

Incidence, characteristics and outcomes of out-of-hospital cardiac arrests in patients with psychiatric illness: a systematic review

Raied Alotaibi¹, Nynke Halbesma^{1,2}, Laura Bijman¹, Gareth Clegg², Daniel Smith³, Caroline A Jackson¹

1. Usher Institute, University of Edinburgh, 2. Resuscitation Research Group, The University of Edinburgh, 3. Centre for Clinical Brain Sciences, The University of Edinburgh



THE UNIVERSITY
of EDINBURGH

Usher
institute

Background

- People with a history of psychiatric illness die 10-20 years earlier than the general population, largely due to an excess burden of cardiovascular disease (CVD).
- Despite the well-established relationship between psychiatric illness and increased CVD risk, the relationship between psychiatric illness and out-of-hospital cardiac arrest (OHCA) has been little studied.

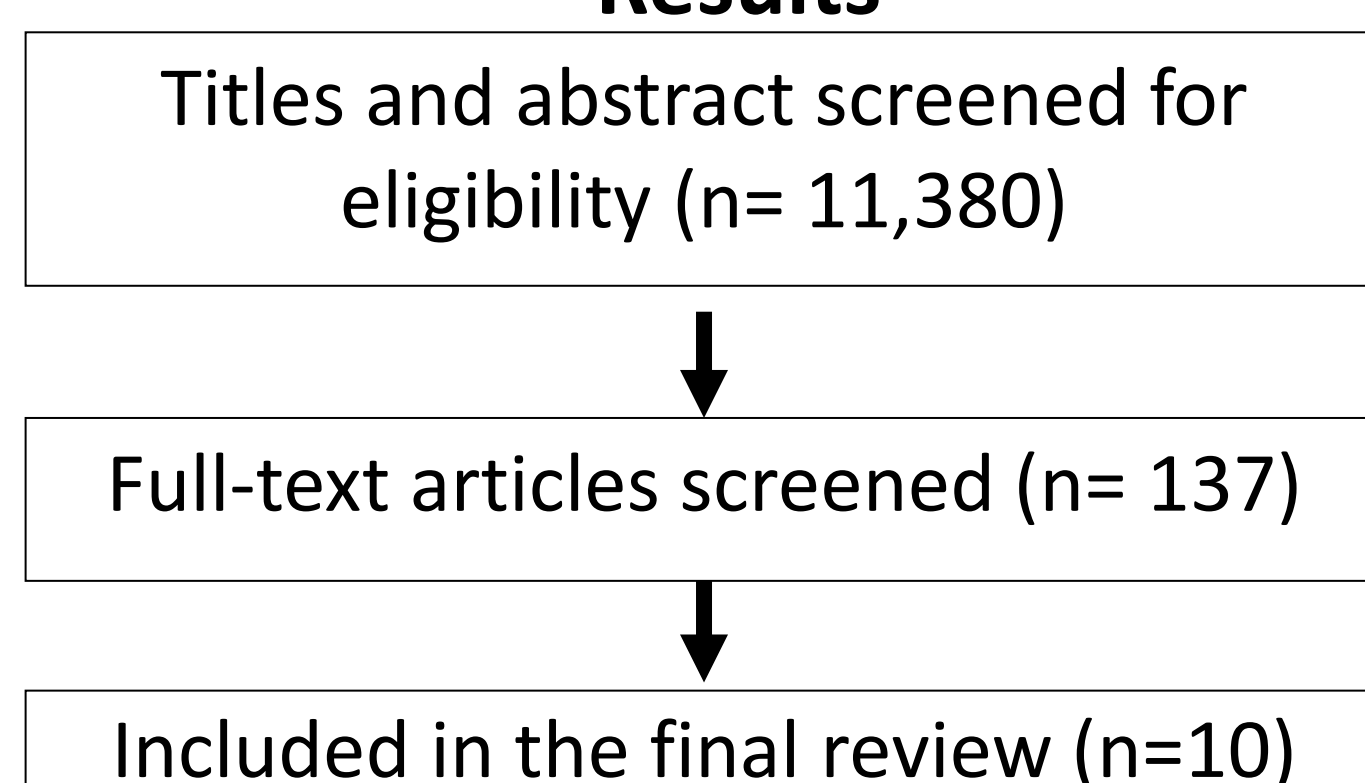
Aim

To conduct a systematic literature review of the existing evidence on incidence, characteristics and outcomes after OHCA in patients with psychiatric illness.

Methods

- We searched Embase, Medline, PsycINFO and Web of Science up to 11th December 2021.
- We included observational studies published in English that reported on psychiatric illnesses in adults and children including depressive disorders, anxiety disorders, bipolar disorders, dissociative disorders and schizophrenia and other psychotic disorders, with or without an included comparison group.
- We included studies that reported on either of the following: OHCA incidence, patient- and OHCA event-related characteristics, 30-day survival or survival to hospital discharge.
- All titles and abstracts were screened by one reviewer and a random sample of 10% were screened by a second reviewer.
- Two reviewers extracted data and assessed quality using NOS.

Results



Study characteristics

- Three studies reported on depression, whilst seven included various psychiatric conditions.
- One study reported on incidence, two studies on survival and nine studies reported on characteristics.
- Published between 2006-2021 from USA, Canada, Europe and Japan.

Key findings

- Very few studies have reported on OHCA in relation to psychiatric illness and marked heterogeneity between studies indicating a Knowledge gap.
- The two studies that reported on OHCA incidence found an increased odds of OHCA incidence.
- Association with unfavourable OHCA characteristics (less bCPR, private location, more comorbidities ...etc).
- One study that compared temporal changes in survival between 2001 and 2015 found that lower OHCA survival, increased over time.

Discussion

This review highlights that very few studies have reported on OHCA incidence, characteristics and outcomes in relation to psychiatric illness.

What are the possible mechanisms?!

- Increased CVD risk in people with psychiatric illness may increase the risk of cardiac causes that lead to OHCA.
- Psychotropic drug use is associated with heart rate variability and QT prolongation, which may increase the risk of ventricular arrhythmia.
- Association with unfavourable OHCA characteristics.
- Health inequalities, multiple other studies found that people with psychiatric illness are less likely to receive coronary revascularisation in hospital after MI and OHCA.

Implication on future research

- Further research across multiple settings and populations investigating the association between psychiatric illnesses and OHCA in more depth are warranted.
- Future studies should further investigate these links and the role of potential contributory factors such as socioeconomic status and comorbidities.

Conclusion

- Psychiatric illness in relation to OHCA incidence and outcomes has rarely been studied and only a handful of studies have reported on OHCA characteristics, highlighting the need for further research in this area.
- The scant existing literature suggests that psychiatric illness may be associated with higher risks of OHCA, unfavourable characteristics and poorer survival.