><br>The most common methodological weaknesses across studies included variability in timing of the intervention, lack of adequate power to detect significant differences, and potential sampling bias.<br><br>Objectives of included studies varied as mental health symptoms were not the primary outcome of interest in several studies, and the same assessment measures not used across studies. In addition, mental health outcomes of interest varied across studies (e.g. PTSD, worry, and depression).<br><br>Heterogeneity in outcomes and general poor quality of assessment measures limit the conclusions that can be drawn about the effects of internet delivered trauma interventions. |

| General Information | Details of Review | Key Outcomes Measures | Results | Comments/ Limitations |
|---|---|---|---|---|
| **Author:**<br>Forneris et al.<br><br>**Year:**<br>2013<br><br>**Title:**<br>Interventions to prevent post-traumatic stress disorder: A systematic review<br><br>**Health Evidence Score:**<br>9/10 | **Purpose:**<br>Review the efficacy, comparative effectiveness, and harms of interventions to prevent PTSD in adults following trauma exposure.<br><br>**Population:**<br>Adults (18 or older) who have been exposed to trauma.<br><br>**Intervention Types:**<br>Psychological, pharmacologic and emerging interventions to prevent PTSD.<br><br>**Intervention Setting:**<br>Not specified (included studies consisted of hospital and clinical settings).<br><br>**Studies:**<br>19 for qualitative synthesis of systematic review; 3 for meta-analysis | • Incidents of PTSD<br>• Symptoms of PTSD | **Main Results**:<br>In two studies, debriefing (vs. control) did not reduce either PTSD incidence or PTSD symptom severity at multiple follow-up intervals spanning 2 weeks to 11 months (low strength of evidence for no differences in benefit).<br><br>At 6 months, PTSD incidence (PTS Scale) was 23% vs 26% (*p* not reported); PTSD symptoms severity (Structured Interview for PTSD) was 10.2, 9.3, and 9.6 in those receiving emotional debriefing, education debriefing, and no debriefing, respectively ($p$=0.33).<br><br>Debriefing did not decrease symptoms of depression or anxiety.<br><br>There was insufficient evidence to draw conclusions about the risk of increased PTSD symptoms and severity following emotional debriefing.<br><br>**Key Messages:**<br>The authors suggest that debriefing is not effective in reducing either PTSD incidence or the severity of PTSD or depressive symptoms.<br><br>Based on this review, there is limited evidence regarding best practices to treat trauma-exposed individuals. | **Comments**:<br>Only two studies met our inclusion criteria for group based interventions. These studies focused on debriefing post-traumatic incident.<br><br>**Limitations**:<br>Published studies on the efficacy, comparative effectiveness, and harms of many interventions of interest were not found. Without efficacy evidence, assessing comparative effectiveness becomes impossible.<br><br>Existing literature has many methodological shortcomings. Of 56 potentially eligible studies, 37 exhibited high risk of bias for various reasons, and precluded their consideration.<br><br>Selective availability of studies with positive results can seriously bias conclusions.<br><br>Exploring publication bias for this review was restricted, despite extensive efforts to find all relevant studies or unpublished data. |

| General Information | Details of Review | Key Outcomes Measures | Results | Comments/ Limitations |
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| **Author:**<br>Gartlehner et al.<br><br>**Year:**<br>2013<br><br>**Title:**<br>Interventions for the Prevention of Posttraumatic Stress Disorder (PTSD) in Adults After Exposure to Psychological Trauma<br><br>**Health Evidence Score**:<br>10/10 | **Purpose:**<br>Assess efficacy, comparative effectiveness, and harms of psychological, pharmacological, and emerging interventions to prevent PTSD in adults.<br><br>**Population:**<br>Adults (18+) who had been exposed to a traumatic event and who received an early intervention designed to prevent progression to PTSD within the first 3 months after the trauma.<br><br>**Intervention Types:**<br>Psychological, pharmacological, and emerging interventions (such as yoga, dietary supplements, acupuncture)<br><br>**Intervention Setting:**<br>Not specified (included studies consisted of hospital in- and out-patient, home, and community settings)<br><br>**Studies:** 19 | • Incidence of PTSD<br>• Incidence and severity of PTSD symptoms<br>• Incidence and severity of comorbid conditions<br>• Quality of life<br>• Quality of intervention and social functioning<br>• Return to work or ability to work<br>• Incidence of suicide, self-injuries or suicidal thoughts, attempts or behaviours<br>• Incidence of aggressive or homicidal thoughts, attempts or behaviours<br>• Perceived utility of intervention<br>• Resilience | **Main results:**<br>In two studies, debriefing was not effective in preventing PTSD or reducing the severity of PTSD symptoms in civilian victims of crime, assault, or accident trauma at 6-month follow-up. Strength of evidence (SOE) was low for these studies.<br><br>One study found that immediate debriefing (within 10 hours) compared with late debriefing (after 48 hours) led to significantly fewer posttraumatic symptoms that victims experienced (insufficient SOE).<br><br>There was insufficient data to determine the efficacy of debriefing at 2- or 6-week, or 11-month follow-up.<br><br>A meta-analyses that compared CBT with Supportive Counselling (SC) in a sample of participants with Acute Stress Disorder found that at end of treatment and 6-month follow-up, CBT was more effective than SC in reducing the severity of PTSD symptoms (moderate SOE). However, at both the end of treatment and at 6-month follow-up, CBT was no more effective than SC for preventing PTSD (low SOE), reducing symptoms of anxiety (moderate SOE), or reducing symptoms of depression (low SOE).<br><br>**Key Message:**<br>There is evidence that debriefing is not effective in reducing the incidence or severity of PTSD or depressive symptoms in civilian victims of crime, assault or accident trauma at 6 month follow-up. Evidence (of insufficient strength) indicates that debriefing may be most useful immediately post-trauma.<br><br>Combination of interventions using a collaborative care model has the most impact on PTSD symptoms.<br><br>There was insufficient evidence in studies that assessed the efficacy of interventions in reducing symptoms of anxiety and depression. | **Comments:**<br>The majority of included studies focused on interventions within acute outpatient and in-patient settings.<br><br>**Limitations:**<br>None of the included studies were graded as having a high strength of evidence. Methodological flaws included: inadequate randomization procedures, high rates of attrition and inadequate statistical approaches for data analysis.<br><br>There were too few data to assess whether outcomes differed according to type of trauma or specific demographic factors such as age.<br><br>There were too few data to analyze wither cross-cultural differences in setting or intervention delivery systems had any impact on outcome. |

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| **Author:**<br>Nguyen-Feng et al.<br><br>**Year:**<br>2018<br><br>**Title:**<br>Yoga as an intervention for psychological symptoms following trauma: A systematic review and quantitative synthesis<br><br>**Health Evidence Score:**<br>10/10 | **Purpose:**<br>Systematically assess and qualitatively synthesize the effectiveness of yoga interventions for psychological symptoms following potentially traumatic life experiences.<br><br>**Population:**<br>Participants of any age who identified as having survives a trauma as defined by PTSD Criterion A of the DSM-5.<br><br>**Intervention Types:**<br>Yoga as a primary or adjunctive intervention<br><br>**Intervention Setting:**<br>Any setting; no restrictions<br><br>**Studies:** 12 | • PTSD symptoms<br>• Depression symptoms<br>• Anxiety symptoms | **Main Results:**<br>*PTSD Symptoms (10 studies):* Average within group *d* was -1.32 for yoga interventions, and -0.26 for comparison conditions. Effect size for yoga interventions decreasing PTSD symptoms was large, while the effect size for comparison condition was small. Between-groups effect size was large, d+1/.06, with a positive *d* indicating that the yoga intervention had greater changes in pre-and post-intervention measures of PTSD symptoms, than did the comparison condition. The between-groups effect size was medium-large for RCTs (*d*=0.76; n=8) and large for non-RCTs (*d*=2.00; n=2).<br><br>*Depression Symptoms (8 studies):* Average within-group *d* was -0.72 for yoga interventions and -0.21 for comparison conditions. Effect size for yoga interventions decreasing depression symptoms was medium-large while the effect size for the comparison condition was small. The between groups effect size across studies moderately favoured yoga interventions, *d*=0.53. The between-groups effect size was small for RCTs (*d*=0.24, n=6) and large for non-RCTs (*d*=1.39; n=2)<br><br>*Anxiety Symptoms (5 studies):* Average within group *d* was -0.56 for yoga interventions and -0.16 for comparison conditions. Effect size for yoga interventions decreasing anxiety symptoms was medium while the effect size for the comparison condition was negligible. The between-groups effect across studies was small in favour of yoga interventions, *d*=0.4. The between-groups effect size was small for RCTs (*d*=0.43; n=4) and not computable for non-RCTs due to only one eligible study.<br><br>**Key Messages**:<br>This review found no strong evidence for the effectiveness of yoga as an intervention for PTSD, depression, and anxiety symptoms following traumatic life experiences due to low quality and high risk of bias of studies. | **Limitations**:<br>Methodological quality is limited by the number and rigor of studies included in the review, particularly with the non-RCTs.<br><br>Lack of attention controls (only 1 study used this). Therefore, unable to separate effects due to yoga versus effects due to attention in the context of a therapeutic relationship.<br><br>Studies lacked adequate follow up to determine long term effectiveness.<br><br>Unable to assess dose gradient on intervention effectiveness due to the varied yoga treatments in addition to differences in doses.<br><br>Given the nature of these studies, difficult to control for all possible confounders.<br><br>Trauma types were assessed together. Genders and sexes were grouped together. Therefore, studies did not permit subgroup analysis.<br><br>Lack of standardization makes it difficult to translate yoga interventions to a clinical environment. |

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| **Author:**<br>Sabri and Gielen<br><br>**Year:**<br>2018<br><br>**Title:**<br>Integrated Multicomponent Interventions for Safety and Health Risks Among Black Female Survivors of Violence: A Systematic Review<br><br>**Health Evidence Score:**<br>2/10 | **Purpose:**<br>Describe characteristics and effectiveness of evidence-based, integrated multicomponent intervention strategies for Black women survivors of violence.<br><br>Determine the efficacy of various integrated multicomponent interventions strategies on outcomes for survivors of violence.<br><br>**Population:**<br>Adult Black women 18 years or older<br><br>**Intervention Types:**<br>Multicomponent<br><br>**Intervention Setting:**<br>No restrictions beyond taking place in the USA<br><br>**Studies:** 16 | • Violence reduction<br>• Reproductive health<br>• Reduced risk of HIV<br>• Reduced stress/stress management<br>• Improved mental health | **Main Results:**<br>Group-based interventions using cognitive restructuring, providing coping skills training for trauma, or teaching alternate coping skills, group support to facilitate recovery were effective in reducing some mental health symptoms (i.e., anxiety and sexual abuse–related trauma symptoms) but were not effective for global mental health symptoms, PTSD, or overall trauma symptoms (Fallot et al., 2011; Ghee et al., 2009).<br><br>In another study the average weighted effect size for intervention group was significant for improved posttraumatic symptoms but not for overall mental health status at 6 months follow-up. This study also reported greater reduction in drug or alcohol use than the control sites (Cocozza et al., 2005).<br><br>One study, which addressed drug-related HIV risk, found that the intervention was not effective in reducing relapse 30 days after treatment ended (Ghee et al., 2009).<br><br>**Key Message:**<br>The body of evidence on interventions for Black women survivors of violence that address their multiple health issues is minimal. | **Comments:**<br>All but three included studies focused on intervening with intimate partner violence survivors which is outside the scope of this EIDM project.<br><br>The authors' research did not identify a trauma-focused intervention that addressed mental health among Black survivors of interpersonal abuse other than intimate partner violence.<br><br>**Limitations**<br>Only 6 of the 16 studies were specifically for African American women. This precludes generalizability to Black survivors of violence.<br><br>There was a lack of rigorous research design and methodology in available studies. Overall, the included studies tended to have small sample sizes, low response rates, inconsistent participants' attendance, potential for selection bias, social desirability bias, no comparison group and a lack of credible attention control.<br><br>There was a high level of heterogeneity in the included Intervention studies. |

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| **Author:**<br>Slobodin & de Jong<br><br>**Year:**<br>2015<br><br>**Title:**<br>Family interventions in traumatized immigrants and refugees: A systematic review<br><br>**Health Evidence Score:**<br>4/10 | **Purpose:**<br>Review evidence for the effectiveness of family interventions for the range of trauma-related problems among immigrants and refugees.<br><br>**Population:**<br>Immigrants and refugees of any age<br><br>**Intervention Types:**<br>Family intervention (defined as a psychological and/or social intervention that includes several family members in therapy and not just the traumatized individual).<br><br>**Intervention Setting:**<br>Community or clinical settings<br><br>**Studies:** 6 | • Trauma-related problems | **Main Results:**<br>Three studies reported significant reductions in symptoms of PTSD. Three studies reported an increase in social functioning. Two studies reported an increase in mental health service utilization.<br><br>*School-Based Interventions (4 studies):* An RCT evaluated a CBT with 2-hour optional multifamily group sessions for traumatized Latino immigrant children. Only a portion of the participants were randomized. PTSD and depressive symptoms significantly decreased in the intervention group.<br><br>The findings of one study suggest that trauma-focused CBT was associated with improvements in both functioning and PTSD symptoms. Supportive therapy improved only the level of functioning, whereas service coordination improved only the level of PTSD symptoms.<br><br>One psychoeducation intervention included trauma-focused techniques as well as creative techniques and relaxation. In a 12-week follow-up the intervention group showed significant reduction in posttraumatic, anxiety, and depressive symptoms as compared to the no-intervention group.<br><br>Another psychoeducational intervention evaluated the effectiveness of a mixed intervention (art, dance, occupational therapies). Results supported the efficacy of the intervention in improving functioning.<br><br>*Multifamily Group Intervention (2 studies):* One study found medium effect sizes (d>0.5) on trauma mental health knowledge, trauma mental health attitudes, and family hardiness; and high effect sizes (d>0.8) on social support. Another study (RCT) showed that the intervention group had a significantly higher number of mental health visits than the control group.<br><br>**Key Message:**<br>Due to a shortage of methodologically rigorous research, it is difficult to draw consultations about the effectiveness of family interventions for traumatized immigrants/refugees or to infer comparative strengths and limitations of interventions. The authors suggest that CBT could be efficient when complemented with family interventions. | **Comments:**<br>Treatment modalities for school-based interventions included CBT, psychoeducation, art and dance.<br><br>Treatment modalities for multifamily interventions included supportive therapy, psychoeducation, and coping strategies.<br><br>**Limitations:**<br>Effect sizes only calculated for two studies.<br><br>Not all studies described the length of time and duration of the intervention.<br><br>None of these studies compared the effectiveness of family intervention to an individualistic approach.<br><br>The review included heterogeneous populations and does not allow for conclusions about the suitability of the interventions for specific groups.<br><br>The variety of services included in mixed interventions makes it difficult to conclude which elements had the greatest impact. |