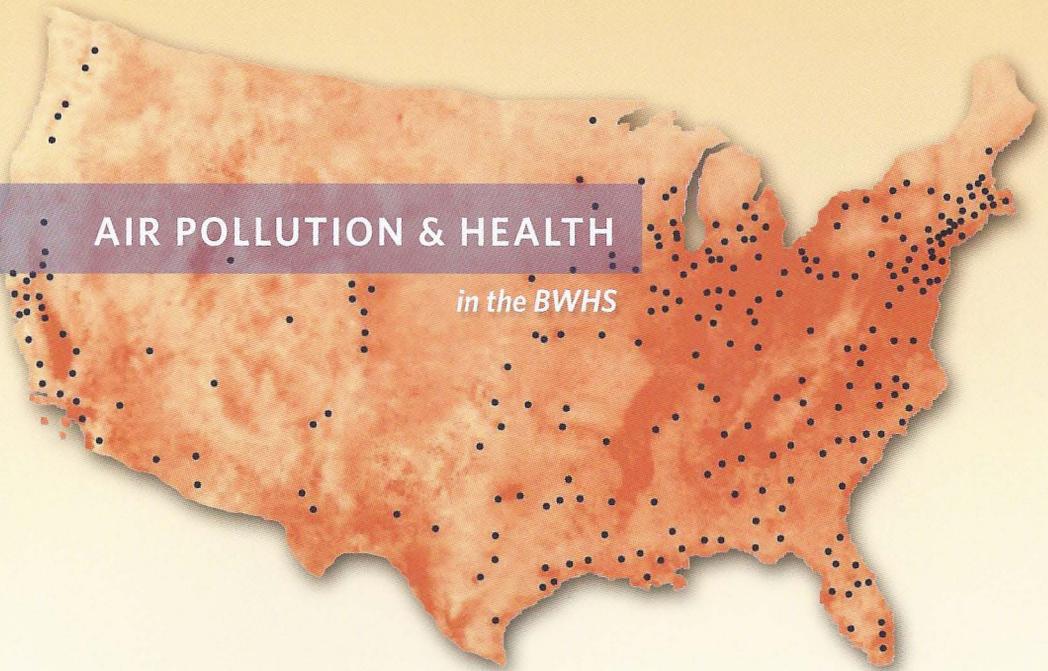




BLACK WOMEN'S HEALTH STUDY



*Working together
to improve the health of
black women*

INSIDE:

- Who's in the BWHS?
- The health effects of air pollution
- New research findings

www.bu.edu/bwhs

The BWHS has passed a milestone in assessing health issues of importance to black women, with more than 100 detailed articles in respected scientific, medical, and public health journals. Congratulations to the BWHS participants, the staff, and the investigators who have made this possible. We will continue to report results to you in our newsletters and you can always read about research findings on the BWHS website (www.bu.edu/bwhs). □

In this newsletter, we describe the women who are the basis for the BWHS health findings—the BWHS participants. How many of you have regular medical care? How many have children? How many consider spirituality or religion a major part of your life? How many take vitamins? How many walk for exercise? How many smoke cigarettes? How many take medications for diabetes? What illnesses have affected you? You can find the answers to these questions and more on pages 3 and 4.



The BWHS has begun a new area of research—the health effects of air pollution. The map of the United States on the cover of this newsletter shows dots marking the cities where BWHS participants live. The shading shows levels of air pollution—the darker areas have higher levels. Turn to page 5 to read about our first air pollution research results from a study of diabetes and high blood pressure in Los Angeles. That study is being expanded to cover BWHS participants all across the United States. You'll find more research news, on uterine fibroids, on page 6.

Please don't forget about your 2011/2012 health update—we have mailed health surveys to all BWHS participants. If you have not yet filled out your survey, please complete it online at the BWHS website (www.bu.edu/bwhs), fill out the paper survey, or call for a phone interview. If you want us to send you a survey, let us know by telephone (800-786-0814 or 617-734-6006) or email (bwhs@bu.edu). Not sure if you've responded? If the 8-digit number below the address update area on the back cover of this newsletter ends in an "R," then you've already returned your survey. Thank you to the more than 37,800 participants who have completed your surveys online, on paper, or by phone. □

CONTACT INFORMATION

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WHO'S IN THE BWHS?



BWHS participants live in all parts of the United States with the largest number in California, New York, Georgia, Illinois, New Jersey, Michigan, Virginia, Maryland, South Carolina, Louisiana, Indiana, North Carolina, Massachusetts, Texas, and Florida.

- The average age is 55
 - 61% have completed college
 - 4.5% were born outside of the U.S.
 - 45% are married or living with a partner
 - The average number of brothers and sisters is 3.6
 - 70% have had children
 - 40% have worked a night shift
- Two-thirds have had a recent blood sugar test
 - 79% had a recent mammogram
 - 77% had a recent Pap smear
 - 79% had a recent teeth-cleaning
 - 40% of those aged 50 and older had a recent colonoscopy
- The average amount of sleep per night is 6.6 hours
 - 29% walk at least 3 hours per week for exercise
 - 18% exercise enough to work up a sweat 3 or more hours per week
 - 12% walk at least 3 hours a week getting to and from work, church, and stores
 - 12% watch television less than an hour a day
 - 15% watch television 5 or more hours a day
 - 54% eat at least two servings of fruits and vegetables every day
 - 23% have 1 or more cups of caffeinated coffee per day
 - 18% eat hamburgers from restaurants at least once a week
 - 10% are cigarette smokers, mostly of menthol cigarettes
 - 5% have an alcoholic drink most days

WHO'S IN THE BWHS? *(continued)*

- 76% have used birth control pills; 8% currently use them
- 30% of women aged 40 or older have taken female hormone supplements
- 30% have had a hysterectomy

- 20% are taking pills to lower cholesterol
- 13% are taking pills or injections for diabetes
- 40% are taking pills to lower blood pressure
- 57% are taking a multivitamin
- 39% are taking a vitamin D supplement

- 70% are very involved in religion or spirituality
- 41% consider themselves to be very religious or spiritual

- 55% report having been subject to discrimination in the workplace
- 50% have given a saliva-mouthwash sample as a source of DNA for genetics studies
- 10% have a mother or sister who has had breast cancer

Since 1995:

- 27% were diagnosed with high blood pressure
- 14% were diagnosed with uterine fibroids
- 10% were diagnosed with type 2 diabetes
- 4% were diagnosed with asthma
- 6% were diagnosed with a cancer
- 3% were diagnosed with breast cancer
- 1.3% suffered a heart attack

BWHS data show that women who watched television for many hours had an increased risk of diabetes but that vigorous exercise or brisk walking lowered the risk; that women with a close family relative affected by breast cancer had a higher risk of developing breast cancer; that smokers were more likely to develop glaucoma before age 50; that women living in the southern United States had a lower risk of multiple sclerosis; that women with the highest intake of fruits and vegetables had a lower risk of breast cancer and of colon polyps; that women who ate a high amount of fiber had a lower risk of diabetes; and that women who had a high intake of dairy products had a lower risk of uterine fibroids. □

THE HEALTH EFFECTS OF AIR POLLUTION



Early results: a BWHS study in Los Angeles

Many studies have shown that people are more likely to have heart attacks and die from heart disease at times when air pollution spikes to high levels, like on a hot summer day when there is a temperature inversion. Pollution might have long-term effects on health, too. Over a period of years, air pollution might result in inflammation and other harmful long-term changes in the body, which in turn could increase the occurrence of high blood pressure and diabetes. Two years ago, BWHS investigator Dr. Patricia Coogan contacted Dr. Michael Jerrett, an expert on the health effects of air pollution, to discuss studying air pollution in the BWHS; he had just completed a study in Los Angeles and was willing to share the air pollution measures with us. When the BWHS began in 1995, 4,204 BWHS participants lived in Los Angeles; we were able to link Dr. Jerrett's air

pollution measures to the areas in which these women lived from 1995 to 2005. During that 10-year period, 531 participants developed high blood pressure and 183 developed diabetes. We had measures of two pollutants that come from traffic and industry—"fine particulate matter" (PM_{2.5}) and nitrous oxides (NO_x). We found that women who lived in areas with higher levels of NO_x developed diabetes and high blood pressure more often than women exposed to lower levels. PM_{2.5} did not appear to affect risk. A paper has been published with the results.

(Coogan et al. Circulation 2012; 125: 767-72)

A new research effort

Because the Los Angeles study showed that we could use these methods to examine the health effects of air pollution in the BWHS, Dr. Coogan's next step was to write a proposal to expand the study across the entire United States. We're happy to say that she obtained funds for the study from the National Institutes of Health. Right now and for the next few years, Dr. Jerrett will be using air pollution measures from monitors in almost 2,000 locations and data from satellites orbiting the earth to estimate air pollution levels across the country for the period 1995 to 2009. Once the measures of PM_{2.5} and NO_x are available, we will examine whether diabetes and high blood pressure are more

THE HEALTH EFFECTS OF AIR POLLUTION *(continued)*

common in BWHS participants who live in regions with high air pollution levels.

The study will take five years, but the results should be well worth the wait. They will help to explain the mechanisms by which high blood pressure and diabetes develop and how air pollution causes heart attacks. Even small increases in the risk of diabetes and high blood pressure from air pollution are worth detecting because air pollution occurs almost

everywhere. Fortunately, air quality in the United States has improved over the last few decades. One of the reasons for this improvement is that studies showing the harmful health effects of air pollution have convinced politicians and government officials of the need for regulations—such as on cars and industry—that result in cleaner air. The effort to limit air pollution continues and our study will help in that effort. □

New results on uterine fibroids

Because uterine fibroids (benign growths in the womb) are a common problem for black women, the BWHS has devoted a large research effort to investigating their causes. Previous research suggests that hormones may play a role in the development of fibroids. Hair relaxers, like other personal care products, may contain additives called “phthalates.” Phthalates can affect hormones in the body and can be absorbed through the scalp. Since hormones are thought to be involved in the occurrence of uterine fibroids, we wondered if hair relaxer use might have an effect. To examine this, Dr. Lauren Wise led a study of the use of hair relaxers in relation to the risk of fibroids in the BWHS.

In our analysis, we found that the occurrence of fibroids was a little

higher among women who had used hair relaxers frequently for at least 10 years compared with women who used them rarely or not at all. We were not able to study specific substances in the relaxers because information on what is contained in each product is not available.

The BWHS is the first examination of hair relaxer use and uterine fibroids. While the findings raise the hypothesis that relaxer use may increase the risk of fibroids, they do not prove a link; proof will come only if other studies find results similar to those of the BWHS. If a link is confirmed, then researchers will need to discover whether particular substances in hair relaxers are the cause or whether the link is due to another factor associated with relaxer use. □

(Wise et al. Am J Epidemiol 2012; 175(5): 432–40)

A HEALTH TIP: STAND UP

Exercise has many health benefits. We have found that BWHS participants who walk briskly or exercise vigorously develop diabetes less often than inactive participants. Now evidence is showing that, even among people who exercise, many hours of sitting are bad for health. For example, regardless of how much they exercise, BWHS participants who sit many hours a day watching television have a higher risk of diabetes than participants who sit less. Some medical experts suggest that if you sit many hours a day, it could help your health to stand up every hour or so and move around a bit. People who are on their feet all day might like to sit down, but it seems that the rest of us should remember to stand up. ☐

Phone interviews

If you haven't completed the 2011/2012 survey and you prefer a phone interview, please call 800-786-0814 to schedule one.

Newsletters

We often have some extra newsletters after we mail to BWHS participants, so if you'd like a few copies for a health fair you are involved in or a meeting you are attending, please contact us. We will send some if we can.



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