



## Long Working Hours and Increased AFib Risk



Long working hours are shown to be associated with an increased risk of atrial fibrillation (AFib), the most common cardiac arrhythmia. Researchers found that, compared to people who worked a normal week of between 35-40 hours, those who worked 55 hours or more were about 40% more likely to develop AFib during the following 10 years.

"This could be one of the mechanisms that explain the previously observed increased risk of stroke among those working long hours. Atrial fibrillation is known to contribute to the development of stroke, but also other adverse health outcomes, such as heart failure and stroke-related dementia," said Professor Mika Kivimaki, director of the Whitehall II Study, from the Department of Epidemiology at University College London (UK), who led the research.

Prof. Kivimaki and colleagues from the Individual-Participant-Data Meta-analysis in Working Populations (IPD-Work) Consortium analysed data from 85,494 men and women from the UK, Denmark, Sweden and Finland who took part in one of eight studies in these countries. They assessed the participants' working hours when they joined the studies between 1991 and 2004. Working hours were classified as less than 35 hours a week, 35-40 hours (the standard working hours of full-time workers), 41 to 48 hours, 49 to 54 hours, and 55 hours or more a week. None of the participants had AFib at the start of the studies.

During the 10-year follow-up period, there were 1,061 new cases of AFib. This gave an incidence rate of 12.4 per 1,000 people in the study, but among the 4,484 people working 55 hours or more, the incidence was 17.6 per 1,000. Even after adjustments for various risk factors – including age, sex, obesity, physical activity, smoking and alcohol use – those who worked long hours had a 1.4 times higher risk of developing AFib, according to the findings published in the *European Heart Journal*.

"Nine out of 10 of the atrial fibrillation cases occurred in people who were free of pre-existing or concurrent cardiovascular disease. This suggests the increased risk is likely to reflect the effect of long working hours rather than the effect of any pre-existing or concurrent cardiovascular disease, but further research is needed to understand the mechanisms involved," said Prof. Kivimaki.

In an accompanying editorial, Dr. Bakhtawar Mahmoodi and Dr. Lucas Boersma, of St. Antonius Hospital, Nieuwegein, The Netherlands, write: "The authors should be congratulated for the impressive collaborative effort required to integrate patient level data from multiple studies to increase the power. However, despite the efforts of the authors to thoroughly assess the reported association between long working hours and atrial fibrillation, there are many inherent limitations of the data that preclude from definite conclusions on acknowledging long

working hours as an independent risk factor for atrial fibrillation."

They highlight the long, 10-year follow-up time during which there was no updated information on working hours and other factors that Prof. Kivimaki and colleagues took into account in their analyses and which could have changed over this time. The type of jobs (office versus construction work) and irregular working hours, including night shifts, were not explored in the analyses, and these could have an impact on the risk of AFib too. However, they conclude that the study "addresses an important topic and expands the literature on the aetiology of atrial fibrillation".

Source: [European Society of Cardiology](#)

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Published on : Tue, 18 Jul 2017