Original article

# General practitioners' view on hormone replacement therapy during and after menopause


## Summery

**Background.** The evidence base for hormone therapy (HT) of women during and after menopause has been strengthened in recent years. The aim of the study was to investigate Norwegian GPs' attitude to HT in menopause, their knowledge of effects and indications, the risk of side effects, and the personal use of hormone therapy by female GPs.

**Material and method.** A questionnaire was sent to 400 Norwegian GPs, randomly drawn from the membership list of GPs in the Norwegian Medical Association, in May 2004.

**Results.** We received answers from 72%. The answers imply that most Norwegian GPs are familiar with the current evidence base regarding the effects and side effects of HT. Most of them indicate that they follow the recommendations of the Norwegian Medicines Agency about indications and contraindications, but that they continue the treatment longer than recommended. A large majority of the respondents agreed to the statements that hormone therapy increases the risk of breast cancer, that it does not prevent myocardial infarction and that the most important reason to prescribe hormone therapy is bothersome hot flushes. Female GPs seem to be better updated on some aspects of the treatment than male doctors. 14 out of 17 peri- and postmenopausal female GPs were using or had used such treatment.

**Interpretation.** Norwegian GPs are generally well updated regarding new evidence in this field. The proportion of menopausal female GPs who take hormone therapy themselves has remained quite stable and is now substantially higher than the average for the population. This finding may imply that menopausal female GPs regard the individual risk of treatment as low, and that most of them find the benefits of treatment greater than the risks.


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In recent years the knowledge base for hormone therapy (HT)– treatment of menopausal and post-menopausal women with oestrogen or a combination of oestrogen and gestagen – has improved substantially. It used to be assumed that oestrogen had a beneficial effect on the risk of cardiovascular disease. This has now been disproved, and a number of major studies have documented a risk of side effects (1, 2). Studies from the UK and Norway have quantified the increased risk of breast cancer as a consequence of various HT regimens (3, 4). The studies resulted in media headlines and in medical centres having to deal with a stream of anxious women wanting advice on HT (5).

In autumn 2003, the Norwegian Medicines Agency recommended more restrictive prescription of HT for menopausal and post-menopausal women (6). The guidelines require a clear indication for treatment, and the indication should be revised after 2-3 years. The effect on harmless, but bothersome post-menopausal symptoms must be weighed up against the risk of serious side effects. Since this recommendation was made, the sale of hormone products for treatment of menopausal symptoms in Norway has declined considerably, and is now at the same level as it was ten years ago (7).

Half of the menopausal women responding to a questionnaire survey in 2003 stated that they had received a prescription for hormone replacement products from a GP (8). We wanted to investigate Norwegian GPs' knowledge of and attitude to HT for women. We were particularly interested in what they thought about indications, risk and duration of treatment compared with new knowledge and recommendations in the area. We also wanted to consider differences in knowledge and attitudes related to gender, age, professional experience and practice location.

The use of hormones in connection with menopause forms part of a larger cultural context that includes perception of what it is to be a woman, sexuality and aging. In the 1970s and 1980s there was considerable ideological debate on HT as medicalisation of a natural aging process (9, 10). We wanted to investigate whether these attitudes still prevail among GPs and how this might influence their advice to their patients, and also whether women doctors used or had used HT themselves, or would consider doing so.

### Material and method

We used a questionnaire with 17 main questions (table 5). Some of the questions had been used previously in a survey of Norwegian gynaecologists (11). In May 2004 the form was sent to 400 Norwegian GPs drawn randomly from the membership database of primary doctors registered in the Norwegian Medical Association. The responses were processed anonymously.

The data were processed using Version 12 of the SPSS statistical package. Perception of treatment effect was evaluated by means of a scale of 1 to 5 to show the extent of agreement or disagreement with a given statement. The response categories were dichotomised and the associations assessed by means of logistic regression. The doctors' assessment of indications and contraindications was analysed by adding together the response categories «great emphasis» and «less emphasis» and testing them against «no emphasis». To analyse the perception of the effects and attitude to treatment, those who responded «strongly agree» and «somewhat agree»

### Main points

- Norwegian GPs are generally well up to date on the effects and side effects of hormone therapy for menopausal symptoms
- They report that they provide treatment for somewhat longer period of time than the Norwegian Medicines Agency recommends
- Norwegian female menopausal or post-menopausal GPs use more hormones than Norwegian women in general

**Table 1** The attitudes of GPs regarding statements about the effects of hormone therapy. Number and percentage (%) for different response categories

| Statement | Mostly agree | | Somewhat agree | | Neither agree nor disagree | | Somewhat disagree | | Mostly disagree | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hormone treatment | No. | (%) | No. | (%) | No. | (%) | No. | (%) | No. | (%) | No. | (%) |
| – Increases risk of breast cancer | 194 | (67) | 83 | (29) | 8 | (3) | 3 | (1) | 1 | (0) | 289 | (100) |
| – Improves sex life | 43 | (15) | 165 | (57) | 62 | (22) | 11 | (4) | 7 | (2) | 288 | (100) |
| – Delays skin aging | 20 | (7) | 94 | (33) | 118 | (41) | 25 | (9) | 31 | (11) | 288 | (100) |
| – Protects against colon cancer | 39 | (14) | 51 | (18) | 141 | (49) | 21 | (7) | 35 | (12) | 287 | (100) |
| – Prevents Alzheimer's dementia | 14 | (5) | 54 | (19) | 152 | (53) | 22 | (8) | 46 | (16) | 288 | (100) |
| – Makes women more attractive | 7 | (2) | 38 | (13) | 136 | (48) | 27 | (9) | 78 | (27) | 286 | (100) |
| – Protects against cardiac infarction | 1 | (0) | 32 | (11) | 62 | (22) | 67 | (23) | 126 | (44) | 288 | (100) |
| – Increases life expectancy of women | 3 | (1) | 15 | (5) | 115 | (40) | 49 | (17) | 105 | (37) | 287 | (100) |
| – Implies undesirable medicalisation of a natural life phase in women | 22 | (8) | 71 | (25) | 69 | (24) | 65 | (23) | 61 | (21) | 288 | (100) |

were combined and tested against the combined group that responded «somewhat disagree» and «strongly disagree», with and without those who responded «neither agree nor disagree». The level of significance was set at $p < 0.05$.

## Results

After a reminder, we received responses from 289 of the 400 GPs (72%). 30% of the respondents were women. The average age of all respondents was 46 (26–69 years), the average number of years in practice 14 (1–37 years). This distribution is approximately the same as the age and gender distribution of primary doctors in the Norwegian Medical Association's database.

*Effects of hormone replacement therapy*

Almost all the respondents (96%) agreed with the statement that HT increases the risk of breast cancer (table 1). Three of our statements contained sense of wellbeing and quality of life – specifically that HT results in a better sex life, delays aging of the skin and makes women more attractive. The GPs had strongest belief in the effect of HT on women's sex life: 72% agreed with this statement.

Four of the statements contained contentions about the preventive effects of hormone therapy. Treatment provides protection against colon cancer, prevents Alzheimer's dementia, provides protection against cardiac infarction and extends life expectancy. 67% accepted that treatment does not provide protection against cardiac infarction, 11% continued to believe that this was the case, and 22% neither agreed nor disagreed with the statement. The numbers who agreed and disagreed that HT prevents Alzheimer's dementia were equally divided.

Doctors were asked to give their views on the claim that HT is an unfortunate medicalisation of a natural phase of life in women. 24% neither agreed nor disagreed with this statement. Of those who adopted a position, 58% did not agree, while 42% agreed.

One in every four doctors did not have a general rule concerning the duration of treatment. Those who did have a rule were asked how long they would normally administer treatment. 2% would administer treatment for less than a year, 41% recommended treatment for 1 – 3 years, 48% for 3 – 5 years and 9% for more than five years. The probability of women doctors having a general rule for duration of treatment was double that for men, and there was a non-significant tendency for women doctors to recommend a shorter treatment period than their male colleagues.

Those who did not regard HT as medicalisation were more in agreement with the statements about preventive effects (table 2). Far more male than female doctors believed that HT provides protection against cardiac infarction.

**Table 2** Doctors' response to statements regarding HT. Correlation with background and attitude variables. Those who «mostly agree» and «somewhat agree» with the statements are compared with the doctors who disagree or are neutral. Adjustments are made in the models for gender, age and type of municipality. The odds ratio for correlation is given with a 95% confidence interval.

| Statement | Gender (male doctor) | Doctor has a general rule for treatment duration[1] | HT implies medicalisation | | | Have you changed your practice?[2] | |
|---|---|---|---|---|---|---|---|
| | | | Agree | Neutral | Disagree | More restrictive | Approx. as previously |
| Hormone therapy | | | | | | | |
| – Improves sex life | –[3] | 2.6 (1.4 – 4.9) | – | – | – | – | – |
| – Protects against cardiac infarction | 6.6 (1.5 – 29) | – | – | – | – | Reference | 2.8 (1.2 – 6.3) |
| – Protects against colon cancer | – | 2.9 (1.4 – 5.9) | Reference | 3.0 (1.4 – 6.3) | 2.7 (1.4 – 5.3) | – | – |
| – Prevents Alzheimer's dementia | – | – | Reference | – | 2.4 (1.2 – 4.8) | – | – |
| – Delays skin aging | – | – | Reference | – | 2.3 (1.3 – 4.1) | – | – |
| – Increases risk of breast cancer | – | – | – | – | – | 3.5 (1.0–12) | Reference |

[1] Those who have a general rule are compared with those who do not have a general rule
[2] Those who state that they have become more restrictive about prescription are compared with those who state that they prescribe more or less as previously
[3] – in the field means that there is no significant correlation between the response to the statement and this variable

**Table 3** GPs' emphasis on factors that indicate and factors that contraindicate prescription of hormone therapy

| | Great emphasis | | Less emphasis | | No emphasis | | Don't know | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | (%) | No. | (%) | No. | (%) | No. | (%) | No. | (%) |
| Factors that indicate prescription | | | | | | | | | | |
| Hot flushes and/or sweating to a distressing degree | 276 | (96) | 10 | (3) | 1 | (0) | 0 | (0) | 287 | (100) |
| Genetic predisposition for osteoporosis | 137 | (48) | 115 | (40) | 30 | (10) | 5 | (2) | 287 | (100) |
| Mood swings | 136 | (48) | 125 | (44) | 23 | (8) | 1 | (0) | 285 | (100) |
| Discomfort due to dry mucous membranes | 121 | (42) | 129 | (45) | 37 | (13) | 0 | (0) | 287 | (100) |
| Reduced libido | 80 | (28) | 169 | (60) | 24 | (8) | 10 | (3) | 283 | (100) |
| Skin aging | 7 | (2) | 66 | (23) | 206 | (72) | 6 | (2) | 285 | (100) |
| Factors that contraindicate prescription | | | | | | | | | | |
| Breast cancer previously (treatment completed) | 282 | (98) | 6 | (2) | 0 | (0) | 1 | (0) | 289 | (100) |
| Breast cancer in first-degree relatives | 194 | (67) | 88 | (31) | 4 | (1) | 2 | (1) | 288 | (100) |
| Cardiovascular disease with symptoms | 171 | (60) | 98 | (34) | 11 | (4) | 6 | (2) | 286 | (100) |
| Thromboembolic disease among close relatives | 212 | (74) | 70 | (24) | 4 | (1) | 2 | (1) | 288 | (100) |

*Indications and contraindications*
The most important indication for treatment was hot flushes, and to a lesser extent disposition for osteoporosis, mood swings and discomfort due to dry mucous membranes (table 3). 72% did not place emphasis on aging of the skin as an indication for treatment. As contraindications, 98% placed great emphasis on previous breast cancer and 67% on breast cancer in first-degree relatives.

Those who did not regard treatment as medicalisation placed greater emphasis on the indication «mood swings» (table 4). Male doctors placed greater emphasis on the indication «discomfort related to mucous membranes». The female doctors placed greater emphasis on «breast cancer in the immediate family» as a contraindication than their male colleagues. Otherwise there was little or no variation in the responses with respect to background variables such as age, number of years in practice, type of municipality or part of Norway.

*Female doctors' attitude to own use of HT*
Ten out of 17 menopausal or post-menopausal female GPs stated that they used HT in connection with menopause, and four of the 17 said they had used it in the past. 28 of the 69 (41%) of younger female doctors replied that they might use HT during or after menopause; 23% replied in the negative and 36% were uncertain. The average treatment time for current users was 4.2 years and for former users 6.5 years.

## Discussion

There was a high response rate in the survey, and the age and gender distribution among the respondents correlates well with the distribution of these parameters amongst GPs in Norway as a whole. We therefore assume that the survey is representative of GPs in Norway. The results reflect their knowledge, attitudes and views regarding HT, but we cannot say on the basis of our findings what the doctors actually do in a clinical situation.

A majority believe that HT results in an improved sex life. A number of research-based surveys support this view (12–15). Almost half were of the view that HT counteracts aging of the skin, and this is probably also an important factor for the women themselves. For many women in the target group for HT, external signs of aging are undesirable. It is particularly important to avoid wrinkles and sagging skin. The doctors' view of the effects of the treatment indicates nonetheless that they are cautious, and that they do not consider HT to be a general rejuvenation treatment.

Surveys from the 1990s seemed to indicate that hormone therapy improved cognitive function and could prevent Alzheimer's disease (16, 17). However, the American health authorities concluded in December 2005 that research now indicates that the treatment *increases* the risk of dementia (18). Thus in 2004, more than three quarters of doctors disagreed on or had no view on

**Table 4** Indications, contraindications and general rule regarding duration of treatment. Correlation with background variables and attitudes to HT. The doctors who placed great emphasis on the indication or contraindication are compared with the doctors who placed little or no emphasis on it. Adjustments are made in the models for gender, age, number of patients, type of municipality, part of Norway, how often the doctor discussed HT with the patient, whether the doctor thought it was difficult to give advice or not, whether the doctor had a general rule for duration of treatment, and the doctor's stance on the question of medicalisation. For the treatment rule, those who responded 'Yes' are compared with those who answered 'No', adjusted for gender, age, type of municipality, general rule, medicalisation. The odds ratio for correlation is given with a 95% confidence interval. A dash '–' in the field means that there is no significant correlation between response to the statement and this variable

| | Gender | | Age (no. of years) | General rule for length of treatment | HT implies medicalisation | | |
|---|---|---|---|---|---|---|---|
| Indication/contraindication Treatment rule | Man | Woman | | | Agree | Neutral | Disagree |
| Mood swings | – | – | – | – | Reference | – | 2.6 (1.4–4.9) |
| Discomfort due to dry mucous membranes | 2.0 (1.0–3.9) | Reference | – | – | – | – | – |
| Breast cancer in first-degree relatives | Ref. | 2.1 (1.0–4.3) | 0.96 (0.92–0.99) | – | – | – | – |
| Cardiovascular disease with symptoms | – | – | – | 2.2 (1.2–3.9) | – | – | – |
| Do you have a general rule for how long you recommend HT? | Ref. | 2.03 (1.05–3.93) | – | | – | – | – |

whether HT prevents Alzheimer's disease. This may be an indication of healthy scepticism regarding the preventive effects of the treatment. Relatively few place emphasis on HT as prevention for colon cancer, although this effect was documented at the time of the survey (1). Our findings indicate that this was a little known fact among GPs. The discussion of whether treatment of women's menopause implies an undesirable medicalisation was raised in professional fora and in the Norwegian general public from the mid-1970s (9, 10). We assumed that the gender and age of the doctors would influence their answers to this question. Our findings do not confirm this assumption. None of the background variables predict the attitude of the doctors. There is reason to believe that in 2004 HT is no longer perceived to be controversial or so ideologically charged.

The doctors prioritised the indication hot flushes, and most of them also had a general rule for duration of treatment. These findings indicate support for the advice of the Norwegian Medicines Agency, and that the doctors have taken account of recent research on the risk of side effects. Many had no such general rule, however, and more than half of those who had a rule would provide treatment for longer than the recommended 2–3 years. The fact that a third of the doctors were uncertain about whether HT prevents cardiac infarction or believed that it does, may indicate that there is still uncertainty and confusion about the effects and risk associated with HT. Given the uncertain documentation and unclear communication of some of the effects or that they have not been grasped by the target group, it may appear that HT's assumed positive and non-specific significance for «the female aspect» is assigned greater importance in the clinical decision-making process.

The survey revealed a number of differences between male and female GPs. Female GPs more often have a rule concerning duration of treatment, and appear to administer treatment for a somewhat shorter time, and a number of male GPs still believe that the treatment can prevent myocardial infarction. These findings indicate that in important areas the female doctors are more updated professionally than their male colleagues.

*What do menopausal female doctors do themselves?*

Whereas about a quarter of Norwegian women aged 50–69 now state that they use hormones, the percentage of female doctors who choose hormone therapy is considerably higher (19, 20). The number of years in treatment reported by the female doctors also indicates that they continue with HT somewhat longer than other women. It is interesting that although women doctors report to a greater extent than their male colleagues that they have a general rule for duration of treatment and that they have become more restrictive, this rule does not appear to apply to them. Because a relatively small proportion of GPs are menopausal or postmenopausal women, only a few have answered these questions, and the figures must be interpreted with caution. Two important factors stand out as possible explanations for the difference in consumption pattern. Doctors have ready access to drugs and are familiar with their use, and doctors judge the risk to themselves of HT as small compared with the benefit. Our survey does not say anything about the significance of these or other possible explanations.

## Conclusion

The survey indicates that most Norwegian GPs are aware of the available documented evidence of the effects and side effects of HT and observe the current recommendations with respect to indications and contraindications. A large majority of the doctors in the survey agreed that HT increases the risk of breast cancer, does not prevent cardiac infarction and that bothersome hot flushes are the most important indication for hormone therapy.

There are differences between male and female doctors on some indications and contraindications and in their view on the duration of treatment. Women doctors' use of hormones has changed surprisingly little, and is considerably higher than among women in general. There has been discussion as to whether the higher risk of side effects that has now been found should indicate even greater caution in advice on and prescription of hormone products to menopausal women. There are examples of guidelines internationally that are more restrictive than the Norwegian ones (21). Evidence-based practice based on existing documentation in this area will result in doctors reducing the indication range to the problems for which we know with certainty HT is efficacious. If the healthcare authorities or a united professional community believe that it is desirable to further reduce the use of HT in the light of an overall assessment of the evidence base, then unambiguous professional advice should be provided on the subject.

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