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The Physician's Role in Women's Decision Making About Hormone Replacement Therapy

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Objective: To ascertain the sources of information women use when making decisions about hormone replacement therapy (HRT).

Methods: A cross-sectional, population-based computer-assisted telephone survey of 1082 randomly selected women aged 50–80 years (80.3% response rate) was conducted at Group Health Cooperative of Puget Sound, a large staff-model health maintenance organization in Washington state.

Results: Overall, 460 participants (42.5%) were current HRT users, 226 (20.9%) were past users, and 396 (36.6%) were never users. Discussions with physicians dominated as the major source of information used in decision making by current (83.4%) and past (65.5%) users, but were less often cited by never users (44.4%); printed material was used by 44.5% of women. Although 72.1% of current users reported that the amount of information received from their physician about the benefits of HRT was about right, only 48.2% of past users and 33.6% of never users shared this view ($P < .001$ current versus never), and 13.3% of current users, 32.6% of past users and 58% of never users reported receiving no information from their physician about HRT's benefits.

Conclusion: Hormone replacement therapy use is strongly related to interactions between women and their physicians. Many women use written materials to make decisions about HRT. A large proportion of women feel inadequately informed about HRT's risks and benefits. Much work remains to be accomplished toward meeting the goal of the US Preventive Services Task Force that all perimenopausal and postmenopausal women be counseled about the potential benefits and risks of HRT. (*Obstet Gynecol* 1998;92:580–4. © 1998 by The American College of Obstetricians and Gynecologists.)

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The US Preventive Services Task Force recommends that all perimenopausal and postmenopausal women be counseled about hormone prophylaxis.¹ Yet, much remains to be learned about the sources of information American women rely on in deciding whether to use hormone replacement therapy (HRT), and research about the influence of the physician on their decisions is limited.^{2–8} In the present study we relate women's HRT status to the sources of information they used in HRT decision making and to the information and encouragement they received from their physician.

Materials and Methods

This study was conducted at Group Health Cooperative, a staff-model health maintenance organization that provides medical care to more than 43,000 women aged 50–80 years in western Washington. Our survey recruitment target of 1000 peri- and postmenopausal women was set to provide at least 80% power to answer a broad range of questions that were the focus of the research project. We selected a stratified random sample of 1520 women who met our eligibility criteria of age of 50–80 years, Group Health enrollment for at least 2 years at interview, and having an identified primary care physician. The two strata consisted of: 1) women from the three clinics known to have the largest minority representation and; 2) women from all other clinics. To increase minority representation in the study women in strata one were selected in a 3:1 ratio compared to women in strata two. Women were selected by assigning random numbers to all eligible women, sorting on these numbers and then selecting the first 1520 women, accounting for stratification. The proportional representation of women across clinics and the similar age distribution between sampled and non-sampled women indicated successful randomization. The survey and methods were approved by human subjects review

committees at Group Health, the University of Washington and the Centers for Disease Control and Prevention.

Computer-assisted telephone surveys were conducted from June to November 1995, (mean 3.9 attempts). There were 125 ineligible women. Of the 1393 eligible women, 1119 (80.3%) consented and completed the interview. Consent included permission to access all medical and pharmacy records. On average, respondents required 29 minutes to complete the survey. One interview was lost and 36 premenopausal women were excluded leaving a final sample of 1082 women.

We relied on self-reported HRT use. However, 66 past HRT users with no episode of use of 3 or more months were classified as "never users" because most HRT prescriptions are written for 3 months duration. Women who use HRT longer than 3 months are likely to be refilling prescriptions and thus actually using them.

Proportions and χ^2 statistics were used to compare differences in demographic characteristics by HRT. Proportions adjusted to the age distribution of the entire sample by the direct method were used to describe sources of information, and information and encouragement received from the physician. The questions about sources of information were open-ended, and unlimited responses were permitted. Logistic regression was used to compare the likelihood of being a current user versus never using HRT and a past user versus a never user by category of response. Because we tried to better understand the reasons behind women's decisions about HRT, we adjusted associations only for age and hysterectomy, the two factors we found to be most strongly associated with HRT status. All proportions and logistic regression models were weighted to account for over sampling at some clinics and variation in response rates from clinic to clinic. The weights give standard errors that accounted for both of these factors. Weighted analyses, stratified by the two clinic groups, gave similar results and the simple weighted analyses are presented here.

Results

We classified 460 (42.5%) women as current users, 226 (20.9%) women as past users and 396 (36.6%) women as never users of HRT (Table 1). Current users were younger, more likely to be married and more likely to report having had a hysterectomy, an oophorectomy, a history of menopausal symptoms, and a checkup with their physician in the 2 years before the survey than were never users (Table 1). Hysterectomy before menopause (odds ratio [OR] 3.0, 95% confidence interval [CI] 2.04, 4.43) and oophorectomy (OR 2.65, 95% CI 1.54, 4.55) but not hysterectomy after menopause (OR 1.92, 95% CI 0.86, 4.32) were independently associated with current HRT versus never using HRT.

Table 1. Women's Characteristics by Hormone Replacement Therapy Status*

Characteristic	HRT status		
	Current <i>n</i> = 460 (42.5%)	Past <i>n</i> = 226 (20.9%)	Never <i>n</i> = 396 (36.6%)
Age (%) [†]			
50–59	51.1	25.7	29.8
60–69	31.7	23.0	30.5
70–80	17.2	51.3	39.7
Race (%)			
White	89.6	88.1	86.1
Black	4.4	3.5	5.6
Asian/Pacific Islander	3.0	4.4	5.1
Hispanic	1.1	0.9	2.0
Other	2.0	3.1	1.3
Education (%) [§]			
Less than high school	6.8	11.5	10.9
High school graduate	27.0	29.2	27.9
Some college	31.4	33.6	30.1
College graduate	34.9	25.7	31.1
Married or unmarried couple (%) [†]	68.9	57.5	56.8
Income adequate to meet basic needs (%)	97.2	98.3	98.5
Mean age when periods stopped (y)	48.5 ^{†‡}	47.8 [§]	48.4
Hysterectomy (%) [†]			
Before Menopause	45.4	30.1	20.0
After Menopause	4.1	7.1	4.3
Mean age at hysterectomy (y)	43.2 [§]	44.1 [‡]	45.5
Ovaries removed (%) [†]	24.6	16.7	6.7
History of menopausal symptoms (%)			
Hot flashes [†]	83.1	83.6	71.2
Memory [†]	38.2	27.4	21.3
Depression [†]	51.5	41.1	31.9
Night/day sweats [†]	64.6	59.1	46.4
Sleep [†]	56.2	46.4	35.8
Routine checkup within last 2 years (%) [†]	92.6	88.0	84.0

HRT = hormone replacement therapy.

* Categorical variables tested using χ^2 test for heterogeneity, continuous variables tested for differences between means using *t* tests.

[†] *P* < .001.

[‡] Compared with never users.

[§] *P* < .05.

Physicians were the most frequently cited source of information for current (83.4%) and past (65.5%) HRT users, but were less often cited by never users (44.4%) (Table 2). Women who cited their physician as an important source of information in deciding about HRT were 6.17 times more likely to be a current user than a never user while women who cited friends as an important source of information were almost half as likely to be a current user (current versus never user OR 0.57, 95% CI 0.35, 0.91). Women with a surgical menopause (72.8%) were more likely to cite their physician as a source of information than those with a natural

Table 2. Sources of Information Used in Making Decisions About Hormone Replacement Therapy*

Responses to the question "What were the major sources of information that helped you decide whether or not to take hormones?"	HRT status			OR (95% CI) Current vs never	OR (95% CI) Past vs never
	Current <i>n</i> = 460	Past <i>n</i> = 226	Never <i>n</i> = 396		
Physician	81.8	68.1	42.5	6.82 (4.56, 10.21)	2.99 (1.95, 4.57)
Reading materials	49.4	38.4	39.3	2.03 (1.36, 3.02)	1.41 (0.90, 2.20)
Magazine articles	38.5	33.8	31.6		
Books, pamphlets	23.6	15.3	20.2		
Newspaper	14.8	15.7	14.1		
GHC materials	17.9	5.8	11.9		
Friends	10.7	12.5	16.3	0.52 (0.31, 0.88)	0.77 (0.45, 1.36)
Family members	6.0	4.3	6.4	1.15 (0.55, 2.43)	0.86 (0.35, 2.13)
Just decided on own	1.6	2.3	8.3	0.24 (0.07, 0.82)	0.32 (0.09, 1.15)
Medical report during the news or television special	6.6	8.8	5.5	1.16 (0.55, 2.44)	1.98 (0.91, 4.30)
Group program on women's health topics	3.0	1.1	1.5		
Radio	1.5	1.2	1.2		

HRT = hormone replacement therapy; OR = odds ratio; CI = confidence interval; GHC = Group Health Cooperative.

* Percents and odds ratios weighted to the sampling fraction and response rate by clinic, odds ratios adjusted for age (continuous), hysterectomy (yes/no), and sources information (physician, reading materials, friends, family members, decided on own, medical report, other) included in one model.

menopause (61.5%). In all, 44.5% of respondents cited printed materials as an important source of information. Among women aged 50–59, 59.6% cited the use of printed materials compared to 38.6% of women aged 60–69, and 32.4% of women aged 70–80.

Opinions on the information and encouragement about HRT the women received from their physician were strongly related to a woman's HRT status (Table 3). No woman in the survey indicated she had received

too much information about HRT's risks or benefits. Current users (72.1%) were more likely to report that the amount of information received from their physician about the benefits of HRT was about right than past users (48.2%) or never users (33.6%). Women who reported that the amount of information received about HRT benefits was about right were 9.4 times more likely to be current users (versus never users) than those who reported receiving no information (95% CI 6.4, 13.7).

Table 3. Responses About Information and Encouragement Given by Physicians on Hormone Replacement Therapy*

Questions and response categories	HRT status			OR (95% CI) Current vs never	OR (95% CI) Past vs never
	Current <i>n</i> = 460	Past <i>n</i> = 292	Never <i>n</i> = 396		
How much information has your doctor given you about the possible health benefits of taking hormone pills?					
None	14.0	35.7	60.9	1.0	1.0
Too little	14.3	17.9	7.8	7.26 (3.99, 13.20)	4.96 (2.64, 9.31)
About the right amount	71.7	46.5	31.3	9.28 (6.18, 13.95)	3.02 (1.96, 4.64)
How much information has your doctor given you about the possible health risks of taking hormone pills?					
None	19.9	39.9	63.2	1.0	1.0
Too little	17.2	19.8	8.1	5.67 (3.25, 9.89)	5.31 (2.87, 9.82)
About the right amount	62.9	40.2	28.8	5.84 (4.01, 8.52)	2.68 (1.73, 4.15)
To what extent does your doctor encourage you to take hormone pills?					
Not at all encouraging	3.7	43.9	47.9	0.10 (0.05, 0.19)	1.13 (0.72, 1.77)
Neither encouraging nor discouraging	32.7	27.3	40.2	1.0	1.0
Somewhat encouraging	27.7	19.3	8.1	3.98 (2.36, 6.72)	3.97 (2.11, 7.48)
Very encouraging	36.0	9.4	3.8	11.31 (5.80, 22.04)	4.83 (2.06, 11.28)

Abbreviations as in table 2.

* Percents and odds ratios weighted to the sampling fraction and response rate by clinic, odds ratio adjusted for age (continuous) and hysterectomy (yes/no).

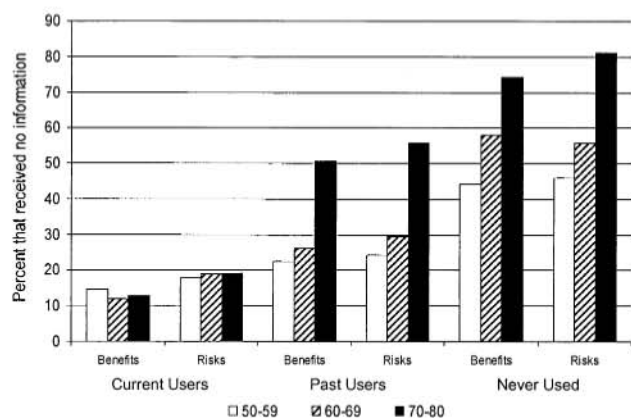


Figure 1. Age-adjusted proportion of women who reported receiving no information about the benefits and the risks of hormone replacement therapy (HRT) from their physician, by age (y) and HRT status at interview.

Women who reported that their physician was very encouraging about HRT were 11.26 times more likely to be current users (versus never users) than those who reported their physician to be neither encouraging nor discouraging. Responses of current users were similar across all age groups, whereas among past and never users the proportion that reported receiving no information about the risks and benefits of HRT and no encouragement to take HRT increased with age (Figures 1 and 2). Among women who reported receiving no information, too little information or the right amount of information about HRT's benefits from their physician, the proportions that did not know or disagreed that they could reduce their risk of fracture by taking HRT for many years were 73.4%, 43.3% and 35.6%, respectively, and the proportions that did not know or disagreed that they could protect themselves from heart disease by taking HRT for many years were 83%, 59% and 54.1%, respectively.

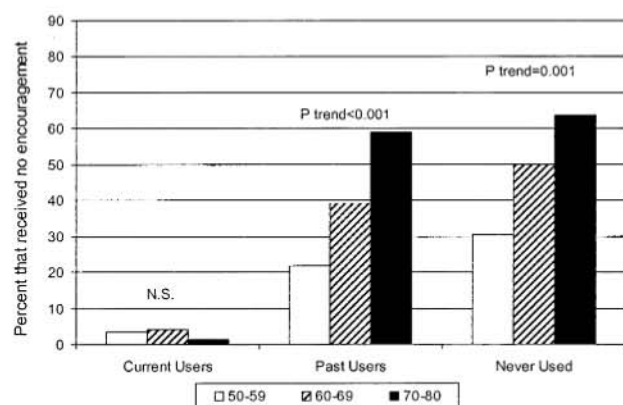


Figure 2. Age-adjusted proportion of women who reported receiving no encouragement from their physician to take hormone replacement therapy (HRT) by age (y) and HRT status at interview.

Discussion

We employed a cross-sectional population-based survey to elicit characteristics and information sources associated with HRT decisions. Physicians and written materials were the most frequently cited sources of information used in making HRT decisions. Our study suggests that in this health maintenance organization many women, particularly past or never users and older women receive little or no information from their physician about HRT's benefits and risks. Although physicians were viewed as an important source of information, many women felt underinformed about HRT, and made decisions independent of their physician. Because we did not ask if women had requested information about HRT from their provider it is possible that differences in the percentages of women receiving information from their provider about HRT reflect their desire to obtain such information.

Our findings that current HRT users were younger, better educated, more likely to be married and had better self-rated health than never users are in accord with other studies.^{5,6,9-12} The strong association between having had a hysterectomy with or without oophorectomy, and current HRT use also has support in the literature.^{3,8,13-15} These results raise the question of whether the opportunity for contact with a gynecologist who is knowledgeable about HRT influences HRT initiation. Breakthrough bleeding, and cyclic bleeding are deterrents to HRT use that could further explain the association between HRT and hysterectomy.^{2,12,16} Finally, women who undergo surgical menopause have more severe menopausal symptoms than those who undergo natural menopause,^{5,15,17,18} and their symptoms can be a powerful impetus for initiating HRT, as shown in a previous report from this study.¹⁹

Listing the physician as an important source of information was strongly associated with being a current or past HRT user versus a never user, whereas use of friends was associated with being a never user. In similar surveys of women in England,^{20,21} Norway,⁷ and the United States,^{4,5,22} respondents have reported, that their physician, media, friends, and family members were sources of information about HRT. Women in our study frequently indicated that written materials were an important source of information. Livingston et al²³ reported that 86% of a group of perimenopausal women enrolled in a large health maintenance organization in the Northeast expressed interest in receiving written material about menopause. The use of printed materials may be a cost-effective approach to prepare women to make decisions about HRT.

The strong influence of the physician in HRT decision making appears throughout the literature.^{3,4,7,8,19,20}

However a large proportion of women never consult their physician^{7,8,14,19-21,24} and many women who quit HRT do so at their own initiative.^{8,19} The reasons women do not to discuss HRT with their physician have not been widely explored, but the perceptions of women that their symptoms are not severe enough to warrant HRT or a viewpoint that menopause is a natural process^{14,19,20,24} may be important factors.

Judging from our findings about information provided by physicians and HRT usage, if the US Preventive Services Task Force's recommendation for universal HRT counseling is adopted by American physicians, there may be a substantial increase in HRT use among American women. The substantial proportion of women in our study who reported receiving no information about the risks or benefits of HRT suggests a great need for physicians to provide more education about this therapy.²⁰ Our finding that women who reported receiving no information about HRT were uninformed about this therapy's protective capability against fracture and heart disease strengthens the argument that more education is needed.

We conclude that HRT use is strongly related to interactions with the physician, that women are likely to use written materials as a source of information in making HRT decisions, and that a large proportion of women feel that the amount of information received about HRT is inadequate. These findings provide guidance for intervention efforts to accomplish the goal of the US Preventive Services Task Force that all peri- and postmenopausal women be counseled about HRT.

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