

Higher job strain associated with increased cardiovascular risk for women

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Women with high job strain are 67% more likely to experience a heart attack and 38% more likely to have a cardiovascular event than their counterparts in low strain jobs, according to a study published July 18 in the open access journal *PLoS ONE*. The researchers, led by Dr. Michelle A. Albert of Brigham and Women's Hospital and Harvard Medical School, did not find any correlation between job insecurity and long-term cardiovascular disease risk.

New research from Brigham and Women's Hospital (BWH) finds that women with high job strain are more likely to experience a cardiovascular-related event compared with women with low job strain. These findings are published in the open access journal *PLoS ONE*.

“Previous long-term studies of job strain, defined by the combination of psychological demand and job control, and heart disease risk have mainly focused on men and a more restricted set of cardiovascular conditions,” said Michelle A. Albert, a cardiologist and researcher at BWH and associate professor at Harvard Medical School. “Our study indicates that high job strain can negatively affect your health. There are immediate and definite long-term, clinically documented cardiovascular health effects of job strain in women, and it is important for women and their health care providers to pay attention to the stresses of their job.”

Researchers analyzed self-reported data from 22,000 women over 10 years who participated in the landmark Women's Health Study. The women were primarily Caucasian health professionals with an average

age of 57 who provided information about heart disease risk factors, job strain, and job insecurity. A standard questionnaire was used to evaluate job strain and job insecurity; it asked for responses to statements such as “My job requires working very fast,” “My job requires working very hard,” and “I am free from competing demands that others make.”

Researchers found that after adjusting for age, race/ethnicity, education, and income, women with high job strain were 38 percent more likely to experience a cardiovascular-related event including nonfatal heart attack, nonfatal ischemic stroke, coronary artery bypass grafting and/or coronary angioplasty, and cardiovascular death. Moreover, the risk of heart of attacks was increased by almost 70 percent among women with high job strain. High job strain is defined as having a demanding job that provides limited opportunity for decision-making or to use one’s creative or individual skills. The study also found that job insecurity or fear of losing one’s job and job strain were both associated with risk factors for cardiovascular disease such as high blood pressure, increased cholesterol, and excess body weight. However, unlike job strain, job insecurity was not directly related to the development of actual heart attacks, stroke, invasive heart procedures, or cardiovascular death.

“Intriguingly, women who were categorized using a standard job strain model as having active strain [high demand and high control] were also at increased risk of cardiovascular events, a group of women who typically would include physicians, executives, nurses, teachers, and managers,” said Albert. “From a public health perspective, it is crucial for employers as well as government and hospital entities to monitor perceived employee job strain and initiate strategies to manage job strain and perhaps positively impact prevention of heart disease and employee productivity.”

Researchers emphasize that more research is needed, particularly in multiethnic female populations, and on the impact of potential

interventions to continue to investigate this link.

More information: Slopen N, Glynn RJ, Buring JE, Lewis TT, Williams DR, et al. (2012) Job Strain, Job Insecurity, and Incident Cardiovascular Disease in the Women's Health Study: Results from a 10-Year Prospective Study. *PLoS ONE* 7(7): e40512.
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