

# Bereavement round-up: health and mortality effects of bereavement

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Grieving is acknowledged as being not just an emotional and psychological experience but also one which exerts a physical toll on the bereaved. The connection between bereavement and decline in mental and physical health has been addressed in numerous studies (Stroebe & Schut, 2007). The extent to which bereavement poses a risk for cardiac events or mortality has received particular attention.

Two recent articles take investigation of cardiovascular events after bereavement a step further. The studies both highlight the need for continued investigation of the physiological toll of bereavement, and the connection between emotional stress and physical health. They indicate a need for vigilance from health and social care professionals supporting bereaved people.

Stroebe M, Stroebe W, Schut H (2007), Health outcomes of bereavement. *The Lancet* 370 (9603) 1960-1973.

## Abnormal arrhythmia risk and bereavement

Graff S, Fenger-Grøn M, Christensen B *et al* (2016). Long-term risk of atrial fibrillation after the death of a partner. *Open Heart* (3).

This article takes the growing evidence of severely stressful life events like bereavement and trauma and increased risk of cardiovascular event as a starting point.

Atrial Fibrillation, an abnormal rapid heart beat, is associated with a high risk for cardiac event like heart attack or stroke. Takotsubo cardiomyopathy or 'broken heart syndrome' has been shown as a weakening of the heart and increased risk of heart attack in the wake of a stressful event or bereavement. Though previous studies have concluded that stressful events can contribute to heart attack, the authors of this study acknowledge that no in-depth investigation of the association between stressful life events and atrial fibrillation had been done to date.

The Danish research team who conducted the study aimed to investigate whether a direct link could be established between a specific stressor like bereavement and the development of atrial fibrillation. In their study they focused on looking for any association between the death of a spouse or life partner and an initial treatment for atrial fibrillation.

They conducted a longitudinal population-based study from the years 1995 to 2014.

Over 88,600 people were identified as being diagnosed with abnormal heartbeat in the 1995 to 2014 time period and these were contrasted to a control group of over 886,000 healthy members of the public. Using the Age-adjusted Charlson Comorbidity Index (ACCI) they evaluated likelihood of death one month prior to death and allocated points for specific chronic diseases like heart failure.

Overall findings determined the risk of atrial fibrillation to be 41% higher for those who have experienced bereavement than the non-bereaved population. Risk of Atrial fibrillation was seen to be higher in the immediate weeks and months after a loss. The initial 30 day period after the death shown to be that associated with highest risk. As with accepted knowledge on the trajectory of bereavement findings showed a gradual decline in risk over time. Just as in psychological adjustment to loss, as the bereaved moved beyond the first six months after a loss their risk was reduced. This reduction was such that one year post loss the risk was reduced to a level similar to the non-bereaved population.

Significant in the study findings was the indication that age of the bereaved played a role in likelihood for developing an abnormal arrhythmia. Unlike previous studies, many of which focus specifically on the older population, older bereaved people did not carry the burden of increased risk across the population studied. Contrary to this, it was those under the age of 60 at the time of bereavement who were seen to have the higher risk of developing Atrial Fibrillation.

A factor in this elevated risk for younger people was the Age-adjusted Charlson Comorbidity Index (ACCI) scores. Where a pre-

existing medical or chronic condition did not exist and the death was unexpected there are increased stress levels. For those who lose a partner following a long-term illness, or where the death is anticipated there is not the same increase. As Stahl *et al*'s study (see below) indicated there may even be a reduced mortality risk in the older population with a history of cardiovascular issues.

As this is the first study of its kind to apply a population approach to links between bereavement and atrial fibrillation, there is much still to be examined. The researcher's access to data from Danish national registers is highlighted as beneficial to the validity of the results. Replicating findings across other geographic regions may be more challenging. The lack of data on bereaved patients treated in primary care is highlighted as a potential weakness, as is the lack of details on additional contributory factors such as lifestyle.

The study highlights the need for particular vigilance in the immediate weeks after a loss. With the highest risk for Atrial Fibrillation coming in the first two weeks it is important the recently bereaved, particularly those who experience a sudden unexpected loss are attentive to any new physical symptoms.

There are also implications for primary care and bereavement support providers. In providing information and support to bereaved people after unexpected death, attention should be given to physical and mental health and the potential development of symptoms of cardiac event signposted.

## Depression, cardiovascular disease and increased mortality risk in the bereaved

Stahl S, Arnold A, Chen J *et al* (2016). Mortality after bereavement: the role of cardiovascular disease and depression. *Psychosomatic Medicine* 78(6) 697–703.

Stahl *et al*'s study also investigates risk factors following bereavement. Their research builds on the established link between bereavement later in life and mortality. Their focus was to investigate associations between cardiovascular disease, depression and post-bereavement mortality over a three-year period in people over the age of sixty five.

As the authors acknowledge, bereavement is a significant and stressful life event with spousal loss a particularly psychologically stressful occurrence. In this state of psychological stress the authors assert, the bereaved may 'discontinue daily tasks essential for the maintenance of their health, which increases the risk for early death' (p697). The existence of cardiovascular disease and depression may exacerbate mortality risk. The expectation of the study is that older bereaved people with cardiovascular disease or depression are at increased risk of mortality after bereavement.

Existing literature on bereavement, cardiovascular disease (CVD) and mortality has been limited according to Stahl *et al*. Addressing this gap, the study aimed to look at the relationship between spousal loss and mortality. Their hypothesis was that the loss of a spouse would work together with CVD to create an increased mortality risk. The additional premise was that higher incidence of depressive symptoms after bereavement would also indicate increased mortality risk.

The bereaved population sample were adults over the age of sixty five recruited across four US states from the Cardiovascular Health Study (CHS). This sample included 1333 married couples of whom 593 had experienced the death of their spouse. Surviving spouse mortality in the three years since loss was examined. The bereaved sample was contrasted to a married non-bereaved sample also recruited from CHS. Depressive symptoms were assessed according to the Center for Epidemiological Studies Depression Scale and in order to determine depression after bereavement the CHS sample were interviewed in their first CHS visit after their loss. Overall 910 people from the CHS sample completed the questionnaire advising depressive symptoms.

The study results illustrated some distinct contrasts, specifically related to gender and pre-existing cardiovascular disease status. In women with a history of CVD their mortality risk was seen to reduce after bereavement. In men the reverse was illustrated. Men with no pre-existing CVD were shown to have a higher bereavement risk after their bereavement. The male non-CVD participants illustrated a 26% increase in mortality in three years compared to just 14.3% for those with CVD.

In the finding that women with a history of CVD actually showed reduced mortality risk post bereavement the authors hypothesise the influence of the role of women as carers on this outcome. With higher numbers of older women, including those with CVD acting as carers, bereavement may come with a reduction in stress and in the burdens of care. Following bereavement, this group may focus renewed attention on the management of personal health and wellbeing.

In relation to depressive symptoms, the study findings proved contrary to the hypothesis and no significant interaction was seen. The variance again here was in men without CVD, whose risk including depressive symptoms was increased. The authors speculate about the lack of interaction between depressive symptoms and mortality in their findings. They conclude that depression may act as a mechanism for increased mortality risk in bereaved men without CVD or other pre-existing health complaints.

In speaking to post-bereavement depression the authors do not address the issues surrounding the 'bereavement exclusion'. The exclusion, controversially removed from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) in 2014, traditionally removed diagnosing of depression to individuals in the immediate six month period after a loss. The close relationship between the normal symptoms of acute grief and those of depression make the appropriate diagnosing of depression in this period difficult. Participants who completed the depressive symptoms questionnaire did so following their immediate post-bereavement visit with CHS. Completing the questionnaire in close proximity to the loss may have influenced outcome. The potential existence of Complicated Grief in subjects is also not specifically addressed and may have bearing on the mortality outcomes for the male non-CVD group. Further studies may be needed to tease out associations between post-bereavement depression and mortality in those without CVD at different intervals in the early grieving process. ■