

SWAN UPDATES

March 2001

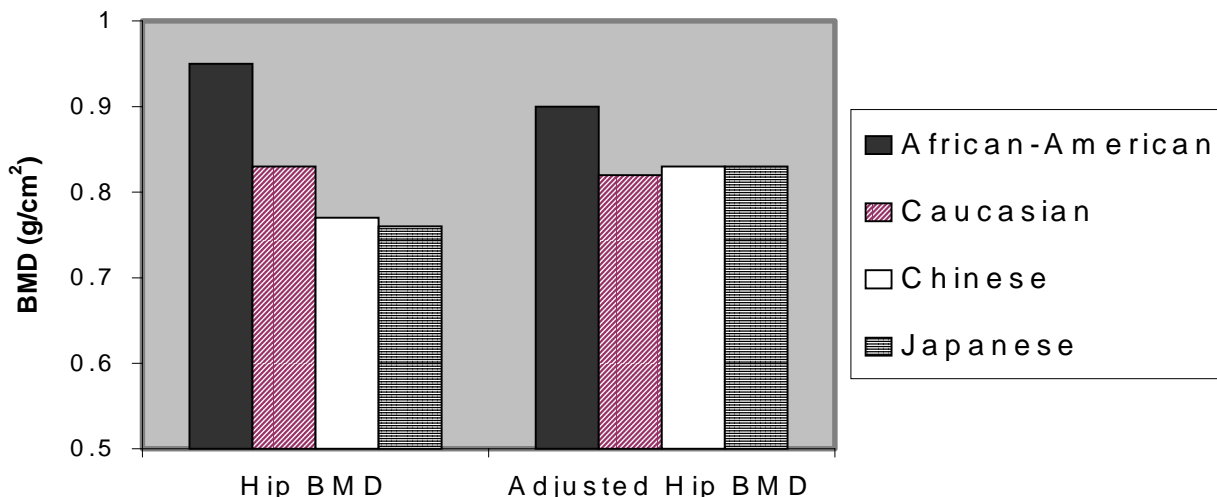
BONE DENSITY

As women grow older, the levels of estrogen in their bodies decrease. This decrease in estrogen can lead to bone loss. If bone loss continues long enough, bones may become weak and the risk of fractures is increased. Very low bone mineral density is called osteoporosis. Bone density scanning is a valuable tool used to determine bone strength and to check for osteoporosis. As part of the SWAN study, participants in Boston, Pittsburgh, Los Angeles, Oakland, and Michigan have had bone density scans at each of their annual visits.

SWAN data from the first visit show that bone mineral density (BMD) varies among women from different ethnic backgrounds. We found that average bone density of the hip (shown on the left side of the figure below) and spine (not shown) is highest in African-American women, followed by Caucasian women, with Japanese and Chinese women having lower bone density. These data are still preliminary. These results are similar to other research that has shown that African-American women are less likely to develop fractures due to osteoporosis than women of other ethnicities. Other studies have shown that Chinese and Japanese women are less likely to develop fractures than Caucasian women.

Having found that bone density varies among women of different ethnicities, we have tried to find out

HIP BONE DENSITY



what factors might be responsible for these differences. For example, it is well known that bone density tends to be higher in people who are larger. Medical and scientific controversies still exist about the role of calcium, exercise, smoking and drinking alcohol in the development of osteoporosis. Because of these controversies, SWAN is attempting to answer questions about the factors that can affect bone density and how they may differ among ethnic groups.

When we took into account (or “adjusted for”, as shown in the figure on the right side) the factors that may affect bone density - age, how regular a woman’s periods are, smoking, alcohol intake, calcium in diet, physical activity, and lean body mass (or amount of muscle tissue) - we found that African-

American women still have higher bone density values but the differences were not as large as before. Moreover, after these factors were taken into account there was no longer any difference in the average bone density of Caucasian, Japanese and Chinese women. These findings show that there are significant differences in bone density among ethnic groups, part of which are due to ethnic differences in factors like body size and part of which remain unexplained. As SWAN progresses, we will continue to measure bone density to find out when bone loss begins, whether different ethnic groups lose bone at different rates, and what factors are connected with different rates of bone loss.

If your bone density is lower than expected compared with other women of your age and ethnicity, or if you are losing bone faster than expected, you will have received a special notice and we urge you to consult with your health care provider. If you do not have a health care provider, contact your SWAN office and they will help you find one.

We appreciate the dedication of the SWAN participants to this important project and look forward to reporting new findings from this part of SWAN in the future.

THE FOOD QUESTIONNAIRE

DIET AND BONE DENSITY: At your first SWAN visit, we asked you about your eating habits. One of the many questions SWAN researchers are exploring using this information is whether diet can influence bone density change. As in research related to bone density, very few studies have been done relating foods to bone density change in women of SWAN age.

COMING SOON: During the sixth SWAN visit, we will again be asking you questions about the foods you usually eat. We will not ask about every single food you may eat during the year, but rather, we are interested in the general trends of what you eat and drink. Also, we are pleased that we will be providing you with a much more detailed result report from this survey than in the past. The new nutrition report will include information on your vitamin and mineral intake, your average intake of fat, calories, and protein, and your food group servings. Your results will be displayed in comparison to the recommended levels for a woman your age. Because of the time it takes to complete the Food Questionnaire, we have reduced the number of questions to be asked during the sixth SWAN visit, so your visit should not take more time than in past years.
