

# Improving the Well-Being of Nursing Leaders Through Healing Touch Training

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## Abstract

**Introduction:** Chronic stress adversely affects performance. We evaluated the effect of Healing Touch training on subjective and objective measures of stress in nursing leaders in an academic health center.

**Materials and methods:** In this quasiexperimental single group pretest–post-test study, we recruited nursing leaders at an academic health center and provided 17.5 hours of Healing Touch training over 2 days. We measured subjective measures of stress using visual analog scales as well as heart rate variability 1–2 weeks before and 4 weeks after the training.

**Results:** Target enrollment was exceeded within 2 weeks; all participants were women and the mean age was 47 years. Of the 26 enrollees, 24 completed training, and 20 (77%) completed all pre- and post-training measures. There was significant improvement in self-reported stress, depression, anxiety, relaxation, well-being, and sleep. Heart rate variability changes were also significant for total power, high- and low-frequency power, and coherence, suggesting improved autonomic function consistent with greater well-being.

**Conclusions:** Training nurse leaders in an academic health center in Healing Touch is associated with significant improvements in subjective and objective measures of stress. Additional studies are needed to compare the impact of this training versus stress management training on the nurses themselves and on the quality of care.

## Introduction

CHRONIC NURSING STRESS is common, and has important adverse effects on quality of care and employee turnover.<sup>1–4</sup> Leaders play an important role in boosting morale and reducing burnout. Strategies to reduce stress among nursing leaders are desirable because training that reduces stress could improve job performance and patient satisfaction, reduce nursing turnover, and improve unit morale.<sup>5–7</sup>

Healing touch (HT) is categorized by the National Institutes of Health's National Center for Complementary and Alternative Medicine as a biofield therapy. Healing Touch International defines HT as a biofield therapy that encompasses a group of noninvasive techniques that utilize the hands to clear, energize, and balance the human and environmental energy fields; central to its practice are remaining centered and peaceful, while extending compassion.<sup>8</sup> The mechanisms for the effects of HT remain speculative, but case reports and some clinical trials suggest it may be useful in relieving pain, stress, and anxiety.<sup>9–22</sup> For example, Wilkinson found lower levels of salivary cortisol among patients treated by an experienced HT practitioner.<sup>23</sup> A small

study of patients with spinal cord injuries also found an improvement in subjective well-being.<sup>18</sup>

HT is provided at numerous academic health centers, including Scripps in California and New York Presbyterian.<sup>24</sup> National certification in HT practice requires approximately 2–3 years of training. HT has been taught at our medical school and evaluated in studies of adult and pediatric oncology patients at our institution.<sup>25–28</sup> However, its effects on nurse leaders in an academic health center have not been evaluated.

Heart rate variability (HRV), the variability of the cardiac interbeat interval, is a noninvasive, sensitive measure of autonomic balance that has served as a physiologic measure of well-being.<sup>29,30</sup> Commonly used HRV parameters (such as the standard deviation of the interbeat interval (SDNN), total power (TP), low frequency (LF), high frequency (HF), and coherence, have become widely used measures of autonomic function.<sup>31,32</sup> HRV can reflect acute changes in physiologic state.<sup>30,33</sup> Although HRV is not a measure of well-being per se, it can be used to measure autonomic balance and coherence, which might be considered aspects of well-being. For example, strength and resilience following an exercise or

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meditation program are reflected in higher TP and SDNN.<sup>34–37</sup> Emotional self-management practices can increase coherence.<sup>30</sup>

The purpose of this study was to evaluate the impact of learning HT on the well-being of nurse leaders in an academic health center. Specifically, we wished to understand what effect training would have on both self-report and objective outcomes associated with well-being. Based on our experience in providing HT therapy to patients and teaching it to medical students, we anticipated that nurses would report less stress and that measures of HRV would be improved.<sup>25–28</sup> As a practical matter, we were also interested in the feasibility of recruiting nursing leaders in an academic health center and to what extent they would practice after their initial training.

## Materials and Methods

We used a quasiexperimental single group pretest–posttest design. We analyzed subjects as their own controls to reduce the impact of between-subject variability. Nurses were eligible if they were registered nurses, employed full time at Wake Forest University Baptist Medical Center, and identified as leaders such as unit-based educators or clinical nurse specialists.

Recruitment and enrollment were conducted over 2 weeks through two sets of e-mails to eligible nurses and recruitment flyers posted in work areas. We aimed to recruit 25 nurses within 2 weeks to achieve one full class; based on previous classes teaching medical students, we anticipated that 75% of those who enrolled would attend the first class and 50% would complete all outcome measures. Participation was voluntary, free of charge, and offered 17.5 nursing continuing education unit credits.

The intervention was a level 1 HT training program led by a certified Healing Touch Instructor (D.L.) who is also a registered nurse. The 2-day class was offered twice (once on Thursday and Friday, and once on the following Saturday and Sunday) to meet participant schedules. The class was both didactic and experiential. The foundational principles of compassion and centering, a mental exercise to help practitioners become focused, fully aware and in the present moment, were emphasized. Participants were taught to do this by focusing on their breath, encouraged to quiet their mind from mental chatter, outside intrusions, and thoughts. Simple guided imagery was used to assist participants in reaching this inner state of focus. Participants were encouraged to practice “self-care” using HT 3 to 5 times weekly after the course and to record their daily practice sessions in a “diary.”

Baseline measures were obtained 1 to 2 weeks prior to and outcome measures were obtained approximately 1 month after the training. Self-report measures were obtained using visual analogue scales (VASs) for both negative states (stress, depression, anxiety, feeling rushed, and physical pain) and positive states (relaxation, vitality, well-being, and sleep quality and job satisfaction), with anchors of 0 = none and 10 = very much or highest).

Physiologic measures included resting blood pressure taken after a 5-minute rest period. HRV was measured by several parameters. The standard deviation of the interbeat interval (SDNN) is the most widely used measure of HRV.

Power spectrum analyses included TP, HF oscillations (0.15–0.4 Hz), and LF oscillations (0.04–0.15 Hz).<sup>29</sup> Increases in TP tend to reflect increased sense of vitality and overall autonomic activity; increases in LF power tend to reflect increases in parasympathetic activity when the subject is engaged in deep rhythmic breathing. Coherence is a measure that reflects a peak in LF compared with the total power spectral analysis and is thought to reflect an optimal physiologic state associated with a sense of well-being; higher values reflect better well-being.<sup>30,32,38</sup>

After the course, participants were asked to rate the overall impact of the intervention on their personal well-being with a VAS ranging from 0 = none to 4 = very beneficial impact.

Statistical analyses included simple descriptive statistics. To test the effect of training on changes in VAS score, only data from those nurses with both pre- and post-VAS scores were used. Pre–post change scores were calculated. To test the effect of training on HRV parameters, only data from those nurses with usable HRV data from both the pre- and post-training sessions were used. Differences were compared using a paired *t*-test.

This study was approved by the Wake Forest University Health Sciences Institutional Review Board.

## Results

Within 2 weeks of starting recruitment, 26 nurses had responded, and the class was closed to additional inquiries. Two (2) nurses were unable to attend the actual training sessions. Twenty (20) nurses completed all baseline and outcome measurements. Of the noncompleters, 2 could not attend the classes due to unanticipated schedule conflicts, and 4 did not complete the follow-up assessment despite numerous scheduling attempts after the course. Non-completers were similar to completers except that at baseline they reported feeling more rushed for time (VAS score 8.4 versus 6.2,  $p = 0.03$ ), less relaxed (VAS score 3.4 versus 4.7,  $p = 0.07$ ), and had poorer sleep (VAS score 3.6 versus 5.1,  $p = 0.03$ ).

TABLE 1. CHANGE IN SELF-REPORTED MEASURES OF WELL-BEING IN NURSE LEADERS BEFORE AND AFTER TRAINING IN HEALING TOUCH

Measure	Pre-course (mean + standard deviation)	Change	p-Value
Stress	6.3 ± 1.9	–1.7 ± 2.3	0.01
Depression	3.2 ± 2.5	–1.1 ± 1.9	0.02
Anxiety	4.3 ± 2.4	–1.4 ± 2.8	0.046
Pain	2.7 ± 2.4	–0.6 ± 1.8	0.3
Feeling rushed	6.2 ± 2.6	–0.6 ± 3.1	0.4
<b>Overall negative</b>	<b>4.6 ± 1.6</b>	<b>–1.1 ± 0.4</b>	<b>0.01</b>
Sleep	5.1 ± 2.2	2.5 ± 2.0	<0.01
Vitality	4.7 ± 1.8	1.7 ± 1.9	0.001
Relaxation	4.7 ± 1.7	1.3 ± 2.2	0.02
Well-being	5.6 ± 2.2	1.4 ± 2.7	0.03
Job satisfaction	6.5 ± 1.9	0.5 ± 1.6	.23
<b>Overall positive</b>	<b>5.3 ± 0.7</b>	<b>1.5 ± 0.7</b>	<b>0.004</b>

All measures were scored on a Visual Analog Scale with 0 = none and 10 = very much or highest.

TABLE 2. CHANGES IN HEART RATE VARIABILITY FROM 7 TO 14 DAYS BEFORE TO ONE MONTH AFTER THE HEALING TOUCH TRAINING

Measure	Pre-course (mean + standard deviation)	Change	p-Value
SDNN	31 ± 13	-10	0.01
TP	349 ± 340	+223	0.008
HF	64 ± 69	+43	0.003
LF	135 ± 169	+89	0.02
Coherence	0.9 ± 0.4	+0.9	0.01

SDNN, standard deviation of the interbeat interval; TP, total power; HF, high-frequency power; LF, low-frequency power; coherence, peak power/total power.

Participants' average age was 47 ± 11 years and all were female. On average, within the first month after the course, course completers reported using the HT techniques they had learned 2-4 times weekly for self-care and once weekly for patient care.

For the self-report VAS measures, there were significant improvements in stress, depression, anxiety, relaxation, well-being, and sleep (Table 1). Changes in feeling rushed, pain, and job satisfaction were not statistically significant. However, after excluding those with very high job satisfaction (9 or 10/10) at baseline to avoid a ceiling effect, the improvement in job satisfaction was statistically significant (increasing from 5.8 to 6.8, *p* = 0.005). Two (2) nurses reported significant negative events during the follow-up period (1 death in the family; 1 hospitalized child); both reported that the HT training had helped them cope better than they anticipated, and noted that without the training, they thought their postcourse scores would have been more negative.

The average baseline blood pressure at baseline was 113 ± 9.7 mm Hg/71 ± 6.8 mm Hg, with a range of 96-142/64-82. As expected given average normal values at baseline, there was no further improvement in blood pressure with training. There were, however, significant improvements in TP, HF, LF, and coherence (Table 2).

The median overall impact of the course among the 20 nurses with postclass data was rated as 3 on the 0-4 point scale, indicating moderate to very great impact on personal well-being. Two (2) nurses commented that this class was extremely valuable to their work and well-being and had changed their lives.

**Discussion**

This study suggests that HT training is associated with improvements in self-reported well-being and in autonomic nervous system function as reflected in HRV. Recruitment goals were rapidly achieved; 24/26 enrollees completed the training and 20/24 completed the outcome assessment after training. Although the sample was small, there were significant decreases in self-reported stress, depression, and anxiety and significant improvements in relaxation, well-being, and sleep with training. HT training was also associated with significant changes in HRV consistent with less stress and greater well-being.

These results are consistent with other studies of biofield therapies, suggesting lower stress levels with treatment.<sup>39,40</sup>

They are also consistent with studies showing decreased stress levels in practitioners trained in biofield therapies.<sup>41-44</sup> For example, in our earlier study of teaching biofield therapies to medical students, we found a greater sense of being calm, peaceful, and focused with patients, greater optimism about future practice, and less burnout.<sup>26</sup> The current study builds on earlier work by including physiologic, objective measures of stress; the subjective self-report data were corroborated by significant improvements in the TP and coherence measures of HRV.

As a pilot project, this study has several limitations. The sample size, while meeting our goals, was small and all participants were women. We were surprised to find any statistically significant differences with biofield training, given the small sample size, and had planned to use any observed differences as the basis for sample size calculations for larger, more highly powered studies. We did not address multiple or longer trainings or provide training in combination with guided imagery, music, hypnosis, biofeedback, cognitive-behavioral strategies to manage stress, or other complementary therapies or systemic interventions to reduce stress on the nursing units. The study did not include a comparison group, and observed improvements could have been due to the Hawthorn effect. Because it is not possible to blind participants to the type of training, it may be worthwhile in future studies to compare biofield training with another type of stress management training, such as mindfulness-based stress reduction. This study examined only the impact on nurses themselves; future studies may profit from examining broader impacts such as the effect on unit morale, burnout, turnover, and quality of care.

**Conclusions**

Despite these limitations, this study has important implications for training nursing leaders in ways that can reduce stress. Training in biofield therapies is feasible even in a busy academic health center and can lead to reduced stress reflected in improved physiologic outcomes. These findings suggest the need for larger studies comparing the effectiveness of biofield training with training in other types of stress reduction and evaluating a broader set of outcomes related to stress, burnout, job satisfaction, and impact on colleagues and patients.

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**Disclosure Statement**

No competing financial interests exist.

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