

The Impact of Physician Reinforcement on Breast Self-Examination Practice

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Literature on health education and behavior emphasizes the importance of positive reinforcement in behavior change and the role of significant others in providing such reinforcement.¹⁻⁴ Considering that breast self-examination (BSE) is a health-related behavior and that the physician is the main source of credibility in health matters,⁵ it can be hypothesized that reinforcement by the physician would be highly effective in motivating women to do BSE. Studies of breast self-examination practice indicate that from 40 to 50 percent of women practicing BSE are initially instructed by a physician.⁶⁻⁹ However, very little information is available on the effect of reinforcement and follow-up by the physician on women's BSE behavior. Reported herein are the findings from a study of the relationship of physician reinforcement with BSE behavior.

Methods

Data for this report have been derived from a larger study initially designed to assess the effectiveness of a breast cancer education program.¹⁰ Data were collected from a self-administered questionnaire completed by 518 index cases who underwent an educational program on BSE at the Fox Chase Cancer Center. Data were also drawn from 482 comparison cases from a general hospital and state government offices in the Delaware Valley area. To eliminate the confounding effect of a breast cancer education program on BSE practice of subjects, results reported in this communication are based only on data collected from comparison subjects.

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Results

Subjects were mostly young; 59 percent of the women were aged 40 years or younger. Seventy percent of the group had at least a high school education. Almost 80 percent of the group had been married at some time, two thirds being married at the time of the survey.

About one fifth of the group reported never having been instructed in BSE procedures. One third of the group had been taught by a physician or nurse. Approximately one fourth of the sample stated they had learned the BSE technique through written materials or television, and another one fifth reported learning BSE at an educational program. About 60 percent of the study group reported practicing BSE at the time of the survey. However, only one fifth reported practicing BSE at least once a month; 41 percent practiced less frequently than once a month, and 38 percent said they did not practice BSE at all.

Three fourths of the sample reported having had a physical examination during the 12 months prior to the study. Of these 372 women, 84 percent reported that their physical had included a breast examination. Of the remaining 110 women who had not had a physical examination within the prior 12 months, 55 percent reported that at their last physical examination they also had a breast examination. Thus, although the physical examination for most women in the sample included a breast examination by the physician, only a small fraction (30 percent) of these women were asked by their physicians whether they practiced BSE; even fewer (25 percent) were taught to do BSE during the visit.

Education, age, and marital status have often been cited as characteristics associated with BSE practice.^{1,4,6,11,12} Data from this study showed no statistically significant relation of these variables with BSE practice. This lack of relationship, however, may be an artifact of the relative homogeneity of the study sample.

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Table 1. Physician Reinforcement of Breast Self-Examination (BSE) by Frequency of BSE Practice

Reinforcement by Physician	Frequency of BSE Practice			Total
	Not Practicing No. (%)	Practicing Irregularly No. (%)	Practicing Regularly No. (%)	
No reinforcement*	142 (51)	99 (36)	35 (13)	276
		(49)		
Some reinforcement**	14 (22)	32 (52)	16 (26)	62
		(78)		
High reinforcement†	9 (10)	47 (51)	36 (39)	92
		(90)		
Total	165 (38)	178 (41)	87 (20)	430††
$\chi^2 = 66.58, 4 df, P < .000$				
*Physician neither inquires about the subject's BSE practice nor teaches BSE				
**Physician either inquires about the subject's BSE practice or teaches BSE				
†Physician both inquires about the subject's BSE practice and teaches BSE				
††52 cases were omitted because of incomplete data				

Data presented in Table 1 show the relationship between physician reinforcement of BSE and BSE practice of subjects. Physician reinforcement is rated in three categories: (1) no reinforcement, (2) some reinforcement, and (3) high reinforcement. The data show a positive relationship between physician reinforcement of BSE behavior and BSE practice among the subjects. In the group that reported high reinforcement from the physician, subjects were almost twice as likely to practice BSE when compared with the group that reported no reinforcement. Similarly, the data show that the higher the level of reinforcement from the physician, the greater the probability a woman would practice BSE regularly (at least once a month).

Analysis revealed that three other variables were associated with practice of BSE at a statistically significant level: (1) self-confidence in performance of BSE, (2) knowledge of breast cancer etiology, and (3) knowledge of risk factors of breast cancer. Multiple contingency table analyses controlling for these latter three variables consistently showed statistically significant independent effects of reinforcement.

Comment

The physician's role in BSE practice has been dealt with superficially through the often asked question, "From whom did you first learn to do BSE?" The role of physician as motivator for BSE within the context of routine medical practice has not been adequately investigated. Data show that a large fraction of the women in this study were given a breast examination as a part of their physical examination. The proportion of those who received reinforcement from the physician for periodic BSE, however, is rather small. Only a prospective study can conclusively demonstrate whether a causal relationship exists between physician reinforcement and BSE practice. Nevertheless, the study data do suggest a statistically significant positive correlation between the two variables. This relationship is conceptually logical and programmatically relevant and, therefore, noteworthy.

Nearly three fourths of the American population are reported to have at least one contact a year with a physician in an ambulatory setting.¹³ Nearly all of these contacts occur in a physician's office, a hospital outpatient department, or a

health center.¹⁴ If physician reinforcement of BSE practice could be incorporated into ambulatory care visits, it could contribute significantly to early detection of breast cancer. The extent to which the reinforcement of other preventive health behaviors may lead to desirable health outcomes should also be studied.

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