

DELAWARE COUNTY MOTHER-DAUGHTER
CANCER EDUCATION PROJECT

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INTRODUCTION

The Delaware County Mother-Daughter Cancer Education Project was undertaken in cooperation with the American Cancer Society, Delaware County Unit, and the Delaware County Medical Society. Dr. Herb Jones of the Department of Physiology and Health Science, Ball State University, served as project director.

The program was presented in seven high schools in Delaware County during April and May of 1976. The key to the program was early cancer detection. Techniques for early detection were emphasized in the program. Pre-tests and post-tests were given on the day of each program. A follow-up study on behavioral changes is planned for the summer of 1976 as a final evaluation.

Objectives

- 1) To bring girls in the junior and senior classes of high school life-saving information regarding cancer.
- 2) To bring mothers the same life-saving information regarding cancer so they protect themselves. In addition, the joint program will facilitate and enhance the cooperation and communication between mother and daughter relative to cancer.
- 3) To determine if such an educational program has any impact on behavior change two months following the educational presentation.
- 4) To increase the level of knowledge in the areas of breast and uterine cancer.
- 5) To impress upon those attending the programs the importance this

information has for them personally, in hopes that they will accept it as an important part of their health care.

- 6) To increase the number of women who practice monthly BSE and have yearly Pap tests.

REVIEW OF LITERATURE

The following review of literature served as a basis for this project.

Although many of the major causes of illness and death can be affected by individual behavior, health education is a neglected, under-financed, fragmented activity with few responsible for establishing short or long term goals. Virtually no component of society makes full use of health education. The President's Committee on Health Education, in its report to Congress in 1972, recommended, "That health problems based on behavior--or which can be worsened or bettered primarily through behavior--be identified and made the basic content of health education programs . And that guidelines be developed for each that can be followed by a person alone or with the help of a health adviser." It further recommended, "That extended and intensified health education programs be developed for appropriate groups in every community to focus on health problems which apparently can be prevented, detected early or controlled through individual action."¹ The program addressed itself to each of these recommendations.

Cancer is second to heart disease as a chronic killer. And, unlike heart disease, cancer offers its victim many warning signals of its presence--warning signals which, if heeded through prompt treatment, can lead to a remission and/or cure of the malignancy. Research is making significant advances in developing treatments for cancer of specific site areas, but a generalized cure is not imminent. But the opportunity for saving a great many more lives from the disease is present in public education. It is estimated that one third more lives could be saved from cancer each year, if the victims only knew the disease's warning signals and sought prompt medical attention when a signal appeared. This would allow current treatment modalities to be effective. (American Cancer Society, 1974 Cancer Facts and Figures)

A review of the literature dealing with the value of educational programs in cancer prevention might be useful in understanding the educational parameters of this project. Experience suggests that the most effective health education programs are those that present "new" information rather than those which directly contradict existing health beliefs.² It is a challenge to present health education messages in a manner which skirts existing misconceptions--allowing the listener to absorb new information without confronting

pre-existing attitudes and values. Health behavior that is habituated is no longer subject to free choice or intellectual control to the same extent as is the kind of health behavior involved in choosing whether to have voluntary examinations, such as cancer detection tests.

A brief look at what the American public knows and does about cancer seems necessary. A 1971 survey by the Gallup organization, under the auspices of the American Cancer Society, indicated that there was a modest gain in the percentage of those people who ever went for a complete physical examination although they were feeling well: from 55 percent in 1961, to 57 percent in 1963, to 62 percent in 1970. There was also a sizeable gain in the percentage of those who have heard of the various cancer detection tests. Ninety percent of Americans interviewed in the nationwide sample had heard of the Pap test, but only 53 percent of these women had ever had the test. These figures, of course, indicated lack of action by many of the women who knew of the test. About one out of two women surveyed had performed breast self examination (BSE) at some time and 34 percent had done it in the past year. Most of those who had ever done it, continued to do so in the past year, indicating that when a woman is persuaded to try BSE once, she will most likely continue the practice.³ Each of these studies concerned themselves with "older" females. A case could be made for working with younger women in that habits established earlier in life are more likely to be carried on throughout a lifetime. The information could be interpreted to suggest that there is a greater likelihood of having cancer detection tests performed regularly if they are of the self-administered variety. Further this project has the added advantage of having at least two women in the same household to afford encouragement for each other in these life-saving practices.

Where a program requires voluntary participation, information about people's beliefs concerning the issue in question is essential. This project will be based on the results of previous work conducted for the American Cancer Society. These studies, most notably the Public Opinion Surveys About Cancer conducted in 1966 and 1970, posed the following questions: 1) what have people learned about cancer? 2) have positive attitudes been developed? 3) are individuals taking the action recommended? In essence, the results indicated that there were modest gains in the number of checkups including cancer detection tests people were having. There were sizable gains in knowledge about cancer and specific tests, but a slowdown in the rate of increase in having the tests administered. Physicians were found to be the most frequent source of health education (a part of this project) and that indifference was the main reason individuals did not take action to protect themselves from cancer. The Delaware County project included the mother-daughter interaction to help overcome this indifference--each acting as a motivator of the other.

Throughout the world there has been an increasing realization in recent years that education of the public about cancer is an essential element of cancer prevention and control.⁴ But at the same

time, the educational problems of cancer prevention have not received as much attention as other aspects of cancer control. There are wide gaps in our knowledge of social, psychological, and educational factors that inhibit the utilization of preventive knowledge.

One theoretical approach to cancer education contends, "a person's experience of a personal threat to his health will become conscious when he feels that he is susceptible, and when he feels that the illness and its consequences to him and his own would be serious."⁵ The perception of the threat will depend initially on the presence of some stimulus or be associated with the illness, for example cancer's seven warning signals or the presentation of a special mother-daughter meeting on BSE, or facts about a disease which bring to a person's awareness his acceptability to, or the danger of his contracting the disease. This project utilized both of these ideas.

Successful public education programs about cancer are those that prompt individuals to take voluntary actions to protect themselves. Consequently, most cancer education programs employ knowledge and attitude change as primary objectives. A significant amount of research has suggested that social distance, social norms, and social perception have been posited as intervening variables between attitudes and action.⁶ Ideally, attitude and behavior change strategies should take into consideration the external and internal forces at work upon an individual as he makes his health care decisions. Certainly there are personality factors which underly whole syndromes of health attitudes, social responsiveness, and behavior. If one takes into account the many internal influences at work upon an individual's decision making process, plus the external forces which may affect his ability to exercise his choices, one can understand why cancer education programs may be ineffective.

Assuming the validity of the internal plus external forces argument, it is still extremely difficult to design programs for large audiences recognizing these forces and attempting to compensate for them. At best, in organizing large scale public education programs, one can only hope to remove some of the more obvious external forces which may discourage an individual from following recommended health practices. The study will attempt to do this by taking the program to the recipients through the already established school program. Removal of external barriers to effective personal cancer prevention activities is often difficult, thus educators are left with an immense educational task. This task is linked as much with the health care delivery system as it is with public knowledge.⁸

METHODOLOGY

A letter was sent to the superintendent of each school corporation in Delaware County requesting support for the project and permission to contact

the principal and dean of girls in each high school. Each superintendent was telephoned to obtain reactions to the program. Following a positive reaction to the first letter, a letter was sent to the principal and dean of girls in each high school inviting them to attend a luncheon and explanation of the project. The luncheon was held and each school was asked to participate in the program. Seven of ten schools present chose to do so. (Delta, Daleville, Cowan, Yorktown, Waphani, Burris, and Wes Del High Schools)

Invitations were sent to the mothers of each junior and senior girl in participating schools. The invitations to the programs were sent via mail to ensure receipt.

The program presented in each school was designed to last approximately $1\frac{1}{2}$ hours. The film "Something Very Special" was shown. A local physician was present and conducted a question and answer period in most sessions. Pre-tests and post-tests were administered. Two pamphlets, "How To Examine Your Breasts" and "Stay Healthy! Learn About Uterine Cancer," were given to each person in attendance. The pamphlets were provided by the American Cancer Society. "Betsy Breast Teaching Model" was available for each person to examine.

The instrument was designed to measure knowledge and behaviors of those responding to it. The pre-test was composed of 17 questions; the post-test had 13 questions. The post-test was similar to the pre-test, except that the questions dealing with behavior were not included. One additional "knowledge" question was added to the post-test. Space was provided for an evaluation of the program. (see Appendix for copies of instrument)

The final evaluation will be accomplished through telephone interviews

in mid summer, 1976. A random sample of the population attending each program will be selected for the follow-up. This follow-up will be conducted to determine what preventive behaviors are then being employed by the program participants.

To ensure feedback to the schools participating, results from the pre-tests and post-tests were sent to each school along with a letter of appreciation for participating.

FINDINGS

Although statistical tests have yet to be run, there are some findings that are apparent.

TABLE I summarizes the Girls' knowledge from all the schools on the pre-tests and post-tests. It appears that the number of girls who feel they know the correct way to perform BSE increased greatly (from 25 percent to 99 percent). The percentage of girls responding correctly to "A cancerous growth most frequently causes pain or discomfort," increased from 50 percent to 93 percent. While on the pre-test only 31 percent of the girls answered "true" that "Cancer of the uterus can be one of the most curable of all cancers," 86 percent answered "true" on the post-test. In TABLE I-B, the correct answer was considered to be either "2 weeks before your period," or "a week after your period." On the pre-test 26 percent of the girls answered correctly, but on the post-test the percentage of correct answers increased to 98 percent.

TABLE II summarizes the Mothers' knowledge as measured by the pre-tests and post-tests. Overall, there do not seem to be as many changes in answers from the pre-tests to the post-tests in comparison to the daughters. It should be noted that the total number of mothers attending all the programs

was 72, in comparison to 512 daughters. 60 percent of the mothers felt they knew the correct way to perform BSE when answering the pre-test. This increased to 99 percent on the post-test. The percentage of mothers knowing when the best time to examine one's breasts for lumps increased from 46 percent to 94 percent.

TABLE III is a summary of the girls' behaviors as indicated on the pretests. This data will be compared to the data from the follow-up to be conducted in mid-summer, 1976. It is interesting that while 87 percent of the girls had heard of BSE, only 20 percent responded that they practiced it.

TABLE IV is a summary of the mothers' behaviors as indicated on the pre-tests. This data will be used in comparing pre-program behaviors to post-program behaviors (as will be measured by the follow-up in mid-summer, 1976).

TABLE I. Girls' Knowledge

	<u>Pre-test</u>			<u>Post-test</u>		
	<u>True</u>	<u>False</u>	<u>Not Sure</u>	<u>True</u>	<u>False</u>	<u>Not Sure</u>
Do you know the correct way to perform BSE?	25%	47%	18%	99%	1%	-
Breast cancer is more prevalent among teenagers than women 35 years and older.	15%	71%	12%	9%	91%	1%
Women who no longer menstruate need not practice BSE.	4%	88%	6%	3%	96%	1%
More deaths in women result from breast cancer than from any other site.	36%	41%	18%	53%	41%	6%
All lumps found in the breast are cancerous.	3%	94%	3%	2%	98%	<1%
A cancerous growth most frequently causes pain or discomfort.	29%	50%	18%	7%	93%	4%
It is only necessary to have a Pap test when you suspect something is wrong.	8%	87%	4%	8%	91%	1%
Only married women need to have Pap tests.	2%	93%	4%	1%	98%	<1%
In most cases, early detection and treatment of cancer leads to a higher cure rate.	88%	3%	6%	95%	3%	1%
Cancer of the uterus can be one of the most curable of all cancers.	42%	31%	22%	3%	86%	6%

N=512

N=508

TABLE I-B. Girls' Knowledge

When is the best time to examine your breasts for lumps?

	<u>Pre-test</u>	<u>Post-test</u>
2 weeks before your period	10%	32%
right before your period	9%	<1%
during your period	6%	<1%
a week after your period	16%	66%
don't know for sure	60%	<1%

TABLE I-C Girls' Knowledge

The purpose of the Pap test is early detection of:

	<u>Pre-test</u>	<u>Post-test</u>
breast cancer	2%	2%
lung cancer	-	-
uterine and/or cervical cancer	86%	97%

TABLE II. Mothers' Knowledge

	<u>Pre-test</u>			<u>Post-test</u>		
	<u>True</u>	<u>False</u>	<u>Not Sure</u>	<u>True</u>	<u>False</u>	<u>Not Sure</u>
Do you know the correct way to perform BSE?	60%	14%	17%	99%	1%	-
Breast cancer is more prevalent among teenagers than women 35 years and older.	7%	86%	4%	3%	96%	1%
Women who no longer menstruate need not practice BSE.	-	99%	-	-	99%	1%
More deaths in women result from breast cancer than from any other site.	32%	43%	21%	49%	40%	12%
All lumps found in the breast are cancerous.	3%	97%	-	4%	96%	-
A cancerous growth most frequently causes pain or discomfort.	15%	76%	7%	9%	91%	-
It is only necessary to have a Pap test when you suspect something is wrong.	4%	94%	-	3%	97%	-
Only married women need to have Pap tests.	3%	93%	1%	4%	96%	-
In most cases, early detection and treatment of cancer leads to a higher cure rate.	96%	-	-	99%	1%	-
Cancer of the uterus can be one of the most curable of all cancers.	68%	14%	14%	84%	15%	1%
	N=72			N=68		

TABLE II-B. Mothers' Knowledge

When is the best time to examine your breasts for lumps?

	<u>Pre-test</u>	<u>Post-test</u>
2 weeks before your period	7%	31%
right before your period	8%	-
during your period	3%	1%
a week after your period	39%	63%
don't know for sure	36%	1%

TABLE II-C. Mothers' Knowledge

The purpose of the Pap test is early detection of:

	<u>Pre-test</u>	<u>Post-test</u>
breast cancer	-	1%
lung cancer	-	-
uterine and/or cervical cancer	99%	99%

TABLE III. Girls' Behavior

<u>Question</u>	<u>Yes</u>	<u>No</u>	<u>Not Sure</u>
Have you ever heard of BSE?	87%	8%	4%
Do you practice BSE?	20%	79%	-
Have you ever had a breast exam by a physician?	33%	66%	-
Have you ever heard of the Pap test?	95%	4%	1%
Have you ever had a Pap test?	17%	79%	3%

TABLE IV. Mothers' Behavior

<u>Question</u>	<u>Yes</u>	<u>No</u>	<u>Not Sure</u>
Have you ever heard of BSE?	99%	-	-
Do you practice BSE?	67%	33%	-
Have you ever had a breast exam by a physician?	92%	8%	-
Have you ever heard of the Pap test?	100%	-	-
Have you ever had a Pap test?	92%	6%	-

CONCLUSIONS - RECOMMENDATIONS

The Delaware County Mother-Daughter Cancer Education Project may be considered successful at this time. More complete conclusions may be made after the findings are run through statistical tests and the telephone follow-up to determine changes in behavior is completed. It is apparent at this time that learning did take place as a result of the programs in the schools.

It is recommended that this type of a program be continued in the high schools. It is also recommended that the American Cancer Society sponsor such programs. Although some question was raised as to how often such programs are needed, it is felt that presenting the program once every two years to the junior and senior girls is best. Such programs designed for junior and senior girls and their mothers on breast and uterine cancer would be beneficial throughout the state.

APPENDIX

Mother-Daughter Cancer Education Program

GENERAL PROGRAM OUTLINE

Hand out Pre-test

10 minutes

Explain and direct Pre-test

Collect Pre-test

10 minutes

Introduction of program and introduction of physician

10 minutes

Physician: some basic facts about cancer

15 minutes

Film: "Something Very Special"

20 minutes

Question and Answer period

10 minutes

Explain and direct Post-test

10 minutes

Collect Post-test and distribute pamphlets

Opportunity to examine "Besty Breast"

Conclusion of program

Phone Number _____

CANCER PRE-TEST

PLEASE CHECK (✓) OR FILL IN THE APPROPRIATE BLANK FOR EACH OF THE STATEMENTS.

MOTHERS ANSWER ONLY: Age 30-39 _____ 40-49 _____ 50-59 _____

DAUGHTERS ANSWER ONLY: Junior _____ Senior _____

1. Have you ever heard of BSE (Breast Self Exam)? _____ Yes _____ No _____ Not sure
Where did you hear of BSE? _____
2. Do you practice BSE? _____ Yes _____ No. If yes, how often? _____ Monthly
_____ 2-3 times per year.
3. Do you know the correct way to perform BSE? _____ Yes _____ No _____ Not sure
If yes, how did you learn to perform BSE? _____
4. Have you ever had a breast exam by a physician? _____ Yes _____ No
5. Breast cancer is more prevalent among teenagers than women 35 years and older.
T F ? (Circle one)
6. Women who no longer menstruate need not practice BSE. T F ? (Circle one)
7. More deaths in women result from breast cancer than from any other site. T F ?
8. All lumps found in the breast are cancerous. T F ?
9. A cancerous growth most frequently causes pain or discomfort. T F ?
10. When is the best time to examine your breast for lumps?
_____ 2 weeks before your period _____ right before your period _____ during your period
_____ a week after your period _____ don't know for sure
11. Have you ever heard of the Pap test? _____ Yes _____ No _____ Not sure
12. Have you ever had a Pap test? _____ Yes _____ No _____ Not sure
13. It is only necessary to have a Pap test when you suspect something is wrong. T F ?
14. Only married women need to have Pap tests. T F ?
15. The purpose of the Pap test is early detection of: _____ breast cancer
_____ lung cancer _____ uterine and/or cervical cancer _____ not sure
16. In most cases, early detection and treatment of cancer leads to a higher cure rate. T F ?
17. Cancer of the uterus can be one of the most curable of all cancers. T F ?

Phone number _____

CANCER POST-TEST

PLEASE CHECK (✓) OR FILL IN THE APPROPRIATE BLANK FOR EACH OF THE STATEMENTS.

MOTHERS ANSWER ONLY: Age 30-39 _____ 40-49 _____ 50-59 _____

DAUGHTERS ANSWER ONLY: Junior _____ Senior _____

1. Do you know the correct way to perform BSE (Breast Self Exam)? _____ Yes _____ No
2. Breast cancer is more prevalent among teenagers than women 35 years and older. T F ?
3. Women who no longer menstruate need not practice BSE. T F ? (Circle one)
4. More deaths in women result from breast cancer than from any other site. T F ?
5. All lumps found in the breast are cancerous. T F ?
6. A cancerous growth most frequently causes pain or discomfort. T F ?
7. When is the best time to examine your breast for lumps?
_____ 2 weeks before your period _____ right before your period _____ during your period
_____ a week after your period _____ don't know for sure
8. Do you feel you know what is involved in a Pap test? _____ Yes _____ No
9. It is only necessary to have a Pap test when you suspect something is wrong. T F ?
10. Only married women need to have Pap tests. T F ?
11. The purpose of the Pap test is early detection of: _____ breast cancer
_____ lung cancer _____ uterine and/or cervical cancer _____ not sure
12. In most cases, early detection and treatment of cancer leads to a higher cure rate. T F ?
13. Cancer of the uterus can be one of the most curable of all cancers. T F ?

WHAT ONE THING HAVE YOU LEARNED TODAY THAT YOU FEEL IS MOST IMPORTANT? _____

WHAT SUGGESTIONS WOULD YOU MAKE AS WE PLAN SUCH PROGRAMS FOR STUDENTS AND THEIR
MOTHERS IN OTHER HIGH SCHOOLS IN THE STATE? _____

Sources

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