# A Pilot Study of Interpersonal Psychotherapy for Depressed Women with Breast Cancer

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*This study sought to examine the feasibility and preliminary efficacy of interpersonal psychotherapy (IPT) in the treatment of major depressive disorder (MDD) among women with breast cancer. Seven women with breast cancer and MDD received 12 sessions of IPT. Outcome measures included changes in depression severity, as measured by the Hamilton Rating Depression Scale (HAM-D), and global functioning, as measured by the Global Assessment Scale (GAF). Mixed linear models were used to examine whether change in depressive symptoms mediated change in global functioning. The HAM-D decreased from 21.3 (SD=8.1) to 11.1 (9.6) (p=0.02), whereas the GAF improved from 56.7 (5.5) to 70.3 (15.6) (p=0.049). A mixed regression model indicated that change in HAM-D scores predicted change in GAF scores (p=0.03). These results suggest that IPT is a promising treatment for depression in women with breast cancer. Randomized controlled trials are warranted to confirm the results of this study.*

**KEYWORDS:** depression; interpersonal psychotherapy; breast cancer; clinical trial; pilot study

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## INTRODUCTION

Although depressive symptom prevalence varies by cancer site and stage, cancer patients have significantly greater likelihood of developing depression than the general population. Depression often worsens over the course of cancer treatment, persists long after cancer therapy ends, and worsens patients' adherence to cancer treatment, survival, symptom management, and quality of life (Burgess et al., 2005). As surviving cancer becomes increasingly common, there is an urgent need to establish an empirical basis for providing evidence-based treatments to depressed cancer patients.

A difficulty in providing evidence-based treatment for major depressive disorder (MDD) among cancer patients is that clinical trials for MDD systematically exclude patients with cancer and other medical illnesses, precluding generalizability of those studies to these special populations (Blanco et al., 2008). Furthermore, although several studies have examined the effects of medication and psychotherapy among cancer patients (Grassi, Nanni, Uchitomi, & Riba, 2011; Kissane, Levin, Hales, Lo, & Rodin, 2011), most of those studies were preventive, selecting subjects on the basis of a cancer diagnosis rather than psychiatric diagnoses. Hence little is known about effective approaches for the treatment of depression among cancer patients.

We sought to narrow that gap in knowledge by conducting an open, pilot study of interpersonal psychotherapy (IPT) for depressed women with breast cancer. The goals of this proof-of-concept study were to examine the feasibility and preliminary efficacy of IPT in decreasing depressive symptoms and improving quality of life in this population. We chose IPT for this study because of its focus on life events (such as the diagnosis of cancer) and its extensive support in the treatment of MDD in the general population, among patients with comorbid medical illnesses. and for patients whose declining physical health led to more dependent and strained relationships (Weissman, Markowitz, & Klerman, 2000).

## METHOD

### Sample

The sample comprised of seven patients referred for treatment of depression by their treating oncologist at the breast cancer clinic in the cancer center of a large university-affiliated hospital. Men or women at least 18 years of age, with breast cancer stages I to III and a current

DSM-IV diagnosis of non-psychotic unipolar MDD, were eligible to participate. Exclusion criteria were limited to those needed to ensure patient safety and ability to provide informed consent: 1) cognitive impairment precluding ability to give informed consent or participating in the intervention; and 2) diagnosis of alcohol or substance use disorder (except nicotine dependence) in the previous 6 months. The study was approved by the IRB of Columbia University.

### Treatment

All patients received 12 sessions of interpersonal psychotherapy (IPT) a manualized treatment provided by two experienced IPT therapists (CB and JCM). Interpersonal psychotherapy is based on the premise that depression does not occur in a vacuum, but rather is influenced by and itself affects the patient's psychosocial environment. Changes in relationships or other life events may precipitate depressive episodes; conversely, depressive episodes strain relationships and often generate negative life events. The goal of treatment is to help the patient solve a crisis in his or her role functioning or social environment, which leads to improvement in depressive symptoms. Numerous randomized trials have validated this approach. Receiving the diagnosis of breast cancer represents a life-changing experience (i.e., role transition) with enormous impact for patients on self- and body image, stigma, sexuality, and self-esteem. It almost always raises concerns about death and ongoing suffering. We reasoned that the empowering approach of IPT could help to foster an active response to ongoing hardship and promote resilience, which could greatly help this population.

### Assessments

The diagnosis of major depressive disorder was made by psychiatric clinical interview and independently confirmed by an independent evaluator using the Structured Clinical Interview for DSM-IV (SCID). The primary outcome measure was the 17-item Hamilton Depression Rating Scale (HAM-D (Hamilton, 1960)), which was assessed at baseline and weeks 4, 8, and 12. Also at baseline, weeks 4, 8, and 12, patients were evaluated with the Clinical Global Impression Scale (Guy, 1976)-Improvement Scale: Hamilton Rating Scale for Anxiety ([HAM-A] (Hamilton, 1959): Beck Depression Inventory ([BDI-II] (Beck, Steer, & Ball, 1996): Global Assessment of Functioning Scale ([GAF] (Bodlund, Kullgren, Ekselius, Lindström, & Knorring, 1994).

Table 1. BASELINE CHARACTERISTICS AND 12-WEEK OUTCOME OF IPT FOR THE TREATMENT OF DEPRESSION IN WOMEN WITH BREAST CANCER

| | Baseline | Week 12 | t-value | df | p-value | Cohen's d |
|---|---|---|---|---|---|---|
| Age, years | 49 (8.1) | | | | | |
| Women | 7 (100%) | | | | | |
| Race | | | | | | |
| African American | 2 (29%) | | | | | |
| Hispanic | 5 (71%) | | | | | |
| Marital Status | | | | | | |
| Married | 2 (29%) | | | | | |
| Non-Married | 5 (71%) | | | | | |
| Income ($) | | | | | | |
| <10,000 | 5 (71%) | | | | | |
| 10,000+ | 2 (29%) | | | | | |
| HAM-D | 21.3 (8.1) | 11.1 (9.6) | 3.3 | 6 | 0.02 | 1.06 |
| BDI-II | 26.1 (11.2) | 15.0 (11.9) | 3.3 | 6 | 0.02 | 0.93 |
| GAF | 56.7 (5.5) | 70.3 (15.6) | 2.5 | 6 | 0.049 | 0.87 |
| HAM-A | 22.7 (6.0) | 17.1 (10.9) | 2.2 | 6 | 0.07 | 0.51 |

### Statistical Analyses

Change in the scores from baseline for each of the scales was measured using paired t-tests (equivalent results from the non-parametric Wilcoxon signed-ranked test, are available on request). Because this was planned as a proof-of-concept study, we calculated Cohen's d as an initial estimate of the amount of improvement patients achieved during the trial. To examine whether change in HAM-D predicted change in GAF, we conducted a mixed linear regression with HAM-D scores over time as the predictor and GAF scores as the outcome.

## RESULTS

Seven patients, all female, participated in the study. Five (71%) patients were Hispanic, the other two (29%) were African American. The participants' mean age was 49.0 (SD= 8.1; range 42-63). Two patients (29%) were married. Most patients (71%) had incomes below $10,000 per year. All outcome measures indicated a significant improvement during the study (Table 1). The HAM-D decreased from 21.3 (SD=8.1) to 11.1 (9.6) (t=3.3, df=6, p=0.02) with a Cohen's d=1.06 (very large effect size); the BDI-II decreased from 26.1 (11.2) to 15.0 (11.9) (t=3.3, df=6, p=0.02) with a Cohen's d=.93. Both scales showed linear decreases over time. The HAM-A fell from 22.7 (6.0) to 17.1 (10.9) (t=2.2, df=6, p=0.07),

approaching but not achieving statistical significance. The GAF improved from 56.7 (5.5) to 70.3 (15.6) ($t=2.5$, $df=6$, $p=0.049$), Cohen's $d=0.87$. A mixed regression model indicated that change in HAM-D scores predicted change in GAF scores ($F_{1,3}=17.7$, $p=0.03$). The mean CGI at endpoint was 2 (1.4), in the Much Improved range.

## DISCUSSION

In this proof-of-concept study for the treatment of MDD among women with breast cancer, IPT was associated with large improvements across all standardized outcome measures, regardless of whether clinician-administered or self-report or if they measured symptomatic or functional improvement. Furthermore, improvement in depressive symptoms mediated marked functional improvement scores.

Our findings of improved depressive symptoms among women with breast cancer and MDD treated with IPT are consistent with findings from prior studies that have shown that IPT can be efficacious in depressed individuals with medical illness (Weissman et al., 2000). The robustness of the change was indicated by its consistency across measures, types of test (parametric and non-parametric), and in large effect sizes. The efficacy of IPT for depressed individuals with medical illness, including breast cancer, may stem from its ability to help patients address the life events and changes in interpersonal relationships often associated with depression. The diagnosis of breast cancer represents an important change in one's life that the IPT framework of a role transition neatly encompasses. In this transition, interpersonal relationships as well as the individual's self-image often change. An important goal of IPT is to help the patient recognize the impact of the change on her mood and life, and to help her clarify and express her expectations, needs, and capabilities in her relationships so that they can continue to be satisfying and supportive. Interpersonal psychotherapy helps patients to mobilize social support that relieves depressive symptoms and bolsters patients in a life crisis. On occasion, patients may benefit from establishing new relationships that can help them address new needs, or limiting contact with friends or acquaintances that may represent an extra demand, rather than help, during this transition.

In addition to relieving depressive symptoms, IPT produced functional improvement, partially via improvement in depressive symptoms. The finding of functional improvement is important because while clinicians often focus on symptomatic improvement, patients often care more about their overall level of functioning. Consistent with this view, functional

improvement was not fully mediated by improvement in depressive symptoms, suggesting that the effects of IPT on other aspects of the patients' lives (e.g., quality of interpersonal relationships, or finding a meaning in one's life in crisis) may extend beyond its effect on mood. An important direction for future research is to examine whether treatments such as antidepressant medication that exclusively target symptomatic improvement can produce the same level of functional improvement as psychotherapies, which target broader outcome areas, and whether they have the same level of acceptability. It is not uncommon for depressed breast cancer patients to be reluctant to take additional medications, such as antidepressants (Grassi et al., 2011).

As with many pilot trials, the main limitation of this study is that did not include a comparison group. Therefore, the improvements documented may be due to non-specific effects of the therapy or of the study context itself. The large effect sizes detected, however, suggest that psychotherapeutic interventions can help to improve depressive symptoms among depressed women with breast cancer, and they indicate that a diagnosis of cancer does not have to be accompanied by depression. These results support the need for randomized trials to examine the efficacy of IPT versus those of other psychotherapies.

In summary, this preliminary trial found IPT a powerful treatment for depression among women with breast cancer. Patients reported both symptomatic and functional improvement, and are associated with large effect sizes. We hope these data may contribute to establishing a growing evidence base for the treatment of depressed women with breast cancer, and stimulate other researchers to conduct studies to improve the treatment of this important, but often neglected population/treatment aspect.

*Conflict of Interest:* None of the authors reports any conflict of interest.

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