

Job strain and overtime predict heart disease and mortality

August 29 2011

A study presented today at the ESC Congress 2011 by Finnish researchers, showed that high job demands coupled with low job control to meet these demands, refer to a "high strain job" – a situation which is a risk for heart health and even mortality [1, 2]. Also, working long hours is detrimental to health and is associated with decreased cognitive function, higher heart disease and mortality e.g. [3, 4]. Japanese even have a word for this condition: 'karoshi' means death from overwork.

Therefore, psychosocial [work environment](#) and the hours exposed to stressful work are important indicators of the health and well-being in employed populations. [Job strain](#) and overtime are also associated with unhealthy behaviours, weight gain and obesity, albeit the associations are inconsistent [5]. The importance of the association between working conditions and [heart disease](#) is highlighted, since modern working life is characterized by work overload, job insecurity, and other psychosocial stressors [6]. Physical demands have, in turn, diminished, but heavy physical workload and environmental exposures are still a hazard to many employees all over Europe.

The associations between job strain and coronary heart diseases and their risk factors have been studied for several decades, and numerous original studies, reviews, meta-analyses and books have been published e.g. [7, 8]. Indirect and direct psychosocial pathways to coronary heart disease have been presented, but the mechanisms that explain the associations are complex and still unclear. Nevertheless, the importance of one's social and work environment to health has been long recognized and can

be traced back even to antiquity. Indeed, occupational health can be said to play a key role in the health of our society. While Hippocrates is known as the "Father of Medicine, Italian Bernardino Ramazzini is often noticed as a father of occupational medicine. He emphasized that it was important to ask patients what their job was, and further continue by enquiring details about the nature of their occupation. His most well-known book is focused on diseases of workers: ("De Morbis Artificum Diatriba", 1700/1713).

However, it needs to be noted that employed people are generally better off, and being in employment is both important and positive for most people, while those out of workforce, unemployed, and disability retirees have poorer health [9, 10]. In other words, 'healthy workers' effect' means that those who work generally have better [health](#) than those who don't work. In jobs where employees have high control to meet demands, there are good opportunities for learning, applying better resources, and engagement [11-14]. The opposite situation, is that of jobs with high demands and burnout as a result of excessive psychological workload over longer periods of time, with patient's loss of self-esteem and cynicism.

It is also of note that while organisational changes and interventions may be needed to improve working conditions (for example, to rotate shifts in an optimal way and decrease overtime), interventions at the individual level are also needed [15, 16]. In other words, personal characteristics affect the way employees' perceive their work environment. A job that can be a considered as a positive challenge to one person may be stressful to another. It is therefore important to help employees to cope with stressful, busy, and uncertain job situations.

Finally, as the British author, philosopher, and mathematician Bertrand Russell wrote in his book "The Conquest of Happiness" (1930): "If I were a medical man, I should prescribe a holiday to any patient who

considered his work important".

More information: References

1 Karasek R, Baker D, Marxer F, Ahlbom A, Theorell T. Job decision latitude, job demands, and cardio-vascular disease: a prospective study of Swedish men *Am J Public Health* 1981; 71:694-705.

2 Kivimäki M, Leino-Arjas P, Luukkonen R, Riihimäki H, Vahtera J, Kirjonen J. Work stress and risk of cardiovascular mortality: prospective cohort study of industrial employees *BMJ* 2002; 325:857-861.

3 Virtanen M, Ferrie JE, Singh-Manoux A, Shipley MJ, Vahtera J, Marmot MG, et al. Overtime work and incident coronary heart disease: the Whitehall II prospective cohort study *Eur Heart J* 2010; 31:1737-1744.

4 Virtanen M, Singh-Manoux A, Ferrie JE, Gimeno D, Marmot MG, Elovainio M, et al. Long working hours and cognitive function: the Whitehall II Study *Am J Epidemiol* 2009; 169:596-605.

5 Siegrist J, Rödel A. Work stress and health risk behavior *Scand J Work Environ Health* 2006; 32:473-481.

6 Kompier MA. New systems of work organization and workers' health *Scand J Work Environ Health* 2006; 32:421-430.

7 Kivimäki M, Virtanen M, Elovainio M, Kouvonen A, Väänänen A, Vahtera J. Work stress in the etiology of coronary heart disease--a meta-analysis *Scand J Work Environ Health* 2006; 32:431-442.

8 Stansfeld SA, Marmot MG. *Stress and the Heart: Psychosocial Pathways to Coronary Heart Disease*. London: BMJ Publishing Group;

2002.

9 Ross CE, Mirowski J. Does employment affect health? *J Health Soc Behav* 1995; 36:230-243.

10 Wilcosky T, Wing S. The healthy worker effect. Selection of workers and work forces *Scand J Work Environ Health* 1987; 13:70-72.

11 Karasek R, Theorell T. *Healthy work: stress, productivity, and the reconstruction of working life*. New York, N.Y.: Basic Books; New York: Basic Books, 1990.

12 Demerouti E, Bakker AB, de Jonge J, Janssen PP, Schaufeli WB. Burnout and engagement at work as a function of demands and control *Scand J Work Environ Health* 2001; 27:279-286.

13 Schaufeli WB, Bakker AB. Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study *J Organiz Behav* 2004; 25:293-315.

14 Bakker AB, Demerouti E. The Job Demands-Resources model: state of the art *Journal of Managerial Psychology* 2007; 22:309-328.

15 Härmä M. Workhours in relation to work stress, recovery and health *Scand J Work Environ Health* 2006; 32:502-514.

16 Härmä M, Kompier MA, Vahtera J. Work-related stress and health--risks, mechanisms and countermeasures *Scand J Work Environ Health* 2006; 32:413-419.

Provided by European Society of Cardiology

Citation: Job strain and overtime predict heart disease and mortality (2011, August 29) retrieved 9 April 2024 from <https://medicalxpress.com/news/2011-08-job-strain-overtime-heart-disease.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.