Search Strategy of the Review for Medline

1. flashback\*.mp.

2. disaster\*.mp.

3. victim\*.mp.

4. “stress disorder\*".mp.

5. "acute stress\*".mp.

6. (PTSD or post?traumatic\* or "vicarious trauma\*" or "complex trauma\*").mp.

7. exp combat disorders/ or exp psychological trauma/ or exp stress disorders, post-traumatic/ or exp stress disorders, traumatic, acute/ or exp Battered Child Syndrome/ or exp natural disasters/ or exp child abuse, sexual/ or exp human trafficking/ or exp rape/ or exp violence/ or exp adverse childhood experiences/ or exp domestic violence/ or exp gender-based violence/ or exp gun violence/ or exp intimate partner violence/ or exp physical abuse/ or exp terrorism/ or exp torture/ or exp workplace violence/ or exp war crimes/ or exp genocide/ or exp "adult survivors of child adverse events"/ or exp "adult survivors of child abuse"/ or exp Dissociative Disorders/

8. 1 or 2 or 3 or 4 or 5 or 6 or 7

9. Dement\*.mp.

10. "alzheimer\* disease".mp.

11. (AD or FTD or VAD or DLB).mp.

12. ("mild cognitive impairment" or MCI).mp.

13. exp dementia/ or exp alzheimer disease/ or exp dementia, vascular/ or exp Frontotemporal Dementia/

14. 9 or 10 or 11 or 12 or 13

15. 8 and 14

Table 1 Modified Newcastle-Ottawa Scoring scale assessing study quality

|  |
| --- |
| **Selection** |
| 1. Representativeness of the exposed cohort |
| a) Truly representative (1 point)  b) Somewhat representative (1 point)  c) Selected group of users (0 points)  d) No description of the derivation of the cohort (0 points) |
| 1. Selection of the non-exposed cohort |
| a) Drawn from the same community as the exposed cohort (1 point)  b) Drawn from a different source (0 points)  c) No description of the derivation of the non-exposed cohort (0 points) |
| 1. Ascertainment of exposure |
| a) Secure record (e.g., medical records) (1 point)  b) Structured interview (1 point)  c) Written self-report (0 points)  d) No description (0 points)  e) Other (0 points) |
| 1. Demonstration that outcome of interest was not present before follow-up |
| a) Yes (1 point)  b) No (0 points) |
| **Comparability and Design†** |
| 1. Comparability of cohorts on the basis of the design or analysis |
| a) Study controls for two or more covariates (1 point)  b) Study controls for less than two covariates (0 points) |
| 1. Longitudinal study design |
| a) Prospective longitudinal/cohort study (1 point)  b) Retrospective longitudinal/cohort study (0 points) |
| **Outcome** |
| 1. Assessment of outcome |
| a) Independent blind assessment (1 point)  b) Record linkage (1 point)  c) Self-report (0 points)  d) No description (0 points)  e) Other (0 points) |
| 1. Was follow-up long enough for outcome to occur (at least 5 years) |
| a) Yes (1 point)  b) No (0 points) |
| 1. Adequacy of follow-up of cohorts |
| a) Complete follow-up – all subjects accounted for (1 point)  b) Subjects lost to follow-up unlikely to introduce bias – number lost less than or equal to 20%, or description provided for those lost (1 point)  c) Follow-up rate less than 80% and no description of those lost (0 points)  d) No statement (0 points) |

*Note:* Good: 3 or 4 points in selection domain AND 1 or 2 points in comparability domain AND 2 or 3 points in outcome domain; fair: 2 points in selection domain AND 1 or 2 points in comparability domain AND 2 or 3 points in outcome domain; poor: 0 or 1 point in selection domain OR 0 points in comparability domain OR 0 or 1 points in outcome domain; †Modified for the systematic review

Table 2 Excluded studies with reasons

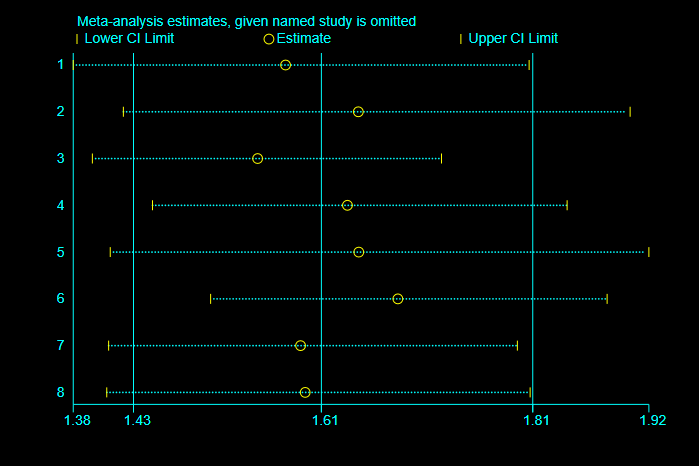
| Study | Reasons of exclusion |
| --- | --- |
| Chao (2017) | Cross-sectional study on memory impairment in veterans of Gulf War; dementia not diagnosed based on established clinical criteria. |
| Charles et al. (2006) | Retrospective study on life traumatisms preceding dementia; PTSD symptoms not assessed or diagnosed. |
| Cho et al. (2016) | Retrospective study on protective and risk factors for mortality in old veterans; association between dementia and PTSD not examined. |
| Clouston et al. (2016) | Prospective cohort study on the association between PTSD and cognitive impairment in world trade center responders; dementia not diagnosed based on established clinical criteria. |
| Clouston et al. (2017) | Prospective cohort study on world trade center-related exposures, PTSD and cognitive function; dementia not diagnosed based on established clinical criteria. |
| Clouston et al. (2018) | Prospective cohort study on PTSD and increased risk of MCI in world trade center responders; MCI not diagnosed based on clinical criteria; duplicate with above. |
| Cortina et al. (2011) | Cross-sectional study on prevalence of PTSD and depression among veterans; dementia not diagnosed based on established clinical criteria. |
| Elias et al. (2017) | Cross-sectional study assessing amyloid beta and tau deposition in Vietnam war veterans living with PTSD; dementia not diagnosed based on established clinical criteria. |
| Eren-Koçak et al. (2008) | Cross-sectional study on memory and prefrontal function in survivors of the 1999 earthquakes in Turkey; dementia not diagnosed based on established clinical criteria. |
| Hart et al. (2008) | Cross-sectional study on cognitive function in former World War II prisoners of war; dementia not diagnosed based on established clinical criteria. |
| Hikichi et al. (2016) | Prospective cohort study on exposure to the 2011 Great East Japan Earthquake and Tsunami disasters and risk of cognitive decline; association between PTSD and dementia not examined. |
| Ishiki et al. (2015) | Prospective cohort study on cognition and activities of daily living in older people affected by the 2011 Great East Japan earthquake; PTSD and dementia not assessed or diagnosed based on established clinical criteria. |
| Kodesh et al. (2019) | Retrospective cohort study on past Holocaust exposure and risk of dementia; association between PTSD and dementia not examined. |
| Krasnov et al. (2015) | Prospective cohort study on early ageing in Chernobyl clean-up workers; association between PTSD and dementia not examined. |
| Loganovsky et al. (2018) | Cross-sectional study on neuropsychiatric characteristics of antiterrorist operation combatants in Ukraine; dementia not diagnosed based on established clinical criteria. |
| Mohamed et al. (2018) | Cross-sectional study on the association of TBI and/or PTSD and increase in amyloid beta accumulation in Vietnam War veterans; dementia not diagnosed based on established clinical criteria. |
| Mohamed et al. (2019) | Cross-sectional study on the association between TBI and/or PTSD increase tau deposition in the brain of Vietnam War veterans; dementia not diagnosed based on established clinical criteria. |
| Raad (2017) | Retrospective cohort study on chronic health conditions among homeless veterans with physical disabilities; aassociation between PTSD and dementia not examined. |
| Ravona-Springer et al. (2011) | Retrospective cohort study on exposure to Holocaust and World War II concentration camps and risk of dementia; PTSD symptoms not assessed or diagnosed. |
| Ritchie et al. (2011) | Cross-sectional and longitudinal study on the association between adverse childhood environment and cognitive function in community dwelling older people; PTSD symptoms not assessed or diagnosed. |
| Sperling et al. (2011) | Brief report on risk of dementia in Holocaust survivors with PTSD; unclear whether this is a longitudinal study; contact with author not possible. |
| Tsolaki et al. (2010) | Retrospective cohort study on the association between stressful life events and cognitive impairment in older people with dementia; PTSD symptoms not assessed or diagnosed. |
| Weiner et al. (2017) | Preliminary findings of a prospective cohort study assessing risk of TBI and/or PTSD and developing Alzheimer’s disease in Vietnam Veterans using biomarkers and measures of cognitive function; dementia not diagnosed based on established clinical criteria. |
| Yehuda et al. (2005) | Cross-sectional study investigating learning and memory in ageing combat veterans of the World War II, the Korean War, and the Vietnam War with PTSD; dementia not diagnosed based on established clinical criteria. |
| Yehuda et al. (2006) | Prospective cohort study assessing cognitive function in Holocaust survivors with and without PTSD compared to a non-exposed cohort; dementia not diagnosed based on established clinical criteria. |

*Note.* PTSD: Posttraumatic stress disorder; MCI: Mild cognitive impairment; TBI: Traumatic brain injury.

Table 3 Methodological quality of included studies

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Selection | | | | Comparability | | Outcome | | Overall Quality |
|  | Represen-tativeness | Control group | Ascertainment of Exposure | Outcome not at baseline | Adjusted Covariates | Study type | Assessment of outcome | Follow-up† |  |
| Bhattarai et al. (2018) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |
| Bonanni et al. (2018) |  |  |  |  |  |  |  |  |  |
| Prospective cohort | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | Poor |
| Retrospective cohort | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | Fair |
| Flatt et al. (2018) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |
| Folnegović-Šmalc et al. (1997) | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | Poor |
| Gradus et al. (2018) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |
| Mawanda et al. (2017) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |
| Meziab et al. (2014) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |
| Qureshi et al. (2010) | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | Good |
| Roughead et al. (2017) | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | Good |
| Wang et al. (2016) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | Poor |
| Yaffe et al. (2010) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |
| Yaffe et al. (2019) | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | Good |

*Note.* †Up to 2 points for follow-up



*Figure 1*. Sensitivity analyses to exploretheimpact of each individual study on the association between PTSD dementia.