



Factors Predicting Current Use of Hormone Replacement Therapy among Menopausal Jewish Women in Israel. The National Women's Health Interview Survey, 1998

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Abstract

Background: Despite the controversy regarding the risks and benefits of hormone replacement therapy, studies in various countries report a two- to threefold increase in the use of HRT during the last decade.

Objectives: To estimate the prevalence of HRT use among post-menopausal Jewish women in Israel and to determine the variables predicting current HRT use.

Methods: A cross-sectional telephone survey was conducted in 1998 on a random sample of Jewish women aged 45–74. Of 935 women who were located and eligible, 704 (75%) were interviewed by means of a structured questionnaire.

Results: A total of 589 women (85%) were peri-menopausal or post-menopausal. Ninety-nine of them (16.8%) were currently using HRT and 78 (13.2%) were past users. Higher rates of current use were found among women who had undergone hysterectomy and/or oophorectomy (38%) than among all other women (13.5%). Among naturally menopausal women the highest rate of current use (25.6%) was found in those aged 55–59. A multiple logistic regression showed that the variables associated with current HRT use among naturally menopausal women were: having a regular gynecologist (odds ratio 3.6, 95% confidence interval 1.7–7.5), visiting a gynecologist during the past year (OR 2.9, 95% CI 1.4–6.0), experiencing symptoms of menopause (OR 2.0, 95% CI 1.01–3.8), having more than a high-school education (OR 1.9, 95% CI 1.04–3.6), and a lower body mass index (OR 0.91, 95% CI 0.85–0.99).

Conclusions: The factors associated with HRT use may be markers for other socioeconomic or psychological characteristics. The disparities noted between population subgroups may be indicative of differences in awareness or in the delivery of preventive healthcare services to women in Israel, and as such need to be addressed by the health system.

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Hormone replacement therapy has been shown to be effective in relieving menopausal symptoms and reducing the risk of osteoporotic fractures [1,2]. Observational studies have demonstrated that HRT use is associated with a reduced risk of coronary heart disease [3,4], although this potential benefit has been questioned for secondary prevention of CHD [5]. In addition, a growing number

of epidemiologic studies have indicated that the use of HRT carries with it an increased risk of breast cancer [6–8]. Higher rates of venous thromboembolism have also been documented among users of HRT, predominantly during the first year of use [9]. The use of HRT, therefore, remains a controversial subject among health professionals, and there is a need for formulating clear statements to guide women, clinicians and policy makers alike [10].

Despite the controversy regarding the risks and benefits of HRT, data from cross-sectional and follow-up studies conducted in various countries indicate a two- to threefold increase in the use of HRT during the last decade [11–13]. Some authors attribute this increase to two factors: recent educational programs on menopause targeted at both health professionals and the public, and the growing number of therapy choices available [13,14]. Differences in the rates of HRT use in different countries and populations are due to a variety of factors, including extrinsic factors such as clear policy guidelines advocating the use of HRT, or intrinsic factors reflecting the cultural, demographic and health status characteristics of the population under study. For instance, it has been demonstrated that users of HRT differ from non-users, according to socio-economic parameters, behavioral characteristics and health status [11,12]. These observations have led to the conclusion that the reduced risk of CHD among users may be explained in part by selective use of HRT by healthy women with healthier lifestyles [15].

In Israel, while HRT has been the subject of considerable attention and interest in the healthcare community in recent years, no population-based studies have been conducted and estimates of the rate of HRT use in Israel have been based on non-representative studies [16]. The present study was conducted to assess the HRT usage rate among women in the various sectors of the Israeli population, and to determine the factors predicting the current use of HRT. This report relates to the findings among Jewish women in Israel.

Subjects and Methods

The study was cross-sectional, conducted by means of a telephone survey during March through August 1998. A random sample of 1,200 Jewish women aged 45–74 from all areas, urban and rural, was extracted from the population registry and an introductory letter was sent to all. The telephone number of each sampled person was located by the use of a computerized program linked to the telephone directory. Considerable efforts were made to locate each

HRT = hormone replacement therapy

OR = odds ratio

CI = confidence interval

CHD = coronary heart disease

of the women, including contacting neighbors and repeated calls during the survey period (up to 15 attempts per woman). The interviews were conducted by trained interviewers in Hebrew, Russian and English. Information collected in the questionnaire included sociodemographic characteristics, utilization of women's health services, menstrual and gynecologic history, previous use of oral contraceptives, experience of classic symptoms of menopause, history of HRT use, presence and treatment of chronic disease and cardiovascular risk factors, and lifestyle factors such as leisure-time physical activity, smoking, alcohol consumption and dieting behaviors.

For the purpose of analysis the women were divided into four menopausal status groups on the basis of their menstrual history: a) peri-menopausal women who had experienced menstrual bleeding for 3–12 months previously and/or reported changes in the regularity of their periods during the last year, b) post-menopausal women whose periods had stopped spontaneously at least a year prior to the survey, c) pre-menopausal women who had experienced menstrual bleeding in the last 3 months but no change in the regularity of their periods, and d) women who had undergone hysterectomy and/or bilateral oophorectomy before natural menopause. HRT use was defined as the use of post-menopausal hormones (in the form of tablets, vaginal cream or patches), as reported by the woman and verified by the Israeli pharmaceutical manual.

Statistical analysis

SAS software was used for all the analyses. Categorical independent variables such as smoking, physical activity and alcohol consumption were compared by means of chi-square tests. In order to determine the variables that predict current HRT use while adjusting for potential confounding variables, a multiple logistic regression model was employed.

Results

Response rate

Of the 1,200 women identified, 228 (19%) could not be located. Another 37 were ineligible for the following reasons: death, residence in an institution, or emigration. Of the remaining 935 eligible women, 704 (75%) completed the interview, 11% refused, and 8% could not be interviewed since they had an unlisted telephone number, no telephone or because of communication difficulties. An additional 6% could not be contacted by telephone during the period of data collection, despite repeated attempts.

Menopausal status and current HRT use

Based on the classification of menopausal stage described above we excluded 107 (15.2%) pre-menopausal women from the analysis. A total of 510 women were classified as “naturally” peri- or post-menopausal, of whom 99 (16.8%) were current HRT users and 78 (13.1%) were past users. A close examination of the data on women defined as peri-menopausal revealed that over 95% had in fact missed more than 6 cycles. Seventy-nine women (11.4%) had undergone hysterectomy or oophorectomy, of whom 20 (38%) were currently using HRT. Among these women, users were significantly

younger than non-users (mean age 56.0 ± 6.9 years as compared to 61.4 ± 8.9 respectively, $P = 0.022$). Since it was not always possible to ascertain whether these women were pre- or post-menopausal when the surgical procedure was performed they were excluded from the analysis, which was restricted to the population of women experiencing natural menopause.

Among the remaining 510 women classified as naturally peri- and post-menopausal, 69 (13.5%) were currently using HRT (92.8% used tablets). The prevalence of current use was higher among post-menopausal than peri-menopausal women (15.4 vs. 6.5%, $P = 0.07$).

Use of HRT as related to sociodemographic characteristics

Figure 1 presents the rates of current and ever-use of HRT for the 510 naturally peri- and post-menopausal women by age. The highest rates of both “current use” and “ever use” (25.6% and 37.8% respectively) were found in the 55–59 age group and the lowest rates (3.7% and 16.7%) in the 70–74 age group. Unadjusted and age-adjusted rates of current HRT use as related to other sociodemographic characteristics are presented in Table 1. The age-adjusted rate of current use was higher (21.2%) among women with an academic education (college or university) than in women with a high-school education (13.8%) or less (6.1%). Rates were higher (19.9%) among women employed outside the home compared with women not employed outside the home (6.5%), and among married women (15.6%) as compared to divorcees (11.1%) and widows (9.6%). Other sociodemographic variables such as origin, immigration status and degree of religious observance were not associated with current HRT use on a statistically significant level.

Lifestyle

The rate of current HRT use was lower among women who had never smoked than among women who had ever smoked (11.6% vs. 19.6% respectively, $P = 0.02$). Habitual leisure-time physical activity during the previous 3 months was significantly positively associated with current HRT use: 19.5% among women who exercised vs. 9.1% among women who did not ($P = 0.0003$). Drinking alcohol was defined as consuming any alcoholic beverage (beer, table wine or spirits) at least once a week during the past 3 months; 14.5% of the women were classified in this category, of whom 27% were current HRT users. Among women who reported drinking less than once a

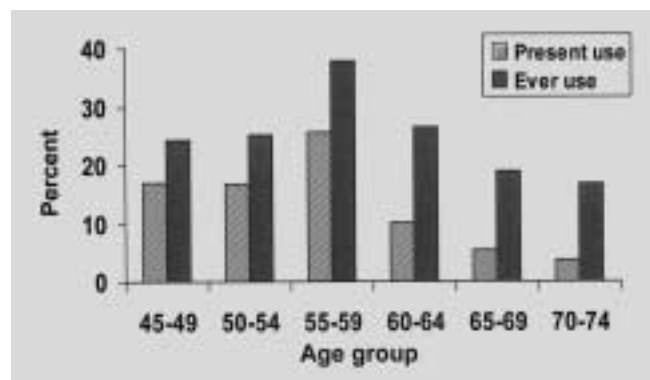


Figure 1. Current and ever use of HRT by age group (percentages)

Table 1. Unadjusted and age-adjusted rates of current HRT use in 510* peri- and post-menopausal Jewish women aged 45–74 by sociodemographic, health and lifestyle characteristics. National Women's Health Interview Survey, 1998

Characteristic	N	HRT use (%)		P
		Un-adjusted	Age-adjusted	
Education				
Less than high-school	178	5.1	6.1	0.0001
High-school graduate	113	15.0	13.8	
College or university	200	21.0	21.2	
Employment status				
Currently employed	214	22.0	19.9	0.005
Retired	175	9.4	14.4	
Not employed	117	5.7	6.5	
Family status				
Married	375	15.7	15.6	0.04
Divorced	52	13.5	11.0	
Widowed	81	3.7	9.6	
Oral contraceptives				
Never used	384	10.4	11.4	0.03
Ever used	126	23.0	26.2	
Chronic disease				
Coronary heart disease				
Yes	51	11.8	18.7	0.80
No	459	13.7	13.9	
Diabetes				
Yes	55	1.8	1.8	0.04
No	455	15.0	15.2	
High cholesterol				
Yes	161	15.5	17.3	0.09
No	349	12.6	12.6	
Osteoporosis				
Yes	83	10.8	12.4	0.98
No	427	14.1	14.1	
BMI (kg/m²)				
< 30	375	15.2	15.7	0.09
≥ 30	116	8.6	9.2	
Self-perception of health status				
Very good or good	379	16.1	16.0	0.02
Fair or poor	141	6.2	8.3	
Smoking				
Never smoked	343	10.5	11.6	0.02
Ever smoked	165	20.0	19.6	
Leisure-time physical activity				
No regular physical activity	286	8.7	9.1	0.0003
Regular physical activity	224	19.6	19.5	
Alcohol consumption				
< once/wk or less	436	11.2	11.8	0.0004
1–2 times/wk	60	25.0	24.6	
> 3 times/wk	14	35.7	39.2	

* In some cases numbers do not total 510, due to missing data.

week or not at all, 11.8% were users. Self-reported weight and height were used to calculate body mass index for each woman. Current HRT use was negatively associated with overweight: lower rates of current use (9.2%) were found among women who were classified as obese (BMI = 30) and higher rates (15.7%) among non-obese women ($P = 0.09$).

Health status

The women were asked whether they had been diagnosed by a physician as suffering from heart disease, diabetes, osteoporosis, breast cancer, high blood pressure or high blood cholesterol. Women with diabetes had a significantly lower rate of HRT use than women without diabetes (1.8% vs. 15.2% respectively, $P = 0.04$), and those with high cholesterol levels had higher rates of HRT use (17.3%) than women with normal cholesterol levels (12.6%) ($P = 0.09$). Other health conditions were not found to be associated with current HRT use. However, women who rated their general health status as "very good" or "good" had higher rates of current use than those who rated their health as "not very good" or "poor" (16.0% vs. 8.3% respectively, $P = 0.02$). Ever-use of oral contraceptives was found to be associated with current use of HRT: among ever-users 26.2% were currently taking HRT as compared with 11.4% among never-users ($P = 0.03$).

Menopausal symptoms

Seventy-five percent of women reported having experienced at least one of the following symptoms: hot flushes, night sweats, sleep problems, dry/painful vagina or urinary incontinence, either in the present or the past. Women who had experienced at least one of the symptoms were more likely to be present users of HRT.

Use of gynecologic health services

Higher rates of current HRT use were found among women who reported visiting a gynecologist during the previous 12 months (22.3%) than among those who had not (5.6%); and current HRT use was found to be markedly higher among those who reported having a regular gynecologist (25.5%) than women who did not (4.2%) [Table 2].

Table 2. Rates of current HRT use by patterns of gynecologist visits, National Women's Health Interview Survey, 1998

	N	HRT use (%)	P*
Visits gynecologist			
At least once every 2 years	250	20.0	0.001
Less than once every 2 years	260	7.3	
Has a regular gynecologist			
Yes	224	25.5	0.001
No	286	42.0	
During the last 12 months			
Did not visit a gynecologist	268	5.6	0.001
Visited a gynecologist	242	22.3	

* Based on the chi-square test for differences between proportions

BMI = body mass index

Table 3. Adjusted odds ratios for the association between selected independent variables and current HRT use* in women aged 45-74 in a logistic regression model. National Women's Health Interview Survey, 1998

Variable	OR	95% CI	P
Age (yr)	0.98	0.93-1.02	0.337
Education (college/academic = 1, less = 0)	1.93	1.03-3.23	0.037
Has a regular gynecologist (yes = 1, no = 0)	3.60	2.04-8.38	0.0006
Visited gynecologist during past year (yes = 1, no = 0)	2.94	1.23-5.01	0.0036
Menopausal symptoms in past (yes = 1, no = 0)	1.96	1.30-4.50	0.003
BMI (kg/m ²)	0.91	0.87-0.99	0.042
Exercises (yes = 1, no = 0)	1.90	0.87-2.71	0.137

Multivariate analysis

A multiple logistic regression model was used to determine the variables that independently predict current HRT use while adjusting for confounding variables. The results are shown in Table 3. The strongest predictor of current HRT use was having a regular gynecologist: the odds of being a user was 3.6 times higher among women who had a regular gynecologist than women who did not. In addition, visiting a gynecologist during the last 12 months increased the odds of HRT use by a factor of 2.9, in comparison with women who had not seen a gynecologist during the previous year. The odds of being a user were found to be higher for women who had experienced symptoms of menopause in the past (OR 2.0) and for those who were university or college graduates (OR 1.9). Other variables independently associated with current HRT use were age (OR 3.2), regular exercise (OR 1.9), and BMI (OR 0.93).

Discussion

In this study, the first of its kind to be conducted on a representative population sample in Israel, 17% of menopausal women in the Jewish population were found in 1998 to be current HRT users, and 30% had at some time used HRT. After controlling for other independent variables, users of HRT were found to have a higher educational level and were less likely to be overweight. Alcohol consumption was also associated with HRT use.

The rates of HRT use are higher than those reported by a previous study conducted in Israel in 1996, which found that 12% of women aged 50 years or more were current users and 21% were ever-users [16]; however the 1996 study was carried out on a non-representative sample in a single community. A comparison of our sample population with national population figures, as reflected in the 1997 census, revealed a very similar age distribution; thus our estimates of HRT use, in as far as they are related to age, are likely to reflect the national rate for Jewish women.

Our national estimates are lower than the rates found in the United States, Australia and Europe. In the USA, 45% of a cohort of 5,602 women aged 25-74 who participated in the NHANES-III study were reported in the early 1990s as ever having used HRT [11]. In Australia, in 1993, 19% of women aged 40 years and over were current users and 28.5% had ever taken HRT [17]; and in Scandinavian countries in 1996, an average of 21% of women aged 46-62 were current users and overall 40% had ever used HRT [18]. The lower rates in Israel may reflect cultural differences in the attitudes of women towards menopause [19]. These may include the acceptance of symptoms as inevitable, reluctance to accept

medication, a lack of awareness regarding the benefits of HRT, and concern about the health risks involved. These suggestions are speculative and require further investigation.

In the present study, the highest rate of current or ever-use of HRT use was found among women who had undergone hysterectomy and/or oophorectomy (38%). This concurs with the findings of numerous studies conducted in the USA, Europe

and Australia, which indicate that hysterectomy is a particularly strong indicator for the use of HRT [12,17,20,21]. As noted above, the main thrust of this report focuses on factors predicting current HRT use in a population that had not undergone gynecologic surgery, and our analysis and the following discussion are therefore restricted to naturally menopausal women. However, it is worth noting that even among women who have had gynecologic surgery, HRT use is far from a universal phenomenon: it is mainly younger women who tend to be users of HRT (the mean age of users was 56.0, as compared with a mean age of 61.4 among non-users; $P = 0.2$).

Among naturally menopausal women, apart from the experience of menopausal symptoms and age, the two major variables showing the strongest associations with current HRT use were those relating to the patient-gynecologist relationship. If a woman had a regular gynecologist, which was defined as knowing the physician's name and consulting him/her exclusively, this increased the probability of her using HRT by a factor of 3.6. The other variable in this category, which was found to be strongly and independently associated with current HRT use, was whether or not the woman had visited a gynecologist during the preceding 12 months. With regard to whether or not the woman had a regular gynecologist, it should be remembered that in Israel all citizens have mandatory health coverage under the National Health Insurance law issued in 1995. A woman may use gynecologic health services in a variety of ways: she may choose to attend a clinic and see the gynecologist who is on duty at the time, or she may choose a regular gynecologist from several gynecologists in her health maintenance organization and consult him/her exclusively. A further option is to consult a private gynecologist and to pay an extra fee. The fact that the woman's choice of having a regular gynecologist predicted current use of HRT can be explained in several ways. One may speculate that a woman who has an established relationship with her physician may have greater confidence in discussing her menopausal problems and requesting information on the range of possible remedies than a woman who has no such relationship; and she may also be more likely to adopt the physician's advice. The physician may have a better and more complete understanding of the woman's needs due to more regular and consistent contact and follow-up. With regard to the pattern of gynecologic visits, it is difficult to determine unequivocally in a cross-sectional survey such as this whether the woman's choice to visit a gynecologist regularly increases the probability of her using HRT, or whether

the fact that she is already a user increases her tendency to visit the gynecologist more frequently (to receive prescriptions, for example).

Physician discussion about HRT was found to be an important determinant of HRT use [22]. In 1992, the American College of Physicians issued guidelines recommending physician discussion of HRT with all women during and after menopause, and other national medical associations also recommend that physicians counsel all peri- and post-menopausal women on the risks and benefits of HRT [23]. Studies in the USA have shown that physicians' attitudes towards HRT play an important role in influencing women to initiate and to continue treatment [24]. With regard to patterns of use of gynecologic health services, our findings are similar to those found in the U.S. by the 1994 National Health Interview Survey, where having a regular source of healthcare increased the likelihood of a woman receiving HRT counseling [25].

General health status, as indicated by self-report, was found in the univariate analysis to be associated with current HRT use: women who rated their health as "very good or good" were more than twice as likely to be users of HRT than women who rated their health as "not very good" or "poor." However, the only specific chronic health condition significantly associated with the use of HRT was diabetes: women without diabetes were more than four times more likely to be users of HRT than women with diabetes. Similar inverse associations were found between diabetes and the use of HRT in Britain [12]. It is possible that the presence of diabetes and the medications used for its control are considered by physicians to be a contraindication to the use of HRT. In a subsequent multivariate analysis (not shown), diabetes did not emerge as an independent statistically significant factor, possibly due to the small number of cases.

Ever-use of oral contraceptives was found to be associated with current use of HRT, with ever-users of oral contraceptives being twice as likely as never-users to be currently taking HRT. In addition, the univariate analysis demonstrated associations between current use of HRT and certain sociodemographic and lifestyle characteristics, such as higher educational level, being presently employed, having ever been a smoker, regular leisure-time exercise, being non-obese (BMI < 30), and drinking alcohol. After adjustment for the other independent variables in the multivariate model, educational level, regular exercise and BMI remained independently and significantly associated with HRT use. No independent associations were found with employment status, smoking, and oral contraceptive use. The univariate associations of these variables with HRT use can probably be explained by their association with educational level, which was a strong predictor of HRT use (OR 1.9).

Similar sociodemographic profiles were demonstrated for HRT users in studies conducted in other countries. In the USA, higher rates of HRT use were associated with being white, living in the west, being highly educated, having normal BMI, and consuming alcoholic beverages at least once a month. Smoking and recreational physical activity could not explain HRT use after controlling for other factors [11]. In a British study (the only study we encountered, other than ours, where separate analyses were performed for women who had undergone hysterectomy and for

those who were naturally menopausal), the findings regarding the profile of HRT use among naturally menopausal women were similar to ours in certain respects and different in others. Women who had experienced menopausal symptoms and those who had previously used oral contraceptives were significantly more likely to be HRT users; however, in the British study, being a smoker increased the probability of HRT use, as did non-psychotic psychiatric illness [17]. In our study, although smoking was associated with HRT use, this association was not found to be significant after controlling for other variables in the multivariate analysis.

Conclusions

The present study, like studies conducted in different populations, demonstrates that users of HRT differ from non-users with regard to certain socioeconomic and lifestyle factors. Among Jewish women in Israel, the profile of the HRT user emerging from our findings is that of a more highly educated, non-obese woman, who has a regular gynecologist whom she visits routinely. In addition, users were characterized by regular alcohol consumption, which may be a marker for other socioeconomic or behavioral characteristics. These discrepancies between subgroups of the population may be indicative of differences in awareness or in the delivery of preventive healthcare services to women in Israel, and as such need to be addressed by the health system.

References

1. Naessen T, Persson I, Adami HO, Bergstrom R, Bergkvist L. Hormone replacement therapy and the risk for first hip fracture. A prospective, population-based cohort study. *Ann Intern Med* 1990;113:95-103.
2. Cauley JA, Seeley DG, Ensrud K, Ettinger B, Black D, Cummings SR. Estrogen replacement therapy and fractures in older women. Study of Osteoporotic Fractures Research Group. *Ann Intern Med* 1995;122:9-16.
3. Stampfer MJ, Colditz GA. Estrogen replacement therapy and coronary heart disease: a qualitative assessment of the epidemiologic evidence. *Prev Med* 1991;20:47-63.
4. Grodstein F, Stampfer MJ, Colditz GA, et al. Postmenopausal hormone therapy and mortality. *N Engl J Med* 1997;336:1769-75.
5. Hulley S, Grady D, Bush T, et al. Randomized trial of estrogen plus progestin for secondary prevention of coronary heart disease in postmenopausal women. *JAMA* 1998; 280:605-13.
6. Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and hormone replacement therapy: collaborative reanalysis of data from 51 epidemiological studies of 52,705 women with breast cancer and 108,411 women without breast cancer. *Lancet* 1997;350:1047-59.
7. Colditz GA. Hormones and breast cancer: evidence and implications for consideration of risks and benefits of hormone replacement therapy. *J Women's Health* 1999;3:347-57.
8. Schairer C, Lubin J, Troisi R, Sturgeon S, Brinton L, Hoover R. Menopausal estrogen and estrogen-progestin replacement therapy and breast cancer risk. *JAMA* 2000;283:485-91.
9. Grady D Saawaya G. Postmenopausal hormone therapy increases risk of deep vein thrombosis and pulmonary embolism. *Am J Med* 1998;105:41-3.
10. Boyle P, Horton R, Radda G. Open debate on hormone-replacement therapy. *Lancet* 1998; 352:836.
11. Brett KM, Madans JH. Use of postmenopausal hormone-replacement therapy: estimates from a nationally representative cohort study. *Am J Epidemiol* 1997;145:536-44.

12. Moorhead T, Hannaford P, Warskyj M. Prevalence and characteristics associated with use of hormone-replacement therapy in Britain. *Br J Obstet Gynaecol* 1997;104:290-7.
13. MacLennan AH, Taylor AW, Wilson DH. Changes in the use of hormone replacement therapy in South Australia. *Med J Aust* 1995;162:420-2.
14. Carr BR. HRT management: the American experience. *Eur J Obstet Gynecol Reprod Biol* 1996;64(Suppl):17-20.
15. Matthews KA, Kuller LH, Wing RR, Meilahn EN, Planting P. Prior to use of estrogen replacement therapy, are users healthier than nonusers? *Am J Epidemiol* 1996;143:971-8.
16. Blumberg G, Kaplan B, Rabinerson D, Goldman GA, Kitai E, Neri A. Women's attitudes towards menopause and hormone-replacement therapy. *Int J Gynecol Obstet* 1996;54:271-7.
17. France K, Schofield MJ, Lee C. Patterns and correlates of hormone-replacement therapy use among middle-aged Australian women. *Women Health* 1997;3:121-38.
18. Mattsson LA, Stadberg E, Milson I. Management of hormone replacement therapy: the Swedish experience. *Eur J Obstet Gynecol Reprod Biol* 1996;64(Suppl):S3-5.
19. Maoz B, Antonovsky A, Apter A, Wijzenbeek H, Datan N. The perception of menopause in five ethnic groups in Israel. *Acta Obstet Gynecol Scand Supp* 1977;65:69-76.
20. Oddens BJ, Boulet MJ. Hormone replacement therapy among Danish women aged 45-65 years: prevalence, determinants and compliance. *Obstet Gynecol* 1997;90:269-77.
21. Lancaster T, Surman G, Lawence M, et al. Hormone replacement therapy: characteristics of users and non-users in a British general practice cohort identified through computerised prescribing records. *J Epidemiol Community Health* 1995;49:389-94.
22. McNagny SE, Jacobson TA. Use of postmenopausal hormone-replacement therapy by African American women. The importance of physician discussion. *Arch Intern Med* 1997;157:1337-42.
23. U.S. Preventive Services Task Force. Guide to Clinical Preventive Services. 2nd edn. Baltimore, MD: Williams and Wilkins, 1996.
24. Newton KM, Lacroix AZ, Leveille SG, Rutter C, Keenan NL, Anderson LA. The physician's role in women's decision making about hormone-replacement therapy. *Obstet Gynecol* 1998;92:580-4.
25. Zhang P, Tao G, Anderson LA. Prevalence of and factors associated with hormone replacement therapy counseling: results from the 1994 National Health Interview Survey. *Am J Public Health* 1999;89:1575.

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