TECHNICAL COMMENTARY

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POST-TRAUMATIC STRESS DISORDER LIBRARY

Prevalence in medical patients

Introduction

Prevalence represents the overall proportion of individuals in a population who have the disorder of interest. It is different from incidence, which represents only the new cases that have developed over a particular time period. Point prevalence is the proportion of individuals in a population who have the disorder at a given point in time (e.g., at one-month post-trauma), while period prevalence is the proportion of individuals in a population who have the disorder over specific time periods (e.g., one to two months post-trauma). Lifetime prevalence is the proportion of individuals in a population who have ever had the disorder and lifetime morbid risk also includes those who had the disorder but were deceased at the time of the survey.

Method

We have included only systematic reviews (systematic literature search, detailed methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2010 that report results separately for people with PTSD. Reviews were identified by searching the databases MEDLINE, EMBASE, and PsycINFO. When multiple copies of reviews were found, only the most recent version was included. We prioritised reviews with pooled data for inclusion.

Review reporting assessment was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist that describes a preferred way to present a meta-analysis[1]. Reviews with less than 50% of items checked have been excluded from the library. Note that early reviews may have been guided by less stringent reporting checklists than the PRISMA, and that some reviews may have been limited by journal guidelines.

Evidence was graded using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach where high quality evidence such as that gained from randomised controlled trials (RCTs) may be downgraded to moderate or low if review and study quality is limited, if there is inconsistency in results, indirect comparisons, imprecise or sparse data and high probability of reporting bias. It may also be downgraded if risks associated with the intervention or other matter under review are high. Conversely, low quality evidence such as that gained from observational studies may be upgraded if effect sizes are large or if there is a dose dependent response. We have also taken into account sample size and whether results are consistent, precise and direct with low associated risks (see end of table for an explanation of these terms)[2]. The resulting table represents an objective summary of the available evidence, although the conclusions are solely the opinion of staff of NeuRA (Neuroscience Research Australia).

Results

We found 17 systematic reviews that met our inclusion criteria[3-19].

- Moderate to high quality evidence found the prevalence of PTSD after acute orthopaedic trauma was around 26.6% and the prevalence of both PTSD and depression was around 16.8%. Rates were higher in females than males, and in patients with lower extremity fractures (including pelvic) than upper extremity fractures.
- Moderate quality evidence finds the mean prevalence of PTSD diagnosis following a coronavirus infection is around 32%. Coronavirus infections included the severe acute respiratory syndrome (SARS), the Middle East respiratory syndrome (MERS), and the coronavirus disease 2019 (COVID-19). Rates of PTSD were higher in females than males, and high in healthcare workers, in people with a previous physical illness, in people with avascular necrosis, functional impairment, pain, and sense of lack of control.

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- Moderate quality evidence finds the prevalence of PTSD symptoms in patients with a coronavirus infection is around 29%. Rates were highest in longitudinal cohort studies, when measured after rather than during outbreaks, in patients with MERS, and in studies using the Impact of Event scale to measure PTSD.
- Moderate quality evidence found the prevalence of PTSD in people with any cancer was around 5-6%. Lifetime prevalence was between 12-15%. Rates were similar in subgroup analyses of breast cancer patients.
- Moderate quality evidence found the average prevalence of PTSD after a fall in elderly people was around 27.5%.
- Moderate quality evidence found the average prevalence of PTSD after a caesarean section was around 10.7%. Rates of PTSD were higher after an emergency caesarean than after an elective caesarean.
- Moderate quality evidence found the prevalence of PTSD after an acute coronary syndrome was around 12%. Rates of PTSD were higher in studies using a screening instrument than a clinical diagnostic interview to assess PTSD.
- Moderate quality evidence found the prevalence of PTSD was around 23% within one year after a stroke or transient ischemic attack and 11% after one year.
- Moderate quality evidence found the prevalence of PTSD symptoms after a burn injury ranged from 3.3% to 35.1% at 1 month, 2.2% to 40% at 3 to 6 months, 9% to 45.2% within the year post-injury, and 6.7% to 25.4% more than 2 years later.
- Moderate quality evidence found the prevalence of PTSD after a traumatic brain injury (TBI) was around 24%. Rates were highest in samples with more males, in samples with TBI rather than another physical injury, in military samples exposed to a blast rather than civilians exposed to a motor vehicle accident, and in studies from the USA. There were no differences in rates of PTSD between people with a mild or moderate/severe TBI.
- Moderate quality evidence found the prevalence of PTSD in HIV-positive women was around 30%. No systematic review was identified assessing prevalence of PTSD in HIV-positive men.
- Moderate quality evidence found the overall prevalence of PTSD diagnosis in critical care survivors was around 20% between discharge and over 12 months post-discharge. Rates were highest within the first 3 months post-discharge.
- Moderate quality evidence found the prevalence of PTSD symptoms in critical illness survivors was between 25% and 44% up to 6 months post-ICU, with rates varying depending on the Impact of Event Scale score cut-off threshold. By 12 months, rates were between 17% and 34%.
- Moderate quality evidence finds the prevalence of PTSD in people with chronic pain is around 9.7%. PTSD prevalence was higher in people with chronic widespread pain and headache, and lower in people with back pain. Prevalence was higher in studies using self-reported PTSD symptoms than in studies using clinical interviews to assess PTSD.
- Moderate quality evidence finds the median prevalence of PTSD in primary care settings (first-contact medical care centres) is around 12.5%.
- Moderate to high quality evidence finds the overall prevalence of PTSD after an injury in children is 20.52%. Rates were highest in girls, in older children, and in children injured in hurricanes.

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Abbey G, Thompson SB, Hickish T, Heathcote D

A meta-analysis of prevalence rates and moderating factors for cancer-related post-traumatic stress disorder

Psycho-Oncology 2015; 24: 371-81

View review abstract online

Comparison	**Prevalence of PTSD in people with cancer.**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) found the current prevalence of PTSD in people with any cancer was around 5-6%. Lifetime prevalence was between 12-15%. Rates were similar in subgroup analysis of breast cancer patients.**

Prevalence of PTSD in cancer patients

25 studies, N = 4,198

Any cancer

By any interview current: 12 studies, prevalence = 6.4%, 95%CI 4.1% to 9.9%, I^2 = 74.29%

By SCID interview current: 9 studies, prevalence = 5.1%, 95%CI 2.8% to 8.9%, I^2 = 77.43%

By any interview lifetime: 7 studies, prevalence = 12.6%, 95%CI 7.4% to 20.7%, I^2 = 79.2%

By SCID interview lifetime: 5 studies, prevalence = 15.3%, 95%CI 9.1% to 24.7%, I^2 = 75.96%

By PCL-C questionnaire symptom cut-off: 10 studies, prevalence = 7.3%, 95%CI 4.5% to 11.7%, I^2 = 71.33%

By any questionnaire symptom cluster: 11 studies, prevalence = 13.8%, 95%CI 9.5% to 19.6%, I^2 = 86.82%

By PCL-C questionnaire symptom cluster: 9 studies, prevalence = 11.2%, 95%CI 8.7% to 14.4%, I^2 = 57.45%

Breast cancer

By any interview current: 10 studies, prevalence = 5.8%, 95%CI 3.3% to 10%, I^2 = 73.05%

By SCID interview current: 7 studies, prevalence = 4.1%, 95%CI 2% to 8.5%, I^2 = 72.59%

By any interview lifetime: 6 studies, prevalence = 11.5%, 95%CI 6.3% to 20.1% 5%, I^2 = 81.5%

By SCID interview lifetime: 4 studies, prevalence = 14.2%, 95%CI 7.7% to 24.9%, I^2 = 80.71%

By any questionnaire symptom cut-off: 9 studies, prevalence = 6.4%, 95%CI 4.2% to 9.7%, I^2 = 54.44%

By PCL-C questionnaire symptom cut-off: 9 studies, prevalence = 6.4%, 95%CI 4.2% 9.7%, I^2 = 54.44%

By any questionnaire symptom cluster: 10 studies, prevalence = 12.1%, 95%CI 9.3% to 15.7%, I^2 = 68.02% By PCL-C questionnaire symptom cluster: 9 studies, prevalence = 11.2%, 95%CI 8.7% to 14.4%, I^2 = 57.45%	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Bloch F

Literature review and meta-analysis of risk factors for delayed post-traumatic stress disorder in older adults after a fall

International Journal of Geriatric Psychiatry 2017; 32: 136-40

View review abstract online

Comparison	**Prevalence of PTSD in older adults (≥65 years) after a fall (up to 24 weeks).**
Summary of evidence	**Moderate quality evidence (small to medium-sized samples, consistent, imprecise, direct) found the average prevalence of PTSD after a fall was 27.5%, which represents a small, significant increase in risk compared to older people with no previous fall.**
Prevalence of PTSD in older adults after a fall	
3 studies, N = 211, prevalence = 27.5% *A small, significant increase in the risk of PTSD in older people with a fall compared to older people without a fall;* 2 studies, OR = 2.79, 95%CI 1.03 to 7.53, $p < 0.05$	
Consistency in results	Authors report the OR data are consistent
Precision in results	Imprecise for OR
Directness of results	Direct

Chen Y, Yang X, Guo C, Liao Y, Guo L, Chen W, Chen I, Krewski D, Wen SW, Xie RH

Prevalence of Post-Traumatic Stress Disorder following Caesarean Section: A Systematic Review and Meta-Analysis

Journal of Women's Health 2020; 29: 200-9

View review abstract online

Comparison	**Prevalence of PTSD following a caesarean section.**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) found the average prevalence of PTSD after a caesarean section was around 10.7%. Rates of PTSD were higher after an emergency caesarean than after an elective caesarean.**
Prevalence of PTSD after caesarean section	
9 studies, N = 1,134, prevalence = 10.7%, 95%CI 4.0% to 20.2%, I^2 = 95% Prevalence of PTSD after an emergency caesarean was higher than after an elective caesarean (10.3% vs. 7.1%).	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Edmondson D, Richardson S, Falzon L, Davidson KW, Mills MA, Neria Y

Posttraumatic stress disorder prevalence and risk of recurrence in acute coronary syndrome patients: a meta-analytic review

PLoS ONE 2012; 7: e38915

View review abstract online

Comparison	**Prevalence of PTSD following an acute coronary syndrome (myocardial infarction or unstable angina).**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) found the prevalence of PTSD after an acute coronary syndrome was around 12%. Rates of PTSD were higher in studies using a screening instrument than a clinical diagnostic interview.**
Prevalence of PTSD after an acute coronary syndrome	

24 studies, N = 2,383, prevalence = 12%, 95%CI 9% to 16% Prevalence was higher in studies using a screening instrument than a clinical diagnostic interview (16% vs. 4%). PTSD in patients with acute coronary syndrome was associated with poor outcome (mortality and/or recurrence of acute coronary syndrome).	
Consistency in results	Authors report data are inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Edmondson D, Richardson S, Fausett JK, Falzon L, Howard VJ, Kronish IM

Prevalence of PTSD in Survivors of Stroke and Transient Ischemic Attack: A Meta-Analytic Review

PLoS ONE 2013; 8: e66435

View review abstract online

Comparison	**Prevalence of PTSD following a stroke or transient ischemic attack (TIA).**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) found the prevalence of PTSD after a stroke or transient ischemic attack was around 23% within one year and 11% after one year.**
Prevalence of PTSD after a stroke or TIA	
9 studies, N = 1,138 Prevalence <1-year post-stroke or TIA = 23%, 95%CI 16% to 33% Prevalence >1-year post-stroke or TIA = 11%, 95%CI 8% to 14%	
Consistency in results	Authors report data are inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Giannoni-Pastor A, Eiroa-Orosa FJ, Fidel Kinori SG, Arguello JM, Casas M

Prevalence and Predictors of Posttraumatic Stress Symptomatology

Among Burn Survivors: A Systematic Review and Meta-Analysis

Journal of Burn Care and Research 2016; 37: e79-89

View review abstract online

Comparison	**Prevalence of PTSD symptoms following a burn injury.**
Summary of evidence	**Moderate quality evidence (large sample, direct) found the prevalence of PTSD after a burn injury ranged from 3.3% to 35.1% at 1 month, 2.2% to 40% at 3 to 6 months, 9% to 45.2% within the year post-injury, and 6.7% to 25.4% more than 2 years later.**
Prevalence of PTSD symptoms after a burn injury	
19 studies, N = 2,672 Prevalence ranged from 3.3% to 35.1% at 1 month, 2.2% to 40% at 3 to 6 months, 9% to 45.2% within the year post-injury, and 6.7% to 25.4% more than 2 years later. Life threat perception was the strongest predictor for PTSD occurrence, followed by acute intrusive symptoms and pain associated with burn injuries.	
Consistency in results	No measure of consistency is reported.
Precision in results	No measure of precision is reported.
Directness of results	Direct

Loignon A, Ouellet MC, Belleville G

A systematic review and meta-analysis on PTSD following TBI among military/veteran and civilian populations

Journal of Head Trauma Rehabilitation 2020; 35: E21-E35

View review abstract online

Comparison	**Prevalence of PTSD following a traumatic brain injury (TBI) vs. no TBI in military and civilian samples.**
Summary of evidence	**Moderate quality evidence (large samples, inconsistent, imprecise, direct) found the prevalence of PTSD after a traumatic brain injury was around 24%. Rates were highest in samples with more males, in samples with TBI rather than another physical injury, in military samples exposed to a blast rather than civilians exposed to a motor vehicle accident, and in**

	studies from the USA.
Prevalence of PTSD after a TBI vs. no TBI	
Samples with TBI Both: 31 studies, N = 20,586, prevalence = 23.9%, 95%CI 19.9% to 28.5% Military: 19 studies, N = 13,861, prevalence = 36.8%, 95%CI 29.2% to 49.2% Civilian: 12 studies, N = 6,725, prevalence = 15.7%, 95%CI 11.9% to 20.4% Samples without TBI (with another injury or unknown status) Both: 31 studies, N = 20,586, prevalence = 11.7%, 95%CI 9.0% to 15.1% Military: 19 studies, N = 13,861, prevalence = 10.8%, 95%CI 7.0% to 6.2% Civilian: 12 studies, N = 6,725, prevalence = 12.4%, 95%CI 8.9% to 17.1% *People with TBI were significantly more likely to have a diagnosis of PTSD than people without TBI;* OR = 2.68, 95%CI 2.00 to 3.70, $p < 0.001$, $I^2 = 94.2\%$ *Civilians with TBI were significantly more likely to have a diagnosis of PTSD than those without TBI;* OR = 1.26, 95%CI 1.00 to 1.60, $p = 0.046$, I^2 not reported *Military with TBI were significantly more likely to have a diagnosis of PTSD than those without TBI;* OR = 4.18, 95%CI 2.90 to 6.00, $p < 0.001$, I^2 not reported Studies with more males rather than females, had a greater risk of PTSD in samples with TBI. Studies from the United States rather than other countries, had a greater risk of PTSD in samples with TBI. Studies with an unknown injury comparison group rather than another physical injury comparison group, had a greater risk of PTSD in samples with TBI. Studies of people with TBI from blast injuries rather than motor vehicle accidents had a greater risk of PTSD. There were no significant moderating effects of time since injury, TBI severity, study design, diagnostic tool for assessing PTSD or TBI, age, sample size, or study quality.	
Consistency in results	Inconsistent
Precision in results	Imprecise
Directness of results	Direct

Machtinger EL, Wilson TC, Haberer JE, Weiss DS

Psychological trauma and PTSD in HIV-positive women: a meta-analysis

AIDS & Behavior 2012; 16: 2091-100

View review abstract online	
Comparison	**Prevalence of PTSD in HIV-positive women.**
Summary of evidence	**Moderate quality evidence (large sample, appears inconsistent and imprecise, direct) found the prevalence of PTSD in HIV-positive women was around 30%.**
Prevalence of PTSD in HIV-positive women	
6 studies, N = 499, current prevalence = 30.0%, 95%CI 18.8% to 42.7% Authors state this rate is over five-times the rate of recent PTSD reported in a national sample of women (prevalence = 5.2%).	
Consistency in results	Appears inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Muscatelli S, Spurr H, O'Hara NN, O'Hara LM, Sprague SA, Slobogean GP

Prevalence of Depression and Posttraumatic Stress Disorder After Acute Orthopaedic Trauma: A Systematic Review and Meta-Analysis

Journal of Orthopaedic Trauma 2017; 31: 47-55

View review abstract online

Comparison	**Prevalence of PTSD after acute orthopaedic trauma.**
Summary of evidence	**Moderate to high quality evidence (large samples, consistent, appears imprecise, direct) found the prevalence of PTSD after acute orthopaedic trauma was around 26.6% and the prevalence of both PTSD and depression is around 16.8%. Rates were higher in females than males, and in patients with lower extremity fractures (including pelvic) than upper extremity fractures.**
Prevalence of PTSD after acute orthopaedic trauma	
PTSD: 11 studies, N = 1,867 prevalence = 26.6%, 95%CI 19.0% to 35.9%, I^2 = 0% PTSD + depression: 3 studies, N = 473, prevalence = 16.8%, 95%CI 9.0% to 29.4%, I^2 = 0% *Female patients were significantly more likely than males to experience PTSD after injury;* OR = 4.36, 95%CI 1.82 to 10.43, *p* = 0.001	

People with lower extremity fractures, including pelvic fractures, were significantly more likely to have PTSD symptoms after injury when compared to people with upper extremity fractures; OR = 2.31, 95%CI 1.03 to 5.17, *p* = 0.043 There were no moderating effects of having multiple injuries vs. a single injury.

Consistency in results	Consistent
Precision in results	Appears imprecise
Directness of results	Direct

Parker AM, Sricharoenchai T, Raparla S, Schneck KW, Bienvenu OJ, Needham DM

Posttraumatic stress disorder in critical illness survivors: a metaanalysis

Critical Care Medicine 2015; 43: 1121-9

View review abstract online

Comparison	**Prevalence of PTSD symptoms in critical illness survivors.**
Summary of evidence	**Moderate quality evidence (large samples, inconsistent, appears imprecise, direct) found the prevalence of PTSD symptoms in critical illness survivors was between 25% and 44% up to 6 months post-ICU, with rates varying depending on the Impact of Event Scale score cut-off. By 12 months, rates were between 17% and 34%.**

Prevalence of PTSD symptoms in critical illness survivors

Impact of Event Scale score cut-off of ≥20

1-6 months post-ICU: 6 studies, N = 456, prevalence = 44%, 95%CI 36% to 52%, I^2 = 62%

7-12 months post-ICU: 5 studies, N = 698, prevalence = 17%, 95%CI 10% to 26%, I^2 = 85%

Impact of Event Scale score cut-off of ≥35

1-6 months post-ICU: 6 studies, N = 456, prevalence = 25%, 95%CI 17% to 34%, I^2 = 68%

7-12 months post-ICU: 5 studies, N = 698, prevalence = 34%, 95%CI 22% to 50%, I^2 = 93%

ICU risk factors for posttraumatic stress disorder symptoms included benzodiazepine administration and post-ICU memories of frightening ICU experiences. Posttraumatic stress disorder symptoms were associated with worse quality of life. In European-based studies an ICU diary was associated with a significant reduction in posttraumatic stress disorder symptoms, a self-help rehabilitation manual was associated with significant posttraumatic stress disorder symptom reduction at 2 months, but not 6 months; and a nurse-led ICU follow-up clinic did not reduce posttraumatic stress disorder symptoms.

Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Righy C, Rosa RG, da Silva RTA, Kochhann R, Migliavaca CB, Robinson CC Teche SP, Teixeira C, Bozza FA, Falavigna M

Prevalence of post-traumatic stress disorder symptoms in adult critical care survivors: a systematic review and meta-analysis

Critical Care 2019; 23: 213

View review abstract online

Comparison	**Prevalence of PTSD symptoms in critical care survivors.**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) found the overall prevalence of PTSD in critical care survivors was around 20% between discharge and over 12 months post-discharge. Rates were higher within the first 3 months post-discharge (~26%).**
Prevalence of PTSD symptoms in critical care survivors	
Overall: 48 studies, N = 7,152, prevalence = 19.83%, 95%CI 16.72% to 23.13%, I^2 = 90% <3 months: 8 studies, N = 991, prevalence = 25.69%, 95%CI, 11.15 to 21.35, I^2 = 94% 3 months: 17 studies, N = 2,239, prevalence = 15.93%, 95%CI, 11.15 to 21.35, I^2 = 90% 6 months: 13 studies, N = 1,968, prevalence = 16.80%, 95%CI, 13.74 to 20.09, I^2 = 66% 12 months: 13 studies, N = 3,697, prevalence = 18.96%, 95%CI, 14.28 to 24.12, I^2 = 92% >12 months: 7 studies, N = 387, prevalence = 20.21%, 95%CI, 13.79 to 27.44, I^2 = 58%	
Consistency in results	Inconsistent, partly explained by year that the study was conducted.
Precision in results	Appears imprecise
Directness of results	Direct

Rogers JP, Chesney E, Oliver D, Pollak TA, McGuire P, Fusar-Poli P, Zandi MS, Lewis G, David AS

Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic

The Lancet Psychiatry 2020; 7: 611-27

View review abstract online

Comparison	**Prevalence of PTSD in people post-coronavirus illness (severe acute respiratory syndrome [SARS], Middle East respiratory syndrome [MERS], or coronavirus disease 2019 [COVID-19]). Follow-up time varied between 60 days and 12 years.**
Summary of evidence	**Moderate quality evidence (large sample size, appears inconsistent and imprecise, direct) finds the mean prevalence of PTSD following a coronavirus infection is around 32%. Rates of PTSD were higher in females than males, and high in healthcare workers, in people with a previous physical illness, in people with avascular necrosis, functional impairment, pain, and a sense of lack of control.**
Prevalence of PTSD after a coronavirus infection	
4 studies, N = 402, point prevalence of PTSD = 32.2%, 95%CI 23.7% to 42.0% Rates of PTSD were higher in females than males, higher in healthcare workers, in people with a previous physical illness, in people with avascular necrosis, functional impairment, pain, and a sense of lack of control. Rate of depression was 14.9%, and anxiety disorders was 14.8%.	
Consistency in results	Appears inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Salehi M, Amanat M, Mohammadi M, Salmanian M, Rezaei N, Saghazadeh A, Garakani A

The prevalence of post-traumatic stress disorder related symptoms in Coronavirus outbreaks: A systematic-review and meta-analysis

Journal of Affective Disorders 2021; 282: 527-38

View review abstract online

Comparison	**Prevalence of PTSD symptoms in patients following or during a coronavirus infection (severe acute respiratory syndrome [SARS], Middle East respiratory syndrome [MERS], and Coronavirus disease 2019 [COVID-19]).**
Summary of evidence	**Moderate quality evidence (large samples, inconsistent, appears imprecise, direct) finds the prevalence of PTSD symptoms in patients with a coronavirus infection is around 29%. Rates were highest in longitudinal cohort studies, when measured after outbreaks, in patients with MERS, and in studies using the Impact of Event scale to measure PTSD.**
Prevalence of PTSD symptoms during coronavirus outbreaks	
10 studies, N = 794, prevalence rate = 29%, 95%CI 18% to 39%, I^2 = 96% Prevalence rates were more frequent in cohort studies (36%) than in cross-sectional studies (13%). Prevalence was higher in MERS (40%) than SARS (28%) patients, and in studies using the Impact of Event scale (40%). Prevalence rates were higher after outbreaks (37%) than during outbreaks (2%).	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Siqveland J, Hussain A, Lindstrom JC, Ruud T, Hauff E

Prevalence of posttraumatic stress disorder in persons with chronic pain: A meta-analysis

Frontiers in Psychiatry 2017; 8: 164

View review abstract online

Comparison	**Prevalence of PTSD in people with chronic pain.**
Summary of evidence	**Moderate quality evidence (large sample, inconsistent, appears imprecise, direct) finds the prevalence of PTSD in people with chronic pain is around 9.7%. PTSD prevalence was higher in people with chronic widespread pain and headache, and lower in people with back pain. Prevalence was higher in studies using self-reported PTSD symptoms than in studies using clinical interviews to assess PTSD.**
Prevalence of PTSD in people with chronic pain	

21 studies, N = 6,750, prevalence = 9.7%, 95%CI 5.2% to 17.1%, I^2 = 98.6% PTSD prevalence was higher in people with chronic widespread pain (20.5%), and headache (11.2%), and lower in people with back pain (0.3%). Prevalence was higher in studies using self-reported PTSD symptoms (20.4%) than in studies using clinical interviews (4.5%).	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Spottswood M, Davydow DS, Huang H

The Prevalence of Posttraumatic Stress Disorder in Primary Care: A Systematic Review

Harvard Review of Psychiatry 2017; 25: 159-69

View review abstract online

Comparison	**Prevalence of PTSD in people in primary care settings (first-contact medical care centres such as family practices, internal medicine, and obstetrics/gynecology clinics).**
Summary of evidence	**Moderate quality evidence (large sample, direct) finds the median prevalence of PTSD in primary care settings (first-contact medical care centres) is around 12.5%.**
Prevalence of PTSD in primary care settings	
41 studies N = 7,256,826, median prevalence = 12.5% The median point prevalence in the civilian population was 11.1%, in the special-risk population 12.5%, and in veterans 24.5%. The point prevalence of diagnostic interview-ascertained PTSD ranged from 2% to 32.5%, and the point prevalence of questionnaire-based substantial PTSD symptoms ranged from 2.9% to 39.1%. Lifetime prevalence of diagnostic interview-ascertained PTSD ranged from 14.5% to 48.8%. The prevalence of PTSD in administrative data-based studies ranged from 3.5% to 29.2%.	
Consistency in results	No measure of consistency is reported.
Precision in results	No measure of precision is reported.
Directness of results	Direct

Van Praag DLG, Cnossen MC, Polinder S, Wilson L, Maas AIR

Post-Traumatic Stress Disorder after Civilian Traumatic Brain Injury: A Systematic Review and Meta-Analysis of Prevalence Rates

Journal of Neurotrauma 2019; 36: 3220-32

View review abstract online

Comparison	**Prevalence of PTSD in civilians with a traumatic brain injury (TBI).**
Summary of evidence	**Moderate quality evidence (large sample, direct) finds the median prevalence of PTSD in civilians with a traumatic brain injury is around 15.6%. There were no differences in rates of PTSD between people with mild or moderate/severe TBI.**
Prevalence of PTSD in civilians with a TBI	
31 studies N = not reported, prevalence = 15.64%, 95%CI 12.88% to 18.40%, I^2 = 82% There were no differences in rates of PTSD between people with mild or moderate/severe TBI (13.5% vs. 11.8%).	
Consistency in results	Inconsistent
Precision in results	Appears imprecise
Directness of results	Direct

Yu H, Nie C, Zhou Y, Wang X, Wang H, Shi X

Epidemiological Characteristics and Risk Factors of Posttraumatic Stress Disorder in Chinese Children After Exposure to an Injury

Disaster Medicine and Public Health Preparedness 2019; Oct: 1-8

View review abstract online

Comparison	**Prevalence of PTSD in children after an injury.**
Summary of evidence	**Moderate to high quality evidence (large sample size, inconsistent, appears precise, direct) finds the overall prevalence of PTSD after an injury is 20.52%. Rates were highest in girls, in older children and in children injured in hurricanes.**

Prevalence in medical patients

Prevalence of PTSD in children after an injury	
47 studies, N = 65 298, prevalence = 20.52%, 95%CI 17% to 23%, I^2 = 99.7% Prevalence was higher in girls than in boys (24.61% vs 19.36%), in older than younger children (senior high school = 51.82%, junior high school = 37.12%, primary school = 14.02%), and in children of ethnic minority than in Han Chinese children (35.38% vs. 13.50%). Prevalence of PTSD in children was 57.5% after hurricanes, 23.6% after an earthquake, 8.9% after mudslides, and 2.3% after floods.	
Consistency in results	Inconsistent
Precision in results	Appears precise
Directness of results	Direct

Explanation of acronyms

CI = confidence interval, COVID-19 = coronavirus disease 2019, I^2 = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), ICU = intensive care unit, MERS = Middle East respiratory syndrome, N = number of participants, PCL-C = PTSD Checklist-Civilian Version, SARS = severe acute respiratory syndrome, SCID = Structured Clinical Interview for DSM (Diagnostic and Statistical Manual of Mental Disorders), TBI = traumatic brain injury

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Explanation of technical terms

* Bias has the potential to affect reviews of both RCT and observational studies. Forms of bias include; reporting bias – selective reporting of results; publication bias - trials that are not formally published tend to show less effect than published trials, further if there are statistically significant differences between groups in a trial, these trial results tend to get published before those of trials without significant differences; language bias – only including English language reports; funding bias - source of funding for the primary research with selective reporting of results within primary studies; outcome variable selection bias; database bias - including reports from some databases and not others; citation bias - preferential citation of authors. Trials can also be subject to bias when evaluators are not blind to treatment condition and selection bias of participants if trial samples are small[20].

† Different effect measures are reported by different reviews.

Prevalence refers to how many existing cases there are at a particular point in time. Incidence refers to how many new cases there are per population in a specified time period. Incidence is usually reported as the number of new cases per 100,000 people per year. Alternatively some studies present the number of new cases that have accumulated over several years against a person-years denominator. This denominator is the sum of individual units of time that the persons in the population are at risk of becoming a case. It takes into account the size of the underlying population sample and its age structure over the duration of observation.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified (100% sensitivity = correct identification of all actual positives) and specificity is the proportion of negatives that are correctly identified (100% specificity = not identifying anyone as positive if they are truly not).

Weighted mean difference scores refer to mean differences between treatment and comparison groups after treatment (or occasionally pre to post treatment) and in a randomised trial there is an assumption that both groups are comparable on this measure prior to treatment. Standardised mean differences are divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) that allows results from different scales to be combined and compared. Each study's mean difference is then given a weighting depending on the size of the sample and the variability in the data. Less than 0.4 represents a small effect, around 0.5 a medium effect, and over 0.8 represents a large effect[20].

Odds ratio (OR) or relative risk (RR) refers to the probability of a reduction (< 1) or an increase (> 1) in a particular outcome in a treatment group, or a group exposed to a risk factor, relative to the comparison group. For example, a RR of 0.75 translates to a reduction in risk of an outcome of 25% relative to those not receiving the treatment or not exposed to the risk factor. Conversely, a RR of 1.25 translates to an increased risk of 25% relative to those not receiving treatment or not having been exposed to a risk factor. A RR or OR of 1.00 means there is no difference between groups. A medium effect is considered if RR > 2 or < 0.5 and a large effect if RR > 5 or < 0.2[21]. lnOR stands for logarithmic OR where a lnOR of 0 shows no difference between groups. Hazard ratios measure the effect of an explanatory variable on the hazard or risk of an event.

Correlation coefficients (eg, r) indicate the strength of association or relationship

between variables. They can provide an indirect indication of prediction, but do not confirm causality due to possible and often unforseen confounding variables. An r of 0.10 represents a weak association, 0.25 a medium association and 0.40 and over represents a strong association. Unstandardised (*b*) regression coefficients indicate the average change in the dependent variable associated with a 1 unit change in the independent variable, statistically controlling for the other independent variables. Standardised regression coefficients represent the change being in units of standard deviations to allow comparison across different scales.

‡ Inconsistency refers to differing estimates of effect across studies (i.e. heterogeneity or variability in results) that is not explained by subgroup analyses and therefore reduces confidence in the effect estimate. I^2 is the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance) - 0% to 40%: heterogeneity might not be important, 30% to 60%: may represent moderate heterogeneity, 50% to 90%: may represent considerable heterogeneity and over this is considerable heterogeneity. I^2 can be calculated from Q (chi-square) for the test of heterogeneity with the following formula[20];

$$I^2 = \left(\frac{Q - df}{Q}\right) \times 100\%$$

§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate. Based on GRADE recommendations, a result for continuous data (standardised mean differences, not weighted mean differences) is considered imprecise if the upper or lower confidence limit crosses an effect size of 0.5 in either direction, and for binary and correlation data, an effect size of 0.25. GRADE also recommends downgrading the evidence when sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, these criteria should be relaxed[22].

‖ Indirectness of comparison occurs when a comparison of intervention A versus B is not available but A was compared with C and B was compared with C that allows indirect comparisons of the magnitude of effect of A versus B. Indirectness of population, comparator and/or outcome can also occur when the available evidence regarding a particular population, intervention, comparator, or outcome is not available and is therefore inferred from available evidence. These inferred treatment effect sizes are of lower quality than those gained from head-to-head comparisons of A and B.

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