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Take Control of Your Health

Yes, You Can Die From a 'Broken Heart,' and Optimism Makes You Live Longer

Analysis by Dr. Joseph Mercola | January 31, 2024

STORY AT-A-GLANCE

- Broken heart syndrome (stress cardiomyopathy or takotsubo cardiomyopathy) is a real medical condition, triggered by acute, major stress or shock, such as the death of a loved one
- Studies have shown that the loss of a loved one raises your own risk of sudden death, known as the "bereavement effect." There's even evidence showing that spousal illness increases the partner's mortality risk
- Having a positive outlook on life has been shown to be the most influential factor in longevity studies

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December 27, 2016, actress Carrie Fisher, aged 60, died from a heart attack. The very next day, her mother, actress Debbie Reynolds died from a stroke. In the wake of the loss of these two popular Hollywood icons, many have asked whether you can actually die from a broken heart.[1,2,3]

The short answer to that question is yes. Broken heart syndrome (formally known as stress cardiomyopathy or takotsubo cardiomyopathy) is a real medical condition, triggered by acute, major stress or shock — such as the death of a loved one.

Indeed, your heart and mind are closely interlinked, and your mental states can have a distinct influence on your heart health and overall longevity.

Symptoms and Risks of Broken Heart Syndrome

Symptoms of broken heart syndrome are very similar to those of a heart attack, including chest pain and shortness of breath. The difference is there's no actual damage to the heart to trigger it. Extreme shock or stress may also trigger a hemorrhagic stroke by causing a dramatic rise or change in blood pressure.

According to the British Heart Foundation (BHF), broken heart syndrome is a "temporary condition where your heart muscle becomes suddenly weakened or stunned." The left ventricle, your heart's largest chamber, also changes shape, which adds to the temporary dysfunction.

This sudden weakness of the heart is thought to be due to the sudden release of large quantities of adrenaline and other stress hormones.

Adrenaline increases your blood pressure and heart rate, and it's been suggested it may lead to narrowing of the arteries that supply blood to your heart, or even bind directly to heart cells allowing large amounts of calcium to enter and render the cells temporarily unable to function properly.

While most will successfully recover, in some, the change of shape of the left ventricle can trigger a fatal heart attack. An estimated 90% of broken heart syndrome occurs in women.

Having a history of neurological problems, such as seizure disorders, and/or a history of mental health problems is thought to raise your risk.[4] While the condition can be life-threatening and requires immediate medical attention, it's usually a temporary condition that leaves no permanent damage.

Research[5] also shows that your heart disease and stroke risk may be predicted by activity in your amygdala, a brain region associated with stress and fear, and this risk remained even after accounting for other risk factors such as smoking, high blood pressure and diabetes. According to lead author Dr. Ahmed Tawakol:

"We were surprised at how robustly amygdalar activity predicted hard cardiovascular events, along with providing information on the timing of those events."

This and other research suggests stress can contribute to cardiovascular disease in a number of ways, but inflammation is a key component.

As reported by CNN, "Stress may activate the amygdala, leading to extra immune cell production by the bone marrow, which in turn may impact the arteries, causing inflammation, which could lead to a cardiovascular disease event …"

The Bereavement Effect

A number of studies have shown that the loss of a loved one raises your own risk of sudden death, also known as the "bereavement effect." There's even evidence showing that spousal illness increases the partner's mortality risk.

- A 2006 study[6] published in the New England Journal of Medicine (NEJM) found that the risk of death increased after hospitalization of a partner, with some ailments causing a more pronounced effect than others.

  For example, while a woman being hospitalized for colon cancer was not associated with an increased risk of death for her husband, being hospitalized for a stroke raised the husbands' risk of death by 6%.

  Hospitalization for congestive heart failure raised the husbands' risk of death by 12%, and hip fracture or other serious fracture raised it by 15%. The greatest risk of death following the hospitalization of a spouse was for psychiatric disease, which raised it by 19%, and dementia, which raised the spouse's risk of death by 22%.

- A 2011 study[7] found that, following a partner's death, the odds of the surviving partner dying remained elevated for six months (the widowhood effect), independent of their age and gender.

- A 2012 study[8] found that losing a significant person in your life raises your risk of having a heart attack the next day by 21 times, and in the following week by six times. The risk of heart attacks began to decline after about a month had passed, perhaps as levels of stress hormones begin to level out.
- A fourth study, published in 2014, found that the death of a spouse may double your risk for a heart attack or stroke in the following month.[9]

The Links Between Cardiac Health and Mental Health

There are compelling links between cardiac health and mental health. For example, having untreated depression or anxiety disorder increases your odds of having a heart attack or developing heart disease. Stress hormones are again a primary culprit. Other studies demonstrating a link between your psychological states and heart health include:

- A 2011 study, which found that those who reported higher levels of satisfaction in areas like career, sex life and family had a reduced risk for heart disease.[10]
- The following year, Harvard researchers reviewed more than 200 studies on this topic, again concluding that people who are more optimistic and satisfied with life have a reduced risk of heart disease and stroke.[11]
- Pessimism was linked to a 19% higher risk of dying over a 30-year period in another study.[12]
- After examining the associations between optimism and heart health in more than 5,100 adults of various ethnic groups for 11 years, researchers concluded that people who display a more optimistic can-do attitude in life experience significantly better cardiovascular health over the long term.

  Those who were the most optimistic were up to 76% more likely to have a total health score in the ideal range.[13]

According to Julia Boehm, research fellow in the Department of Society, Human Development and Health and author of one of a study looking at optimism and cardiovascular disease (CVD):[14]

> *"The absence of the negative is not the same thing as the presence of the positive. We found that factors such as optimism, life satisfaction and happiness are associated with reduced risk of CVD regardless of such factors as a person's age, socioeconomic status, smoking status or body weight."*

Co-author Eric Kim added:

> *"While most medical and public health efforts today focus on reducing risk factors for diseases, evidence has been mounting that enhancing psychological resilience may also make a difference.*
>
> *Our new findings suggest that we should make efforts to boost optimism, which has been shown to be associated with healthier behaviors and healthier ways of coping with life challenges."*

Your Mind Influences Your Health in Many Ways

Your heart is not the only organ or body system that is influenced by your mental outlook. Medical News Today[15] lists a number of examples where studies have shown a link between your psychology and your health, to which I've added a couple more:

Sudden death — Research shows that during the first week after the death of a spouse, mortality skyrockets to double the normal rate.

Heart and cardiovascular disease, stroke and heart attacks — Letting your anger out explosively may be harmful because it triggers surges in stress hormones and injures blood vessel linings.

One study[16] found that people over the age of 50 who express their anger by lashing out are more likely to have calcium deposits in their coronary arteries — an indication

that you're at a high risk for a heart attack — than their mellower peers.

A systematic review[17] involving data on 5,000 heart attacks, 800 strokes and 300 cases of arrhythmia also revealed that anger increases your risk of heart attack, arrhythmia and stroke — and the risk increases with frequent anger episodes.

Gastrointestinal (GI) problems — Sustained or chronic stress has been linked to a number of GI problems, including inflammatory bowel disease and irritable bowel syndrome. It's becoming increasingly clear that your brain, your immune system and your gut microbes are intricately linked.

Autism, for instance, is associated with gastrointestinal problems and potentially an over-reaction in the immune system.

Cancer — Your outlook has an effect on your ability to recover from cancer. The quality and quantity of psychological support also makes a difference in survival rates.

HIV — Heightened stress and dwindling support from family and friends has been shown to accelerate the progression of HIV infection.

Allergies — Skin complaints like psoriasis and eczema have psychological underpinnings. Ditto for asthma. All tend to worsen when stress is elevated.

Wound healing — The psychological state of a patient has been shown to affect the rate of healing.

As noted in the featured article: "For instance, increased levels of fear or distress before surgery have been associated with worse outcomes, including longer stays in the hospital, more postoperative complications and higher rates of re-hospitalization. In one study on patients with chronic lower leg wounds, those who reported the highest levels of depression and anxiety showed significantly delayed healing."

Inflammation — Stress-relieving strategies such as **meditation** have been shown to

promote antiviral gene activity and reduce inflammatory gene expression.

Optimism Promotes Longevity

Indeed, having a positive outlook on life has been shown to be THE most influential factor in longevity studies. Interestingly, healthy behaviors cannot fully account for impact optimism has on mortality. Some researchers believe optimism has a direct effect on biological systems.

Indeed, while conventional medicine is still reluctant to admit that your emotional state has a major impact on your overall health and longevity, a 2013 article in Scientific American[18] discusses a number of interesting advancements in the emerging field of psychoneuroimmunology (PNI).

Researchers have found that your brain and immune system are actually wired together. Connections between your nervous system and immune-related organs such as your thymus and bone marrow allow for crosstalk between the two systems. Your immune cells also have receptors for neurotransmitters, which suggests they can be more or less directly influenced by them.

Stress Alters Your Immune Function and Genetic Expression

For example, stress has been shown to reduce activity of virus-fighting immune cells. Stress also increases levels of antibodies for common viruses such as Epstein-Barr, suggesting that stress can reactivate otherwise latent viruses in your body. Ruminating on a stressful incident has also been shown to increase your levels of C-reactive protein (a marker of inflammation).[19] Research has also shown that different types of stress alter different parts of your immune system.[20]

- **Brief stress,** such as making a speech or taking a test, tends to suppress cellular immunity (acquired immunity mediated by antigen-specific T cell lymphocytes involved in resistance to infectious diseases) while preserving humoral immunity

(which refers to antibody production and accompanying processes). As a result, you may find yourself more vulnerable to the common cold or flu.

- **Chronic stress,** such as caring for a partner or parent with dementia, suppresses both components of the immune system, making you more susceptible not just to infectious diseases, but all disease.

Your mental states even have genetic repercussions. In one study,[21] chronic loneliness was associated with the up- and down-regulation of specific genes. Genes involved in the regulation of inflammatory response were upregulated, while genes involved with antiviral control were downregulated. The end result was decreased immune function. In socially active people, the reverse was true.

Secrets of Happy People

Being able to manifest positive emotions and happiness is perhaps one of the greatest gifts you have been given as a human being. But to some extent, being happy is a choice you need to make, much like choosing to exercise or eat right. Happiness comes from within — it's not meted out by circumstance alone. This is why, if you truly want to be happy, you need to work on yourself first.

Interestingly, self-acceptance appears to be one of the most important factors that can produce a more consistent sense of happiness. In a survey[22] of 5,000 people by the charity Action for Happiness, people were asked to rate themselves between 1 and 10 on 10 habits that are scientifically linked to happiness.

While all 10 habits were strongly linked to overall life satisfaction, "acceptance" was the strongest predictor. In all, the survey resulted in the following list of 10 Keys to Happier Living, which together spell out the acronym GREAT DREAM:

- **Giving —** Do things for others
- **Relating —** Connect with people
- **Exercising —** Take care of your body

- **Appreciating —** Notice the world around you
- **Trying out —** Keep learning new things
- **Direction —** Have goals to look forward to
- **Resilience —** Find ways to bounce back
- **Emotion —** Take a positive approach
- **Acceptance —** Be comfortable with who you are
- **Meaning —** Be part of something bigger

Improve Your Positivity Ratio

According to Barbara Fredrickson, Ph.D., a psychologist and positive-emotions researcher, most Americans have two positive experiences for every negative one. Sounds good, right? Alas, this 2-to-1 positivity ratio is only enough for you to barely get by. In order to flourish emotionally, Fredrickson's research[23] shows you need a 3-to-1 ratio. That is, you need to have three positive emotions for every one negative emotion.

Only 20% of Americans achieve this critical ratio, which means 80% do not. Even worse, more recent research suggests nearly 25% of people experience no life enjoyment at all, and death rates in this group of people were also the highest, compared to those who reported higher levels of sustained life enjoyment.[24] (Other research also confirms that having a positive outlook on life in middle age corresponds with longer lifespans.[25])

According to Fredrickson, experiencing positive emotions also increases intuition and creativity while broadening your mindset. A broadened mindset, in turn, helps you build important personal resources like social connections, coping strategies and environmental knowledge that will help you thrive.

In 2013, graduate student Nick Brown and colleagues published a critical response[26] to Fredrickson's paper, claiming the mathematical claims were flawed and the positivity ratio of 3-to-1 is "entirely unfounded." While the American Psychologist formally

retracted the mathematical modeling elements of the paper, Fredrickson stands by her findings. In a rebuttal, she notes:[27]

> *"Even when scrubbed of Losada's now-questioned mathematical modeling, ample evidence continues to support the conclusion that, within bounds, higher positivity ratios are predictive of flourishing mental health and other beneficial outcomes … Science, at its best, self-corrects.*
>
> *We may now be witnessing such self-correction in action as mathematically precise statements about positivity ratios give way to heuristic statements such as 'higher is better, within bounds.' While this new statement is perhaps less dramatic, it remains just as useful."*

Don't Try to Avoid Negative Experiences — Focus on Creating Positive Ones

In order to be happier you might think the first step would be to eliminate negative experiences in your life, but often these are beyond your control. Instead, focus on increasing your positive experiences. This is something that virtually everyone can do. Even ordinary moments can be a source of great pleasure.

For instance, if you have an hour free, do you spend it doing something fun? Or do you spend it catching up on housework, tackling an extra work project, or otherwise working? The latter is a "minor form of insanity," according to happiness researcher Robert Biswas-Diener, Ph.D.[28]

To break free of this trap, make a point to schedule your weeks around events (or ordinary activities) that make you feel truly happy and alive. For tips by "regular people" who report high levels of life enjoyment, see this article in The Guardian.[29]

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