# The Impact of Healing Touch on Pediatric Oncology Patients

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## Abstract

*Hypotheses*. Healing Touch (HT) is an energy therapy that has been shown to lower stress, pain, and fatigue in adult oncology patients. This study evaluated the feasibility of administering HT in pediatric oncology inpatient and outpatient units at Kapi'olani Medical Center for Women and Children. *Study design*. This study was a 1-year randomized prospective study consisting of 2 study arms. The HT arm was considered the treatment group, and reading/play activity was designated as the control group. Participants were randomly assigned to each arm on enrollment in the study. *Methods*. They were recruited by the pediatric oncology social worker. Interested participants were asked to provide informed consent and were randomized to either the HT arm or the reading/play activity arm of the study. They received their designated intervention for 30 minutes at each inpatient or outpatient encounter. Participants, parents, and care providers were asked to complete preintervention and postintervention assessments. *Results*. In all, 15 participants, aged 3 to 18 years old, were approached about the study between July 2009 and June 2010. A total of 9 participants enrolled (recruitment rate of 60%); 6 patients were randomized to receive HT sessions, and 3 patients received reading/play activities; 2 participants dropped out of the study because of prolonged hospitalizations and complicated treatments. An additional participant expired while in the study because of disease progression. Those in the HT group showed significant decreases in the scores for pain, stress, and fatigue for participants, parents, and caregivers. Furthermore, parents' perception of their children's pain decreased significantly for the HT group when compared with the group receiving reading/play activity. *Conclusion*. This study demonstrates the feasibility of using energy therapy in the pediatric oncology patient population. There also seems to be an interest in this treatment modality for this patient population. Furthermore, these findings suggest that HT has a positive impact on pain, stress, and fatigue related to oncology treatment.

## Keywords

Healing Touch, biofield therapy, pain, anxiety/stress, fatigue, pediatric cancer

## Introduction

The diagnosis of a life-threatening illness in a child is a profoundly stressful life event that can affect the physical, emotional, mental, and spiritual well-being of the child and the family. Although tremendous advances have been made in the treatment of childhood malignancies, complications of therapies are significant. Children often experience pain, anxiety/stress, and fatigue as a result of chemotherapy and other treatment modalities used in their cancer therapy. The current standard of care to treat these side effects of therapy includes pharmacological interventions and the administration of blood products. Recent research suggests that alternative and/or complementary therapies are effective in reducing the side effects of chemotherapy and/or radiation treatment.[1-6]

Healing Touch (HT), a complementary noninvasive biofield therapy, has demonstrated effectiveness in reducing pain, distress, and fatigue in adult cancer patients receiving chemotherapy and/or radiation therapy.[2,4-6] HT purportedly supports the body's natural healing process and enhances the function of the immune system. Trained practitioners

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use their hands to manipulate energy through light touch or hands over the body to balance, clear, and energize the human energy system. This manipulation of energy supports and facilitates physical, emotional, mental, and spiritual health.[7-9] HT like other bio-energy therapies is rooted in concepts of compassion, positive intention, self-empowerment, the mind-body-spirit triad, and the body's innate tendency toward healing.[8]

HT is used at many hospitals and academic medical centers throughout the country.[6,10] It has been offered for oncology patients at Kapi'olani Medical Center for Women and Children (KMCWC) since 1999. HT sessions are provided by a core of volunteers who have been trained to provide level 1 HT. Level 1 training is considered therapeutic and appropriate for the treatment of adults and children. Level 1 practitioners have had 18 hours of instruction in HT and are able to describe the human energy system, discuss energy principals, assess energy fields and centers, identify a basic HT sequence, and demonstrate HT intervention techniques.[8]

Although HT has been shown to be effective in the adult population, limited research exists on the effectiveness of HT in the pediatric population.[1,11] A study conducted with intensive care infants demonstrated that babies tend to be less stressed by care activities and able to go into a deeper state of sleep after receiving HT sessions.[9] As the only full-service children's hospital in the Pacific, KMCWC serves the majority of pediatric cancer patients in the Pacific region. Furthermore, KMCWC serves a wide range of ethnic and racial groups. We conducted this study to determine the feasibility of offering a complementary energy therapy in diverse pediatric oncology inpatient and outpatient units.

## Methods

This study received approval from the Western Institutional Review Board. All participants provided informed consent/assent prior to enrolling in the study. Funding for this study was provided by the MOA Science Foundation.

### *Participants*

Participants were eligible if they were between the ages of 3 and 18 years, had been diagnosed with a childhood malignancy, and were receiving chemotherapy and/or radiation therapy as per their Children's Oncology Group (COG) specific protocol. All participants were concurrently enrolled in a COG study.

### *Design and Setting*

Prior to implementation of the research protocol, the investigators conducted in-services with the pediatric oncology nurses to provide information on the HT research project and the possible use of HT to relieve side effects from chemotherapy and radiation. The pediatric oncology staff were then asked to provide suggestions as to how the research process could work on the units. The investigators also invited parents to provide feedback about the research during the first revision of the protocol.

Staff suggested tailoring the timing of approaching parents regarding their child's participation in this study to account for personal life situations, patient acuity, and patient care. The nursing staff also provided input on how the multiple sessions were affecting patients and families. This information led to the revision of the frequency of the intervention from 30 minutes 3 times daily to 30 minutes once a day. The pediatric oncology social worker suggested that he should approach parents about participation, and the child life specialist (CLS) made a box with age-appropriate reading materials and toys for the control arm.

This study was a randomized prospective intervention conducted from July 2009 to June 2010 in the pediatric inpatient ward and ambulatory clinic at KMCWC. Potential study participants were identified by the pediatric oncology social worker on inpatient admission into the medical center or outpatient appointment. Children with new cancer diagnoses were also identified by the social worker. Families were approached by the social worker and asked if they would like to participate in the study. Pediatric oncology nurses also referred patients to the study.

Once the family and patient had provided consent/assent to participate in the study, participants were enrolled in 1 of 2 groups:

1. Group 1 (HT: Sea Turtles): HT for 30 minutes once a day by a HT practitioner with a level 1, 20-hour certificate; this served as the intervention arm.
2. Group 2 (controls: Dolphins): reading or age-appropriate play activity for 30 minutes once a day by a caring presence (hospital volunteer) who was not a HT practitioner. The story/play arm served as a control arm.

A random number generator was used to assign participants to a study group.

A cognitive assessment was completed at the first study visit for participants younger than 5 years. This assessment consisted of showing the scales to the children and asking them to respond by pointing to the picture of how they felt related to their pain (scale they were most familiar with), distress, and fatigue. If a child was unable to complete the assessment he or she would be referred to the CLS. The CLS would then further assess their ability to use the scale. No child required referral to the CLS.

Originally, each group was to receive their intervention for 30 minutes, 3 times a day, at each inpatient or outpatient encounter. The design was amended to once-a-day

interventions about 2 months into the study because the 3 times a day schedule appeared to be too time-consuming for families and may have been affecting recruitment.

### Data Collection

Assessments of pain, distress, and fatigue were made using the validated Wong-Baker Faces scale, Feeling Thermometer, and My Fatigue Meter.[12-16] For each assessment, there was a report by the participant, parent/primary caregiver, and an unbiased registered nurse who was not assigned to medical care that day. Assessments were made before and after the HT treatment or the reading/play activity.

All HT volunteers used standardized techniques from the HT level 1 class. The volunteers also attended a hospital volunteer orientation and a workshop for HT volunteers on research protocol, methods, and documentation.

All reading/play activity volunteers also attended a hospital volunteer orientation and a workshop on the research protocol, methods, and documentation that included a specific checklist. All volunteers were given an on-site orientation.

### Data Management

All study materials and assessments were kept in a secure box in the ambulatory clinic at the medical center. Study data were stored on a password-protected computer in a secure office.

### Statistical Analysis

Statistical analysis included simple descriptive statistics. The Wilcoxon rank sum test was used to compare preintervention and postintervention scores on the Wong-Baker Faces for Pain, Feeling Thermometer for Distress, and My Fatigue Meter for Fatigue. This was done for both the HT and reading/activity group. Wilcoxon's 2-sample test was used to compare differences in preintervention and postintervention scores between the HT group and the reading/activity group. The statistical analysis was performed using SAS statistical software version 9.1.3 (SAS Institute, Cary, NC).

## Results

We approached 15 pediatric oncology patients and asked them to participate in the study. A total of 9 patients consented (60%) and were enrolled into the study, 6 in the HT arm and 3 in the reading/activity arm. The mean ages in the HT and reading/activity groups were 8.83 years and 7.33 years, respectively. All children in the reading/activity group had acute lymphoblastic leukemia, whereas the cancers in the HT group were more variable (Table 1). There were 3 patient withdrawals (including 1 death), all in the HT group. A total of 6 participants completed the study. Study retention was 67% (including the death) and 78% (excluding the death).

**Table 1.** Patient Description

| | Healing Touch Group (n = 6) | Reading or Play Activity Group (n = 3) |
|---|---|---|
| Mean age (years) ± SD | 8.83 ± 4.79 | 7.33 ± 6.66 |
| Male gender, n (%) | 3 (50) | 1 (33) |
| Types of cancer | | |
| ALL | 2 (33) | 3 (100) |
| AML | 2 (33) | 0 |
| Other | 2 (33) | 0 |

Abbreviations: SD, standard deviation; ALL, acute lymphoblastic leukemia; AML, acute myeloid leukemia.

### Pain, Distress, and Fatigue: Preintervention Versus Postintervention Scores

Among the HT group, all scores (pain, distress, and fatigue) decreased significantly after the intervention (Table 2). Scores among the reading/activity group did not show a statistically significant decrease. The number of sessions for the HT group was significantly larger than that for the reading/activity group (n = 200 vs 30). Additionally, the preintervention scores for the HT group were higher than the preintervention scores for the reading/activity group.

The instruments used for pain (Wong-Baker), fatigue (My Fatigue Meter), and distress (My Distress Thermometer) were all age appropriate for 3 to 5 year olds.[12,14] The tests had faces with expressions that a young child could point to. These faces had corresponding numbers that were used for analysis. All the participants spoke English and showed no difficulty in using the scales. The Wong-Baker pain scale is routinely used for pain assessments in all pediatric patients at KMCWC. All measurement instruments were on a scale of 1 to 10, with 10 being the most painful/fatigued/distressed. Additionally, a cognitive assessment was completed on the younger children at their first visit to ensure that they would be able to use the instruments.

### Pain, Distress, and Fatigue: HT Versus Reading/Activity

Wilcoxon's 2-sum test was done to compare the reduction in scores for pain, distress, and fatigue between the 2 groups. There were statistically significant differences in pain scores (children and parents) and distress scores (parents) between the HT group and the reading/activity group (Table 3).

**Table 2.** Mean (SD) Change in Scores Before and After 30 Minutes of Healing Touch Versus Reading/Play Activity[a]

| | Healing Touch Group (n = 6) | | | | Reading or Play Activity Group (n = 3) | | | |
|---|---|---|---|---|---|---|---|---|
| | n | Preintervention | Postintervention | Wilcoxon Rank Sum Test | n | Preintervention | Postintervention | Wilcoxon Rank Sum Test |
| Pain (Wong-Baker Faces) | | | | | | | | |
| Children | 316 | 2.94 ± 3.48 | 1.66 ± 2.70 | <.0001 | 35 | 0.77 ± 2.18 | 0.34 ± 1.16 | .25 |
| Parent | 249 | 3.20 ± 3.53 | 1.51 ± 2.52 | <.0001 | 30 | 0.83 ± 1.88 | 0.20 ± 0.66 | .06 |
| Staff | 305 | 2.39 ± 2.79 | 1.28 ± 2.11 | <.0001 | 28 | 0.75 ± 1.76 | 0.29 ±1.01 | .13 |
| Distress (Feeling Thermometer) | | | | | | | | |
| Children | 316 | 1.59 ± 1.34 | 1.29 ± 1.06 | <.0001 | 35 | 1.11 ± 0.76 | 0.94 ± 0.26 | .25 |
| Parent | 259 | 2.36 ± 2.31 | 1.54 ± 1.40 | <.0001 | 30 | 1.07 ± 0.78 | 0.93 ± 0.25 | 1.00 |
| Staff | 305 | 1.93 ± 1.71 | 1.40 ± 1.25 | <.0001 | 30 | 1.33 ± 1.24 | 0.93 ± 0.25 | .13 |
| Fatigue (My Fatigue Meter) | | | | | | | | |
| Children | 314 | 2.82 ± 3.19 | 1.84 ± 2.83 | <.0001 | 34 | 1.00 ± 2.40 | 0.94 ± 2.31 | 1.00 |
| Parent | 245 | 3.69 ± 3.67 | 2.56 ± 3.47 | <.0001 | 29 | 1.45 ± 3.67 | 0.90 ± 2.11 | .17 |
| Staff | 318 | 3.44 ± 3.24 | 2.64 ± 3.13 | <.0001 | 29 | 1.76 ± 2.89 | 1.14 ± 2.25 | .25 |

Abbreviation: SD, standard deviation.
[a]The scores were on a scale of 1 to 10, with 1 being the least painful/distressed/fatigued and 10 being the most painful/distressed/fatigued.

**Table 3.** Mean (SD) Difference Between Preintervention and Postintervention Treatment (All Treatment Included)

| | Healing Touch Group (n = 6) | | | Reading or Play Activity Group (n = 3) | | | |
|---|---|---|---|---|---|---|---|
| | n | Score Difference | SD | n | Score Difference | SD | Wilcoxon Test (*P* Value) |
| Pain (Wong-Baker Faces) | | | | | | | |
| Children | 316 | −1.28 | 2.71 | 35 | −0.43 | 1.87 | .0023 |
| Parent | 249 | −1.69 | 2.80 | 30 | −0.63 | 1.75 | .019 |
| Staff | 305 | −1.11 | 2.39 | 28 | −0.46 | 1.26 | .12 |
| Distress (Feeling Thermometer) | | | | | | | |
| Children | 316 | −0.30 | 1.24 | 35 | −0.17 | 0.71 | .43 |
| Parent | 259 | −0.82 | 2.05 | 30 | −0.13 | 0.73 | .023 |
| Staff | 305 | −0.53 | 1.54 | 30 | −0.40 | 1.19 | .35 |
| Fatigue (My Fatigue Meter) | | | | | | | |
| Children | 314 | −0.98 | 2.92 | 34 | −0.06 | 1.13 | .069 |
| Parent | 245 | −1.13 | 3.44 | 29 | −0.55 | 2.13 | .12 |
| Staff | 316 | −0.83 | 2.94 | 29 | −0.62 | 2.53 | .39 |

Abbreviation: SD, standard deviation.

## Discussion

This study demonstrated the feasibility of offering HT in addition to traditional medical treatment for pediatric oncology patients in both the inpatient and outpatient setting at an academic children's hospital. Additionally, this study provided valuable insight for conducting future studies with this population. Although the total number of participants enrolled in the study was small (n = 9), 60% of the patients approached gave consent to participate in the study, and the majority of the patients stayed in the study for the full year. Furthermore, participants receiving the HT intervention completed approximately 200 sessions and showed statistically significant reductions in feelings of pain and distress for themselves and their caregivers. These findings support the implementation of a HT program for

pediatric oncology patients. Factors that contributed to the implementation of our intervention were the existing network of HT providers, the established HT program for oncology patients, and community acceptance of complementary and alternative medicine (CAM).

KMCWC currently has a robust volunteer program and existing HT program for oncology patients. Thus, the provision of HT for this research study to pediatric oncology patients was able to be incorporated into existing infrastructure. Medical centers that do not have existing HT or CAM programs may encounter more difficulties in trying to incorporate these therapies into their oncology care.

The local culture in Hawai'i is very accepting of CAM therapies. Familiarity with *Reiki*, because of the large Japanese population here, as well as the continued practice of many native Hawaiian medicinal traditions (*la'au lapa'au*) may differentiate our community from other communities in which HT would not be as well accepted. The participants were Native Hawaiian, Spanish, and Chamorro and also of mixed race.

For the majority of participants, the HT intervention was a positive experience. The older children (10-18 years) looked forward to their 30-minute treatments and looked forward to continuing HT treatments after the study ended. Parents of these children were also satisfied with the treatment and encouraged other parents to have their children participate. The 3 participants who withdrew from the study, however, were from the HT group. Two of the children who withdrew had long hospitalizations, with periods of confinement and traumatization. The third withdrawal was because the child expired as a result of disease progression unrelated to their participation in the study. With long hospitalizations, participation in the research study may have become too burdensome.

The number of HT sessions participants received may have affected their response to treatment. The child who received the most treatments seemed to also have the best response to HT. It was found that 30 minutes once a day seemed to be the maximum amount of time for the intervention, given other patient care being provided. In younger children (3-9 years) we would suggest trying 15 minutes of HT to accommodate their shorter attention span. For the younger children, it might also be useful to train their parents to provide HT because having too many caregivers seems to be stressful for these children.

One of the limitations of this feasibility study is the small sample size, which could be attributed to our recruitment strategy, the intervention intensity, and lack of clinical staff support. Low enrollment could also indicate a lack of desire for HT treatment in our population. For this study, patients were approached by the pediatric oncology social worker at initial diagnosis. We found that this was not the best time to approach families about being in a research study; rather, inpatient visits may have been a more appropriate time. At the time of initial diagnosis, families may be too overwhelmed to consider participating in another research study (all pediatric oncology patients treated at KMCWC are put on a COG protocol).

The intensity of the original intervention and the inflexibility of a research study may have also contributed to the low number of participants. Originally, participants were to receive thrice daily interventions for a year, which would have been in addition to their other oncology treatments. Once the study protocol was amended to once daily 30-minute treatments, families were more receptive to the study. For implementation as a care program, practitioners should work with families and patients to create a treatment plan specific to their needs. Future research studies should consider limiting the intervention intensity, particularly for younger children. We found that some children could not handle the introduction of an additional care provider.

The lack of clinical staff support may also affect feasibility of program implementation. Although KMCWC has an HT program, many of the pediatric oncologists and nursing staff were unaware of the HT study. Their support for an HT study would likely significantly increase patient participation, as evidenced by the high accrual rates for the COG trials conducted at KMCWC.

This study may have limited application with regard to the positive effects of HT because of the small sample size and variability of the population. The participants in the HT group tended to be sicker, resulting in more inpatient stays and additional intervention treatments. The participants in the HT group received approximately 6.5 times more treatments than the reading/activity group, which may have biased our results. Additionally, the ages and developmental levels of the participants varied considerably, as did the diagnoses and treatment protocols. Future studies may want to focus on smaller age ranges and specific diagnoses on the same COG protocol. Future research studies assessing the effect of HT in pediatric oncology populations should incorporate a different recruitment strategy, a less time-intensive intervention, stratification by age group and cancer type, and standardization of the number of intervention sessions per participant. The variability in the participant population, however, does suggest that HT treatment is appropriate for a wide range of pediatric oncology patients.

## Conclusions

In conclusion, our study found that it is indeed feasible to incorporate complementary and alternative medical modalities into traditional treatment plans for pediatric oncology patients. Additionally, our findings suggest that HT likely has a positive effect on pediatric oncology patients.

Biofield therapies are important for the healing art of nursing—one of caring and compassion. HT is a readily learned, nonpharmacological intervention for cancer care. It

can be a source of relief for pain, distress, and fatigue in adults as well as children. It may also reduce medical costs in terms of fewer pharmaceuticals, hospital stays, and clinic time.[9,17] We encourage practitioners to carry out new research and to replicate existing research to add to the evidence base of the use of energy therapies in the pediatric oncology population.

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## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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