The Participants in the Nurses' Health Study

Who are these women who for more than 14 years, have patiently responded to questions about what they eat, how much they weigh, exercise, and sit out in the sun? Why do they answer these questions? What is happening with the information?

You are 121,700 women who were registered nurses in 1972. You currently represent all fifty states, our nation's capitol, and 53 countries. You are between 44 and 69 years old. As of 1988, 56% of you continued to work full or part-time as nurses. **You are part of the largest, long running study of women in the United States.** As time goes on the information you provide becomes increasingly valuable.

You sent us 68,213 sets of toenails in 1983, and to date almost 30,000 blood samples have been received. These are among the largest collections of samples from women in the US, and are used to assess exposures which are not well measured by questionnaires. As illnesses are reported by a nurse (eg. breast cancer, diabetes, myocardial infarction), her sample is paired with a sample or samples from nurses who are the same age and disease free. Therefore only a small number of samples are analyzed at any one time. This gives the same information as analyzing all the samples, but at a fraction of the cost.

Whether it is the content of trace elements in toenails, or the hormone or vitamin levels in blood samples, you are providing important biologic material that may help determine the relationships of these measures to serious illnesses in women.

For any number of reasons, we sometimes lose track of a nurse participant. Because every questionnaire that you send back to us is important in our analysis, we make every effort to relocate each woman. With increased efforts over the past year we have located over 1,500 women who are again receiving questionnaires.

Your dedication over the years has enabled the Nurses' Health Study to make findings of major public health importance. Continued investigation of the relationship of diet, lifestyle and other factors to major illnesses in women will help us to understand what measures can be taken to prevent them.▲

The Boston Globe

by Judy Forman

Study adds gallstone risks to burdens of being obese

As if fatness and fat phobia weren't, well, heavy enough burdens already, consider this depressing item from the latest New England Journal of Medicine: Being moderately overweight can almost double a woman's risk of gallstones.

And being seriously overweight puts a woman at six times the risk, compared to a skinny woman, of winding up with these chunks of crystallized cholesterol that accumulated in the gallbladder and often, though not always, require surgery.

For the purposes of this research, called the Nurses' Health Study, nearly 90,000 women were followed for four years after detailing their diet and alcohol intake.

Armed with calculations of each women's weight relative to her height, researchers classified women into groups. An obese woman, for instance, was defined as a 5-foot-6 woman weighing more than 200 pounds, or a 5-foot-2 woman weighing more than 175 pounds. A slightly overweight woman would be 5 foot 6 inches tall and weight 150-155 pounds, or be 5 foot 2 and weight 130-135 pounds.

Overall, said the researchers from the Harvard School of Public Health, Brandeis University, Harvard Medical School and Boston's Brigham and Women's Hospital, there's a roughly linear relationship between relative weight and gallstones - the more overweight, the higher the risk.

Also, the more calories you consume per day, the higher your risk of gallstones. No one knows yet if high cholesterol intake per se adds to the risk.

All in all, it's enough to drive a woman to drink, which in fact might not be a bad idea, in moderation, of course. The researchers found that, for unclear reasons, women who drank two to three glasses of wine, beer or hard liquor per week had fewer gallstones than nondrinkers. For what it's worth, they found more or less the same thing in prairie dogs.▲ 8/31/90

Pill-cancer study reassures, leaves question unanswered

The Boston Globe
9/6/89

By Richard A. Knox
Globe Staff

Middle-aged women who once used birth control pills do not need to worry about a higher risk of breast cancer, according to a 10-year study published today, the largest ever to examine this issue.

However, the report leaves unanswered a question that increasingly worries researchers: Whether oral contraceptives increase the risk of breast cancer among women who started taking the Pill early in their reproductive lives.

The 118,000 registered nurses who participated in the study were generally too old in the early 1960s, when oral contraceptives became available, to answer that now-urgent question. Those women are now in their 40s, 50s and 60s, and about half used birth control pills earlier in life.

Among the few nurses still using the Pill in their 40s, the study appeared to reveal a slight elevation of breast cancer risk. However, specialists say the association may be false because it was based on very few cancer cases.

"For past users of oral contraceptives who are now 40 years old and older, our study provides a lot of reassurance," said Dr. Walter C. Willett of Brigham and Women's Hospital. Even women who used the Pill for 10 years or longer suffered no more breast cancer than nonusers, Willett and his colleagues at Harvard's Channing Laboratory found.

Dr. Nancy Lee of the US Centers for Disease Control's division of reproductive health agreed that the Nurses Study is reassuring for millions of women who used oral contraceptives.

"It's compatible with what information we have – that oral contraceptives don't seem to increase the risk of getting breast cancer in those ages when most women are likely to get breast cancer," Lee said in a telephone interview. "The evidence is that if birth control pills increase breast cancer risk, it's in women who are premenopausal, when breast cancer is rare. At the same time, there's all kinds of evidence that oral contraceptives prevent women of all ages from getting ovarian and endometrial cancer."

A possible link between oral contraceptives and breast cancer has been intensively studied, with widely conflicting results.

US breast cancer rates have been rising in recent decades, but the increase began before oral contraceptives were introduced. According to a recent review published by Johns Hopkins University, "most of the increase appears to be due to later first births." Having a child at a young age is known to lower a woman's risk of breast cancer.

It is difficult to study a possible association between early Pill use and breast cancer because the disease is unusual in young women and because not enough women now in their postmenopausal years, when the cancer is common, took oral contraceptives when they were teen-agers.

To discern the effect of early Pill use on breast cancer incidence, the Harvard group is embarking on a federally financed study of younger nurses, who are likely to have used the Pill in their teens and early 20s.

Questionnaires will go out this week to more than half of all US female nurses between the ages of 25 and 42, inviting their participation in a new Harvard research project that will track cancer, heart disease, arthritis, diabetes and other diseases and relate them to diet, physical activity, Pill use and other factors.

"The really big question now," Willett said, "is that if recent studies that show a breast cancer risk of early Pill use are right, and that risk extends throughout a lifetime, that's an enormous problem. That's a question that needs to be answered clearly and firmly."

The suggestion of an elevated breast cancer risk among women who started oral contraceptive use early – three years or more before their first pregnancy – has emerged from a half-dozen smaller studies published since 1981.

The most influential of these appeared in May, when British researchers reported that the risk of developing breast cancer before age 36 increased with the duration of oral contraceptive use.

Evidence from such backward-looking studies, which compare the contraceptive histories of women with breast cancer and those without, is not considered conclusive. However, a meeting of leading researchers this summer at Britain's Royal College of Medicine persuaded many that "something is going on in young women up to about the mid-30s," said one participant.

"It seems that if you start to take the Pill in your mid-20s, your risk appears not to be increased. That's the message at the moment," Malcolm Pike, a University of Southern California epidemiologist, said in a telephone interview yesterday.

"If you take the Pill very young, in your late teens and early 20s, there appears to be some increased risk up to about age 35," Pike said. "We don't know what happens to such women afterwards. There are no data on that and the Nurses Study doesn't add any."

Pike recently called on contraceptive researchers to "rethink" the birth control pill, and suggested one way of using other drugs to block ovulation while reducing the estrogen component of contraceptives by 80 percent. Estrogen is thought to be the main culprit in any possible link with breast cancer, possibly by promoting the growth of tumors that arise from other causes. ▲

Ms. Magazine

AS THE WORLD BURNS

For an adolescent, fun in the sun may turn out to be an oxymoron. A teenage girl, it was recently reported, doubles her risk of skin cancer—the deadly melanoma variety—if she's had five blistering sunburns between age 15 and 20. These findings, based on 130 women with melanoma who participated in Harvard Medical School's Nurses Health Study, confirm the growing belief that severe sunburns in childhood and adolescence have dangerous consequences. These same researchers, for example, turned up no link between skin cancer and blistering sunburns after age 30. Which doen't mean that older people should not exercise caution in the sun. The incidence of melanoma, in this country, is steeply on the ascent. It may soon exceed colon cancer among people born after 1950. ▲ 10/89

The Boston Globe

Smoking won't shield against breast cancer

SMOKING IN WOMEN APPEARS TO bring on menopause at a younger age and change how estrogen is used, two reasons for the theory that smoking might protect against breast cancer.Well, that kind of trading off of health risks will not work.

An ongoing Harvard health study of more than 100,000 nurses, in a finding published this week, shows that smoking provides no protection against breast cancer. ▲ 11/2/89

Pill study reassures older users

USA Today

By Kim Painter
USA TODAY

Millions of middle-aged women who used birth control pills in their mid-20s or later don't face an unusually high risk for breast cancer, says a major new study out today.

But the Harvard Medical School study — the largest yet with 118,000 women followed for 10 years — offers no reassurance for younger women.

"Women are in a position where they have to make decisions with incomplete information," says Dr. Walter Willett, a member of the team reporting in the *Journal of the National Cancer Institute*.

The researchers hope to answer questions raised by the study with a new one involving 100,000 to 150,000 nurses, ages 25 to 43. Today's study involved nurses now ages 43 to 68.

Among remaining questions:

▶ Does the pill increase a woman's chance of getting breast cancer before her early 40s? The disease is more common in older women.

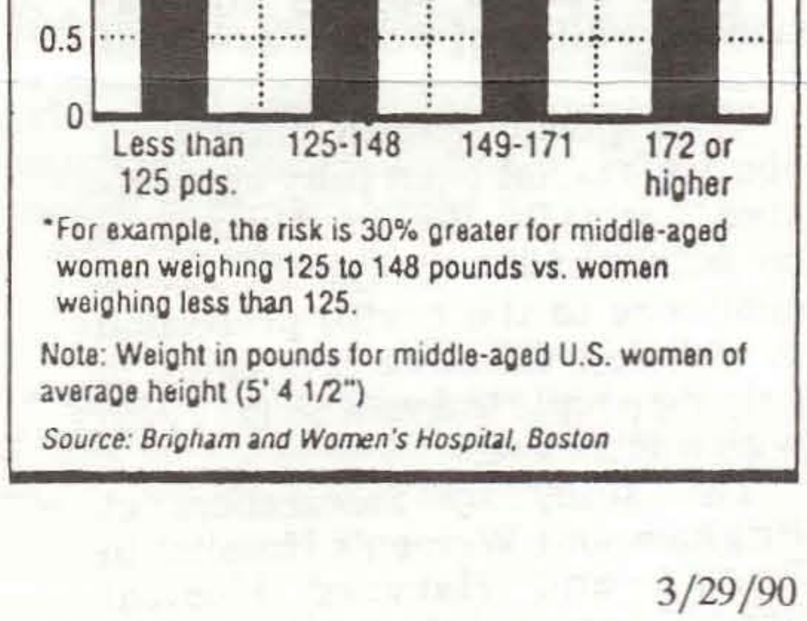
One British study showed a 70 percent increase among women under age 36 who took the pill at least eight years.

▶ If there is an effect, does it depend on when a woman starts taking the pill or how long she takes it?

▶ Do today's pills have the same effect as higher-dose pills used in the '60s and early '70s?

Dr. Bruce Stadel, a Food and Drug Administration scientist, believes today's pills are less risky. Also, he says, evidence suggests the higher-dose pills haven't caused overall increases in breast cancer, but may have caused some susceptible women to develop breast cancer earlier. ▲ 9/6/89

The Wall Street Journal



3/29/90

Our thanks to everyone who has sent in their blood sample. If you still have yours, don't worry; we will be collecting the samples through August.

The Los Angeles Times

Obesity Raises Women's Heart Risk, Study Affirms

By JANNY SCOTT
TIMES MEDICAL WRITER

Middle-age women who are even mildly overweight have a significantly greater risk of coronary heart disease than their leaner counterparts, according to a new study that suggests obesity is even more dangerous than previously thought.

The study of 115,886 U.S. women found that those who were slightly overweight were nearly twice as likely as lean women to experience heart attacks and angina. Those who were 30% overweight or more were more than three times as likely to develop heart disease.

The new findings are expected to help settle a long-running controversy over the relationship between obesity and heart disease in women. Although fat is known to contribute to heart disease in men, past studies of women have been contradictory.

The study's implications are especially ominous in the United States, where one-quarter of all women between 35 and 64 are at least 30% overweight, and where heart disease is already the nation's top killer of women as well as men.

"The public health impact of obesity has not been fully appreciated," said Dr. JoAnn Manson, a co-author of the study. ". . . It's a challenge to the health profession to develop effective strategies in helping people to avoid weight gain with middle age."

The study by researchers at Brigham and Women's Hospital in Boston and Harvard Medical School was published today in the New England Journal of Medicine. It followed nurses between the ages of 30 and 63 in 11 states over eight years.

The researchers put the women in five categories ranging from lean to seriously overweight, as defined by actuarial tables. Lean women weighed on average 119 pounds; average women ranged from 137 to 148 pounds; the heaviest women weighed an average of 193 pounds.

The results include the following:

- Women who were "mildly to moderately overweight" (from 149 to 171 pounds for an average height of 5 feet, 4½ inches) were 80% more likely than lean women to develop coronary heart disease during the study period.
- Women who were at least 30% overweight were 3.3 times as likely as lean women to develop heart disease.
- Even women of average weight carried a 30% higher risk of heart attack than their leaner counterparts.
- A weight gain of more than 20 pounds since age 18 doubled the risk of heart attack.
- Overweight women who smoked were five times more likely than overweight nonsmokers to experience a heart attack.

"The primary message from this study is one of the importance of prevention," said Manson, a physician and researcher at Brigham and Women's Hospital. "That's directed mostly to young women, to encourage them not to gain the weight during adulthood that so commonly occurs in the United States."

Obesity leads to heart disease primarily by increasing one's risk of high blood pressure, diabetes and unusually high levels of fat in the blood. Those and other risk factors for heart disease can be caused or exacerbated by being overweight.

Although physicians often recommend weight loss to treat hypertension, diabetes and high cholesterol levels, it was impossible in the study to say whether weight loss reduced heart-disease risk because too few women lost weight during the study period.

Manson's study is not the first to conclude that obesity is associated with increased risk of heart disease. But the relationship in women has been controversial; some researchers have found an association while others have not.

A possible explanation for those discrepancies lies in the methods used by different researchers. For example, some researchers did not take into account the effects of smoking, which is more common in thin women but greatly increases one's risk of heart disease.

"This will tend to inflate the risks associated with leanness and lead to an underestimation of the risks of obesity," said Manson, whose study was more comprehensive than many others and who controlled for the effects of smoking.

Some researchers had also suggested that obesity might be less risky in women than in men because women's fat tends to accumulate around the hips and legs. Obesity in the trunk, as in men, appears to carry a greater heart-disease risk than obesity elsewhere in the body.

Experts in the field said Wednesday that the new findings should eradicate the notion that some degree of obesity is safe, and should prompt physicians and public health officials to devote more attention to encouraging weight loss.

Dr. William P. Castelli, director of the Framingham Heart Study, a long-running, federally funded project based in Framingham, Mass., said campaigns to control blood pressure and cholesterol should begin by getting people to lose weight.

"A lot of them, by doing that, will straighten out their risk factors [for heart disease]," Castelli said. "There are few things you can do that will change so many risk factors at once [that are as effective as] losing weight."

"It certainly makes me stop and think," said Dr. Michael Crawford, chief of cardiology at the University of New Mexico School of Medicine and chairman of the American Heart Assn.'s clinical council.

"Because I've been fairly complacent about obesity in women, as a cardiologist, up until now," Crawford said. "This is going to give me pause." ▲

3/29/90