



Summer 8-1997

Perceptions of Breast Cancer, Osteoporosis and Heart Disease Among College Women

Linda Mary Lewandowski
University of Tennessee - Knoxville

Follow this and additional works at: https://trace.tennessee.edu/utk_chanhonoproj

Recommended Citation

Lewandowski, Linda Mary, "Perceptions of Breast Cancer, Osteoporosis and Heart Disease Among College Women" (1997).
University of Tennessee Honors Thesis Projects.
https://trace.tennessee.edu/utk_chanhonoproj/230

This is brought to you for free and open access by the University of Tennessee Honors Program at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in University of Tennessee Honors Thesis Projects by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

UNIVERSITY HONORS PROGRAM

SENIOR PROJECT - APPROVAL

Name: Linda Lewandowski

College: Arts and Sciences Department: Chemistry

Faculty Mentor: Dr. Jim Nelson

PROJECT TITLE: _____

Perceptions of Breast Cancer, Osteoporosis and Heart Disease
Among College Women

I have reviewed this completed senior honors thesis with this student and certify that it is a project commensurate with honors level undergraduate research in this field.

Signed: James L. Nelson, Faculty Mentor

Date: 22 August 1997

Comments (Optional):

An intrinsically significant, well-defined, and well-executed project. Ms. Lewandowski should consider submitting a (lightly) revised version of this thesis for publication.

**PERCEPTIONS OF BREAST CANCER, OSTEOPOROSIS AND HEART DISEASE AMONG
COLLEGE WOMEN**

Linda Lewandowski
University Honors Program
The University of Tennessee/Knoxville
August 23, 1997

PERCEPTIONS OF BREAST CANCER, OSTEOPOROSIS AND HEART DISEASE AMONG COLLEGE WOMEN

ABSTRACT:

The university seems the ideal place for dispersal of information. Advertisers have often taken advantage of a high concentration of young people in a setting where the attention of the population is fairly easy to catch, so have politicians. Whether it is AT &T's "1-800-COLLECT" or MTV's "Rock the Vote," the colleges and universities of the United States are a prime target for advancement of a information. The message behind all of these campaigns is not always monetary or political, often the aim of an information campaign is to improve the health and well-being of the students. In recent years, young women in a university setting are hearing more about breast cancer. Student groups are becoming actively involved in the promotion of breast cancer awareness, sororities are turning out in support of "breast cancer awareness month", and of course, university women are among the prime readership for popular women's magazines such as *Cosmopolitan* and *MS*. which commonly feature articles on breast cancer. As posters depicting the proper method for breast self examination become a common fixture in the showers and locker rooms of every freshmen dormitory in the United States, I wonder what university women are gaining from all of this exposure to breast cancer information. Is all of this information really helping us to develop a balanced picture of our over all health? Is this information providing suggestions for taking proactive measures to preserve good health? Will this information empower us with real knowledge and understanding about our bodies? If our health fails, will this information be able to support us emotionally and physically? It certainly seems, sometimes, that all of this information creating undue stress, confusion and anxiety due to inflated perceptions of the health risks we face. Is the extra anxiety brought on by various information campaigns worth the knowledge we gain?

The study of the women at the University of Tennessee, discussed in detail below, provides a bit of insight into the answers to these questions. The study aims to provide insight into the perceptions university women have about their health and the sources of these perceptions. In order to do this, three diseases are

discussed compared in the survey: the highly publicized breast cancer, the more frequent and much more often fatal heart disease, and osteoporosis, which is even more common than heart disease although less often fatal (although complications from bone fracture link osteoporosis to fatalities far more often than breast cancer).

In the course of the survey of the women on the campus of the University of Tennessee/Knoxville were asked to consider the three diseases (breast cancer, osteoporosis and heart disease) and relate the following information: 1) the disease they think that they are most at risk for and 2) the disease they worry about the most. Then, in order to determine what factors influenced the students perceptions about those diseases I asked about:

- Sources of information about each disease
- Discussion of these diseases with health care providers
- Questions concerning the health related habits of the women (such as whether or not they used hormonal birth control and whether or not they visited the gynecologist for well check-ups) were included in order to determine any correlation between these habits and discussion of these diseases with health care providers.
- Family members or friends of the respondents who may have been diagnosed with one of the diseases discussed in the survey
- The extent to which each respondent perceived each disease as emotionally and physically trying

There was also a component of the survey which analyzed the respondents knowledge of risk factors in order to determine whether or not risk factor knowledge(or suggestions for proactive prevention techniques) increases as the amount of information about a disease increases.

METHODS:

Study Population

The target population for this study is the female students enrolled in graduate and undergraduate courses at the University of Tennessee/Knoxville. The target population, therefore, consists of approximately 15,000 women between the ages of 18 and 40 with a mean age of 23.

The sample population for this survey was derived from a random sampling of summer school courses at the University of Tennessee/Knoxville. The random sample was generated by assigning each summer school course at UT a random number. Microsoft Excel was then used to generate a list of random numbers. The courses were then surveyed in the order which they appeared on the list until the number of women surveyed was sufficient to reduce the sampling error inherent in any survey. In this survey, 344 women were surveyed in order to bring the sampling error for a population of approximately 15,000 within +/- 5%.

The human subjects committee in the philosophy department approves this study for the female graduate and undergraduate students at UTK.

Questionnaire:

The questionnaire was designed to assess the following:

- how women perceive their risk of each of the 3 diseases disease relative to the each other
- how women perceived their risk of each disease statistically
- how frequently women worried about these diseases
- the extent to which they felt that each disease would affect her quality of life
- sources of information for each disease
- awareness of risk factors for each disease

The questionnaire also included demographic questions regarding the age, race, and major of the respondent as well as her marital status and whether or not she was an undergraduate or graduate student at

UTK. Additional space was provided for the respondents to comment on the questionnaire. A sample questionnaire is included in appendix A of this report.

The questionnaire was administered in the randomly selected classes at the normal meeting time of the particular class. Before each administration, I explained to the female students in the class the purpose of the study and encouraged participation and honesty in filling out the questionnaire. The students were informed that their participation was, of course, voluntary, and that they were free to leave any question blank. I also provided the students with information on following up on the results of the questionnaire.

RESULTS:

Sample Population

All of the female students who were present at the class meeting on the day the questionnaire was administered agreed to participate in the study. Only the students who were absent from class and, in some cases, late to the class meeting, were omitted from the sample population. In all, 344 responses were collected from various randomly selected undergraduate and graduate courses at UTK.

The demographics for the sample population are shown below in Table 1.

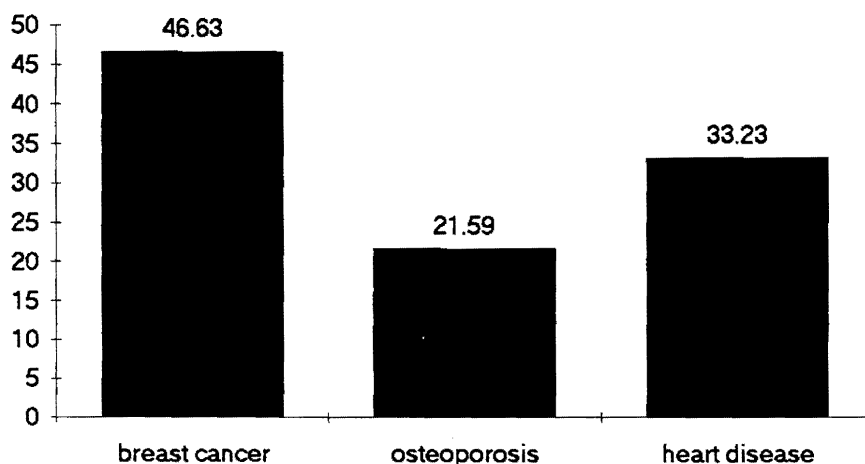
Table 1. Demographics of Study Population

Characteristic	% respondents
Age	
Mean: 23.9	
Median: 22	
Range: 18--49	
Race	
White	88.46
Black	5.03
Asian	3.84
American Indian, Hispanic, Indian, Pacific Islander	less than 1
Marital Status	
Single	79.75
Married	20.25
School Status	
Undergraduate	85.89
Graduate	14.11

Perception of the Relative Risk of Breast Cancer, Osteoporosis and Heart Disease

The respondents generally felt as if they were more likely to develop breast cancer than either of the other two illnesses. The respondents were asked to rank the likelihood of developing each of the three diseases from one to three. The majority of the respondents (46.65%) thought that they were more at risk for developing breast cancer than either osteoporosis or heart disease. Next, 33.23% of the respondents believed that they were most likely to develop heart disease. Only 21.59% of the respondents felt that they would be most likely to develop osteoporosis before any of the other two diseases.

Table 2. Percentage of women who feel most likely to develop each disease



The respondents are slightly more likely to feel at risk for a breast cancer if they have a family member or a friend who has been diagnosed with breast cancer. Of the respondents who believed that they were more likely to develop breast cancer than any of the other two diseases, 48% had family members who had been diagnosed with breast cancer. In comparison, 31% of those who felt most at risk for breast cancer had no family or friends who had been diagnosed with breast cancer.

There was no correlation found between knowledge of risk factors and believing oneself to be most at risk for a particular disease. There was a slight positive correlation between women who had friends or family members with either breast cancer or heart disease and increased perception of personal risk of that particular disease. A similar correlation does not exist for osteoporosis.

Frequency of worrying about an illness

The women in this study worry more frequently about breast cancer than either of the other two illnesses. When asked how frequently they worried about breast cancer, 4.12% of the women surveyed responded that they worried about breast cancer "daily," 41.47% responded that they worried "monthly," 25.59% worry "annually," 25.29% "rarely," and 3.53% said that they "never" worry about breast cancer. When asked the same question about heart disease, 5% responded that they worried daily, 22.65% said monthly, 18.82% worry annually, 40% answered rarely, and 13.53% answered never. The women

responded that they worried the least about osteoporosis; 3.83% worry daily, 19.77 worry monthly, 19.47 worry annually, 36.87 rarely, and 20.06 never.

Table 3.

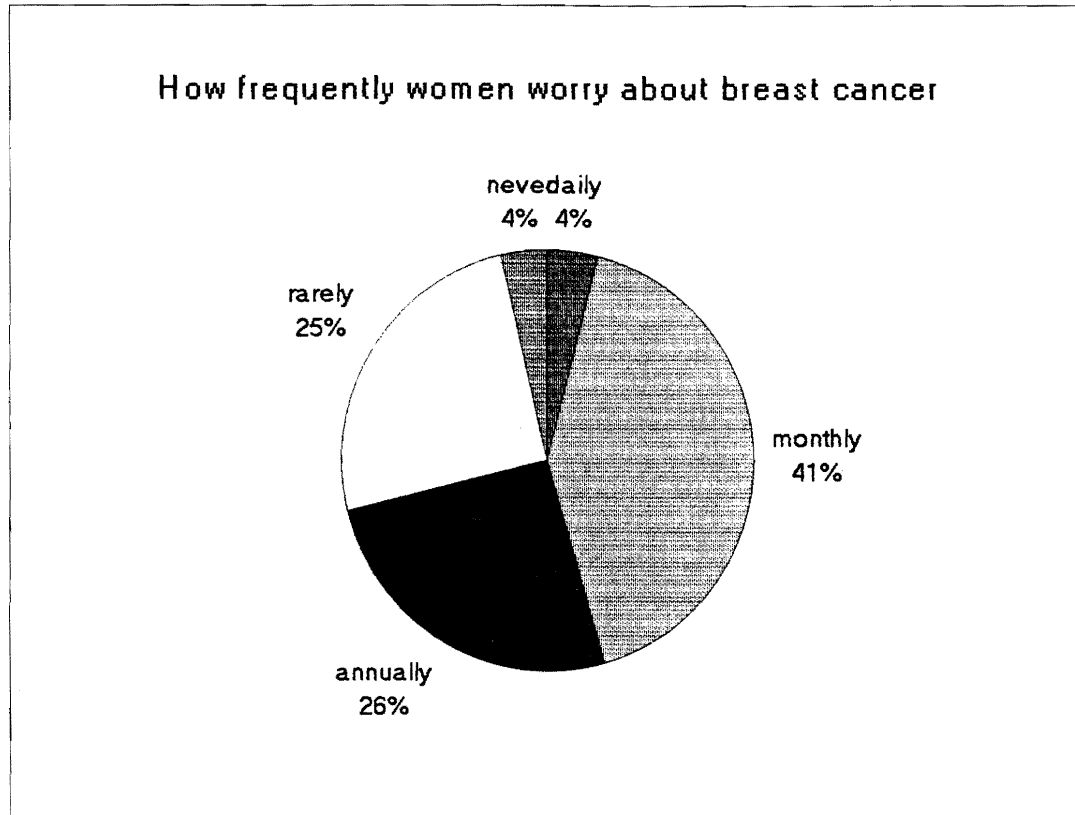


Table 4.

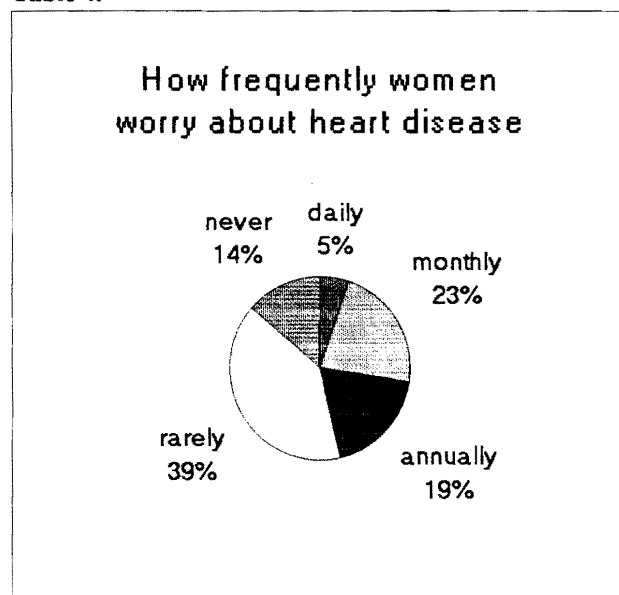
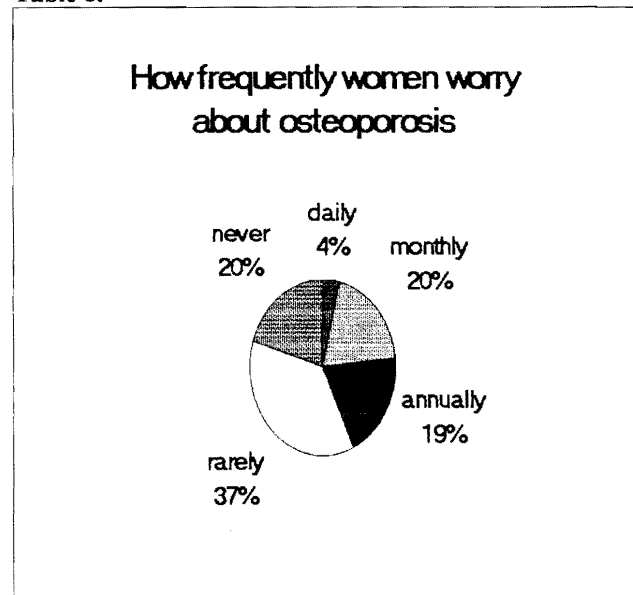


Table 5.



For breast cancer and heart disease, women were more likely to worry about the disease if they had family or friends who had been diagnosed with that particular disease. Sixty-one percent of the women who worry daily or monthly about breast cancer have a relative who had been diagnosed with the same disease. Similarly, 66% of the women who worry daily or monthly about heart disease have a relative or friend who has been diagnosed with heart disease. A similar correlation did not exist for osteoporosis.

Emotional Trauma Associated with each Illness

Most of the women surveyed (65.85%) said that breast cancer would definitely be the "most emotionally devastating" illness for them if they were to develop any of the three diseases disease. About one quarter of the 344 women surveyed (26.25%) said that they felt heart disease would be the most difficult disease to cope with of the three. A few of the women (8.78%) said that osteoporosis would be the most emotionally devastating disease for them.

Physical Trauma Associated with each Illness

The majority of the respondents (56.92%) said that osteoporosis would be the "most physically debilitating (either through physical pain or handicap) for the longest amount of time." Approximately one third (32.18%) of the sample population said that heart disease would be the most physically traumatic. The respondents felt that breast cancer would be physically traumatic for the shortest amount of time; 11.28% said that they thought breast cancer would be the most physically traumatic.

Numerical Estimation of Risk

Questions 5 through 7 of the questionnaire asked the respondents to numerically estimate the chances of *developing* and *dying* from each disease per 1000 women. This question format was taken from a study done by Black, Nease and Tosteson published in the *Journal of the National Cancer Institute* in 1995.¹ While the Black study asks only about breast cancer, this study deals with all three diseases. Both

this study and the Black study included a "screening question" in which the respondents were asked how many times out of 1000 a coin would come up heads. In the Black study those responses of those women who answered the screening question with any response other than 500 were analyzed separately. In this study, the responses to the numerical analysis questions were discarded for those women who incorrectly responded to the screening question (there were 3 incorrect responses to the screening question in the data for this study).

The estimates for both developing and dying from any of these three diseases were much higher than most expert estimates for incidence and mortality for these diseases in the general population. Like the Black study, the women in this study estimated that their mortality would be closer to the highly publicized "1 in 9" statistic for incidence of breast cancer.

In this section of the survey, the students ranked heart disease as the most frequent killer of the three. Here also, heart disease had the largest number of estimated incidence. Breast cancer was next in both mortality and incidence, followed by osteoporosis. These numbers contrast with an earlier section of the questionnaire. In the first section of the questionnaire, the respondents were asked to number the three diseases in the order of increasing likelihood of development. In this section, breast cancer is the perceived most common disease. Here, when asked to give a numerical estimate of the amount of victims each disease claims out of 1000 women, heart disease is the perceived most common disease.

Discussion of Breast Cancer, Osteoporosis, and Heart Disease with Physicians and Health Care Providers

More women discuss breast cancer with their health care providers than any of the other illnesses; 55.1% of the respondents said that they have discussed breast cancer with their physician or health care provider. Twenty-one percent of the women said that they had discussed heart disease with a health care provider, while only 14.87% of the women said that they had discussed osteoporosis with their health care providers. Nearly 40% of the women in the study said that they had discussed none of these diseases with a health care provider.

Discussion of any one of these three diseases was more likely in women who visited the gynecologist for a well check-up at least once a year. Seventy percent of the women who visited the gynecologist at least once a year were likely to have discussed one of the three diseases (breast cancer again, is the most frequent of the diseases discussed) with their doctors, compared to 38% of the women who don't visit the gynecologist for well check-ups.

Similarly, 71% of those women who were either presently using hormonal birth control or who had used hormonal birth control in the past had discussed one of the three illnesses with a physician, while only 40.5% of those women who were not using hormonal birth control had discussed one or more of these diseases with a physician.

Although well visits to the gynecologist did increase dialogue between women and their doctors about these illnesses, they did not seem to affect the frequency of worry about a disease. Women who worried about these diseases often were no more likely to visit the gynecologist often than women who did not worry.

Information Sources

In this section of the questionnaire, the respondents were asked for the source from which they receive most of their information about each of the three diseases discussed in this report. The respondents could circle more than one answer choice from the following choices: media campaigns, corporate or grassroots campaigns, health care providers, courses in school, discussion with friends or family members, or they could fill in a the response of their choice in an open ended form.

Unfortunately, the category "print media" which would have included books, professional journals, the world wide web and popular magazines was omitted from the list of choices. Although many women responded to the "other" choice and listed one of the above forms of print media the source of most of her information about each of these issues, it is impossible to tell from this type of open-ended response how many women get their information from print media since the choice was not directly visible on the questionnaire itself.

Breast Cancer

The women in this study responded that they receive most of their information about breast cancer from "media campaigns (TV, newspaper, radio)"; 67.93% said that the media was one of the sources for most of their information. The next most popular source of information among women in this study is "discussion with friends or family members"; this response was selected by 51.6% of the respondents. Health care providers was cited by 46.94% of the women as among their most frequent sources of information. "Classes in school" came next with 24.2% of the respondents citing this answer choice. A few women in this study (16.03%) cited "corporate or grassroots campaigns (ribbon campaigns, political action campaigns)" as a source of information for breast cancer.

In addition to print media, several women responded that their sororities were a source of information for breast cancer in open ended response.

Osteoporosis

The largest response for information sources for osteoporosis was to the "media campaigns" answer choice with 62.5% of the women selecting this choice. The other answer choices, in order of decreasing popularity, are as follows: "discussion with friends or family members (29.65%), "health care providers" (28.78%), "classes in school" (22.38%), "corporate or grassroots campaigns" (4.07%).

Heart Disease

Again, the most popular answer choice for a source of information was the media with 72.09% of the respondents selecting this choice. The other answer choices, in order of decreasing popularity, are as follows: "discussion with friends or family" (47.38%), "health care providers" (44.77%), "classes in school" (35.17%), "corporate and grassroots campaigns" (9.59%).

Because the response to the questions dealing with breast cancer were higher, percentage-wise, than the response to the questions dealing with osteoporosis or heart disease, and because women are more likely to discuss breast cancer with their health care providers than any other disease, we conclude that women receive more information about breast cancer than about any other disease.

There was a slight variation in the frequency of information sources of women who worry about these disease and women who don't worry about these diseases. For any given disease, women who worry most frequently are likely to get more of their information from discussion with friends and family members and corporate or grassroots campaigns than are women who don't worry about these diseases as frequently.

Knowledge of Risk Factors

The respondents could correctly identify most of the risk factors^{2,3,4} for each of the three diseases. A greater percentage of the students correctly identified the risk factors for heart disease and breast cancer than osteoporosis. In addition the students were able to identify the risk factors for heart disease and breast cancer with a greater degree of certainty than they could for osteoporosis.

The risk factors discussed in this questionnaire and the percentage of correct students responses are listed in the tables below. The students were asked to identify each risk factor and indicate how certain they were about their answer choice by circling "definitely" in cases of high certainty. The tables below only show the correct risk factors identified. As mentioned before, the women felt much more certain about their identification of the risk factors for breast cancer and heart disease than they did for osteoporosis.

Table 6. Correct Identification of Breast Cancer Risk Factors

Risk Factor	Women who responded correctly, %
First menstrual period at an early age	21.13
Family history of breast cancer	99.12
Smoking cigarettes	86.24
Alcohol Consumption	64.81
Having first child after age 30	35.86
Lack of physical exercise	82.51
Late menopause	19.53

Table 7. Correct Identification of Osteoporosis Risk Factors

Risk Factor	Women who responded correctly, %
A diet low in dairy products or other sources of calcium	92.64
Family history of osteoporosis	92.66
Lack of physical exercise	84.61
Use of steroids or other hormone medication	49.41
Alcohol use	52.66
Smoking	67.98
Thin frame	61.47
Caffeine use	63.8
Early menopause	16.52
Infrequent or missed menstrual periods	30.38

Table 8. Correct Identification of Heart Disease Risk Factors

Risk Factor	Women who responded correctly, %
High blood pressure	99.42
High blood cholesterol	78.3
Lack of physical exercise	94.95
Diabetes	77.22
Family history of heart disease	99.41
Use of steroid hormones	54.97
Certain "personality factors" (habitual impatience, high competitive drive)	83.63
Smoking cigarettes	97.37
A diet high in fat	99.71
Early menopause	7.90

Discussion

Women at the University of Tennessee feel more likely to develop breast cancer than any of the other three diseases and receive more information about breast cancer than about any of the other two diseases. It seems as if these two findings may be related. If the quality of information that women are receiving is not satisfactory, women will not be well informed about their health no matter what quantity of information they receive. In fact, in a case where women receive large quantities of poor quality information, the effect may be simply to create stress and anxiety instead of a knowledgeable and healthy population of women.

While information about breast cancer is plentiful, however, knowledge of risk factors for breast cancer is not any more (or less) impressive than knowledge of risk factors for heart disease. On the other hand women do worry more frequently about breast cancer than any other disease. Women also overestimate their risk for breast cancer more severely than for any of the other diseases. Women seem to *hear* more about breast cancer and *worry* more about breast cancer. Evidently, however, the type of information that women currently get translates only to worry, not to really knowledge that could be put to use in actually preventing onset of this disease.

One could argue that overestimation of risk and worry are not necessarily detrimental. Overestimation, one may say is better than having a population of women entirely unaware that they are at risk for breast cancer at all. While it is certainly true that overestimation and worry are preferable to total ignorance of the disease, it does not seem as if this issue should be approached as if it were merely a choice between the lesser of two evils. It seems possible that a woman could be both informed about the existence of a disease, and at the same time, have a more balanced perception of her total health.

The fact is that university women are discussing breast cancer with their physicians, they are reading about it in the print media, and they are hearing about it in classes in school and from numerous other sources. The information is getting out, an awareness of breast cancer has been created. It seems that as long as the effort and funds are there to sustain the awareness of breast cancer among college women,

that that awareness might be channeled to create a more balanced picture of a women's overall health and well being. It seems that information about breast cancer, since it is already a common part of college life, should be directed at creating a population of women who are both well informed about the health risks *and* ready to take proactive measures to protect the health of their breasts and their whole person.

Another aspect of breast cancer that may contribute to the high perception of risk of this disease is that breast cancer victims tend to be younger than victims of the other two diseases, and cancer, in general, is often perceived as harder to cope with than either heart disease or osteoporosis. In addition, the fear physical disfiguration that is often associated with mastectomy is linked to breast cancer in the minds of many women. Indeed, the women in this study overwhelmingly ranked breast cancer as the most "emotionally devastating" of the three diseases. Such strong adverse emotions are not easily separable from the overall perception of a disease no matter how much information is provided.

The students were asked to indicate whether or not they were using or had ever used hormonal birth control. This information was relevant to the project because hormonal birth control has been cited as a possible risk factor for all three diseases,^{2,3,4} and because this type of birth control must be dispensed through a health care provider thus guaranteeing contact with a women and a health care provider. Because birth control is a possible risk factor for each of the three diseases and because receipt of birth control medication involves contact with women and health care providers, receipt of birth control medication would seem the perfect opportunity for dialogue between a women and a health care provider. Indeed, women who were currently using birth control or who had used birth control in the past were 30% more likely to discuss any one of the three illnesses with a physician than women who were not using hormonal medication.

In 1994 Kasper, Peterson and Allegrante published the results of a study they had conducted on the knowledge of risk factors among college women.⁵ In their findings they found that women who were using hormonal birth control were no more knowledgeable about the risk factors for osteoporosis than were the women who had never used hormonal birth control. This study confirmed their findings that women using

birth control were, indeed, no more likely to be knowledgeable for, not only the risk factors for osteoporosis, but also for the risk factors for breast cancer and heart disease.

The confirmation of the Kasper study results, together with the findings that students who use/had used hormonal birth control were more likely to discuss these illnesses with their health care providers brings out an interesting point. One wonders if the discussion between women and their health care providers is substantive. Are health care providers telling women what their risks are, and giving a few hints at what a woman could be doing, even when she is only college age, to take an proactive role in keeping herself healthy?

It seems as if the information women are receiving, from health care providers and other sources, tends to confuse women instead of help them. Without a realistic perception of their health and the threats to their health, many women will worry needlessly about diseases they they may be able to help prevent by making a few simple changes in their lifestyles. Perhaps it would be more beneficial for a woman to take an active role in preventing the onset of disease---eating healthy, exercising, avoiding cigarette smoke, and in general committing herself to being healthy--than to be bombarded with statistics about the incidence and mortality of a disease (which this study has demonstrated are not usually remembered in their proper context anyway), and the importance of screening techniques (which, other studies have shown are not necessarily as effective as popular perception might have¹).

References

1. Black, WC, Nease, RF, Tosteson, ANA: Perceptions of Breast Cancer Risk and Screening Effectiveness in Women Younger Than 50 Years of Age. *Journal of the National Cancer Institute* 87:720-729, 1995.
2. Vogel, VG: Assessing Women's Potential Risk of Developing Breast Cancer. *Oncology* 10:1551-1458,1996.
3. McMahon, MA, Peterson, C, Schilke, J: Osteoporosis: Identifying High-Risk Persons. *Journal of Gerontological Nursing* 18:19-26, 1992.
4. Boston Women's Health Collective: Our Bodies, Ourselves. New York: Touchstone, 1992.
5. Kasper, MJ et al: Knowledge, Beliefs, and Behaviors Among College Women Concerning the Prevention of Osteoporosis. *Archives of Family Medicine* 3:696-702, 1994.

Thank you for agreeing to participate in this survey. Your response will help determine what women at UT think and feel about some important women's health issues that affect us all. In the course of this survey, you will be asked questions about breast cancer, osteoporosis and heart disease. Please try to answer each question as accurately as you can. Remember that each response in this survey is completely confidential.

About you:

Age _____

Major/Field of Study _____

Race

1 Black

2 American Indian

3 Asian

4 Hispanic

5 White

6 Alaskan Native

7 Pacific Islander

8 Other:

School Status

1 Undergraduate

2 Graduate

Marital Status

1 Single

2 Married

Section I

How often do you think about the possibility of developing the following conditions? Would you say that you think about the possibility of developing these conditions daily, monthly, annually, rarely, or never? Please circle the response that best describes you.

	Daily	Monthly	Annually	Rarely	Never
Breast Cancer	1	2	3	4	5
Osteoporosis	1	2	3	4	5
Heart Disease	1	2	3	4	5

Do you think you are more likely to develop breast cancer, osteoporosis or heart disease? Please place a (1) beside the disease you feel you are **most likely to develop**, and a (3) beside the disease you feel you are **least likely to develop**.

_____ Breast Cancer

_____ Osteoporosis

_____ Heart Disease

Which disease would be the most emotionally devastating to you? Emotionally devastating is defined as "mentally difficult to cope with." Please place a (1) beside the disease that would be the **most emotionally devastating** for you and a (3) beside the disease that would be the **least emotionally devastating**.

_____ Breast Cancer

_____ Osteoporosis

_____ Heart Disease

Which disease do you feel would be the most physically debilitating (either through physical pain or handicap) for the longest amount of time? Place a (1) beside the disease that you feel would be physically debilitating for the **longest amount of time** and a (3) by the disease that you feel would be physically debilitating for the **shortest amount of time**.

_____ Breast Cancer

_____ Osteoporosis

_____ Heart Disease

Section 2

In the next section we will ask you to estimate how many times you think something might happen in 1,000 chances. For each question, please give your best estimate, even if you think your estimate is only a guess.

For example, imagine that you roll a six-sided die 1,000 times. Out of 1,000 rolls, how many times do you think the die would come up even (2, 4, or 6)?

500 out of 1,000

Now you try.

Imagine that we flip a coin 1,000 times. Out of 1,000 flips, how many times do you think the coin would come up heads?

_____ out of 1,000

When answering the questions in this section, imagine 1,000 women exactly like you. Of these women, how many do you think will...

Develop breast cancer?

_____ out of 1,000

Die from breast cancer?

_____ out of 1,000

Develop osteoporosis?

_____ out of 1,000

Die from osteoporosis?

_____ out of 1,000

Develop heart disease?

_____ out of 1,000

Die from heart disease?

_____ out of 1,000

Section 3

How often do you visit a gynecologist for a **well check-up** (i.e. when you are neither ill nor suspecting pregnancy)?

- 1 More than once a year
- 2 Once a year
- 3 Less than once a year
- 4 I never visit a gynecologist when I am well

Are you currently using, or have you ever used hormonal birth control (i.e. the pill, Depo Provera (the shot), Norplant)?

- 1 Yes, I am currently using hormonal birth control
- 2 Yes, I have used hormonal birth control in the past
- 3 No

Which of these illnesses have you discussed with your physician or health care provider?

Circle all that apply.

- 1 Breast Cancer
- 2 Osteoporosis
- 3 Heart Disease
- 4 None of the above

From what sources do you receive *most* of your information about breast cancer?

Circle all that apply.

- 1 Media Campaigns (TV, newspaper, radio)
- 2 Corporate or grass roots campaigns (ribbon campaigns, political action groups)
- 3 Health Care providers
- 4 Classes in school
- 5 Discussion with friends or family members
- 6 Other (please specify) _____

From what source do you receive *most* of your information about osteoporosis?

Circle all that apply.

- 1 Media Campaigns (TV, newspaper, radio)
- 2 Corporate or grass roots campaigns (ribbon campaigns, political action groups)
- 3 Health Care providers
- 4 Classes in school
- 5 Discussion with friends or family members
- 6 Other (please specify) _____

From what source do you receive *most* of your information about heart disease?

Circle all that apply.

- 1 Media Campaigns (TV, newspaper, radio)
- 2 Corporate or grass roots campaigns (ribbon campaigns, political action groups)
- 3 Health Care providers
- 4 Classes in school
- 5 Discussion with friends or family members
- 6 Other (please specify) _____

Have any of the women in your natural family (someone who is "blood-related" to you) or close female friends been diagnosed with any of these diseases? Please circle the appropriate response in the table below.

	Yes family	Yes friend	Yes family and friend	No	Not Sure
Breast Cancer	1	2	3	4	5
Osteoporosis	1	2	3	4	5
Heart Disease	1	2	3	4	5

Section 4

For each of the three diseases (breast cancer, osteoporosis and heart disease) you will be presented with common health factors. For each factor, decide if you think it would increase or decrease a woman's chances of developing a disease. Circle the number in the appropriate box.

BREAST CANCER

	Definitely Increases	Probably Increases	Neither Increases nor Decreases	Probably Decreases	Definitely Decreases	Don't Know
First menstrual period at a late age	1	2	3	4	5	6
Family History of breast cancer	1	2	3	4	5	6
Smoking	1	2	3	4	5	6
Alcohol consumption	1	2	3	4	5	6
Having first child before 30 years of age	1	2	3	4	5	6
Frequent Exercise	1	2	3	4	5	6
Late menopause (older than 55 at onset)	1	2	3	4	5	6

OSTEOPOROSIS

	Definitely Increases	Probably Increases	Neither Increases nor Decreases	Probably Decreases	Definitely Decreases	Don't Know
A diet high in dairy products or other sources of calcium	1	2	3	4	5	6
Family history of osteoporosis	1	2	3	4	5	6
Frequent Exercise	1	2	3	4	5	6
Use of steroids or hormone medication	1	2	3	4	5	6
Alcohol use	1	2	3	4	5	6
Smoking	1	2	3	4	5	6
Thin Frame	1	2	3	4	5	6
Caffeine use	1	2	3	4	5	6
Late menopause	1	2	3	4	5	6
Infrequent or missed menstrual periods	1	2	3	4	5	6

HEART DISEASE

	Definitely Increases	Probably Increases	Neither Increases nor Decreases	Probably Decreases	Definitely Decreases	Don't Know
High blood pressure	1	2	3	4	5	6
Low blood cholesterol	1	2	3	4	5	6
Frequent exercise	1	2	3	4	5	6
Diabetes	1	2	3	4	5	6
Family History of heart disease	1	2	3	4	5	6
Use of steroid hormones	1	2	3	4	5	6
Certain "personality factors" (i.e. habitual impatience, high competitive drive)	1	2	3	4	5	6
Smoking	1	2	3	4	5	6
A diet high in fat	1	2	3	4	5	6
Late menopause	1	2	3	4	5	6

Do you have any questions or comments? (Use the space below to give suggestions or comments on this survey)

Thank you for taking the time to complete this questionnaire.