MIND CONTROL OF MENOPAUSE

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The primary objective of this study was to observe the effect of hypnosis on hot flashes (HF) and overall quality of life in symptomatic patients. A secondary objective was to observe the effect of hypnosis on fatigue. Ten healthy volunteers and four breast cancer patients (total 14 patients) with symptoms of HF were treated with four, 1 h/wk sessions of hypnosis. The same physician, with the help of a nurse, conducted every session. All subjects recorded frequency, duration, and severity of HF in a HF diary. The QLQ-C30 and Brief Fatigue Inventory forms were used to assess the impact on quality of life and fatigue, respectively. The statistical evaluations were performed, including analysis of variance and nonparametric procedures. The frequency \((p<0.0001)\), duration \((p<0.0001)\), and severity \((p<0.0001)\) of HF were significantly reduced. The overall quality of life was also improved \((p=0.05)\). The subjects enjoyed better sleep and had less insomnia \((p=0.012)\). There was a significant improvement on current fatigue level \((p=0.017)\), but we did not find a statistically significant reduction in the total fatigue level. We conclude that hypnosis appears to be a feasible and promising intervention for HF, with a potential to improve quality of life and insomnia. Although improvement in current level of fatigue was observed in this pilot study, total fatigue improvement did not reach statistical significance.

\textbf{Keywords:} Menopause, Hormonal replacement therapy, Hypnosis, Hot flash

The hot flash (HF) is described as a heat or warmth sensation of the skin, often accompanied by other symptoms, such as sweating.\textsuperscript{1} The majority of both postmenopausal and perimenopausal women report HF symptoms. Hormonal replacement therapy and various other pharmacologic interventions have limited success and are not without side effects. Such treatments include clonidine, methylidopa, vitamin E, megesterol acetate, and antidepressants such as venlafaxine. Nonpharmacologic approaches, such as behavioral therapy, are viewed as helpful and generally without side effects and thus appear attractive to both patients and caregivers.

Hypnosis has been used successfully to improve symptoms in a variety of clinical disorders. To date, there is no report in the literature of using hypnosis to improve HF. This pilot study was performed to evaluate the role of hypnosis to improve HF symptoms and to observe its impact on quality of life and fatigue.

\section*{METHODS}

The Institutional Review Board of Western Memorial Regional Hospital approved this study. Ten healthy volunteers and four breast cancer patients were recruited at the Corner Brook Cancer Center, from August 2000 to April 2001. The participants were considered eligible if they had history of HF for at least 1 month with a frequency of 5 or more episodes/week. Patients with breast cancer were eligible, provided they had completed their cancer therapy 3 months before their enrollment for this trial. Patients with metastatic breast cancer were not considered eligible. Patients were excluded upon their refusal or if any physical condition or cognitive impairment prevented them from completing the questionnaire and
HF diary. An informed consent was obtained before the registration for each participant. To maintain confidentiality, their provincial medical numbers identified participants. All data were pooled for analysis. No concurrent therapy with chemotherapy, radiation therapy, or any known therapies for HF was allowed. Patients on tamoxifen were allowed to continue using it.

All participants completed four weekly group hypnosis sessions. Each group had 4–5 participants. After an introduction to hypnosis and an explanation of mind/body interaction, participants underwent a gentle relaxation phase that led to light-trance hypnosis. Additionally, in the last two sessions, specific suggestions were given to reduce and block HF symptoms. The same physician with the help of a registered nurse conducted all the sessions. The quality of life, insomnia, and overall health evaluations were based on the QLQ-C30 questionnaire,2 which is well described and widely used. We used the Brief Fatigue Inventory (BFI) form to calculate present and total level of fatigue.3 The total fatigue level was derived as a composite score from six different questions, which asked the participants about their activity, mood, walking ability, work, relationship with people, and enjoyment of life. The trial participants filled out the QLQ-C30 and BFI form before the commencement of hypnosis sessions, after the second and fourth sessions, and finally at the 1-month follow-up visit. All participants kept a record of frequency, duration, and severity of their HF in a daily diary, starting 1 week before first session and continued throughout the treatment period.

The primary end points for this study were the frequency, duration, and severity of HF and the overall quality of life. The secondary end point was the fatigue level. Analysis of variance (ANOVA) and two nonparametric procedures—the Kruskal-Wallis test (KW) and the median test (MT)—were performed on SAS and JMP IN (a product from SAS). Regression analysis was used to quantify the improvement in frequency of HF and in other variables.

RESULTS

The frequency (p < 0.0001 for all tests), duration (p < 0.0001 for all tests), and severity (p < 0.0001 for all tests) of HF were significantly reduced with hypnosis. Figure 1 shows one-way ANOVA results for reduction in HF frequency during the treatment period. Because both duration and severity are ordinal with categorical values, we introduced combined duration and combined severity as the weighted average of various levels. Figures 2 and 3 illustrate the improvement in the combined severity and combined duration of HF over the treatment period, respectively. Interestingly, all three figures show the beginning of improvement around Day 14. Sensitivity analysis was performed to examine the effect of the weights on the results, and it was found that statistical results were robust as long as the weights were monotonic (with higher values for higher levels of duration or severity). Regression analysis showed that on average, there was a 0.2 reduction per day seen in frequency (p < 0.0001), a 0.38 reduction per day in the combined duration (p < 0.0001), and 0.47 reduction per day observed in the combined severity (p < 0.0001).

There was a significant improvement on overall quality of life for the first 3 weeks (p = 0.0143 for
ANOVA, 0.0203 for KW, and 0.0784 for MT) and for all 4 weeks ($p = 0.0509$ for ANOVA, 0.0633 for KW, and 0.1639 for MT).

There is some evidence for a trend toward improved overall health for the first 3 weeks ($p = 0.0882$ for ANOVA, 0.1058 for KW) but not for all 4 weeks ($p = 0.12$ for ANOVA, 0.1985 for KW). There was a significant improvement on current fatigue level ($p = 0.0184$ for ANOVA, 0.0169 for KW, and 0.0304 for MT). The improvement observed on total fatigue reduction was not statistically significant ($p > 0.1$ for all questions and a composite value). There was a significant reduction found for insomnia ($p = 0.0125$ for ANOVA, 0.067 for KW, and 0.0042 for MT) in the participants.

DISCUSSION

HF is a common symptom, experienced by 60–85% of women around the menopause.\textsuperscript{4} Adjuvant chemo-hormonal treatment for breast cancer can induce HF in 50% of such patients.\textsuperscript{5,6} Several reports have described sleep disturbances and feeling a low status of well-being, with an overall reduced quality of life in women experiencing HF.\textsuperscript{7,8}

Although widely used, the routine use of hormonal replacement therapy\textsuperscript{9} for the HF symptom is now under question after a recent report.\textsuperscript{10} Other pharmacologic therapies like clonidine, methyldopa, and vitamin E, provide modest relief at best.\textsuperscript{11–13} Megestrol acetate and venlafaxine produce reasonable improvement in HF.\textsuperscript{14,15} However, the routine use of megestrol acetate in breast cancer patient is not recommended.\textsuperscript{15} Behavioral therapies have been used successfully for HF. One study\textsuperscript{16} recruited four postmenopausal women and demonstrated significant reduction in HF after using a combination of four behavioral therapies. The treatment benefits were felt to last up to 6 months of follow-up. Another study compared muscle relaxation, paced respiration, and placebo in 33 postmeno-

![Figure 2. One-way ANOVA for combined Severity. The combined severity is calculated by the formula “Mild” + 2 * “Moderate” + 3 * “Severe” + 4 * “Extreme”.](image-url)

![Figure 3. One-way ANOVA for combined duration. The combined duration is calculated by the formula “Duration <” + 2 * “Duration >”](image-url)
pausal women and found paced respiration to be effective in reducing the HF significantly.\textsuperscript{17} More recently, cognitive behavioral therapy, which consisted of 1-h individual training for 6–8 weeks, produced improvement in HF, depressive mood, and anxiety.\textsuperscript{18} Wijma et al.\textsuperscript{19} used applied relaxation in 6 women, 1 h/wk for 12 weeks. They were able to show a reduction in HF and improvement in quality of life.

A simple definition of hypnosis would be a state of attentive, focused concentration with suspension of some peripheral awareness.\textsuperscript{20} Hypnosis has been used to alleviate pain,\textsuperscript{21} treat gastrointestinal disorders,\textsuperscript{22,23} and reduce anticipatory nausea and vomiting related to chemotherapy.\textsuperscript{24} Hypnosis remains as only partially understood intervention. According to a recently described conceptual model,\textsuperscript{25} hypnosis may utilize belief, expectation, relaxation, imagery, and dissociation, either individually or in combination to provide symptomatic benefit. To date there is no published report in the literature describing the role of hypnosis to alleviate HF symptoms.

The schedule we used was relatively simple and short, allowing 4–5 participants to be treated at the same time. It is interesting to note that the HF symptoms started to improve in our study participants around the second week mark (Figures 1–3), coinciding with the time when actual suggestions against HF were included in the hypnotherapy sessions. This observation favors hypnosis rather than simple relaxation being responsible for these results. It is encouraging to note the improved overall quality of life in our study participants along with the improvement in their HF symptoms. The overall health level showed only a trend to improvement, which may be partially explained by the fact that there were 10 healthy volunteers among 14 study participants. It is certainly plausible that in addition to hypnosis, relaxation and better sleep may have contributed to improve the present fatigue level. The total fatigue remained unaffected. Although no clear inference can be drawn, our results provide a hint that HF may not significantly affect general activity and may not interfere with work, relationship with people, and enjoyment of life in women with HF. These factors may be too general and spread across a longer period of time (weeks/months) to be affected by HF. The incidental finding of improved insomnia, in addition to hypnosis, could have resulted from psychosocial group support and relaxation during the hypnotherapy sessions. Thus, present level fatigue, insomnia, and quality of life may have been possibly impacted by factors other than hypnosis. However, considering the multifactorial model for hypnosis,\textsuperscript{26} these factors may still be largely considered as components of hypnosis.

In summary, our study provides preliminary but encouraging results for hypnosis to be explored as an intervention against HF. This study is limited by small number of subjects and recruitment of consecutive participants without premeasuring their individual susceptibility to hypnosis. However, considering that there has been no previous study about the role of hypnosis against HF, this study should serve as a pilot for further trials on this subject.

References

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