

Women's Health Study

Update

WHS Findings on Stress, Sleep, and Cardiovascular Health



We are all familiar with stress. During these uncertain times, several of life's daily stressors have become especially apparent. Recently, there has been growing interest in the health effects of stress. The Women's Health Study (WHS), in an ancillary study led by WHS investigator Dr. Michelle Albert, who is now at the University of California San Francisco, has provided insight into the impact that familiar forms of stress (psychosocial, financial, and sleep debt) can have on cardiovascular health.

From the WHS Directors

We wish to thank each of you for your dedication to the WHS and continued completion of study questionnaires.

In this newsletter, we highlight recent important findings from the WHS, and provide information about the use of Medicare data to help WHS understand important health outcomes, such as optimal strategies for healthy aging.

Best wishes for health and safety!



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Psychosocial Stress

Psychosocial stress can negatively impact health. Additionally, psychosocial stress associated with social inequalities, which are most strongly experienced by racial/ethnic minorities in the United States, may contribute to the racial/ethnic disparities in cardiovascular disease risk.

In 2012 and 2013, over 25,000 WHS participants, who were 72 years old on average at that time, provided information on their stress levels. We created a "cumulative psychosocial stress" score that summarized acute stressors (such as negative life events), chronic stressors (such as work, work-family spillover, financial, discrimination, relationship, and neighborhood), and traumatic life event stress. We used this information to examine the association between cumulative psychosocial stress and race/ethnicity. We also explored how cumulative psychosocial stress influences overall cardiovascular health and whether these associations varied by race/ethnicity.

Our results showed that white women had the lowest levels of cumulative psychosocial stress, while Hispanic, Black, and Asian women had higher levels of stress. We also observed differences in cardiovascular health by race/ethnicity. Compared to white women, Black women had worse, and Asian women had better, cardiovascular health.

Next, we explored whether the varying levels of stress observed among different racial/ethnic groups could explain differences in cardiovascular health. However, even after accounting for different stress levels seen among racial/ethnic groups, compared to white women, Black women still had worse cardiovascular health, and Asian women better cardiovascular health.

“White women had the lowest levels of cumulative psychosocial stress, while Hispanic, Black, and Asian women had higher levels of stress.”

These findings suggest that additional mechanisms beyond psychosocial stress may account for the differences in cardiovascular health seen across racial/ethnic groups within the WHS. These mechanisms could include genetic, environmental, behavioral, and social factors.

Financial Strain

While financial strain is prevalent in the United States, less is known about the association between financial strain

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and cardiovascular health among older women. Financial strain can cause chronic psychosocial stress and maladaptive coping strategies, including dietary changes, sedentarism, and substance abuse, which could negatively impact cardiovascular health.

“Compared to those with no financial strain, women who reported two or more financial stressors had worse cardiovascular health.”

The WHS participants answered several questions on financial strain, including being unemployed for 3 months or longer, having a member of the household be unemployed for longer than 3 months, moving to a worse residence/neighborhood, serious financial problems or difficulties,

difficulty paying bills, and perception of family financial situation.

Compared to those with no financial strain, women who reported two or more financial stressors had worse cardiovascular health. The relationship between financial strain and cardiovascular health was independent of both education and income.

Older women in the United States face the necessity of working past the age of retirement due to their increased life expectancy, increased financial dependency of adult children, increased debt burden, increased healthcare expenditures, and decreased retirement benefits. While little attention is paid to economic policies and programs that alleviate the financial hardships of older women, this study may elucidate the benefit of financial protections for older individuals on cardiovascular health.

Sleep Debt

Nearly one-third of adults in the United States report being drowsy from sleeping

“Women who did not experience sleep debt had better cardiovascular health than those who did.”

less than seven hours a night. Women also report more sleep disturbances as they age than men, making it particularly important to study sleep patterns among women.

Prior studies have suggested that short or low-quality sleep may be associated with several health ailments. However, less is known about the health effects of “sleep debt”, defined as at least a two-hour difference between weekday and weekend sleep duration.

Using data from the WHS participants, we examined the association between sleep debt and cardiovascular health. Women who did not experience sleep debt had better cardiovascular health than those who did. This association was particularly apparent for women less than 75 years old.

Our findings may be explained by the chronic psychological stressors of weekday short sleep, which are not compensated for by sleeping in on weekends, or by the adverse health effects of irregular sleep patterns. Although it is widely presumed that it is possible to “catch up” on sleep on weekends, the dangers of insufficient sleep on cardiovascular health should not be ignored. Our results support the current recommendations to adhere to a consistent sleep schedule across the week.

References:

Burroughs Peña et al. Cumulative psychosocial stress and ideal cardiovascular health in older women: Data by race/ethnicity. *Circulation* 2019; Cabeza de Baca et al. Financial strain and ideal cardiovascular health in middle-aged and older women: Data from the Women’s Health Study. *Am Heart J*. 2019; Cabeza de Baca et al. Sleep debt: the impact of weekday sleep deprivation on cardiovascular health in older women. *Sleep* 2019

Obtaining Medicare Information

We are exploring the feasibility of obtaining Medicare information on diagnoses and treatments to expand the kinds of analyses we do in the Women’s Health Study. The Medicare data will add to the information that you provide on study questionnaires regarding medical diagnoses and treatments received. **This additional information will enhance our ability to understand important health outcomes, such as optimal strategies for healthy aging.** Please be assured we will not share any of your health information with Medicare, and the health information we receive from Medicare will be held in the same secure and confidential manner as the data you provide to us directly. If you do not wish us to obtain Medicare information about you, please call, e-mail, or write us at our contact information below. Regardless of your decision, you will always remain a valued participant in the Women’s Health Study. And, as always, if you have any questions about the Women’s Health Study, you can contact us using the information below also.



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