Combined Effect of Four Poor Health Behaviors 'Substantial'

BY MARY ANN MOON

FROM THE ARCHIVES OF INTERNAL MEDICINE

The combined effect of smoking, excessive drinking, poor diet, and physical inactivity is "substantial" and significantly raises premature mortality from all causes, cardiovascular disease, and cancer, according to a U.K. prospective cohort study.

Compared with people who do not exhibit any of these poor lifestyle behaviors, those who exhibit all four are at threefold higher risk of dying prematurely from cardiovascular disease or cancer and at fourfold higher risk of dying prematurely from other causes, said Elisabeth Kvaavik, Ph.D., of the University of Oslo, and her associates.

The investigators assessed the combined influence of these health behaviors on 20-year mortality because almost all previous studies have examined only the individual effects. Since "poor lifestyle choices frequently coexist," it is important to assess their combined impact on public health as well, they noted.

To do so, Dr. Kvaavik and her colleagues used data from a general survey of multiple health behaviors targeting the entire adult population of the United Kingdom. The survey began in 1984-1985. In this study, data for a subgroup of 4,886 men and women were assessed concerning self-reported smoking and alcohol drinking habits, leisure time exercise activities, and frequency of consuming fruits and vegetables.

During 20-year follow-up, there were 431 deaths from cardiovascular disease, 318 cancer deaths, and 331 deaths from other causes, for a total of 1,080 deaths.

Cumulative survival, adjusted for subject age at baseline and sex, was 96% for those who had none of the poor health behaviors measured, compared with 85% for those who had all four poor health behaviors. This rise in mortality risk was equivalent to an increase in chronological age of about 12 years, the researchers said (Arch. Intern. Med. 2010;170:711-8).

Compared with people who had no poor health behaviors, the risk of each cause of death rose as the number of poor health behaviors increased from one to four.

These findings suggest that "modest but achievable adjustments to lifestyle behaviors are likely to have a considerable impact at both the individual and population level," Dr. Kvaavik and her associates wrote. ■

Disclosures: *The U.K. survey was funded by the Health Promotion Research Trust. Dr. Kvaavik's study was supported by the Norwegian Research Council, the Medical Research Council (U.K.), Wellcome Trust, and the National Heart Foundation of Australia. No financial conflicts of interest were reported.*

Renal Cysts: A Harbinger Of Aortic Dissection?

BY BRUCE JANCIN

FROM THE ANNUAL MEETING OF THE AMERICAN COLLEGE OF CARDIOLOGY

ATLANTA — Patients with aortic dissection appear to have an increased burden of renal cysts, compared with healthy controls.

This finding in a case-control study raises the intriguing possibility that renal cysts could be a marker of increased risk for aortic dissection, Dr. Eun Kyung Kim observed at the meeting.

The mechanistic explanation for the observed association between renal cysts and aortic dissection might be that renal cysts are another manifestation of the same structural weakness of connective tissue that increases the risk of aortic dissection, according to Dr. Kim of Samsung Medical Center in Seoul, South Korea.

In a study of 659 patients with aortic dissection and 1,397 healthy control patients who underwent multidetector CT angiography as part of routine health screening, renal cysts were detected in 39% of the group with aortic dissection, compared with 22% of controls. Multivariate logistic regression analysis identified several independent predictors of aortic dissection: hypertension, associated with a 10.8-fold increased risk; smoking, with a 2.2-fold risk; renal cysts, with a 1.6-fold risk; and advancing age.

The presence of renal cysts was linked to aortic dissection most strongly in the subgroup of normotensive subjects over age 50. In this 105-patient cohort, renal cysts were associated with a 3.4-fold increased risk of aortic dissection.

The primary pathology of aortic dissection involves degenerative changes secondary to dysregulation of matrix metalloproteinase (MMP) production, which results in matrix degradation. The pathology of renal cysts is less well worked out, but it appears to involve dysregulation of MMP-2 and MMP-9. The results of this case-control study must be considered hypothesis generating. A prospective study will be needed to establish whether renal cysts truly are a risk factor for aortic dissection, he said. ■

Disclosures: *None was reported.*

British Study: Excess Overtime Work Linked to Heart Risks

BY JENNIE SMITH

FROM THE EUROPEAN HEART JOURNAL

People who work 11 or more hours per day have a 60% higher risk of developing coronary heart disease than do those who work normal 7- or 8-hour workdays, according to researchers in Finland and Britain.

The findings were derived from the Whitehall II study, a long-running cohort of civil-service workers in London. The cohort included people at all occupational grades and levels of responsibility; however, none of the labor was considered blue collar.

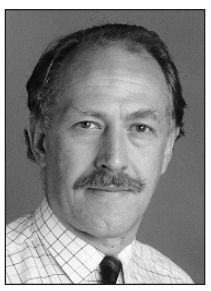
For their research, epidemiologist Marianna Virtanen, Ph.D., of the Finnish Institute of Occupational Health, Helsinki, and University College London, and her colleagues examined data from 4,262 men and 1,752 women, aged 39-61 years (mean age 48.7 years), who were recruited into the Whitehall II cohort between 1991 and 1994 and followed for an average of 11.2 years.

All the study subjects, in addition to answering detailed questionnaires on health and lifestyle factors and undergoing clinical examinations, answered questions about their work schedules and habits. Slightly less than half (46%) reported working one or more hours a day of overtime, with 617 (10%) working 3-4 hours overtime (between 11 and 12 hours total, per day).

Investigators identified 369 cases of incident fatal CHD, nonfatal myocardial infarctions, or angina in the total group of 6,014 subjects. Overtime work of 3-4 hours per day was associated with a 1.6-fold increase in the risk of CHD, and after researchers adjusted for a host of 21 social, demographic and physical risk factors (including gender, marital status, smoking, overweight, type A behavior, occupational grade, diabetes, exercise, sleep habits, alcohol intake, fruit and vegetable consumption, and high cholesterol) the researchers still found that working more than 11 hours daily contributed independently to a 1.56-fold in risk of CHD (Eur. Heart J. 2010 May 12 [doi:10.1093/eurheartj/ehq124]).

The researchers noted several other commonalities in the high-overtime group with the potential to bear on results. One was the greater incidence of type A behavior patterns and psychological distress; another was elevated levels of alcohol use.

While older research had reported an association between occupations with reported long working hours and myocardial infarction in women but not men (Int. J. Epidemiol. 1985;14:378-88), Dr. Virtanen and her colleagues found no differences in the incidence of CHD between men and women working long hours—however, "the majority of our subjects were men," Dr. Virtanen said in an interview. "Because women usually had lower rates of cardiovascular disease, we didn't make separate analyses but rather adjusted for gender." The people most likely to report 11-hour or longer workday, Dr. Virtanen noted, were most often men in higher-level positions.



Work stress attributable to overtime is associated with an increased risk of coronary heart disease.

DR. MCINNES

Though Dr. Virtanen and her colleagues saw no relationship between hypertension and long working hours, they did not discount that possibility, since they had recourse only to baseline blood pressure measurements and not ambulatory blood pressure readings. They cited two Japanese studies: one indicating that work and stress-related changes in ambulatory blood pressure might be a key contributing factor to cardiovascular risk (BMJ 1998;317:775-80), and another that suggested overtime work affected ambulatory blood pressure (J. Occ. Environ. Med. 1996;38:1007-11).

Also, Dr. Virtanen said, "What we may be seeing may be extended working hours as a proxy for a kind of lifestyle in which people are competitive and want to achieve. This type A behavior reflects that pattern but of course there might be other things [that] are related—what you cannot do if you work long hours, such as make and keep doctor appointments or sleep."

In an editorial accompanying Dr. Virtanen's study, Dr. Gordon McInnes, professor of clinical pharmacology at the University of Glasgow, Scotland, wrote that the findings "reinforce the notion that work stress attributable to overtime is associated, apparently independently, with an increased risk of coronary heart disease. A trend for risk to be related to hours of overtime worked supports this conclusion. If the effect is truly causal, the importance is much greater than commonly recognized" (Eur. Heart J. 2010 [doi:10.1093/eurheartj/ehq116]). ■

VITALS

Major Finding: Overtime work of 3-4 hours per day was associated with a 1.6-fold increase in the risk of CHD.

Data Source: A study of 4,262 men and 1,752 women.

Disclosures: Dr. McInnes declared no conflicts of interest. The Whitehall II study was funded by the Academy of Finland and grants from the British Heart Foundation, the European Science Foundation, and the BUPA foundation; none of its authors declared conflicts of interest.

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