

Post-traumatic stress affects more than one in ten cardiac device patients, finds study

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Nearly one-third of patients with an implanted device to prevent sudden death have anxiety in the first year, while depression affects one in five. That's the finding of a study published this week in *Europace*, a journal of the European Society of Cardiology (ESC).

Lead author Professor Hannah Keage from the University of South Australia says implantable cardioverter defibrillators (ICDs) are effective at extending patients' lives, "but we need to make sure that is a good quality life."

"Rates of [mood disorders](#) in people with an ICD are much higher than in the general population, suggesting that [psychological assessment](#) and therapy should be integrated into the routine care of these patients," Prof. Keage says.

An ICD is recommended for people at high risk of a life-threatening heart rhythm and those who have had a [cardiac arrest](#). Anxiety and depression are associated with a higher likelihood of premature death in patients with an ICD.

The study compiled the best available evidence to determine levels of depression, anxiety, and [post-traumatic stress disorder](#) (PTSD) in patients with an ICD.

Prof. Keage has been collaborating with cardiologists for many years, applying her cognitive neuroscience research to help address [psychological problems](#) in cardiac patients.

"The cardiologists noticed that mood disorders were common in their ICD patients, so we teamed up to get an idea of how widespread this was."

The analysis included 109 studies covering 39,954 ICD patients. When the prevalence of anxiety, depression and PTSD was examined from the time of ICD insertion to more than one year of follow-up, rates were 23%, 15% and 12%, respectively.

Rates of these conditions in the [general population](#) are estimated at 13%,

7% and 1%–2%, respectively.

Further detail was available for anxiety and depression, which showed higher rates in the initial stages after implantation.

In the first five months, 32% and 23% had anxiety and depression, respectively. Six to 12 months after insertion, rates of anxiety and depression had declined to 29% and 21%, respectively. Further declines were observed beyond 12 months after implantation, when rates were 22% and 15%, respectively.

"When an ICD detects a dangerously fast heart rhythm, it delivers a shock to return it to normal, which can feel like being kicked in the chest," Prof. Keage says.

The analysis found that patients who had shocks were four times more likely to have anxiety and nearly twice as likely to have depression compared to those without shocks. In an analysis by sex, women were more likely than men to have anxiety after receiving their ICD.

"Rates of all three mood disorders were notably high compared to what we would expect in people without an ICD, particularly for PTSD, which is a type of trauma and stress disorder.

"Around 30% of ICD patients will experience a shock in the first two years and for some patients this is a constant fear that affects decisions about driving, swimming, and other activities.

"The decline in mood disorders over time could be due to several factors including patients getting psychological help or adapting to their new life. We can't discount the possibility that healthier people tend to stay in studies longer while those in ill-health are more likely to drop out. The sex differences were expected as rates of anxiety are higher in women

compared to men."

The analysis also examined mood disorders in non-ICD participants of the 109 studies. An estimated 23% of ICD patients' partners had anxiety following the implantation and 14% had depression—which was similar to the rates in patients themselves. Patients with cardiac disease but no ICD also had similar rates of mood disorders as those with an ICD.

"Partners are clearly worried about their loved one undergoing surgery and then potentially having a shock. Involving ICD patient partners in psychological therapies is more effective in improving patients' physical and [psychological health](#) than attending alone.

"The findings in cardiac patients make a lot of sense, as heart health and mood disorders go hand in hand. Psychological ill-health can also lead to heart problems through chronic stress and unhealthy lifestyles.

"Psychologists have had little involvement in the care of cardiac patients, but this needs to change. I would encourage patients and partners to seek help if their mood is low or they are overly worried, as there are evidence-based therapies for [anxiety](#), [depression](#), and PTSD."

More information: Erica S Ghezzi et al, Burden of mood symptoms and disorders in implantable cardioverter defibrillator patients: a systematic review and meta-analysis of 39,954 patients, *Europace* (2023). [DOI: 10.1093/europace/euad130](https://doi.org/10.1093/europace/euad130)

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