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# Changes in the use of Hormone Replacement Therapy in New Zealand following the publication of the Women's Health Initiative Trial

Irma Bilgrami, Katy Blower, Jason Feng, Georgia Stefanko, Eugene Tan

**Abstract**

**Background** Results of the Women's Health Initiative (WHI) trial on Hormone Replacement Therapy (HRT) have recently been published. We carried out a national survey to assess the impact of the July 2002 findings on HRT use. We also studied where women obtained information, as well as their opinions and beliefs.

**Methods** 500 women aged 45 to 64 years were randomly selected from the electoral rolls, and were sent a questionnaire regarding use and knowledge of HRT. There was phone follow-up for those who did not reply. Variables were tested for associations using the Chi-squared test and adjusted for confounding.

**Results** We received 298 questionnaires back, and a further 20 responses were received by phone (response rate 66%). We found that 15% of women were taking HRT during June 2002 compared to 11% taking HRT in December 2002, a drop of 36%. Even in July 2002, only 2% of users reported taking it to prevent coronary heart disease. Findings from the WHI trial were the main reason for stopping HRT. Women expressed an interest in more 'natural' therapies over HRT. Most women had heard information on HRT, however knowledge was lacking in some areas.

**Conclusions** The publicity following publication of the WHI trial has led to a decline in HRT use in New Zealand consistent with national sales data. Nevertheless, most women were not using HRT for heart disease prevention even before the WHI trial was published, suggesting that the NZ Guidelines Group 2001 recommendation against such use had been widely acted on. Women have expressed an interest in alternative therapies and more research is required in these areas. Methods of stopping HRT are understudied.

The first results of the Women's Health Initiative (WHI) Trial were published in July 2002.[1] This was a randomised controlled trial of combined hormone replacement therapy (HRT) and placebo. The results disproved a protective effect of HRT on coronary heart disease, which had been seen in observational studies.[2] The trial also showed that there were, overall, more adverse than beneficial outcomes with long-term use of HRT.

In September 2002, the Ministry of Health issued advice that (in most circumstances) combined-HRT should not be used for longer than 3 to 4 years; and use for shorter periods should be considered 'only where menopausal symptoms are disruptive to the quality of life of the woman'.[3]

A national survey in 1997 showed that 20% of women aged 45 to 64 years were using HRT.[4] We undertook a further national survey to find out what women had heard about the WHI results, whether they had changed their use of HRT in response to

these results, and (for women who had chosen to stop) the effects, if any, of discontinuation.

## Methods

A population-based survey was conducted in December 2002. A sample of 500 women aged 45 to 64 years was randomly selected from the electoral rolls. A questionnaire was sent to each participant.

This questionnaire was based on the earlier surveys by North and Sharples in 1991 and 1997.[4] Information was sought on use of HRT (in the form of pills, patches, or implants) at any time in June 2002, and at the time of interview. Reasons for starting and stopping HRT-use were sought, and questions were asked about knowledge of risks and benefits of HRT-use.

To ensure a high response rate, women who did not return the questionnaire within 10 days were followed up by phone. To ensure consistency we compiled a set format of questions and responses to be used for each follow-up call. Women who were unwilling to complete the whole questionnaire were asked if they could answer two questions about whether they were taking HRT in June 2002 and whether they were currently taking it. Ethical approval was given by the University of Otago Ethics Committee, under Category B. Chi squared tests or Fisher's exact tests were used to compare the proportions between groups of interest.

## Results

Questionnaires were sent to 500 women. Of these, 18 were returned to sender or the respondent was of male gender. Exactly 298 completed questionnaires were returned and a further 20 responses were obtained by phone. Thus, the total response rate was 66% (318/482).

The mean age of the women was 54 years. The majority (92%) of women questioned described their ethnicity as European while 4% were Maori. Overall, 77% described their health as either 'good' or 'very good', and 45% had a tertiary or vocational level of education.

**Table 1. Prevalence of use of HRT by women aged 45 to 64 by time period**

| Year | Current Use | Ever Use |
|---|---|---|
| 1991[4] (N=1543) | 12% | 19% |
| 1997[4] (N=1458) | 20% | 32% |
| 2002 (June) (N=318) | 15% | 33% |
| 2002 (December) (N=318) | 11% | 34% |

35/318 11% (8.02–14.93).

As seen in Table 1, during June 2002—before the results of the WHI trial were published—15% of women were using HRT in comparison to 20% in 1997.[4] Following the publication of the WHI trial, only 11% of women were taking HRT in December 2002 (p=0.15). Thus 15 women (approximately one-third of women who had been HRT users in June 2002) had discontinued HRT. A further 10 women (21% of users) were tapering their dose with the view to stopping HRT at the time of answering the questionnaire. No significant difference was found between those who

stopped, and those who continued HRT with regards to age, initial prescriber of HRT or educational level.

Symptomatic relief was the main indication for use, both before and after publication of the WHI study, with vasomotor symptom control being the most common reason for use as stated by 62% of users in June 2002 and 44% of users in December 2002. At both time periods, 40% of women took HRT for osteoporosis prevention. Only one woman in both June 2002 (2%) and December 2002 (3%) took HRT for prevention of coronary artery disease.

**Table 2. Type of HRT used according to time period of current use***

| Type of HRT preparation | Time period | | | |
|---|---|---|---|---|
| | June 2002 | | December 2002 | |
| | Number | Percent | Number | Percent |
| Combined oestrogen and progestogen | 18 | (40%) | 8 | (27%) |
| Oestrogen only | 26 | (60%) | 22 | (73%) |

HRT=Hormone Replacement Therapy; *The type of preparation was not known for 4 users in June 2002 and 5 users in December 2002.

Of those women taking HRT in June 2002, 58% had had a hysterectomy compared with 64% of women taking HRT in December 2002. Both before and after June 2002, as shown in Table 2, use of oestrogen-only HRT was more common than use of combined oestrogen and progestogen preparations. Stopping was more common among women taking combined preparations. Among combined users, 9/18 (50%) stopped, while among oestrogen-alone users only 4/26 (15%) stopped (p=0.07).

Amongst the group who stopped HRT after June 2002, two (13%) users no longer had the problems they initially took it for, three (20%) stopped because of side-effects, and eight (53%) stopped directly in response to having heard recent research findings. Finally, two (3%) stopped HRT for other reasons. With regard to method of stopping, 11 (73% of all women who stopped taking HRT) talked it over with their health professional, 11 (73%) stopped it immediately, and 4 women gradually reduced their dose over time.

In total, 9 (64%) of the women who stopped HRT after June experienced symptoms, of whom 7 had stopped immediately while 2 had tapered their doses before stopping. Hot flashes was the most common symptom experienced.

Responses about sources of information were received from 287 women. The majority of women, 84% (242/287), had heard information about HRT since June 2002. There was no association between level of education and having heard information. Most women had heard this information through the media, with television or radio coverage reaching 68% of women. Only 19% of women noted a doctor to be a main source of information, and just 4% gained information from the internet. Overall, 58% of women stated their viewpoint had been influenced by what they had heard.

Women were asked to give their opinion about a number of statements on HRT use, as shown in Table 3. The responses of women who had never taken HRT were

compared against those women who had taken HRT at some time. There were statistically significant differences between the two groups. Those who had ever used HRT had much more favourable views about the effectiveness of HRT for treatment of menopausal symptoms and were much less likely to regard the menopause as a natural process for which they preferred natural remedies.

**Table 3. Respondents' opinions about HRT use according to their use of HRT: percentage of respondents who agree or strongly agree**

| Variable | Disadvantages outweigh advantages | HRT is the most effective treatment for menopausal symptoms | I would feel comfortable taking HRT | Menopause is a natural process and I prefer natural remedies |
|---|---|---|---|---|
| Ever used HRT (N=100) | 54%* | 59%* | 40%* | 38%* |
| Never used HRT (N=197) | 40% | 12% | 8% | 78% |
| All women (N=297) | 49% | 29% | 19% | 66% |

HRT= Hormone Replacement Therapy; *Statistically significant difference between ever users and never users: $p<0.001$.

When the responses of women who had stopped HRT since the results of the WHI study were compared to those of current users, the only statistically significant difference ($p=0.008$) was that the current users were more comfortable taking HRT (73%) as opposed to those who stopped (45%).

A comparison was made between women who had recently heard new information about HRT and women who had not. Again, the only statistically significant difference ($p=0.026$) was that 70% of women who had heard the information would not feel comfortable taking HRT, whereas only 45% of women who hadn't heard any new information felt this way.

Women were asked about the harms and benefits of HRT in relation to specific outcomes (Table 4). Most women understood the relationship between HRT and both breast cancer and osteoporosis, while only 45% of respondents correctly believed HRT to increase the risk or have no effect upon coronary heart disease. Only 9% of women thought HRT reduced the risk of colorectal cancer.

Women who recalled hearing some recent information on HRT were (overall) better informed about the risk of breast cancer, coronary heart disease, and stroke compared with those women who had not heard recent HRT information, and they were also more likely to understand the protective effect of HRT on osteoporosis. In spite of this, 34% of women who had heard information were unsure as to the effect of HRT on the risk of coronary heart disease. No significant difference was found regarding knowledge on colorectal cancer and venous thromboembolism.

**Table 4. Proportion of women reporting correct understanding of harms and benefits of HRT according to whether women had heard about the WHI results (the correct understanding is based on the WHI results[1] and a subsequent meta-analysis[9])**

| Heard results | Breast cancer risk increased | Osteoporosis risk decreased | Heart disease risk increased or no effect | Colorectal cancer risk reduced | Stroke risk increased | Blood clots risk in legs or lungs increased |
|---|---|---|---|---|---|---|
| Heard information (N=242) | 73%‡ | 60%† | 46%* | 10% | 42%‡ | 48% |
| Not heard information (N=45) | 31% | 40% | 32% | 3% | 13% | 26% |
| **Total** | **69%** | **57%** | **45%** | **9%** | **39%** | **46%** |

Statistically significant difference between those who had heard information and those who had not: *p<0.05, †p<0.01, ‡p<0.001

## Discussion

Most women interviewed had heard about the findings of the WHI trial, and those who had heard the findings were more likely to correctly state the benefits and harms of long-term use of HRT. In June 2002, before the results were published, 15% of women were using HRT but by December, this had dropped to 11%. Of those who stopped completely, 53% did so in direct response to the research findings. Recurrence of symptoms was experienced by 64% of women who stopped HRT. We do not know if the women who saw a health professional regarding HRT-use were patient- or health-professional initiated, or even whether it was just an opportunistic discussion that took place on a routine visit.

This study used a random sample from the electoral roll and achieved, with phone follow-up, a reasonable response rate of 66%. It was possible that those who had taken HRT were more likely to respond than those who had not, leading to an overestimate of prevalence of HRT use. This is consistent with the over representation of European women in our sample (92% versus the 2001 census for the same age group of 81%) who are more likely to take HRT.[4]

However, this should not affect the internal comparisons or changes with time. Although the decline in HRT-use was not statistically significant, sales data released by Pharmac show a similar decline in use over the same time period.[5] Another study of a non-random sample of HRT users in New Zealand—identified between 2000 and 2002—showed that 40% of the women had stopped taking HRT 6 months after the release of the WHI results—very similar to the 36% reported in our study.[6]

Our questionnaire was developed from the North and Sharples study[4] enabling us to directly compare the two studies and assess the changes in HRT use in New Zealand over time. When looking at the prevalence of HRT use in New Zealand, North and Sharples found an increasing trend from 1991 (12%) to 1997 (20%). This was attributed to an increased rate of prescribing for coronary artery disease prevention. The prevalence in June 2002 was less than that in 1997 at 15%.

A contributing factor to the fall in prevalence from 1997 to 2002 may have been the publication of revised HRT guidelines in May 2001 that did not support the use of HRT for coronary artery disease prevention.[7] Indeed, only 1 user out of the 48 users of HRT in June 2002 was taking it for the prevention of coronary artery disease.

As recorded previously, symptomatic relief was the main reason for HRT-use in this study, both in June 2002 and currently. Prevention of osteoporosis was given as a reason by 40% in June, slightly lower than in 1997. This may be due to increased use of other drugs to prevent osteoporosis. Oestrogen-only preparations were the most commonly used type of HRT at 60% in June 2002. This is higher than was previously found (1997—47%). The proportion of women taking oestrogen-only preparations who continued after June 2002 was greater than among those taking combined preparations. This shows that the 2002 research findings (which related to combined HRT only) had disproportionately impacted on such use.

Our study is the first to explore how women heard the new information on HRT and how this affected their use and opinions. More than half of these women said their viewpoint had been influenced by what they had heard. A predominant theme was the belief that menopause was a natural process, with women preferring to either use no

medication or natural remedies. It was anticipated that there would be a difference of opinion between those who had ever taken HRT and those who had never taken HRT. This was on the basis that those who had taken it did so because menopausal symptoms had adversely affecting their lives and they had received benefit from therapy. Indeed, those who had ever taken HRT were much more likely to look upon it favourably than those who had never used it.

With recent media hype, it was presumed that those women who recalled hearing recent information would have more negative views on HRT. In fact, both groups (information heard vs. not heard) held predominantly negative views about HRT. Nevertheless, 73% of those women who continued HRT felt comfortable about taking it. With relation to current guidelines acknowledging that HRT is an effective treatment for troublesome hot flashes and night sweats,[3] it may be that those women who continued taking HRT were indeed suffering from these severe symptoms.

We could find no trials assessing the best way to stop HRT. It seems biologically plausible that gradually reducing the dose would avoid a recurrence of menopausal symptoms. One of the aims was to assess the methods and effects (if any) of discontinuation, but the small numbers meant no conclusions were able to be drawn on this topic. Further study is required on the appropriate time period over which to stop HRT, or other alternative strategies for stopping.

We were interested in assessing the quality of information released since the WHI study, as reflected in what women had taken on board and how accurate their knowledge was. Although those who had heard any recent information were better informed than those who had not, there was a lot of uncertainty—highlighted by the fact that 34% of those women that had heard information were unsure as to the effect of HRT on coronary heart disease.

Indeed it may be unrealistic to expect women to recall all this information, given its complexity and the major changes in understanding about benefits and harms of HRT-use over time. Since our survey was undertaken, more information on the risk of breast cancer with HRT has been published, which has added to the complexity by suggesting that the risks of breast cancer with combined HRT are considerably greater than with oestrogen alone.[8]

In conclusion, it appears that women have responded appropriately to the new information about HRT, but (while information is available and has reached a wide audience) women are confused about what they have heard. Therefore, media information must be supplemented by basic information from authoritative sources.

**Author information:** Irma Bilgrami, Katy Blower, Jason Feng, Georgia Stefanko, Eugene Tan; Trainee Interns, Department of Preventive and Social Medicine, Dunedin School of Medicine, University of Otago, Dunedin

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**Correspondence:** Irma Bilgrami, Department of Preventive and Social Medicine, Dunedin School of Medicine, University of Otago, PO Box 913, Dunedin. Fax: (03) 479 7298; email: irmabilgrami@hotmail.com

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