

People's perception of the effect of stress on their health is linked to risk of heart attacks

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People who believe that stress is having an adverse impact on their health are probably right, because they have an increased risk of suffering a heart attack, according to new research published online in the *European Heart Journal*.

The latest findings from the UK's Whitehall II study, which has followed several thousand London-based civil servants since 1985, found that people who believe [stress](#) is affecting their health "a lot or extremely" had double the risk of a [heart attack](#) compared to people who didn't believe stress was having a significant effect on their health. After adjusting for factors that could affect this result, such as biological, behavioural or psychological risk factors, they still had a 50% greater risk of suffering or dying from a heart attack.

Previous results from Whitehall II and other studies have already shown that stress can have an adverse effect on people's health, but this is the first time researchers have investigated people's perceptions of how stress is affecting their health and linked it to their risk of subsequent heart disease.

"This current analysis allows us to take account of individual differences in response to stress," said Dr Hermann Nabi, the first author of the study, who is a senior research associate at the Centre for Research in Epidemiology and Population Health at Inserm (Institut national de la santé et de la recherche médicale), Villejuif, France.

Dr Nabi and his colleagues from France, Finland and the UK, followed 7268 men and women for a maximum of 18 years from 1991 when the question about perceived impact of stress on health was first introduced into the questionnaire answered by study participants. The average age of the civil servants in this analysis was 49.5 and during the 18 years of follow-up there were 352 heart attacks or deaths as a result of heart attack ([myocardial infarction](#)).

The participants were asked to what extent they felt that stress or pressure they experienced in their lives had affected their health. They could answer: "not at all", "slightly", "moderately", "a lot", or "extremely". The researchers put their answers into three groups: 1) "not at all", 2) "slightly or moderately", and 3) "a lot or extremely". The civil servants were also asked about their perceived levels of stress, as well as about other lifestyle factors that could influence their health, such as smoking, alcohol consumption, diet, and levels of physical activity. Medical information, such as blood pressure, diabetes and body mass index, and socio-demographic data, such as marital status, age, sex, ethnicity and socio-economic status, was also collected. Data from the British National Health Service enabled researchers to follow the participants for subsequent years and to see whether or not they had a heart attack or died from it by 2009.

After adjusting for socio-demographic characteristics, civil servants who reported at the beginning of the study that their health had been affected "a lot or extremely" by stress had more than double the risk (2.12 higher) of having a heart attack or dying from it compared with those who reported no effect of stress on their health. After further adjustments for biological, behavioural and other psychological risk factors, including stress levels and measures of social support, the risk was not as great, but still higher – nearly half as much again (49% higher) – than that seen in people who reported no effect on their health.

Dr Nabi said: "We found that the association we observed between an individual's perception of the impact of stress on their health and their risk of a heart attack was independent of biological factors, unhealthy behaviours and other psychological factors."

He added: "One of the important messages from our findings is that people's perceptions about the impact of stress on their health are likely to be correct."

The authors say that their findings have far-reaching implications. Future studies of stress should include people's perceptions of its impact on their health. From a clinical point of view, doctors should consider patients' subjective perceptions and take them into account when managing stress-related health complaints.

Dr Nabi said: "Our findings show that responses to stress or abilities to cope with stress differ greatly between individuals, depending on the resources available to them, such as social support, social activities and previous experiences of stress. Concerning the management of stress, I think that the first step is to identify the stressors or sources of stress, for example job pressures, relationship problems or financial difficulties, and then look for solutions. There are several ways to cope with stress, including relaxation techniques, physical activity, and even medications, particularly for severe cases. Finally, I think that the healthcare system has a role to play. The conclusion of a recent study conducted for the American Psychological Association tells us that health care systems are falling short on stress management, even though a significant proportion of people believe that the stress or pressure they experienced has an impact on their health."

In their conclusion, the authors write: "Although, stress, anxiety, and worry are thought to have increased in recent years, we found only participants (8%) who reported stress to have affected their health 'a lot

or extremely' had an increased risk of CHD. In the future, randomized controlled trials are needed to determine whether disease risk can be reduced by increasing clinical attention to those who complain that stress greatly affects their [health](#)."

There are some limitations to the study, including the fact that it did not include blue-collar workers or the unemployed and therefore it may not be representative of the general population.

More information: *European Heart Journal*.
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