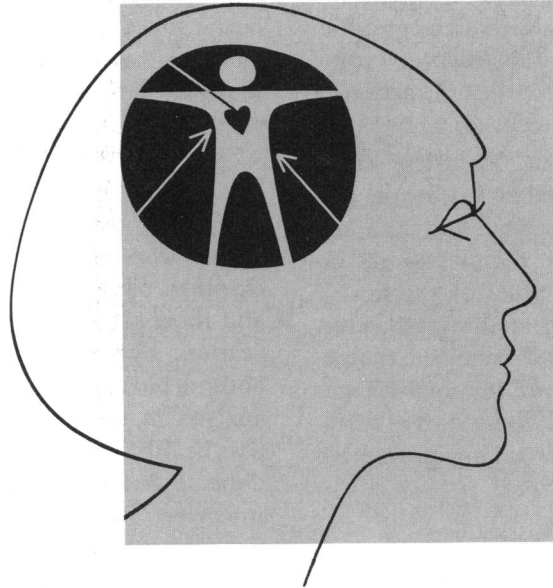


# Relationship of Wives' Preventive Health Orientation to Their Beliefs About Heart Disease in Husbands



WILLIAM R. AHO, PhD

ARE A WIFE'S BELIEFS as to what wives can do to prevent heart disease in husbands related to the wife's preventive health orientation? Data taken from a larger study were analyzed in an effort to answer this question and some related ones.

The larger study, conducted in 1969 (whose results have not been published) was directed by Dr. Charles Crawford, then director of the Division of Behavioral Science of the Pennsylvania Department of Health, which sponsored the study. Area probability sampling techniques were used in selecting the subjects to be surveyed—199 wives living in Lebanon County, Pennsylvania. Located in southeastern Pennsylvania, the county is primarily rural. In 1970, it had a population of 99,665, and its county seat, Lebanon, had a population of 28,572 (1).

The 199 wives were interviewed in their homes during the summer of 1969. My analysis is based on empirical data obtained in these interviews. These data reveal attitudes, opinions, beliefs, and self-reported behavior of the women in respect to the prevention of heart disease in husbands. After cate-

gorizing the respondents according to their preventive health orientations, I related the categories and the selected demographic characteristics of the respondents and their husbands to several variables in a health belief model. This model, initially formulated by G. M. Hochbaum and associates, is discussed in a monograph edited by Becker (2). The model seeks to explain illness and sick role behavior, as well as preventive health behavior. It consists of several concepts that have been measured in differ-

---

*At the time this paper was written, Dr. Aho was senior researcher with the Governor's Council on Drug and Alcohol Abuse, Harrisburg, Pa. He is now associate professor, Program in Gerontology, Department of Child Development and Family Relations, University of Rhode Island, Kingston. Tearsheet requests to Dr. William R. Aho, Program in Gerontology, Department of Child Development and Family Relations, University of Rhode Island, Kingston, R.I. 02881.*

ent ways by different researchers. These concepts, which are used to help explain a person's preventive health behavior or the absence of it, are: (a) perceived seriousness of a condition, (b) perceived susceptibility to it, and (c) perceived benefits from and barriers to taking action. Included in the third concept are the perceived efficacy of the action or treatment and belief in the preventability of a condition. These basic belief concepts are thought to be modified by a number of variables—demographic, social-psychological, and structural (such as prior contact with someone with the condition); action is seen being prompted by various cues (3).

Since several of the items on the interview schedule—respondents' beliefs about their husbands' susceptibility to heart disease, its seriousness, and the benefits of taking action—lend themselves to interpretation and analysis as variables of the health belief model, I have used it in my analysis. However, these variables are once removed from the potentially ill person, the husband, since my analysis was focused on the relationship of these three variables to the likelihood of a wife's taking preventive health action.

### Wives' Preventive Health Orientation

One item in the interview schedule that was asked of all 199 wives was: How much of a role do you think wives can play in helping husbands to keep from getting heart attacks? Would you say: Very much, Some, A little, Not at all, Don't know? The following table shows the numbers and percentages of the entire sample selecting each of these five responses and then shows—with the 12 "Don't know" respondents eliminated—the percentages of the remaining 187 respondents selecting each of the other responses.

Responses	Number of wives	Percent of total sample (N=199)	Percent with "Don't know"s removed (N=187)
Very much .....	75	38	40
Some .....	77	39	41
A little or Not at all	35	18	19
Don't know .....	12	6	.....

About the same percentages of the entire sample as of the 187 expressed the belief that wives could play either "Very much" of a role or "Some" role in preventing heart attacks in husbands. There was a sharp split between these two categories and the category responding either "A little" or "Not at all." I combined those responding "A little" or "Not at all" because they fell at one end of the continuum of preventive health orientation and because the

small numbers in each separate category precluded valid or meaningful analysis.

Because the 12 "Don't know" respondents comprised only 6 percent of the total sample and detailed analysis revealed that they were true "Don't know"s, they have been eliminated from subsequent analysis and are not included in the numbered tables. Those responding "Don't know" to the question about the role of wives in preventing husbands' heart attacks had less education and family income and were older than other women in the sample. Many of them also responded "Don't know" to other relevant items.

Observing where the responses of the 187 wives fell along a preventive health orientation continuum, I divided the women into three groups. Those who replied "A little" or "Not at all" were classified as low, those replying "Some" as medium, and those replying "Very much" as high. This classification, like most others in the social sciences, is both arbitrary and relative, but it permitted the analysis to focus on an important factor in preventive health care—people's beliefs about what can be done to help prevent illness in other persons. The interview question on the role of wives in prevention was worded in such a way that one could not be sure that the respondents in replying to it were referring to what they, themselves, could do to prevent heart attacks. One can probably assume, however, that the respondents' frame of reference was their own potential or actual behavior. Interview data showing that about one-half of the 187 respondents had previously suggested some behavior change to their husbands to improve their health lends indirect support for this view. The following table shows the proportion of wives in each preventive health orientation category who had ever suggested that their husbands change their eating or smoking habits, make physician visits, or initiate any other change that the wives felt might help their husbands' health.

Preventive health orientation group	Total number	Number suggesting change	Percent suggesting change
Low .....	35	12	34
Medium .....	77	47	61
High .....	75	33	44
Total .....	187	92	49

NOTE:  $\chi^2 = 8.25$ , 4 df,  $P < 0.20$ , Cramer's  $V = 0.21$ .  $\chi^2$  calculated on total group, including respondents who did not suggest a change.

More of the high-ranked respondents than of the low reported they had suggested a change to their hus-

Table 1. Percentages of wives with selected sociodemographic characteristics, by their preventive health orientation

Characteristic	Preventive health orientation			Total (N = 187)
	Low (N = 35)	Medium (N = 77)	High (N = 75)	
<b>Residence:</b>				
Rural .....	69	42	52	51
City .....	31	58	48	49
$\chi^2 = 7.05, 2 \text{ df}, P < 0.05, \text{Cramer's } V = 0.19.$				
<b>Years of school completed:</b>				
Less than 12 .....	57	36	51	46
High school graduate .....	40	51	31	41
Some beyond high school .....	0	7	13	8
College graduate or more .....	3	7	5	5
$\chi^2 = 35.90, 6 \text{ df}, P < 0.001, \text{Cramer's } V = 0.31.$				
<b>Respondent's age:</b>				
Under 30 .....	17	22	28	24
30-44 .....	26	47	24	34
45-54 .....	17	13	27	19
55-64 .....	29	14	12	16
65 and over .....	11	4	9	8
$\chi^2 = 18.81, 8 \text{ df}, P < 0.02, \text{Cramer's } V = 0.16.$				
<b>Husband's age:</b>				
Under 30 .....	14	16	27	20
30-44 .....	06	40	20	26
45-54 .....	14	26	21	22
55-64 .....	54	12	17	22
65 and over .....	11	7	15	11
$\chi^2 = 40.43, 2 \text{ df}, P < 0.001, \text{Cramer's } V = 0.33.$				
<b>Respondent's employment status:</b>				
Does not work				
outside home ..	83	79	73	78
Works part time ..	9	10	7	9
Works full time ...	9	10	20	14
$\chi^2 = 4.29, 4 \text{ df}, P < 0.50, \text{Cramer's } V = 0.10.$				
<b>Family's annual gross income:</b>				
Under \$4,999 .....	3	4	12	7
\$5,000-\$8,999 ...	12	25	19	20
\$9,000-\$12,999 ..	23	23	18	22
\$13,000-\$14,999 ..	29	26	24	26
\$15,000 and over..	9	12	12	11
No information ..	26	10	15	15
$\chi^2 = 11.62, 10 \text{ df}, P < 0.50, \text{Cramer's } V = 0.17.$				

bands. Although the statistical significance level of 0.20 found is higher than the traditional level of 0.05 or less, this level need not be dismissed as either statistically or practically insignificant. Given the sample size, the percentage differences, and the

size of the Cramer's *V*, the arguments against rigidly adhering to an 0.05 level or lower put forth by Skipper and associates (4) and Labovitz (5) justify acceptance of the differences as real and important. The form of the relationship is curvilinear, and the item on the interview schedule did not deal specifically with heart attacks.

**Sociodemographic data.** Table 1 shows the relevant social and demographic background characteristics of the 187 respondents by their level of preventive health orientation. Most of the women were at least high school graduates, about one-fourth were under 30, 8 percent were 65 years or older, and the majority had annual family incomes of \$9,000 or more. A statistically significant inverse relationship was found between the degree of preventive health orientation and rural residence, respondent's age, and husband's age. A statistically significant and direct relationship existed between the wives' preventive health orientation rank and the years of formal education completed. The employment status of the respondent and the family's gross annual income were not significantly related to the respondents' rank on preventive health orientation. In the case of family income, this result may have been due to the failure of rather large numbers and percentages of wives to respond to this question (for example, 26 percent—9 wives—of the low-ranked category).

If educational attainment is used as a rough indicator of socioeconomic status, the results are consistent with those of other researchers who have found a direct relationship between socioeconomic status, personal characteristics, and preventive health beliefs or behavior (6a,7).

**Preventability of heart disease.** The data on belief in preventability in table 2 permit some further clarification and refinement of the preventive health orientation continuum. Not many women in the entire sample (just 9 percent) expressed the view that there was nothing worthwhile you could do to prevent heart disease. However, nearly one-fifth of those in the low category, compared with only 5 percent of those in the high, expressed this view, and those with this view constituted 8 percent of the medium category. The vast majority of the sample saw heart disease as preventable, although some 20 percent more of the high category than the low so regarded it.

**Worry about husband getting heart disease.** More of the women in the low preventive health orienta-

tion category than in the high contended that there was not much you could do about preventing heart disease. Therefore one might have supposed that women in the low category would be likely to worry less about heart disease developing in their husbands. On the contrary, although more than two-thirds of the entire sample of 187 women reported that they did not worry about this possibility, the proportion in the low category who said they worried "A great deal" or "Quite a lot" was about twice that observed in the other two categories (table 2). More respondents in the high category (33 percent) than in the low (15 percent) reported that they worried "Some" or "A slight amount." Fewer wives in the high category said they did not worry. Nevertheless, it is striking that in none of the groups did a substantial majority indicate that they worried about the possibility of their husbands getting heart disease.

The intensity, then, if not the proportion, who worried was somewhat greater in the low preventive health orientation category than in each of the other two categories. If something threatening worries you, it might appear that the rational thing to do would be to try to alleviate it. Rosenstock, however, has cited experimental evidence showing that in such a situation a person may become incapable of thinking objectively and behaving rationally and may psychologically remove himself from a conflict situation by engaging in activities that do not reduce the threat (8a).

**Heart disease in home and in husbands.** The respondents were asked whether anyone who was living or had lived in their households had had a heart attack, and specifically, whether their husbands had ever had a heart attack. As table 2 shows, slightly more of the high group (21 percent) than of the low (17 percent) or of the medium (17 percent) reported heart disease in persons with whom they had lived. The three preventive health orientation groups differed little in the percentage of husbands who had had a heart attack, and the differences were not statistically significant. Apparently neither worry about heart disease nor close experience with it differentiated the three groups.

**Health problems in husbands.** Husbands' health problems that put them at risk of heart disease and which are known to their wives might be expected to help account for variations in the preventive health orientation of those wives. The percentage of wives in each preventive health orientation category who stated that their husbands had one or more of five

risk factors are shown in table 2. Except, however, for smoking and lack of enough physical exercise, none of these factors were significantly related to the wives' preventive health orientation ratings.

**Husband's likelihood of heart attack.** The first of the health belief model variables—perceived susceptibility to disease—was determined by asking the respondents how likely they thought it was that their husbands would ever suffer a heart attack. Three times as many in the high category as in the low thought it somewhat likely; less than half as many in the high category as in the low considered that there was no chance of it (table 2). Unfortunately, the "Don't know"s constituted rather large percentages of all three categories. If these are interpreted as true "Don't know"s, then one can argue that having an opinion on this item is related to believing that wives can help prevent heart disease in husbands. The large proportion of "Don't know" responses from women in the low category may reflect less concern on the part of women in this category about their husbands getting heart disease or a more passive attitude toward preventing illness, as compared with women in the other two categories. The results are consistent with the hypothesis in the health belief model that those persons who believe in susceptibility are more likely to engage in preventive health behavior.

**Chances of normal life despite heart disease.** The item in the interview schedule dealing with the seriousness or severity of heart disease sought to elicit the respondents' perceptions of the chances that a person with heart disease could lead a normal life. The perceived seriousness of a condition is a rather complex variable in the health belief model. A person's perception of a condition as very serious or very severe is not necessarily related to the taking of preventive health actions. On the contrary, low or moderate levels of severity have sometimes been found to be more closely associated with preventive behavior (6b).

In the current study, there was an inverse relationship between the respondents' rankings on the preventive health orientation continuum and how serious they perceived heart disease to be (table 2). More than twice the percentage of wives who were high on the continuum as of those who were low regarded the chance of a person with heart disease leading a normal life as "About average." Conversely, when the "Very slight" and "Less than average" categories were combined, more than twice the proportion of those ranking low on the continuum as of those ranking

high felt that such a person had relatively little chance of leading a normal life. This result is consistent with the observations of Becker and associates of higher levels of perceived seriousness among non-participants than participants in a genetic screening program. (9). Despite the fact, then, that respondents low on the preventive continuum seemed to do relatively little to prevent heart disease in their husbands, they did view the condition as serious and, as shown in the next paragraph, one for which they believed treatment was not very effective. This result, too, is consistent with findings in previous research that when severity is perceived as either very low or very high, maladaptive behavior seems to occur (6c).

**Effectiveness of treatment for heart disease.** Whether a preventive action will take place or not and the form it will take depend partly on a person's beliefs about the effectiveness or efficacy of the known available means to reduce the disease threat (8a). Nearly 30 percent more of the respondents ranking high on the preventive health orientation continuum than of those ranking low expressed the belief that treatment for heart disease was either "Very effective" or "Somewhat effective" (table 2). Conversely, about one-fourth fewer of the high-ranked respondents than of the low indicated that they regarded treatment for heart disease as either "Not very effective" or "Almost never effective" (8 percent versus

Table 2. Percentage of wives giving specified answers to questions in interview schedule about heart disease, by their preventive health orientation

Answers	Preventive health orientation			Total (N = 187)	Answers	Preventive health orientation			Total (N = 187)
	Low (N = 35)	Medium (N = 77)	High (N = 75)			Low (N = 35)	Medium (N = 77)	High (N = 75)	
<b>Belief in preventability:</b>					<b>Chances of normal life despite the disease:</b>				
Heart disease is not preventable . . . . .	17	8	5	9	Very slight . . . . .	6	0	0	1
Heart disease is preventable . . . . .	69	84	91	84	Less than average ..	51	23	24	29
Don't know . . . . .	14	8	4	8	About average . . . . .	37	66	73	64
$\chi^2 = 8.79, 4 \text{ df}, P < 0.10, \text{Cramer's } V = 0.22.$					Don't know . . . . .				
					6				
					$\chi^2 = 25.02, 6 \text{ df}, P < 0.001, \text{Cramer's } V = 0.26.$				
<b>Has worried about husband getting heart disease:</b>					<b>Effectiveness of treatment:</b>				
No . . . . .	71	75	59	68	Very effective or Somewhat effective ...	57	82	84	78
A great deal or Quite a lot . . . . .	14	7	8	9	Not very effective or Almost never effective . . . . .	31	5	8	11
Some or A slight amount . . . . .	15	18	33	23	Don't know . . . . .	11	13	8	11
$\chi^2 = 9.16, 6 \text{ df}, P < 0.20, \text{Cramer's } V = 0.16.$					$\chi^2 = 18.70, 4 \text{ df}, P < 0.001, \text{Cramer's } V = 0.22.$				
<b>Heart disease in home:</b>					<b>Sources of information about heart disease:</b>				
Present in someone sometime . . . . .	17	17	21	19	Radio . . . . .	49	60	68	61
Heart attack in husband . . . . .	6	5	7	6	Television . . . . .	51	86	81	78
<b>Health problems of husband:<sup>1</sup></b>					Magazines . . . . .				
High blood pressure	11	14	11	12	Newspapers . . . . .	29	81	80	71
Not enough exercise	6	16	9	11	School . . . . .	17	31	44	34
Overweight . . . . .	20	22	20	21	Heart association ..	37	57	45	49
Smoking . . . . .	37	48	29	39	Doctor . . . . .	31	25	43	33
Heart disease . . . . .	6	8	4	6	Immediate family ..	3	16	16	13
					Other relatives . . . . .				
					17				
					12				
					24				
					18				
					Friends and neighbors . . . . .				
					17				
					8				
					19				
					14				
<b>Husband's likelihood of heart attack:</b>									
Very likely . . . . .	9	10	8	9					
Somewhat likely . . . . .	9	13	27	18					
Not too likely . . . . .	34	56	39	45					
No chance of it . . . . .	20	5	8	9					
Don't know . . . . .	29	16	19	19					
$\chi^2 = 18.41, 8 \text{ df}, P < 0.02, \text{Cramer's } V = 0.22.$									

<sup>1</sup> For not enough exercise,  $X^2 = 2.80, 2 \text{ df}, P < 0.20, \text{Cramer's } V = 0.12.$  For smoking,  $X^2 = 5.66, 2 \text{ df}, P < 0.10, \text{Cramer's } V = 0.17.$  Probabilities for the other 3 health problems were in the vicinity of 0.70 or greater.  $X^2 =$  tests were calculated on basis of 5 separate tables, each including the reciprocal percentages of "No" responses to interview items.

NOTE: Percentages of wives in a preventive health orientation category responding to an interview item may not add to 100 because of rounding.

31 percent). This direct relationship evidenced between a person's view about the efficacy of treatment and that person's preventive health orientation is consistent with results in previous studies based on the health belief model. Again, slightly more of the lows than of the highs gave "Don't know" answers. Nevertheless, a substantial majority of the entire sample of 187 wives (more than three-fourths) and a clear majority even of the low category had a fairly high level of belief in the efficacy of treatment.

**Sources of information about heart disease.** A logical question was: Where did the wives get their information about heart disease and its prevention? Magazines and television headed the list for each of the three categories in the continuum and for the entire sample of 187 (table 2). Third place was filled by newspapers for the high- and medium-ranked respondents and by radio for the low-ranked. The role that the respondents' immediate families, other relatives, friends, and neighbors played in supplying information was small. Except for the category of physicians and the other three personal sources, fewer low-ranked than high-ranked respondents reported receiving heart disease information from any of the 10 sources listed.

The proportions of each group who reported receiving information from a physician was even lower than the 54 percent of female respondents reporting in a 1971 national Harris poll that they had received information on health and medicine from their physicians (10a). Neither the results of the Harris poll, nor of the current study, however, warrant the conclusion that women do not want health information from their physicians. In fact, 59 percent of the women in the Harris poll expressed a need for more information, and 83 percent indicated that they wanted to see a system in which health information was distributed regularly by physicians and hospitals (10b). There is also evidence that health care consumers do not regard all health information sources, or potential health information sources, as equally trustworthy or helpful. The Harris poll respondents showed less trust in information about health emanating from employers, labor unions, or drug manufacturers than in that supplied by physicians, hospitals, clinics, or the Blue Cross (10c). When funds, time, materials, and personnel are limited, health care providers and health educators might well take account of such results in deciding where and how to most effectively provide health information, for example, on the preventability of a disease, its seriousness, the effectiveness of treatment, and susceptibility.

## Implications

My study affords some support for the relevance and usefulness of several of the variables in the health belief model (2). Specifically, I found statistically significant evidence and support for a relationship, although not a strong one, between the respondents' preventive health orientation (the extent to which wives believed they could help prevent heart disease in husbands) and the respondents' perceptions of a disease's seriousness, of people's susceptibility to it, of the efficacy of treatment for it, and of its preventability, as well as between the respondents' preventive health orientation and such demographic variables as place of residence, years of education, and age (including, in my study, age of the respondents' husbands).

The variables in the health belief model appear to have relevance for workers in the health field in that they seek to explain behavior and preventive health beliefs and can provide some insights into the dynamics of health behavior and attitudes toward health services and health care. The study data, if applied in concert with other research results, should therefore prove useful to health care professionals seeking a framework of variables and concepts within which to build programs for changing people's health care behavior. The health belief model and research results based on it should aid in the implementation and evaluation of such programs.

How to get people to take preventive health actions is a problem of high priority, national scope, and considerable complexity. Specific suggestions on how to accomplish this are beyond the scope of this paper. Variables other than those in the health belief model are certainly relevant to people's preventive health behavior and deserve investigation and integration into the model. In one effort to learn more about the basis for preventive health behavior, Moody and Gray found that social integration, as measured by both social participation and alienation, was ". . . an important antecedent of the willingness of subjects to receive oral polio vaccine" (11). Social integration proved to be more influential than socioeconomic status, which did not have an independent relationship with acceptance of the vaccine. These authors suggest that efforts to reduce alienation and anomie and to increase people's integration into community life may be an effective tactic for achieving more participation in preventive health measures. They also suggest that health personnel might try to reduce the alienating effects of bureaucratic health institutions, effects which sometimes may result from their own behavior toward clients. Other students of

the problem have stated that it might be easier, more effective, and less costly to alter the perceptions and behavior of health care providers, health educators, and some elements of the health care delivery systems or health education systems than to try to alter the behavior of the consumers (8b,12).

## References

1. U.S. Bureau of the Census: General social and economic characteristics, 1970. Final report PC(1)-C40 Pennsylvania. Washington, D.C., 1972.
2. Becker, M. H., guest editor: The health belief model and personal health behavior. Society for Public Health Education, Inc., San Francisco, Calif., 1974, pp. 324-511.
3. Rosenstock, I. M.: Historical origins of the health belief model. *In* The health belief model and personal health behavior, edited by M. H. Becker. Society for Public Health Education, Inc., San Francisco, Calif., 1974, pp. 328-335.
4. Skipper, James K., Jr., Guenther, A. L., and Nass, G.: The sacredness of .05: A note concerning the uses of statistical levels of significance in social science. *Am Sociologist* 2: 16-18, February 1967.
5. Labovitz, S.: Criteria for selecting a significance level: A note on the sacredness of .05. *Am Sociologist* 3: 220-222, August 1968.
6. Rosenstock, I. M.: The health belief model and preventive health behavior. *In* The health belief model and personal behavior, edited by M. H. Becker. Society for Public Health Education, Inc., San Francisco, Calif., 1974: a. p. 379, b, p. 367, and c. p. 376.
7. Haefner, D. P.: The health belief model and preventive dental behavior. *In* The health belief model and preventive health behavior, edited by M. H. Becker. Society for Public Health Education, Inc., San Francisco, Calif., 1974, p. 428.
8. Rosenstock, I. M.: Why people use health services. *Milbank Mem Fund Q* 44: 94-127, July 1966: a. p. 100, b. p. 127.
9. Becker, M. H., Kaback, M. M., Rosenstock, I. M., and Ruth, M. V.: Some influences on public participation in a genetic screening program. *J Com Health* 1: 12-13, fall 1975.
10. Blue Cross Association: The public's need for information about health problems. Chicago, Ill., mimeographed, undated: a. p. 16, b. pp. 18-19, c. p. 22.
11. Moody, P. M., and Grav, R. M.: Social class, social integration, and the use of preventive health services. *In* Patients, physicians and illness, edited by E. G. Jaco. Free Press, New York, 2d ed., 1972, pp. 250-261.
12. Rosenstock, I. M., and Kirscht, J. P.: Practice implications. *In* The health belief model and personal health behavior, edited by H. M. Becker. Society for Public Health Education, Inc., San Francisco, Calif., 1974, pp. 471-472.

## SYNOPSIS

AHO, WILLIAM R. (University of Rhode Island): *Relationship of wives' preventive health orientation to their beliefs about heart disease in husbands. Public Health Reports, Vol. 91, January-February 1977, pp. 65-71.*

Selected by area probability sampling, 199 wives residing in the city and county of Lebanon, Pennsylvania, were interviewed about their attitudes, opinions, beliefs, and behavior in respect to the role that wives can play in helping to prevent heart disease in husbands.

After the "Don't know" respondents were eliminated, the remaining respondents were categorized into a continuum of low, medium, and high levels of preventive health orientation, according to how much of a role they believed wives could play in the prevention of heart disease in husbands. The orientations were then cross-tabulated with several variables in a health belief model

(initially formulated by G. M. Hochbaum and associates and discussed in a monograph edited by M. H. Becker) and also with several socio-demographic variables.

A substantial majority of the 187 wives expressed beliefs that wives could play some or very much of a role in preventing heart disease in husbands, that treatment for heart disease was effective, and that the disease was preventable. The majority indicated that they had not worried about their husbands getting heart disease. Magazines and television had been their main sources of information about the condition.

Emphasis was placed on the wives who ranked low on the preventive health orientation continuum, since it is people like these who are of most concern to health educators and health care providers. Compared with the medium-ranked and high-ranked respondents, fewer of the low-ranked group (a) had ever suggested any health-related behavior

to their husbands, (b) felt that their husbands were very susceptible to heart disease, or (c) believed that treatment was very effective. The majority of wives in the low group nevertheless considered heart disease to be a serious condition that would reduce a person's chances of living a normal life.

With chi-square as a measure of statistical significance and Cramer's V as a measure of the strength of relationships, statistically significant support was found for the relationships between the wives' preventive health orientation and their perceptions of (a) the seriousness of heart disease, (b) their husband's susceptibility to it, (c) the effectiveness of treatment, and (d) the disease's preventability (all variables in the health belief model), as well as between the orientation and place of residence, years of education, and both the respondent's and husband's age. The relationships, however, were not very strong.