

General practitioners' advice on menopausal hormone therapy

Summary

Background. The evidence base for hormone therapy (HT) during and after menopause has changed considerably since 2002, and the use of such hormones has declined significantly since that time. The purpose of the study was to investigate Norwegian GPs' perception of their own role with respect to prescribing HT to menopausal and post-menopausal women, and the background factors for the decisions doctors make when giving advice.

Method. The questionnaire was sent to a random selection of 400 Norwegian GPs.

Results. We received replies from 289 doctors (72 %). 13 % replied that the doctor usually takes the initiative to *start* the treatment, and 29 % felt that the doctor most often took the initiative to *discontinue* the treatment. When doctors were requested to give an opinion on clinical examples, they were clearly divided when it came to giving advice. The general attitude to HT (elicited through a question on whether the treatment was regarded as medicalisation of a natural life phase) was the most important predictor for the advice given.

Interpretation. The study indicates that many doctors regard themselves as active in giving advice, to a greater extent than might be anticipated beforehand on the basis of an assumption that such therapy is primarily the woman's own choice. The doctors' attitude to the question of whether the treatment implies medicalisation was more crucial for the advice they gave than their perception of indications, contraindications and the effects of treatment. Such factors are significant when implementing clinical guidelines to change actual practice.

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In the 1990s, doctors in general and gynaecologists in particular had a positive attitude to hormone therapy (HT) (oestrogen or oestrogen-gestagen-combinations) for menopausal and post-menopausal women. Most female gynaecologists and male gynaecologists' partners of the relevant age used hormones (1–3). Articles indicating the preventive effect of the therapy, for example in the case of osteoporosis, incontinence and cardiovascular diseases, were a key reason for the positive attitude (4). However, the evidence base for the therapy has changed considerably in recent years, and the sale of hormone products has declined (5–7). Attitudes to the treatment today are more sceptical (8). The range of indications for the use of HT has been restricted and limiting the duration of the therapy has been recommended (9).

In the literature, advice about and the decision on HT during the menopause are frequently used as an example of shared decision making (10). One aspect of prescribing HT is related to the consideration of risk and uncertainty. Increased risk of breast cancer and cardiovascular disease must be weighed against the benefit of the treatment. Previous surveys have demonstrated that oestrogen therapy has for the most part been controlled by the woman herself, but that doctors are important sources of information (11). When the knowledge base changes and becomes more reliable, and in particular when an increased risk related to the therapy can be shown, doctors may well also be more active in recommending or advising against such treatment.

The medical decision-making base is traditionally described in terms of two main components: scientific thinking and humanistic thinking. These can be further divided into sub-components (12). When a number of considerations have to be taken into account and weighted, the path leading to a conclu-

sion is often visualised by a decision tree, where answering yes or no to a question leads on to new decisions and to a final conclusion (13). However, in the 1960s and 1970s it was shown that human decision-making behaviour only follows such algorithms to a very limited extent (14). Instead, heuristics – «mental short-cuts» – are employed that lead to swifter conclusions. Heuristics are based on a number of factors. Examples of such short-cuts are recognition (the doctor may recognise symptoms or signs from previous patients, or from his/her own experience, and therefore decides to do the same because it was successful last time) and attitudes (the doctor is positive or negative to the therapy in question). Heuristics are effective but may lead to errors because it is difficult to incorporate new evidence on which the decision should be based.

The purpose of the study was to investigate doctors' perception of their own role in the treatment, and factors of importance when they give advice on whether to use HT or not. To what extent do perceptions of effect or risk play a role, or are more general positive or negative attitudes most important? GPs' perceptions of effects, side-effects and attitudes to HT during menopause have been described previously in a separate article (15).

Material and method

A questionnaire with a total of 17 main questions and six background variables was employed. The question and answer categories included in the article are given in table 1. Three of the questions in the questionnaire were formulated as clinical examples where doctors were requested to give an opin-

Main points

- HT during the menopause is a clinical field with a large degree of shared decision making
- Norwegian GPs are proactive in giving advice
- Doctors are notably divided with respect to recommending or advising against therapy when they are asked to give their view on clinical examples
- Their attitude to medicalisation is a key background factor for the advice they give

ion about whether they would advise using HT or not, and they could also give their own comments. The questions and examples are formulated on the basis of the clinical experience of the authors, and were tested on a small selection of GPs. In May 2004, the questionnaire was sent to 400 Norwegian GPs selected at random from the Norwegian Medical Association's membership database for GPs. The returned questionnaires were treated anonymously. The data were processed using the SPSS statistical package (Version 14). Analysis of correlations was conducted using correlation tests (Pearson, Spearman). Variables that may be associated with recommending treatment were analysed using logistical regression, and the answer categories were dichotomised as shown in the tables. The variables that were integrated in the models are: gender, age, the general rule for duration of HT, changes in practice, perception of: whether HT implies medicalisation; whether HT leads to improvement of sex life; whether HT gives protection against myocardial infarction. All variables were included in the multivariate models and are shown in the tables. To analyse attitudes to HT in the clinical examples, the «Would recommend HT» group was tested against the «Would not recommend HT» group on its own and together with the «Would neither recommend nor advise against HT» group. An analysis of those who did not recommend HT was carried out and this was tested vis-à-vis the other two groups combined. The statistical significance level was set at $p < 0.05$.

Table 2 The GPs' replies to questions concerning their own prescription of HT. Number and distribution by gender for the various response categories. Percentages are given in brackets

Question	Response categories	Man	Woman	Total
How often do you discuss HT with patients?	< Once a week	145 [71]	40 [47]	185 [64]
	≥ Once a week	58 [29]	45 [53]	103 [36]
To what degree is it you as the doctor or the patient who takes the initiative to <i>start</i> HT?	Most often the doctor	27 [14]	9 [11]	36 [13]
	The doctor as often as the patient	86 [43]	43 [50]	129 [45]
	Most often the patient	87 [43]	34 [39]	121 [42]
To what degree is it you as the doctor or the patient who takes the initiative to <i>discontinue</i> HT?	Most often the doctor	57 [28]	26 [30]	83 [29]
	The doctor as often as the patient	91 [45]	40 [47]	131 [45]
	Most often the patient	54 [27]	20 [23]	74 [26]
In your everyday practice do you feel that it is important to know how high the risk of side effects of HT is?	No	–	–	26 [9]
	Yes	–	–	263 [91]
Which risk measurement do you prefer? (Risk estimates derived from WHI survey)	Relative increase in risk	–	–	43 [15]
	Absolute increase in risk	–	–	61 [21]
	Number needed to harm ¹	–	–	183 [64]
What is the significance of this risk for you in the clinical situation?	Small/minimal	–	–	25 [9]
	Some significance	–	–	146 [50]
	Great/very great	–	–	117 [41]
Have you changed your practice when it comes to prescribing HT during the last 1–2 years (become more restrictive or more liberal)?	Much more restrictive	–	–	50 [17]
	Somewhat more restrictive	–	–	167 [59]
	About the same as previously	–	–	66 [23]
	Somewhat more liberal	–	–	2 [1]

¹ The number that must be treated for a given number of years in order to result in a given number of patients with a defined side-effect

Table 3 Clinical examples. The GPs' attitude to recommending therapy or not. The number and percentage are given in brackets for the various answer categories

Clinical example 1	I would recommend therapy	I would neither recommend nor advise against therapy	I would not recommend therapy	I would strongly advise against therapy	Total
Woman, 55 years old, has not used HT previously. Last menstruation about 2 years ago. She has experienced some hot flushes at night but has not been unduly affected by these. She has felt more depressed recently, feels her skin is ageing fast and that sexual relations with her husband have become more and more sporadic. She has talked to several friends who use HT and they say that they believe that hormones improve their quality of life. She wonders if she should try this therapy.	93 [32]	129 [45]	60 [21]	5 [2]	287
Clinical example 2	I would recommend continued therapy	I would neither recommend nor advise against therapy	I would not recommend continued therapy	I would strongly advise against continued therapy	Total
Woman, 60 years old, no special risk factors, has used HT for about 5 years and wishes to continue because she feels that the therapy improves her quality of life.	63 [22]	103 [36]	116 [40]	6 [2]	288
Clinical example 3	Yes	No	Uncertain		
Woman, 48 years old, has had breaks of up to 2–3 months between periods and can bleed for up to 14 days at a time. Sometimes she has had mild hot flushes. Otherwise she is healthy and has no special risk factors. Would you prescribe cyclical oestrogen-gestagen for her?	112 [39]	120 [42]	56 [19]		288

Table 4 Clinical example 1: Different background variables and correlation with recommendation of HT. The columns show univariate (each individual variable analysed alone) and multivariate (all variables in a unified model) correlations expressed by an odds ratio (OR) with 95 % confidence intervals (CI) and p-values obtained by logistic regression. The values of the variables are given in the rows

Variable	Outcome	Recommend therapy (n = 89) vs advise against + no advice given (n = 186)			Recommend therapy (n = 89) vs advise against + no advice given (n = 186)		
		Univariate analysis			Multivariate analysis		
		OR	95 % CI	P-value	OR	95 % CI	P-value
Gender: Man = ref	Woman	0.6	0.4–1.1	0.120	1.2	0.6–2.4	0.668
Age (years)		1.04 ¹	1.0–1.1	0.017	1.04 ¹	1.0–1.1	0.047
General rule for duration of therapy	Yes	1.1	0.6–1.9	0.708	1.1	0.5–2.2	0.798
Change of practice (more restrictive = ref)	As earlier	1.4	0.8–2.5	0.227	1.2	0.6–2.4	0.632
HT implies medicalisation	Agree	Ref		0.000	Ref		0.000
	Neutral	1.1	0.5–2.5	0.748	1.2	0.5–3.0	0.609
	Disagree	4.2 ¹	2.2–7.9	0.000	4.0 ¹	2.0–8.2	0.000
HT improves sex life	Disagree	Ref		0.023	Ref		0.032
	Neutral	5.4	0.6–44	0.114	2.7	0.3–26	0.396
	Agree	9.7 ¹	1.2–75	0.028	6.4	0.7–60	0.105
HT gives protection against myocardial infarction	Disagree	Ref		0.000	Ref		0.001
	Neutral	3.0 ¹	1.6–5.4	0.000	2.5 ¹	1.2–4.9	0.010
	Agree	3.4 ¹	1.5–7.2	0.002	4.9 ¹	2.0–12.4	0.001

¹ P < 0.05

Results

289 of the 400 GPs (72 %) who were invited to participate answered the questionnaire.

The gender and age distribution in the material almost parallels the distribution among the more than 4,000 GPs in the Norwegian

Table 5 Clinical example 2: Different background variables and correlation with recommendation of HT. The columns show univariate (each individual variable analysed alone) and multivariate (all variables in a unified model) correlations expressed by an odds ratio (OR) with 95 % confidence intervals (CI) and p-values obtained by logistic regression. The value of the variables is given in the rows

Variable	Outcome	Recommend therapy (n = 89) vs advise against + no advice given (n = 186)			Recommend therapy (n = 89) vs advise against + no advice given (n = 186)		
		Univariate analysis			Multivariate analysis		
		OR	95 % CI	P-value	OR	95 % CI	P-value
Gender: woman = ref	Man	2.3 ¹	1.1–4.7	0.02	1.9	0.8–4.3	0.127
Age (years)		1.0	0.9–1.0	0.093	1.0	0.9–1.0	0.445
General rule for duration of therapy	No	2.0 ¹	1.1–3.8	0.016	1.7	0.8–3.5	0.148
Change of practice (more restrictive = ref)	As previously	3.0 ¹	1.6–5.4	0.001	2.6 ¹	1.3–5.2	0.006
HT implies medicalisation	Agree	Ref		0.008	Ref		0.013
	Neutral	0.5	0.2–1.2	0.114	0.4	0.1–1.1	0.065
	Disagree	1.8	0.9–3.3	0.087	1.6	0.8–3.3	0.212
HT improves sex life	Agree	Ref		0.853	Ref		0.937
	Neutral	0.9	0.5–1.9	0.834	0.9	0.4–1.9	0.741
	Disagree	0.7	0.2–2.5	0.586	0.9	0.2–4.0	0.845
HT provides protection against myocardial infarction	Disagree	Ref		0.002	Ref		0.042
	Neutral	2.1 ¹	1.1–4.2	0.027	1.5	0.7–3.2	0.277
	Agree	3.8 ¹	1.7–8.4	0.001	3.0 ¹	1.3–7.4	0.013

¹ P < 0.05

Medical Association's database of members. 30 % of the respondents were women with an average age of 46 (26–69 years of age), and the average length of practice was 14 years (1–37 years). The doctors' responses to both the questions and the clinical examples are shown in tables 2 and 3.

53 % of the female doctors and 29 % of the male doctors discussed hormone therapy with patients more often than once a week. 13 % answered that it was usually the doctor who took the initiative to *start* HT. Those who disagreed that HT implied medicalisation had a significantly greater tendency to believe that the doctor takes the initiative for the therapy (OR 2.5; 95 % CI 1.1–6.4). 29 % answered that the doctor most often takes the initiative to *discontinue* the therapy, while 45 % replied that the doctor took the initiative just as often as the patient. Doctors who believed that therapy implies medicalisation were more likely to take the initiative to discontinue the treatment (OR 2.7; 95 % CI 1.3–5.4).

91 % were of the opinion that it was vital to know the risks of HT and almost two-thirds of the doctors thought that the «number needed to harm» – i.e. how many must receive treatment in a given period of time for one person to suffer a serious side-effect – provides most information. 91 % of the doctors felt that risk had considerable or some importance. Three out of four doctors stated that they had become more restrictive in prescribing hormones in the previous two years.

The clinical examples and the distribution of answers are shown in table 3, and analyses of variables that correlate with the answer distribution are given in tables 4 and 5. In example 1, the doctors fell into three large groups; 32 % would recommend therapy, 23 % would not recommend therapy and 45 % would neither recommend nor advise against therapy. The older the doctors, the more they tended to recommend the treatment. The likelihood of recommending therapy was four times higher among the doctors who did not feel that HT implied medicalisation compared with those who agreed with the statement. There was no correlation with other background variables, perception of indications or contraindications or perception of risk associated with therapy. A number of those who would neither recommend nor advise against therapy (n = 129), commented that they would discuss the pros and cons and allow the patient to decide herself.

Among those who believed that hormone therapy gives protection against myocardial infarction, the likelihood that they would recommend a continuation of HT in example 2 was almost four times greater (table 5). When the material was analysed on the basis of those who did not recommend therapy, the attitude to medicalisation was the only statistically significant factor: the probabil-

ity of not recommending therapy was 2–3 times greater among those who agreed that therapy implied medicalisation.

In clinical example 3, the number of those who would recommend therapy almost equalled the number of those who would advise against it. The comments of those who would advise against HT indicated that many would prescribe cyclical gestagen. The likelihood of prescribing this was statistically more significant among doctors who agreed that HT prevents myocardial infarction.

Discussion

The response percentage in the survey is high, and gender and age distribution correlates well with the general distribution among GPs. Thus we assume that the survey is representative of GPs. Few questionnaires are incomplete, and many have commented on the questions.

The survey shows that the question of HT is a recurrent issue, especially for female GPs. The study indicates that the majority of doctors have become more restrictive and believe that the therapy implies a risk of serious side-effects. The survey does not provide a basis for commenting on how significant the doctors think the risk is. It is interesting to note that the GPs' perception of the significance of risk is not reflected in the clinical examples. This may indicate that doctors do not integrate the perception of risk indicated in this manner in their internal dialogues when giving advice on HT. When it comes to the perception of who takes the initiative to start or discontinue HT, it seems that doctors regard themselves as quite active, keeping in mind that this is a treatment that the woman should decide for herself as far as possible. By the same token, the answers confirm that this is a field of shared decision-making.

The doctors' practice and knowledge are elucidated here by means of brief case histories. We still do not know what the doctors would actually do when faced with a real patient. On paper these cases lack key data, the case history is brief and the context is stripped down to a minimum. The doctor employs a wide variety of knowledge in taking a clinical decision and much of this is not captured in short vignettes. On the other hand, a short concise case history makes it possible for the doctor to take a decision on the basis of the knowledge and the attitudes he/she has.

The examples are designed so that it is not automatically clear that the woman should be offered therapy. Doctors were notably divided in their view on therapy or not, and their perception of indications, contraindications and different perceptions of the risk of HT did not demonstrate significant correlations in the regression models. The strongest correlation proved to be the attitude to medicalisation – i.e. the doctor's own attitude to

HT predicted what advice would be given. In example 3, doctors were divided into two almost equally large groups, but it was only their opinion on whether HT helps to prevent myocardial infarction that predicted their recommendation regarding the therapy.

In the regression analyses (tables 4 and 5) the material is dichotomised on the basis of the premise of what is most clinically relevant: those who would prescribe HT are compared with the others in the material. The material is also analysed on the basis of other groupings, and the results provide general confirmation that the opinion on whether HT implies medicalisation is a conclusive variable. Other factors that help to explain the different advice given by doctors are the perception of the effect on sex life and of whether the therapy provides protection against myocardial infarction.

Giving advice in favour of and against therapy is a matter of weighing the advantages (positive effects) against the disadvantages (side-effects or risk) for the individual patient. The scientific basis of efficacy and risk is well documented, and therefore doctors are given guiding principles in the form of central guidelines (9). We might then assume that the doctors would be fairly unanimous in the advice they give. However, the division of GPs into two «camps» as regards their views on hormone therapy reveals a striking divergence. This is reflected in views on whether HT implies medicalisation (15), which is clearly revealed by the doctors' recommendations in the clinical examples. This may mean that the doctor's general attitude – «positive» or «negative» – to HT measured by the questions above – plays just as important a role as women's symptoms and wishes, and that the perception of risk inherent in the therapy has a lesser role in the assessment. Such a positive or negative attitude may represent what is termed in psychological research «affect heuristics» (16–18). Affect heuristics link feelings to alternative choices, and help us to make speedy decisions that are consistent with our own values and intuitive preferences. By the same token they can also result in incorrect practice in that such patterns survive attempts to change them by means of scientific or logical reasoning. There is little discussion of the importance of this when new evidence-based guidelines are adopted or implemented.

Conclusion

These results indicate that the general attitude of GPs to HT, given in the survey as the degree of agreement or disagreement with the statement that HT implies an unfortunate medicalisation of a natural ageing process in women, is the key explanatory variable for whether doctors recommend treatment or not when they are presented with clinical examples, and for how active they feel they are as regards starting or discontinuing treat-

ment. Gender and age play a role to a certain degree, but differences in other background variables, perception of risk or effects of the therapy showed no corresponding correlation.

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