



Original article

# A prospective pilot clinical trial of “The work” meditation technique for survivors of breast cancer

Shahar Lev-ari<sup>a,1,2</sup>, Sigal Zilcha-Mano<sup>b,2</sup>, Larisa Rivo<sup>c,1</sup>, Ravit Geva<sup>c,1</sup>, Ilan Ron<sup>c,\*,1</sup>

<sup>a</sup> Center of Complementary and Integrative Medicine, Institute of Oncology, Tel-Aviv Medical Center, Tel Aviv, Israel

<sup>b</sup> School of Psychology, Interdisciplinary Center (IDC), Herzliya, Israel

<sup>c</sup> Institute of Oncology, Tel-Aviv Medical Center, Tel Aviv, Israel

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## Abstract

**Introduction:** “The work” meditation technique was developed by Byron Katie in 1986 and has been practiced worldwide. To date, there has been no empirical evaluation of its efficacy among cancer survivors.

Cancer diagnoses and treatments may have short and long term negative effects on individuals’ health status and wellbeing. This study assessed the feasibility and effectiveness of “The work” meditative technique in improving psychological and physical wellbeing in breast cancer survivors. **Methods:** Twenty-nine breast cancer survivors participated in a prospective pilot clinical trial of “The work” intervention. Sleep quality, level of fatigue and breast cancer health-related quality of life assessment was conducted before and after the intervention. The intervention consisted of 12 weekly 3.5 h group sessions in addition to individual practice for a minimum of 60 min per week.

**Results:** A total of 24 women (82.75%) completed the program with no adverse effects reported at any time suggesting that the technique can be implemented in this population of survivors of breast cancer. Sleep quality, levels of fatigue as well as physical, social, familial, emotional and functional wellbeing improved significantly after the intervention. The sense of coherence scores were not affected by the intervention.

**Conclusions:** The physical and mental health of these breast cancer survivors was improved after the practice of “The work” meditation technique. The encouraging results of this pilot study highlight the potentially beneficial effects of this intervention for this population and warrant further investigation in randomized controlled trials.

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**Keywords:** Breast cancer survivors; Quality of life; Meditation; The Work; Byron Katie

## Introduction

Breast cancer is a major health problem and the most prevalent malignant disease among women worldwide [1,2]. There are more than 2.5 million breast cancer survivors in the US [3]. Due to improved screening and treatment modalities, mortality has decreased significantly over the years, and the current 5-year survival rate for all stages of disease is over 85% [3]. In spite of being increasingly efficacious for improving

survival rates, cancer diagnoses and treatments may have short and long term negative effects on both psychological and physiological wellbeing, effects that may last from months to years beyond hospitalization [4–7]. Indeed, both the diagnosis of and subsequent treatments for breast cancer are highly stressful. During the first year following diagnosis, women undergo demanding and anxiety-provoking treatments, such as surgery, radiation and chemotherapy. After the completion of treatments, survivors often continue to report a decline in their quality of life [8], including high levels of psychological stress [9,10], depression and anxiety [9,11,12], fear of recurrence [13] and fatigue and sleeping disorders that significantly impair their daily function [14]. Challenges with intimate relationships, sexuality, intimacy and fertility may also ensue [5,15–17]. Reports from the National Coalition for Cancer Survivorship (NCCS) in the US indicate that survivors identify these psychological side effects as a significant factor in preventing them from

\* Corresponding author at: Institute of Oncology, Tel.-Aviv Sourasky Medical Center, 6 Weizmann Street, Tel-Aviv 64239, Israel. Tel.: +972 3 6974833; fax: +972 3 697 4832.

E-mail address: [Shaharl@tasmc.health.gov.il](mailto:Shaharl@tasmc.health.gov.il) (I. Ron).

<sup>1</sup> Affiliated to the Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel.

<sup>2</sup> Authors contributed equally to this work.

functioning properly in family, social and career related environments [18].

The emotional ramifications of the disease and its treatments have prompted many cancer survivors to seek help in coping with them [19]. The Institute of Medicine has recommended that psychosocial interventions be incorporated into standard medical care for breast cancer patients during all phases of treatment [20]. Studies assessed the effectiveness of post-treatment psychosocial interventions and revealed promising findings in improving the quality of life and coping abilities of survivors, as well as in reducing their emotional distress and feelings of isolation [21–24]. The primary types of effective interventions have included telephone counseling, face-to-face and peer cognitive therapy, group intervention education counseling, and short-term support [25–29]. As part of the psycho-social interventions for breast cancer survivors, complementary and Alternative medicine (CAM) therapies showed some favorable effects by promoting relaxation and reducing psychological stress and physiological symptoms [31–35]. One of the most promising therapies is meditation, particularly mindfulness meditation, which demonstrated improvements in quality of life, quality of sleep and reduced mood disturbances and stress [30,35–39].

“The work” meditation technique was developed by Byron Katie in 1986 and is practiced in at least 30 countries. The technique trains participants to use self-inquiry processes to examine their stressful thoughts and beliefs about circumstances or symptoms, thus reducing their perceived level of stress. This meditative process enables participants to identify and investigate the thoughts that cause stress and suffering. Like other psychological models, such as cognitive behavioral therapy, “The work” technique assumes that feelings (such as sadness, anger, pain) emerge from an attachment to a stressful thought which leads to behavior; meaning, thought precedes feelings and behavior and as the primal cause of stress and suffering – which is the area of focus [40,41].

Despite its extensive use, there has been no empirical evaluation of the efficacy of the technique among cancer survivors to date. This pilot study is the first to examine the potential effectiveness of “The work” intervention as a method for improving psychological and physical wellbeing in breast cancer survivors.

This paper is the description of a pilot study aimed to test the feasibility and effectiveness of “The work” meditation in improving psychological and physical wellbeing in breast cancer survivors.

## Materials and methods

### *Design and participants*

Women diagnosed with Stage 0–III breast cancer between December 2010 and October 2011 were prospectively recruited. All had undergone surgery and received adjuvant or neo-adjuvant chemotherapy and/or radiation at the Tel Aviv Sourasky Medical Center Oncology Department. Inclusion criteria were: biopsy proven breast cancer, known disease stage, completion of treatment within the preceding 18 months, ability to read and speak Hebrew at a ninth grade level or higher (judged by

successful completion of a battery of self-report measures) and willingness to sign an informed consent form. Exclusion criteria were: prophylactic mastectomy prior to the current treatment for breast cancer, severe psychiatric diagnosis (e.g., bipolar disorder) and being treated for recurrent breast cancer. The study was approved by the Tel Aviv Sourasky Medical Center Ethics Committee and informed consent form was signed by all the patients before study entry.

### *The intervention*

“The work” is a meditative technique developed by Byron Katie in 1986. The technique is based on identifying and investigating the thoughts that cause distress and suffering. The basic assumption is that when we believe our thoughts, we suffer and we don’t believe our thoughts, we do not suffer. The process of identifying and investigating the thoughts is divided into two parts:

The first part is to identify the stressful thoughts in a systematic and comprehensive way and to write the thoughts about various situations perceived by the person as stressful. Appendix 1 includes the main tool for identifying thoughts in “The work” technique- “Judge-your-neighbor” worksheet, which helps the participant to systematically identify stressful thoughts. The guidance to the participant is: “*think of a reoccurring stressful situation, a situation that is reliably stressful even though it may only happened once and reoccurs only in your mind. Before answering each of the questions below, allow yourselves to mentally revisit the time and place of the stressful occurrence*”. In this worksheet the participant writes all his thoughts and beliefs regarding the stressful situation as he perceives it [40].

In the second part, the participant himself or with the help of a “facilitator” (a person with an experience in “The work” technique) chooses the main thoughts he wrote and investigates them by using four questions and “turnarounds”. Examples to stressful thoughts are “My husband doesn’t listen to me”, “My boss should appreciate me”, “My body is too fat”, “I will have cancer for sure”. The participant examines his thoughts by the following questions: (1) Is it true? (2) Can I absolutely know that it is true? (3) How do I react when I believe that thought? (4) Who would I be without the thought? This part is meditative and the participant is guided to search the true and genuine answers to the four questions with no certain agenda. Unlike deliberate thinking in which a person consciously and deliberately thinks about something and experience it as if he “created” the thought, the guidance here is to be in a state of witnessing awareness in which a person observes the thoughts that come into his mind without trying to control or direct them. In this state, the person is aware of their thoughts and perceives them as coming independently to mind. He perceives himself as a “witness” to these thoughts. Encouraging this kind of meditative ability is a central part of “The work” technique. The next stage is the turnarounds, in which the participant experiences a different interpretation of the reality as he perceives it. If the original thought is: “My husband doesn’t listen to me”, possible turnaround can be: “I don’t listen to my husband” (turnaround to the other), “I don’t listen to myself” (Turnaround to myself), “My husband does listen to

me” (turnaround to the opposite). The participant is asked to find three genuine examples in which the turnaround is as true as the original thought. By doing so, the participant can understand and experience that he doesn’t have to automatically believe the thoughts that cause him stress and frustration, but he can choose other thoughts and different interpretation of reality. In this way, situations, perceived as stressful such as a visit to the doctor, can become situations in which the participant experiences peace of mind and connectedness [40].

The intervention includes 12 weekly meetings for 3.5 h per meeting. The meetings are guided by facilitators that were trained in the authorized Certification Program at “The institute of the work” (ITW), an international learning center based in the US [41]. All the sessions were standardized according to the training manual that had been developed for maintaining consistency in the program. The group includes 12–18 participants. During the program, the participants are invited to identify and investigate the stressful thoughts regarding different aspects of their life: relationships with others, health related beliefs, body image, cancer-related stressful thoughts, self-judgments, fear from cancer recurrence, death and suffering. In between meeting, the participants are asked to go over the theoretical material (a training manual, book and CD) and practice self-investigation by themselves or with a partner for 15–60 min a week and inquire their stressful thoughts that they wrote in the “Judge-your-neighbor” worksheet with a facilitator for an hour a week. A participant is considered active if he is present in at least 60% of the group meetings and home practice.

The process of self-inquiry enables the subjects to take an active role in investigating their stressful thoughts and feelings and to observe their emotional and physical responses during situations perceived as being stressful. Negative emotions are seen as alert signs for participants to observe their underlying thoughts. When subjected to inquiry, the participants may realize that the stressful belief is not factual and as a consequence be relieved from the negative emotion. By doing so, it enables them to regulate their stress levels and to non-judgmentally cope better with distress [40,41].

#### *Instruments and outcome measures*

The primary endpoint was the change in sleep quality before and after the intervention. The secondary endpoints included psychological status and quality of life subscales of physical and emotional health. The endpoints were measured as follows:

1. Sleep quality was measured by the Pittsburgh sleep quality inventory (PSQI). The PSQI is a validated 19-item self-report measure for assessing subjective sleep quality throughout the preceding month. It measures subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleep medications, and daytime dysfunction [42,43].
2. Health-related quality of life was measured by the Functional Assessment of Cancer Therapy-Breast scale (FACT-B), a validated questionnaire consisting of the following subscales: physical wellbeing, social/family wellbeing, emotional wellbeing, functional wellbeing and a breast cancer subscale.

Overall scores range from 0 to 144, where a higher score indicates better health-related quality of life [44].

3. Level of fatigue was measured by FACT-Fatigue, a validated 13-item instrument developed for assessment of fatigue in people with cancer. Responses are made on a 5-point Likert scale [45,46].
4. The sense of coherence instrument was used for analyzing manageability, comprehensibility and meaningfulness. It is comprised of 13 items with seven response categories on a 7-point Likert scale [47,48].

Clinical data were obtained from chart reviews conducted by a research coordinator. Standard demographic data were collected along with a detailed clinical history form completed by self-reporting as well as a chart review to document prior medical history, lifestyle behaviors (e.g., smoking and exercise), and concomitant medication use. Assessments were taken before and within 1 week following the 12-week intervention.

#### *Statistical analyses*

All patients were included in an intention to treat analysis. Paired *t* tests were used to detect dependent measure changes from pre- to post-intervention. The data processing was done by use of the statistical software SPSS 17. A *p*-value of <.05 suggested statistical significance for all outcome measures.

#### **Results**

The study group was comprised of 29 female breast cancer survivors who were recruited from the Tel Aviv Medical Center Oncology Department and practiced “The work” meditation technique. Their demographic data, (age, gender, marital status and education) and medical history (operation type, involvement of lymph node and Her2 status) are listed in Table 1. Mean age of participants was 53.8 years. Eighteen women were married (62.1%), 25 were employed (86.2%) and 20 had

Table 1  
Baseline data of breast cancer survivors who participated in “The work” intervention.

Variable	Patients	
Number	29	
Mean age (SD)	53.8 (10.8)	
Marital status	Single	5 (17.2%)
	Married	18 (62.1%)
	Separated	5 (17.2%)
	Widowed	1 (3.4%)
Lymph node status	Positive	15 (51.7%)
	Negative	14 (48.3%)
Her 2	Positive	5 (17.2%)
	Negative	24 (82.8%)
Operation type	Lumpectomy	20 (69%)
	Mastectomy	9 (24.1%)
	Other	2 (6.8%)
Occupation	Employed	25 (86.2%)
	Unemployed	1 (3.4%)
	Homemaker	3 (10.3%)

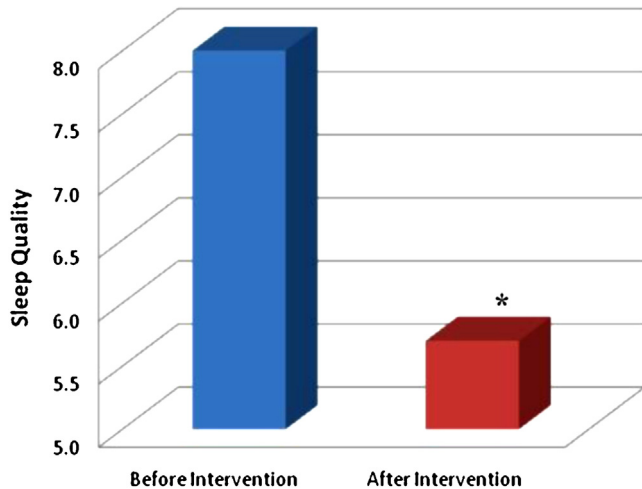


Fig. 1. Change in the Scores Pittsburgh Sleep Quality Inventory (PSQI) before and after the intervention. Higher scores indicate impaired sleep. The asterisk indicates *p*-value of <.05 indicating statistical significance.

undergone lumpectomy surgery (69%). All 29 participants received chemo-radiotherapy treatments before the intervention.

Twenty four participants completed the planned intervention. Five participants dropped out: first meeting (*n* = 2), meetings two to five (*n* = 3). Reasons for drop out were: too busy (*n* = 2), did not want to be with other breast cancer patients (*n* = 1), course not suitable (*n* = 2). Analyses of the pre and post treatment scores showed a significant improvement in the primary end-point of sleep (Fig. 1). Sleep quality improved by more than 30%, from an average of 8.26 ± 2.84 to 5.68 ± 1.73 (*p* < .01). The other secondary end-points also showed a significant improvement: physical wellbeing (*p* < .01), social/family wellbeing (*p* = .02), emotional wellbeing (*p* < .01), functional wellbeing (*p* < .01), and a breast cancer subscale (*p* < .01) (Fig. 2). Fig. 3 is a graphic representation of the significant post-intervention improvement in the levels of fatigue (*p* < .01). In the sense of coherence, no significant difference was found between before and after the intervention (from 49.3 to 50.4 *p* = .59). No adverse effects of the intervention were reported at any time.

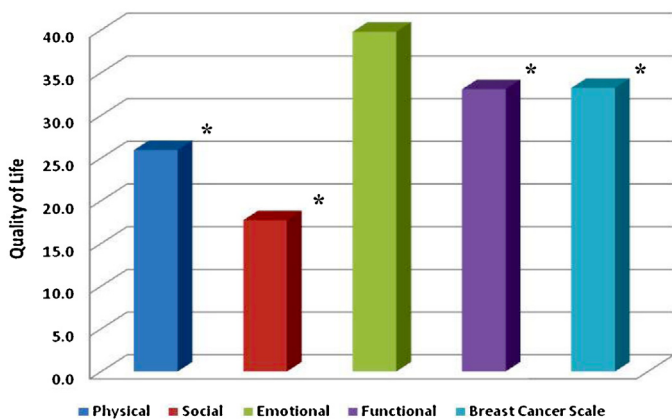


Fig. 2. Change in the Scores of Functional Assessment of Cancer Therapy-Breast scale (FACT-B) after the intervention (%). The asterisk indicates *p*-value of <.05 indicating statistical significance.

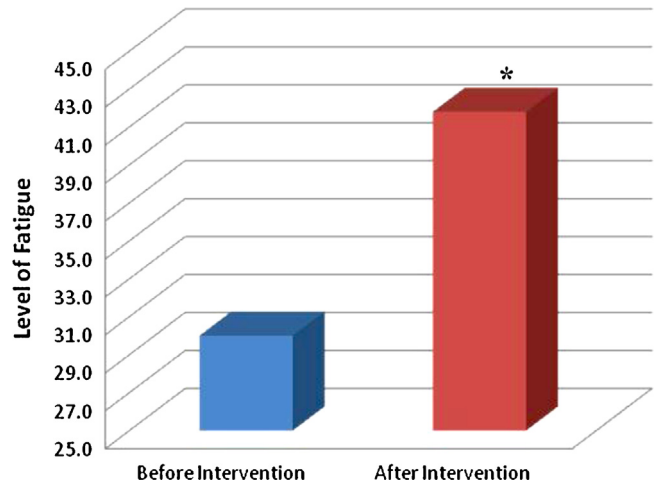


Fig. 3. Change in the scores of Functional Assessment of Cancer Therapy (FACT)-Fatigue scale before and after the intervention. Lower scores indicate higher levels of fatigue. The asterisk indicates *p*-value of <.05 indicating statistical significance.

### Discussion

This pilot study was the first to examine the potential effectiveness and feasibility of conducting “The work” intervention among breast cancer survivors and its preliminary results indicated a significant improvement in physical and mental health after the intervention. Most of the women were willing to participate and showed high levels of compliance with this type of program. There were no reported adverse effects at any time. Our results also demonstrated that “The work” psycho-social intervention effectively assisted them in better adapting to and dealing with the psycho-social stress and the decrease in the quality of life related to the disease. Specifically, an improvement in fatigue level, sleep quality, overall quality of life and physical and mental wellbeing were observed following the intervention.

A preliminary study that examined the effectiveness of “The work” within the general population showed promising findings [49]. It demonstrated the technique’s positive effects in reducing a wide variety of psychopathological symptoms. Specifically, the participants had significantly fewer symptoms of obsessive compulsiveness, depression, anxiety, interpersonal sensitivity, hostility, paranoid ideation, and psychosis following “The work” intervention, with all but one of these variables (hostility) remaining significantly low during the 3-month follow-up period. These findings are consistent with studies that portrayed favorable effects of mindfulness-based stress reduction and other CAM interventions for populations of cancer patients [37].

There were no changes in the SOC scores. These finding are similar to other studies that have found this measurement comparatively stable over time [50,51].

Although our results were promising, there are a number of shortcomings that need to be addressed. First, the current pilot study lacked a control group, and was also limited by its modest sample size, self-selection, and reliance on self-reported outcomes by validated measures. Additionally, since we did not follow our participants over time, we could not assess whether

the initial improvements in physical and psychological well-being after the intervention sustained over time, though results from studies among the general population suggest sustained effects of at least 3 months [49].

Future studies with larger samples and controlled condition should be carried out in order to further examine the effect of “The work” intervention on breast cancer survivors. In addition, a follow up should be conducted in order to assess the intervention’s effect over time. It is possible to utilize more objective outcome measures in addition to self-reporting, such as neuroendocrine measurements (e.g., cortisol) and immune function indicators, i.e., lymphocyte proliferation and TH1 cytokine production [22].

Other important questions that require further study are whether longer or more intensive “The work” interventions have better outcomes on subjects’ physical and mental wellbeing, and whether daily practice of “The work” is a significant predictor

of benefit, as had been reported in other meditative programs, e.g., mindfulness-based stress reduction [52].

This pilot study is the first to demonstrate potentially beneficial effects in breast cancer survivors’ physical and psychological quality of life following “The work” intervention. Randomized controlled studies are required to further evaluate the technique’s effect among breast cancer survivors.

#### **Conflict of interests**

The conflicts of interests statement was submitted in the original submission.

#### **Acknowledgment**

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## Appendix 1. “Judge-your-neighbor” worksheet



## Judge-Your-Neighbor Worksheet

**Judge your neighbor • Write it down • Ask four questions • Turn it around**

Think of a recurring stressful situation, a situation that is reliably stressful even though it may have happened only once and recurs only in your mind. Before answering each of the questions below, allow yourself to mentally revisit the time and place of the stressful occurrence.

1. In this situation, time, and location, who angers, confuses, or disappoints you, and why?

I am \_\_\_\_\_ with \_\_\_\_\_ because \_\_\_\_\_  
emotion name

*Example: I am angry with Paul because he doesn't listen to me about his health.*

2. In this situation, how do you want them to change? What do you want them to do?

I want \_\_\_\_\_ to \_\_\_\_\_  
name

*Example: I want Paul to see that he is wrong. I want him to stop smoking. I want him to stop lying about what he is doing to his health. I want him to see that he is killing himself.*

3. In this situation, what advice would you offer to them?

\_\_\_\_\_ should/shouldn't \_\_\_\_\_  
name

*Example: Paul should take a deep breath. He should calm down. He should see that his actions scare me and the children. He should know that being right is not worth another heart attack.*

4. In order for you to be happy in this situation, what do you need them to think, say, feel, or do?

I need \_\_\_\_\_ to \_\_\_\_\_  
name

*Example: I need Paul to hear me. I need him to take responsibility for his health. I need him to respect my opinions.*

5. What do you think of them in this situation? Make a list.

\_\_\_\_\_ is \_\_\_\_\_  
name

*Example: Paul is unfair, arrogant, loud, dishonest, way out of line, and unconscious.*

6. What is it in or about this situation that you don't ever want to experience again?

I don't ever want \_\_\_\_\_

*Example: I don't ever want Paul to lie to me again. I don't ever want to see him smoking and ruining his health again.*

#### The four questions

*Example: Paul doesn't listen to me about his health.*

1. **Is it true?** (Yes or no. If no, move to 3.)
2. **Can you absolutely know that it's true?** (Yes or no.)
3. **How do you react, what happens, when you believe that thought?**
4. **Who would you be without the thought?**

#### The turnaround for statement 6:

I am willing to \_\_\_\_\_ (Example: I am willing to have Paul lie to me again.)

I look forward to \_\_\_\_\_ (Example: I look forward to having Paul lie to me again.)

#### Turn the thought around

- a) **to the self.** (I don't listen to myself about my health.)
  - b) **to the other.** (I don't listen to Paul about his health.)
  - c) **to the opposite.** (Paul does listen to me about his health.)
- Then find at least three specific, genuine examples of how each turnaround is true for you in this situation.

**For more information on how to do The Work, visit [thework.com](http://thework.com)**

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