INTERPERSONAL PSYCHOTHERAPY FOR DEPRESSION
IN PARKINSON’S DISEASE

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ABSTRACT

Studies have shown depression to affect up to 50% of individuals diagnosed with Parkinson’s disease (PD) and to have a negative impact on the progression of the illness. However, there is a dearth of research on psychosocial interventions for the treatment of depression in this population. To date, the utility of interpersonal psychotherapy (IPT), an evidence-based treatment for depression with demonstrated effectiveness in medical populations, has not been examined for this population. This case series was conducted to examine the feasibility and effectiveness of interpersonal psychotherapy (IPT) for depression in individuals with Parkinson’s disease (PD). Three PD patients with Major Depressive Disorder or Dysthymia participated in the study along with a caregiver. Patients received 6 to 15 sessions of IPT primarily focused on resolving the interpersonal problem area of role transition. Caregivers attended 1 to 2 sessions which provided psychoeducation and garnered necessary supports to help patients accomplish their treatment goals. Two of the patients experienced improvement in depressive symptoms, particularly in mood, interest and motivation in activities, with gains maintained at 1-month follow-up. There was some evidence of reductions in caregiver burden as a result of the intervention, though no significant change in caregiver depressive symptoms was noted. Results of this case series suggest that IPT may be a feasible and effective option for the treatment of PD depression. Larger, controlled trials are needed to replicate these results and to further evaluate the efficacy of this intervention.

Key words: Interpersonal psychotherapy; Parkinson’s disease; depression
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CHAPTER I
Introduction

Parkinson’s Disease and Depression

Parkinson’s disease (PD) is a chronic, progressive neurological condition characterized by rigidity, tremor, slowness of movement, and postural instability. Second to Alzheimer’s disease, it is the second most common neurodegenerative disorder in the elderly affecting approximately 1% of people over the age of 60 (Cummings & Masterman, 1999; Mayeux, 2003). Those with PD suffer from motor, psychiatric, and cognitive impairments resulting in significant functional disability (i.e., difficulty caring for self, difficulty completing tasks at work and at home, inability maintaining social interactions, etc.) (Bassett, 2006; Forsaa, Larsen, Wentzel-Laren, Herlofson, & Alves, 2008; Jost, 2000). The presentation and treatment of PD is frequently complicated by depression, the most common non-motor symptom observed in the PD population (Aarsland, Marsh, & Schrag, 2008; Cummings, 1992; Tan, 2012; Ziropadja, Stefanova, Petrovic, Stojkovic, & Kostic, 2012). Though reported prevalence rates of depression in this population vary widely from 2.7% to 90%, it is commonly cited to affect up to 50% of PD patients (Reijnders, Ehrt, Weber, Aarsland, & Leentjens, 2008; Slaughter, Slaughter, Nichols, Holmes, & Martens, 2001).

The treatment of depression in Parkinson’s disease (dPD) is clinically significant because of its known association with worse severity and prognosis of the disease. Compared to non-depressed PD individuals, the presence of dPD is associated with increased disability and worse quality of life (The Global Parkinson’s Disease Survey
Steering Committee, 2002) resulting from a faster progression of physical symptoms (Starkstein, Mayberg, Leiguarda, Preziosi, & Robinson, 1992) and greater impairment in performing activities of daily living (Ravina et al., 2007). Caregiver burden is also increased in individuals with dPD (D’Amelio et al., 2009; Schrag, Hovris, Morley, Quinn, & Jahanshahi, 2006; Whetten-Goldstein, Sloan, Kulas, Cutson, & Schenkman, 1997). Although PD, in general, affects overall level of cognitive functioning, dPD is associated with greater cognitive dysfunction, particularly greater memory impairment (Dubois & Pillon, 1997; Farina et al., 2000; Norman, Troster, Fields, & Brooks, 2002; Starkstein et al., 1992). Further complicating the course and treatment of the disease is the increased rates of executive dysfunction (Azuma, Cruz, Bayles, Tomoeda, & Montgomery, 2003; Dubois & Pillon, 1997; Koerts et al., 2012; Santangelo et al., 2009) and comorbid psychopathology (Menza, Robertson-Hoffmann, & Bonapace, 1993; Prediger, Matheus, Schwarzbol, Lima, & Vital, 2012; Tan, 2012) in individuals with dPD compared to the depressed elderly population. However, despite the complications associated with untreated depression in individuals with PD, there are few controlled intervention studies that can guide the treatment of depression in this population (see Yang, Sajatovic, & Walter, 2012, for review).

Medication therapy continues to be the first line of treatment for dPD. Current best clinical practice consists of optimizing antiparkinsonian medications (e.g., dopamine agonists and monoamine oxidase B inhibitors) followed by the utilization of antidepressant medications (e.g., SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants) (Lemke et al., 2004; Lieberman, 1998; Okun & Watts, 2002; Poewe & Luginger, 1999; Veazey, Aki, Cook, Lai, & Kunik, 2005). Several placebo-
controlled trials have documented the benefits of antidepressant use for PD patients, (Andersen, Aabro, Gumann, Hjelmsted, & Pedersen, 1980; Barone et al., 2010; Ceravolo et al., 2000; Chung, Deane, Ghaz-Noor, Rikards, & Clarke, 2003; Hauser & Zesiewicz, 1997; Klaassen, Verhey, Sneijders, de Vet & van Praag, 1995; Leentjens, Vreeling, Luijckx, & Verhey, 2003; Menza et al., 2009; Rabey, Orlov & Korczyn, 1996; Richard et al., 2012; Tesei et al., 2000; Wermuth et al., 1998). However, a recent review of the few randomized controlled trials of antidepressants on dPD (Price et al., 2011) found the effect of antidepressants on dPD to be small and statistically insignificant.

Recent studies have also supported the use of complementary and alternative therapy for the treatment of non-motor symptoms of PD (Zesiewicz & Evatt, 2009). Bright light therapy has been shown to reduce depressive symptoms in individuals with PD (Paus et al., 2007; Willis & Turner, 2007). Exercise interventions may also be associated with improved mood (Dereli & Yaliman, 2010; Rodrigues de Paula, Teixeira-Salmela, Coelho de Morais Faria, Rocha de Brito, & Cardoso, 2006). The supplementation of omega-3 fatty acids, in conjunction with or without antidepressants, has been found to reduce depressive symptoms (da Silva et al., 2008), although a recent review found insufficient evidence for its efficacy (Seppi et al., 2011). Several studies have also reported on the effectiveness of repetitive transcranial magnetic stimulation (rTMS) for the treatment of dPD (Benninger et al., 2011; Cardoso et al., 2008; Dragasevic, Potrebić, Damjanović, Stefanova, & Kostić, 2002; Epstein et al., 2007; Fregni et al., 2004; Pal, Nagy, Aschermann, Balazs, & Kovacs, 2010); however, there is insufficient evidence for its efficacy (Seppi et al., 2011). Electroconvulsive therapy is currently viewed as a last resort treatment (Lieberman, 1998; Okun & Watts, 2002).
Non-pharmacological treatment options, particularly psychotherapy, for dPD are highly desirable and warrant further study. The presence of comorbid medical conditions and associated pharmacotherapy for these conditions in the elderly population, in general, poses a risk for adverse drug interactions. Particularly for the PD population, there is potential for adverse interactions between antidepressant and antiparkinsonian medications. Treatment ineffectiveness is another major concern in this population, with half of depressed PD patients remaining depressed while on antidepressant treatment (Weintraub, Moberg, Duda, Katz & Stern, 2003). According to a recent meta-analysis, it is likely that antidepressants may not be as effective in PD patients as in the general non-PD population (Weintraub et al., 2005). Therefore, psychosocial interventions (e.g., cognitive-behavioral therapy and interpersonal psychotherapy), which are acceptable and efficacious alternatives to antidepressant medications in the general population (Elkin et al., 1989; Yang et al., 2012), should be considered as possible treatment options for those individuals with dPD who may not tolerate, may not benefit from, or may have a preference against antidepressant medications. Psychosocial treatment options may also be helpful for those individuals with dPD who require a combination of pharmacotherapy and psychotherapy. There have been, however, limited attempts to evaluate these psychosocial techniques in individuals with PD (see Yang et al., 2012, for review).

Cognitive-behavior therapy (CBT) is a time-limited psychotherapeutic approach that focuses on changing maladaptive behaviors, beliefs and patterns of thinking that negatively influence emotions (Beck, 1993). Several case series (Cole & Vaughan, 2005; Dobkin, Allen, & Menza, 2006; Veazey, Cook, Stanley, Lai, & Kunik, 2009) and small pilot studies (Dobkin, Allen, & Menza, 2007; Farabaugh et al., 2010; Feeney, Egan, &
Gasson, 2005; Sproesser, Viana, Quagliato, & de Souza, 2010) have demonstrated the promise of using CBT for dPD. More recently, a randomized controlled trial conducted by Dobkin and colleagues (2011a) found a modified CBT treatment package to be efficacious for dPD. An additional adaptation of this treatment package allowed for CBT to be delivered via telephone in a pilot trial and was found to be feasible and beneficial for dPD (Dobkin et al., 2011b). Problem solving therapy (PST), a brief psychotherapeutic treatment that teaches individuals a systematic way of solving psychosocial problems, has also shown promise as an effective treatment for depression in PD (Mackin, Arean, & Elite-Marcandonatou, 2006). To date, there have been no attempts to evaluate interpersonal psychotherapy (IPT) in this population.

**Interpersonal Psychotherapy for Depression**

Interpersonal psychotherapy (IPT) is a time-limited treatment originally developed by Klerman, Weissman, Rounsaville, and Chevron (1984) for the acute treatment of depression. IPT is based on the premise that depression occurs in an interpersonal context; depression affects the important relationships in one’s life and is affected by them (Weissman, Markowitz, & Klerman, 2000). Theoretically, IPT does not assume the etiology of depression; rather, it emphasizes that current social and interpersonal contexts are related to depressed mood. Goals of IPT are to educate about the link between depressive symptoms and interpersonal events, to indirectly reduce depressive symptoms by improving interpersonal functioning, and to teach patients the skills needed to more effectively mobilize their supports in order to recover from depression. IPT focuses on current problematic interpersonal experiences in the
individual’s life that may be exacerbating depressive symptoms or on the relationships which have been negatively affected by the depression. These experiences can fall within one or more of four interpersonal problem areas: grief (complicated bereavement), interpersonal role disputes, role transitions, and interpersonal deficits (Weissman et al., 2000).

IPT, alone or in combination with an antidepressant, has been found to be more effective than a control group in treating adult depression (Cuijpers et al., 2011; DiMascio et al., 1979; Weissman et al, 1979). A recent review of randomized controlled trials found IPT to be equally effective to cognitive therapy in treating major depression (Jakobsen, Hansen, Simonsen, Simonsen, & Gluud, 2012) and to be as effective as CBT for the treatment of mild to moderate depression (Luty et al., 2007). In a landmark study conducted by the National Institute of Mental Health involving multiple study sites throughout the country, IPT was found to be as effective as CBT and an antidepressant medication (imipramine) for the treatment of major depressive disorder (Elkin et al., 1989). Furthermore, the most severely depressed individuals treated with either IPT or an antidepressant did significantly better compared to those in the placebo group (Elkin et al., 1989).

There is evidence from controlled clinical trials that IPT is effective and accepted in depressed older adults (Hinrichsen & Clougherty, 2006; Reynolds et al., 1999; Reynolds et al., 2006). Furthermore, the combination of IPT and antidepressants has also been found to prevent relapse in both adults and older adults with recurrent depression (Klerman, DiMascio, Weissman, Prusoff, & Paykel, 1974; Reynolds et al., 1999, Reynolds et al., 2006; Zobel et al., 2011).
Adaptations of IPT for the Medical Populations

IPT has demonstrated effectiveness in medical populations (see Caron & Weissman, 2006, for review). IPT appears to be very appropriate for medical populations since much of the experience of having a medical illness can be categorized under one or more of the interpersonal problem areas targeted in treatment. Individuals receiving the diagnosis of a serious illness may experience role transition difficulties and interpersonal disputes that may be related to the onset or worsening of depression and medical symptoms. Role transition can involve changes in physical appearance or functioning, decrease or loss of work and productivity, a change in familial responsibility, and constant adjustments to new or worsening symptoms. This role transition may also isolate the patient from social supports especially if medical symptoms result in difficulties participating in occupational or social activities. Furthermore, medical illnesses can produce interpersonal conflicts with family or friends with sole or joint responsibility for the individual’s medical care. As physical health declines, relationships may become more dependent and more strained resulting in caregiver burden and interpersonal disputes.

IPT has been tested without adaptation for primary care patients (Browne et al., 2002; Bruce et al., 2004; Power & Freeman, 2012; Schulberg, Raue, & Rollman, 2002; van Schaik et al., 2006). IPT alone (Power & Freeman, 2012; Schulberg et al. 2002; van Schaik et al., 2006) and with pharmacotherapy (Browne et al., 2002) was found to be effective in reducing depressive symptoms in primary care patients and in treating post-stroke depression (Finkenzeller, Zobel, Rietz, Schramm, & Berger, 2009). IPT has been tailored for primary care patients with comorbid depression and chronic pain (IPT-P;
Poleshuck et al., 2010), although controlled trials are still warranted to determine its efficacy.

An adaptation of IPT has been tested for depressed individuals with coronary artery disease (Koszycki, Lafontaine, Frasure-Smith, Swenson, & Lesperance, 2004; Lesperance et al., 2007) with mixed results. Adaptations included shortened sessions, allowing up to 4 sessions by telephone should patients have difficulty traveling, and regular monitoring of and psychoeducation about both depressive and cardiac symptoms. An open-label trial of this IPT model initially supported its use in depressed individuals with coronary artery disease (Koszycki et al., 2004). However, a later randomized-controlled trial found no evidence of added value of IPT over clinical management (Lesperance et al., 2007).

A randomized controlled trial by Markowitz et al. (1995 & 1998) found a modified version of IPT to result in significantly greater improvements on depressive symptoms in HIV-positive individuals with depression compared to CBT or supportive therapy. Adaptations in this population included providing the patients with two medical illnesses (i.e., depression and HIV) and the “sick role” adapted to include both illnesses. Similar to the coronary disease adaptation of IPT, psychoeducation was also expanded to include information on both illnesses. The problem area of role transition was the primary focus, although the other problem areas were also present. More recently, a pilot study of a 6-session telephone-delivered model of IPT for HIV-infected individuals with depression yielded promising reductions in depressive symptoms and psychiatric distress compared to usual care (Ransom, 2008).
Another telephone-delivered IPT intervention has been tested and found feasible in breast cancer patients (Donnelly et al., 2000). This adaptation focuses primarily on role transitions. Rather than aiming to reduce depression and improving relationships, the goals for telephone IPT for cancer patients are to reduce cancer-related stress, improve relationships, and to optimize the use of medical/psychosocial care. There was greater flexibility in scheduling and the length of sessions varied depending on patient need. In addition, the model often engaged carepartners in treatment. Although a treatment manual was developed based on this pilot study, a large randomized controlled trial is still required to determine its efficacy.

IPT has also been adapted for the treatment of depression in older adults with co-morbid cognitive impairment (IPT-ci; Miller & Reynolds, 2007; Miller, 2009). The cognitive impairment is considered a role transition related to the patient’s depressive symptoms. A central modification to treatment is the integration of caregivers into the treatment process with an emphasis on psychoeducation and recognizing their own role transition as simultaneous to that of the patient’s role transition. IPT-ci allows for flexibility in scheduling caregiver sessions, giving caregivers the option of meeting alone with the therapist so they can candidly discuss likely sources of interpersonal disputes. Furthermore, frequent joint sessions are permitted to allow for the opportunity to effectively communicate about disputes and to problem-solve role conflicts. Randomized controlled studies comparing IPT-ci to other interventions are warranted to determine efficacy.
Rationale for IPT for Depression in Parkinson’s Disease

Considering IPT’s effectiveness in the depressed elderly and in various medical populations, an IPT approach appears fitting for the treatment of dPD. The diagnosis of PD can result in many of the interpersonal problems previously described to affect medical populations. Receiving a diagnosis of PD can be considered a role transition; the development of the physical symptoms of PD (i.e., tremors, rigidity, slowness of movement, and postural instability) can result in physical disabilities (i.e., difficulty walking, speaking or writing), decrease in productivity (i.e., difficulties with housework or retiring due to physical disabilities), and/or a change in familial responsibility from “head of the household” to dependent. This role transition may also isolate the patient from social supports especially if the motor symptoms of PD result in difficulties participating in occupational or social activities. Furthermore, dPD is associated with increased caregiver burden (D’Amelio et al., 2009; Schrag et al., 2006; Whetten-Goldstein et al., 1997) which can result in increased interpersonal conflicts with family or friends.

In brief, an IPT approach appears well suited to address dPD because of the relevance of the interpersonal problem areas targeted in its treatment and its success with the depressed adults and elderly and other medical disorders. The goal of this project is to evaluate the feasibility and efficacy of IPT for dPD in a case series study. The primary hypothesis is that IPT in addition to standard medical care will be an acceptable and feasible treatment resulting in a meaningful reduction of depressive symptoms in individuals with dPD. The following secondary hypotheses are proposed: 1) patients receiving IPT will report improvements in quality of life, perceived social support and
satisfaction with his/her social situation; 2) caregivers of these patients will report stabilization or decreases in depressive symptoms and burden. A further purpose of this study is to generate recommendations for a manualized IPT program for depression in patients with PD that can be studied in future research, first in a pilot study and later in a larger randomized clinical trial.
CHAPTER II
Methodology

Participants

Recruitment. Patients were recruited primarily through referrals from Dr. Roseanne Dobkin, Assistant Professor of Psychiatry at UMDNJ – Robert Wood Johnson Medical School, who specializes in the treatment of depression in Parkinson’s patients. Patients were also recruited through advertisements in medical clinics, announcements through the New Jersey Chapter of the American Parkinson’s Disease Association (APDA) as well as local support groups, and identification of participants from past studies who had given permission to be contacted for future studies.

Patient inclusion/exclusion criteria. To be eligible, patients needed to be between the ages of 35 and 85 with a confirmed diagnosis of Parkinson’s disease (based on review of medical record or confirmation from their treating neurologist) with no significant motor fluctuations or dementia. Significant motor fluctuation was defined as a self-report of greater than 50% of the day as “off-time” (period of the day when PD medications are not working well causing a worsening of PD symptoms). Dementia was operationalized as a score below the 5th percentile for age on memory and at least one other subscale on the Mattis Dementia Rating Scale (DRS-2; Mattis, 2004). Patients also needed to meet diagnostic criteria for current Major Depression, Dysthymia, or Depressive Disorder NOS based on the Structured Clinical Interview (SCID; First, Spitzer, Gibbon & Williams, 1996) for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV-TR; APA, 2000) and needed to be at least
moderately ill as defined by a Clinical Global Impression Severity (CGI-S; Guy, 1976) score of $\geq 4$. Other eligibility requirements included: English speaking, a minimum of a 9th grade education and willingness to ask a family member or friend, with whom they have regular contact, to be involved in treatment.

Patients were allowed to remain on antidepressant medications that had been stabilized for at least six weeks prior to screening. Those on dopaminergic replacement therapy, sedative-hypnotics or anxiolytics needed to be on a stable dose of these medications for at least four weeks prior to screening. Patients who were taking these medications at screening and qualified for participation were asked to remain on a stable course of their medications throughout the trial.

Psychiatric exclusion criteria included DSM-IV criteria for a psychotic disorder, bipolar disorder, organic brain syndrome, or psychoactive substance dependence or abuse. Other psychiatric comorbidity was not exclusionary as long as the depressive disorder was primary. Patients were also excluded if they presented with active suicidal ideation, planned to engage in additional psychotherapy during the study, or had an unstable major medical condition that would interfere with the study. The diagnosis of dementia or the presence of significant motor fluctuations excluded patients from the study. Patients who were using mood-stabilizers or antipsychotic medications or were unwilling or unable to maintain a stable dose of dopaminergic replacement therapy during the trial were also excluded from the study.

**Caregiver inclusion/exclusion criteria.** Inclusion criteria for caregivers included: ages 25 to 85, English-speaking, needed to have daily contact with the friend,
family member, or spouse with depression and PD, and needed to attain a Mini-Mental Status Exam (MMSE; Folstein, Folstein & McHugh, 1975) total score > 26.

Caregivers were excluded if they presented with active suicidal ideation, an unstable major medical or psychiatric condition based on clinician judgment, or evidence of substance abuse or dependence as determined by clinical interview.

Assessments

Screening evaluations. Individuals who were interested in participating in the study contacted the author, received information about the project, and completed a brief telephone screening interview to determine eligibility. Eligible participants were then scheduled for a face-to-face screening evaluation which began with an in-depth explanation of the study and provision of written informed consents. Psychiatric and medical eligibility were determined by semi-structured diagnostic interviews including administration of the Axis I Disorders modules of the Structured Clinical Interview (SCID) for the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV-TR), the Hamilton Depression Rating Scale (Ham-D; Hamilton, 1976) and the Clinical Global Impressions Scale (CGI) by a trained clinician. The screening evaluation also included the assessment of sociodemographic variables, medical history including a review of Parkinson’s disease symptoms and diagnosis, and current medications. In addition, the Mattis Dementia Rating Scale (DRS-2) was completed for the assessment of significant cognitive impairment. To determine caregiver eligibility, the caregivers were administered the Axis I Disorders modules of the SCID and the Mini-Mental Status Exam (MMSE) to assess cognitive functioning.
**Baseline interview and outcome evaluations.** At baseline, patients completed the Beck Depression Inventory II (BDI-II; Beck, Steer & Brown, 1996), the Medical Outcome Study Short Form Health Survey (SF-36; Ware, Snow, Kosinki, & Gandek, 1993), the Social Adjustment Scale-Self Report (SAS-SR; Weissman, 1999), and the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). Caregivers completed the Beck Depression Inventory II (BDI-II) and the Zarit Burden Interview (ZBI; Zarit, Gallo, Reichel, & Andersen, 1988). Patients and caregivers completed the same battery of questionnaires and clinician-administered scales at the end of treatment evaluation. In addition, the Ham-D was administered at the 1-month follow-up evaluation and a global impression of clinical functioning was assigned. See Table 1 for a list and schedule of measures.

**Description of measures.**

**Hamilton Depression Rating Scale.** The 17-item Hamilton Depression Rating Scale (Ham-D; Hamilton, 1976) is a clinician-administered measure of depression severity which assesses 4 components of depression: mood, anxiety, insomnia, and somatic complaints. Individual items are rated on either a 0-2 or 0-4 point scale with higher scores reflecting more severe symptoms. The total score ranges from 0 to 50, with higher scores reflecting higher severity of depression. Several studies have found the Ham-D to be sensitive to change following treatment (Bagby, Ryder, Schuller, & Marshall, 2004; Edwards et al., 1984; Lambert, Hatch, Kingston, & Edwards, 1986; Sayer et al., 1993), and to be adequately sensitive in detecting depression in individuals with PD (Williams et al., 2012). A review of studies reporting on the reliability of the
Ham-D total score indicate an internal consistency ranging from 0.46 to 0.97 and a test-retest reliability ranging from 0.81 to 0.98 (Bagby et al., 2004).

**Clinician’s Global Impression Scale.** The Clinician’s Global Impression Scale (CGI) is a clinician-rated standardized measure for assessing an individual’s overall change in illness severity and treatment response relative to baseline (Guy, 1976). There are two subscales: Severity (CGI-S) and the Global Improvement (CGI-I). The Severity subscale ranges from 1 (normal) to 7 (among the most extremely ill patients) while the Global Improvement subscale ranges from 1 (very much improved) to 7 (very much worse). Scores less than 4 on the CGI-I reflect improvement while scores greater than 4 reflect deterioration. A commonly used outcome measure in psychopharmacology trials, the CGI is sensitive in differentiating responders versus non-responders in clinical trials for depression (Guelfi, 1990). However, since its inception, the CGI’s psychometric properties have rarely been examined and its reliability and validity remains debatable (Bech, 1981; Forkmann et al., 2011).

**Beck Depression Inventory – II.** The Beck Depression Inventory – II (BDI-II; Beck, et al., 1996) is a self-administered 21-item questionnaire that is widely utilized for assessing symptoms and severity of depression. Each item is rated on a 4-point scale ranging from 0 to 3. The total score ranges from 0 to 63, with higher scores reflecting higher severity of depression. Beck and colleagues (1996) have provided the following scoring guidelines: 0 to 13 (minimal depression), 14 to 19 (mild depression), 20 to 28 (moderate depression), and 29 to 63 (severe depression). The BDI-II has been found to have high internal consistency ($\alpha = 0.92$), a test-retest reliability of 0.93, and a concurrent validity of 0.71 with the Ham-D (Beck et al., 1996). The Methods of Optimal Depression
Detection in Parkinson’s Disease study (MOOD-PD; Williams et al., 2012) also found the BDI-II to be a highly sensitive measure for detecting depression in individuals with PD.

**Multidimensional Scale of Perceived Social Support.** The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) is a brief 12-item self-report questionnaire assessing the perceived adequacy of social support from family, friends, and significant other. The responses are based on a Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree), with higher scores reflecting higher perceived social support. The total score ranges from 12 to 84, with each subscale ranging from 7 to 24, although no cut-off scores have been established. Zimet and colleagues (1988) found moderate construct validity, test-retest reliability of 0.85, and good internal reliability for the total scale ($\alpha = 0.85$) and the three subscales (Family $\alpha = 0.87$, Friends $\alpha = 0.85$, Significant Other $\alpha = 0.91$).

**Social Adjustment Scale – Self Report.** The Social Adjustment Scale – Self Report (SAS-SR) was developed by Weissman and Bothwell (1976) to assess social functioning in the following areas: work (as paid worker, unpaid housework, or student), social and leisure activities, relationships with extended family, marital role, parental role, and role as a member of the family unit). Average scores for each role area and an overall adjustment score are obtained ranging from 1 to 5, with higher scores reflecting poorer adjustment. The SAS-SR has demonstrated good internal reliability ($\alpha = 0.74$; Edwards, Yarvis, Mueller, Zingale, & Wagman, 1978) good test-retest reliability ($r = 0.80$; Edwards et al., 1978), good discriminant validity, and has been found to be sensitive to change following treatment in depressed patients (Weissman, 1999).
Medical Outcome Study Short Form Health Survey. The 36-item Short Form Health Survey (SF-36; Ware et al., 1993) is a self-administered questionnaire that estimates disease burden and measures overall health status, functional status, and health-related quality of life. It assesses eight subscales: limitations in physical activities due to health problems (Physical Functioning), limitations in usual role activities due to physical health problems (Role – Physical), limitations in usual role activities due to emotional problems (Role – Emotional), limitations in social activities because of health or emotional problems (Social Functioning), vitality (Energy), bodily pain (Pain), general mental health (Emotional Well-Being), and general perception of health (General Health). Each scale is scored on a 0 to 100 scale, with higher score reflecting higher functioning. Several studies have demonstrated the SF-36 to have good internal reliability, with most published α exceeding 0.80 (McHorney, War, Jr., Lu, & Sherbourne, 1994; Tsai, Bayliss, & Ware, 1997; Ware et al., 1993). It has been compared to other widely-used general health surveys and determined to have good content validity (Ware et al., 1993; Ware, 1995).

Zarit Burden Inventory. The Zarit Burden Inventory (ZBI) is a 22-item self-report measure of caregiver burden. Responses range from 0 to 4 and a total score ranges from 0 to 88, with higher scores reflecting higher caregiver burden (Zarit, Reever, & Bach-Peterson, 1980). Hebert and colleagues (2000) have suggested the following interpretation of scores: 0 to 21 = little or no burden, 21 to 40 = mild to moderate burden, 41 to 60 = moderate to severe burden, 61 to 88 = severe burden. The ZBI was found to have good internal reliability, ranging from 0.83 to 0.92 (Hebert et al., 2000; Zarit,
Anthony, & Boutselis, 1987), and was positively correlated with caregiver depression/stress and care receiver’s behavioral problems (Hebert et al., 2000).

**Burns’ Depression Checklist and weekly subjective mood ratings.** A brief check-in of depressive symptoms, using Burns’ Depressive Checklist (BDC; Burns, 1999) and a subjective weekly mood rating commenced every treatment session to provide additional monitoring of symptoms. The Burns’ Depression Checklist is a 15-item self-report measure of the presence and severity of common symptoms of depression over the past week. Each item is rated from 0 (not at all) to 3 (a lot), with scores ranging from 0 to 45. Higher scores indicate greater severity of depression. Previous studies have found the BDC to be strongly correlated to the BDI (Burns, 1999). It has good internal consistency and strong content, concurrent, and discriminative validity (Burns, 1999). Additionally, in each session patients are asked to give a weekly mood rating, ranging from 0 (great mood/no depression) to 10 (worst mood/severe depression). This mood rating provides a brief summary of the individuals’ subjective experience of his/her mood over the past week, which is used in the IPT sessions to link mood to interpersonal events related to the patient’s interpersonal problem area.

**Helpfulness and Empathy Scales.** The Helpfulness and Empathy scales are 5-item self-report measures that assess treatment acceptability (Burns, 2009). The Helpfulness Scale asks individuals to rate (1) their ability to express feelings during sessions, (2) their ability to talk about bothersome problems in sessions, (3) the helpfulness of techniques, (4) the practicality of the treatment approach, and (5) whether they learned new ways to deal with their problems. The Empathy Scale assesses the individuals’ perception of the therapist (1) as warm, sympathetic, and concerned, (2)
trustworthiness, (3) respectfulness, (4) ability to listen, and (5) ability to empathize with the individuals’ experience. Each item is rated from 0 (not at all true) to 4 (completely true). The total scores for the helpfulness and empathy scales range from 0 to 20, with higher scores indicating greater perceived helpfulness or empathy.
Table 1

*Schedule of Measures*

<table>
<thead>
<tr>
<th>PATIENT: Clinician-Administered</th>
<th>Baseline</th>
<th>Treatment</th>
<th>Post Treatment</th>
<th>1 month Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Information</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical History</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCID-I</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mattis Dementia Rating Scale</td>
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<tr>
<td>Hamilton Depression Scale</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Clinical Global Impression Scale</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**PATIENT: Self-Report Measures**

| Beck Depression Inventory-II    | X        |           | X              |                   |
| Medical Outcome Study Short     | X        |           | X              |                   |
| Form Health Survey              | X        |           | X              |                   |
| Social Adjustment Scale-Self     | X        |           | X              |                   |
| Report                          | X        |           | X              |                   |
| Multidimensional Scale of       | X        |           | X              |                   |
| Perceived Social Support        | X        |           | X              |                   |
## Schedule of Measures (continued)

<table>
<thead>
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<th>Treatment</th>
<th>Post Treatment</th>
<th>1 month Follow-Up</th>
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<td>Burns’ Depression Checklist</td>
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<tr>
<td>Subjective Mood Rating</td>
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<td>Empathy Rating</td>
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<tr>
<td>Helpfulness Rating</td>
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<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

| CAREPARTNER: Clinician-Administered                           |          |           |                |                   |
| Demographic Information                                      | X        |           |                |                   |
| SCID-I                                                        |           | X         |                |                   |
| Mini-Mental Status Exam                                       |           |           | X              |                   |

| CAREPARTNER: Self-Report Measures                            |          |           |                |                   |
| Beck Depression Inventory-II                                 |          | X         |                | X                 |
| Zarit Burden Inventory                                       |          | X         |                | X                 |
Treatment

Participants were seen in offices at UMDNJ – Robert Wood Johnson Medical School’s department of psychiatry in Piscataway, NJ or in their homes if they were unable to travel to UMDNJ. Participants received the study treatment at no cost and did not receive monetary compensation for the study-related assessments.

Interpersonal psychotherapy for depression in Parkinson’s disease. All patients received a course of IPT, with some modifications to accommodate the PD population. All treatment were provided by Jade Tiu Rubino, Psy.M., under the weekly supervision of Jami Young, Ph.D. Sessions were recorded, with permission, for supervision purposes.

The treatment consisted of 6 to 15 weekly IPT treatment sessions; session length and treatment length were modified based on patient need. Caregivers were invited to join the patient for up to three dyadic sessions at various points during the course of treatment. Caregivers also were made aware of the option to attend one to two individual caregiver sessions if needed. The caregiver sessions were designed to educate caregivers about the impact of interpersonal relationships on mood and to elicit caregivers’ support of the patient’s treatment goals. Caregiver sessions also allowed patients to address interpersonal conflicts and the opportunity to utilize communication skills presented in the patient’s individual treatment sessions.

IPT was conducted in three phases: initial, middle, and termination. The initial phase (up to five sessions) consisted of educating patients about the symptoms of depression and the course and concept of treatment. In addition to the medical diagnosis of PD, patients were also given the diagnosis of depression, which was characterized as a
medical illness in IPT. Patients were given the sick role to reduce self-blame for difficulty functioning in social roles and for lack of social motivation resulting from either PD or depressive symptoms. Patients were educated about the impact interpersonal relationships have on mood and vice versa. The clinician then conducted an inventory of relevant interpersonal relationships to determine how they related to current depressive symptoms. Finally, the clinician and patient collaboratively identified the IPT problem area(s) most related to the current depressive episode and set treatment goals.

In the middle phase (four to ten sessions), the clinician introduced techniques that focused on the resolution of the designated interpersonal problem area: unresolved grief (complicated bereavement), role transitions, interpersonal role disputes, and interpersonal deficits (difficulties establishing or sustaining relationships). The primary focus of treatment for PD patients was on role transitions and/or interpersonal role disputes. Though some individuals with depression in PD may experience difficulties with grief and/or interpersonal deficits, these were not relevant to the patients in this case series.

The treatment goals for the problem area of role transitions included helping the patient adjust to the life change associated with the diagnosis of a progressive illness and to utilize or develop social supports to help with the transition. The treatment goals for the problem area of interpersonal role disputes included identifying the conflict, addressing issues associated with the conflict, specifying a plan of action, and modifying interpersonal behavior, communication and/or expectations about the relationship, as needed, to resolve the dispute.

Tasks in the termination phase (up to two sessions) involved an explicit discussion of feelings towards termination (including both positive and negative
reactions) and a review of the warning signs of depression, the techniques learned, and the patient’s progress in treatment. Furthermore, clinician and patient discussed and problem-solved any anticipated challenges in the future and evaluate the need for further treatment (i.e., maintenance or booster sessions, referral for additional treatment).

Since family members, friends or significant others are often highly involved in the care of PD patients, they were considered to be important interpersonal relationships that may affect or be affected by the patient’s mood. Thereby, they were ideal interpersonal targets for IPT treatment. Following previous adaptations of IPT for the medical population, caregivers were integrated into our treatment process. Caregivers were invited to join the patient in the final initial session, up to two middle phase sessions, and the final termination session. They were also provided the option of one to two individual caregiver sessions if needed, or requested. All personal patient information discussed during the individual study treatment sessions were kept confidential and not discussed with the caregiver during the dyadic or individual caregiver sessions without prior approval from the patient.

During the initial phase, the caregiver was educated about the non-motor symptoms of PD, depression and its relationship to interpersonal contexts. The purpose of the dyadic middle phase sessions was to give the patient a chance to practice new ways of communicating with his/her caregiver with the therapist present to help resolve conflict or garner support to deal with the life transition. The purpose of the dyadic termination session was to review the warning signs of depression with the caregiver, discuss the progress made by the patient, and to review where to seek help if the problems return.
Modifications to the study treatment were made based on previous recommendations for the psychosocial treatment of the elderly and medical populations. Home visits were considered for those individuals with PD experiencing transportation difficulties (i.e., inability or limited ability to drive due to PD symptoms). Treatment allowed for flexible scheduling; session and treatment lengths were based on individuals’ needs. To facilitate memory retention, psychoeducational materials and other treatment-related information were presented in a simplified manner in both verbal and written formats. Handouts and summary sheets were provided. Brief verbal summaries were presented at the commencement and conclusion of each session.

**Standard medical care.** All patients received the study treatment, in addition to their standard medical care, defined as usual medical treatment under the supervision of the patients' personal doctors (e.g., neurologists, psychiatrists, primary care physicians). The patients continued to follow-up with all routine doctors’ appointments. Study treatment did not involve medication and patients' medications were not altered in any way. Starting, stopping, or altering the dose of medications was not permitted during the course of the study as this has the potential to confound study results.

As part of standard care, all patients were provided with a 24 hour emergency number, and were instructed to call the study clinician if their symptoms worsen over the course of the study to discuss alternative treatment options.
Data Analysis

Due to the small sample size, the following information was examined and reported to investigate the acceptability, feasibility and initial effectiveness of the intervention:

**Primary hypotheses.** The primary hypotheses were that IPT in addition to standard medical care would be acceptable and feasible for patients with depression in PD and would result in meaningful improvements in patients’ depressive symptoms. Acceptability was assessed by the number of individuals interested in study participation and by patient ratings of session helpfulness. Feasibility was assessed by tracking the number of sessions attended by both patients and caregivers, and the total time it took to complete treatment. Treatment effectiveness was assessed by examining change on the clinician-administered Ham-D and CGI and on the BDI-II self-report questionnaire. Clinically significant improvement in the patient's depressive symptoms was determined by a 50% total score decrease in the Ham-D and/or BDI-II from baseline to endpoint and/or a CGI-I of “Much Improved” or “Very Much Improved” (Dobkin et al., 2011a).

**Secondary hypotheses.** A secondary hypothesis was that the intervention would also result in meaningful improvements in patients’ social functioning and perceived social support. Improvement in the patient’s social functioning was reflected in a decrease of SAS-SR total score from baseline to endpoint. Improvement in perceived social support was as an increase in the total score of the MSPSS.

It was also hypothesized that the intervention would reduce or prevent the worsening of the caregivers’ depressive symptoms or caregiver burden. Clinically significant improvement in the caregiver’s depressive symptoms was defined as a
decrease in severity range on the BDI-II scale. Clinically significant improvement in caregiver’s perceived level of burden was defined as decrease in severity range on the ZBI scale.
CHAPTER III

Patient Overview

Fifteen individuals expressed interest in participating in the study and completed a brief telephone screening interview to determine eligibility. Of those interested, five did not endorse significant depression symptoms to be eligible for the study, one reported a diagnosis of schizoaffective disorder, one reported a diagnosis of vascular parkinsonism, and two lived out of state. A total of six participants and their caregivers completed the face-to-face screening evaluation for the project. Of the six participants who were evaluated in-person, one did not meet the depression criteria, one was medically unstable to participate (i.e., experienced a fall after screening and was admitted to a short-term rehabilitation facility), and one was unwilling to commit to the treatment due to previously planned activities. This resulted in three eligible patients and their caregivers who enrolled in the study. See Patient Flow Diagram in Figure 1.

The three patients described below were diagnosed with Parkinson’s disease (PD) and met DSM-IV criteria for major depressive disorder or dysthymia (with duration of the current episode ranging from one year to three years), and did not present with dementia or psychosis. Patients agreed to keep their psychotropic and PD medications stable and to refrain from additional psychotherapy while in the study. Patient names and identifying information were modified to protect patient anonymity.
Case 1: Ann

Ann was a 53-year-old, married, Caucasian female diagnosed with Parkinson’s disease one year ago. She had been married for over 30 years and had three children. She graduated from high school and was self-employed in graphic and web design. She had been receiving disability for the past seven months. She met criteria for recurrent major depressive disorder; she identified the onset of her current episode of depression with being diagnosed with PD. Comorbid DSM-IV diagnoses included panic disorder, generalized anxiety disorder, social anxiety, and alcohol dependence in full remission. Current medications included carbidopa-L-dopa for PD, and Pristiq and Klonopin for depression and anxiety. She was previously on other antidepressant medications but had discontinued them due to adverse side effects. She engaged in psychotherapy for two years in the past for depression. Medically, she was diagnosed with Lyme disease. Although she viewed her husband as supportive, Ann identified her mother, whom she saw on a regular basis and was better informed about her PD diagnosis than her husband, as her caregiver for the study.

Case 2: Bob

Bob was a 76-year-old married, Caucasian male diagnosed with Parkinson’s disease one year ago. He graduated from college and had been retired for ten years, following a career as a telecommunications manager. He had been married for over 50 years and had six grown children, five of which lived in neighboring towns. He met DSM-IV criteria for a single episode major depressive disorder with onset one year ago. He also met criteria for generalized anxiety disorder. Current medication included
Azilect for PD. He was also taking medications to treat high blood pressure and high cholesterol. He was not on any medications for depression or anxiety and had not had any previous psychological treatments. He identified his wife as his primary caregiver.

Case 3: Cathy

Cathy was a 76-year-old married, Caucasian female who had PD for the past 11 years. She had two years of college education and had a career as an occupational health and safety inspector before retiring ten years ago. She met DSM-IV criteria for dysthymic disorder and panic disorder with agoraphobia. Current medications included carbidopa-L-dopa, Sinemet CR, and Mirapex for PD and Lexapro, Klonazepam, and Lorazepam for depression and anxiety. She was on eight previous antidepressants in the past. She was also taking medications to treat high cholesterol, high blood pressure and acid reflux. Additional medical diagnoses include mitral valve prolapse, herniated discs in her neck, bursitis in her hips and shoulders and Reynaud’s syndrome. She identified her husband as her primary caregiver.
Enrollment

Completed phone screen to assess for eligibility (n=15)

Excluded (n=9)
- Not meeting inclusion criteria (n=9)
- Declined to participate (n=0)

Completed in-person screening evaluation (n=6)

Excluded (n=4)
- Not meeting inclusion criteria (n=3)
- Declined to participate (n=1)

Intervention

Received IPT for dPD intervention (n=3)

Early Termination (n=1)
- Death

Follow-Up

Completed Follow-up Evaluation (n=2)

Analysis

Analyzed (n=3)

Figure 1. Patient flow diagram.
CHAPTER IV

Case 1: Ann

Baseline

At baseline, Ann presented with severe depression (Ham-D = 24; CGI-S = 5; BDI-II = 29) with moderate difficulties adjusting to her current social functioning, particularly in areas of housework, parental role, and spousal role (SAS-SR overall adjustment = 2.83, housework = 3.67, social/leisure activities = 2.56, relationship with extended family = 1.88, relationship with significant other = 3.33, parental role = 3.50, role as member of family unit = 2.25). She endorsed depressed mood and feelings of worthlessness daily. She reported low interest and motivation in all activities, spending most of her time at home, lying on the couch and watching television. Anticipating negative responses from others for her PD symptoms, Ann had become more isolated. Particularly bothersome for Ann, was her decreased motivation in household cleaning, an activity she previously enjoyed. She admitted to feelings of guilt and being overly self-critical for her decreased productivity. A recovering alcoholic, she had been pushing herself to attend Alcoholics Anonymous (AA) meetings 3-4x week, but her attendance had decreased over the past year. She reported decreased appetite, occasional sleeping difficulties, irritability, and fleeting passive suicidal ideation. Moreover, Ann reported significant anxiety, worrying most of the day about various things including her health.

Ann perceived her health to be fair (SF-36 general health = 25) and reported severe physical and role limitations due to physical functioning (SF-36 physical functioning = 10, role limitations due to physical health = 0). She endorsed low energy
and severe body pain (SF-36 energy = 35, pain = 22.5). She also reported moderate limitations in role and social functioning due to emotional problems (SF-36 emotional well-being = 40, role limitations due to emotional problems = 33.33, social functioning = 12.5).

Ann’s responses on the MSPSS suggested that she perceived receiving adequate support from her family, friends and husband (total score = 59, family = 19, friends = 20, significant other = 20). Ann’s mother reported minimal symptoms of depression (BDI-II = 8) and caregiver burden (ZBI = 7). See Table 2 for Ann’s summary of scores.

**Course of Treatment**

Ann attended a total of six sessions over the course of six weeks. She reported her symptoms to have begun after receiving her PD diagnosis one year ago. Ann’s symptoms had worsened over the past few months as she became more aware of her physical limitations. She acknowledged that both symptoms of PD and depression had impacted her activities. To reduce her guilt for decreased productivity, Ann was given the limited sick role which encouraged her to push herself to do activities despite her physical disabilities and depression, but not be hard on herself when she was unable to do activities despite her efforts.

During the interpersonal inventory in the initial phase of treatment, Ann identified many close relationships including her husband, three children, mother, six siblings and several friends through AA and PD support groups. In addition to the physical limitations of PD, she described both positive and negative changes in her relationships, particularly with her husband, mother and children, since her diagnosis: overall she
reported increased support from her family, while also expressing frustration towards them for being overprotective of her.

Prior to her diagnosis, Ann described a distant relationship with her husband. Over the past five years, they had significantly decreased the amount of time engaged in activities together, frequently fought over a myriad of issues, and had been sleeping in separate bedrooms. Ann initially withheld her diagnosis from husband, turning to her mother and sister for support instead. Ann stated that it was difficult to have serious conversations with her husband, and she would resort to writing him letters without any follow-up conversations. She later informed him of the diagnosis and left informative pamphlets about PD in the house for him to find. Since the diagnosis, she reported that her husband became more supportive, but had taken on a parenting role towards her. She described him to be overprotective and stated that he viewed her condition to be worse than it was. Ann stated that he frequently reminded her to take her medications and discouraged her from engaging in activities he viewed to be strenuous.

Ann reported that since being diagnosed, she had been seeing and speaking with her mother more frequently. In addition to engaging in pleasurable activities, Ann described her mother as the primary person she turned to with regards to PD. Her mother frequently drove her to her medical appointments and often engaged in conversations with Ann about PD. Similar to her husband, Ann also expressed frustration that her mother did not treat her as an adult and had been overprotective of her.

Ann reported good relationships with her three children, and enjoyed spending time and talking with them. However, it became evident that it was difficult for Ann to discuss her diagnosis with her children, particularly her daughters, despite being open to
discuss many other topics with them. She had also left them pamphlets about PD, but had not engaged them in a discussion about her personal experience. Rather, Ann had been hiding her PD symptoms from them in an effort to keep them from worrying about her and from treating her like a child, although this often left her exhausted. She had also been declining to do activities with her daughters for fear that her symptoms might worsen in public. Although Ann was more open to discussing her PD symptoms with her son, who lives with her, she stated that he does not understand the severity of her symptoms. She expressed frustration with him for not offering more help with household chores.

It was apparent that Ann’s depressive symptoms were associated with the significant life change of being diagnosed with and being limited by the symptoms of PD and the resulting changes in her relationships. Thus, it was determined that role transition be the interpersonal problem area to be addressed in the middle phase of treatment. The primary treatment goal for the middle phase of treatment was to help Ann and the people in her life adjust to this life change and, as a result, to improve her depressive symptoms. Ann identified wanting to have conversations with her family members about the limitations of PD while still being able to maintain her independence. Additionally, Ann expressed that she did not want PD to define her, thus a secondary treatment goal was to continue with other roles in her life, including spending time with her children and improving her relationship with her husband.

Ann’s mother attended one caregiver session which involved psychoeducation on the non-motor symptoms of PD and on the association between depression and interpersonal relationships. To provide Ann with support outside of sessions, her mother
was informed of her treatment goals, including Ann’s goal to continue to do activities independently despite her physical limitations and depression.

Ann only attended one middle phase session. Towards Ann’s goal of having a conversation with her youngest daughter about her PD diagnosis, the therapist discussed useful communication skills including identifying specific goals for the conversation, finding the best time to have the conversation, planning how to start the conversation, being prepared with key points to discuss, and allowing the other person to respond. A summary of the key points discussed was emailed to Ann immediately after the session and a phone coaching session was offered to allow for role playing.

A few days following the phone coaching session, the therapist was informed by Ann’s family that Ann had passed away due to medical complications unrelated to the treatment. Ann had reported a worsening of her PD symptoms and had been experiencing fainting spells in the last couple of weeks of treatment. She had seen her physician the day prior to her final session and was undergoing diagnostic tests to determine the cause of her symptoms. Her mother stated that the cause of death was determined to be cardiac arrest.

Outcome

Ann continued to experience symptoms of depression throughout the course of treatment. A review of her weekly subjective mood ratings and Burns Depression Checklist (see Figure 2) indicated her depression to be strongly associated with her physical symptoms, as observed by the increase in depression symptoms by Weeks 5 and 6. A placebo effect could have also contributed to the early decrease in depressive
symptoms, and the observed increase in the final two sessions may be attributed to the wearing off of this effect. Despite increased severity of depression at Week 6, she no longer endorsed suicidal ideation.

Ann attended sessions consistently and found the treatment to be helpful, rating each session highly on the Helpfulness Scale (Mean = 17.83; see Figure 3). She indicated that she was able to express her feelings and talk about the problems that were bothersome to her over the course of treatment. She found the techniques to be helpful and the approach to be acceptable and reasonable. Her ratings for the helpfulness of the techniques and for learning new strategies for managing her problems were lower during the initial phase of treatment (session 1 to 5) since skills were not introduced until the active, middle phase of treatment. She rated these highly at her middle phase session (session 6).
Figure 2. Ann’s depression ratings over the course of treatment.
Figure 3. Ann’s helpfulness ratings over the course of treatment.
Table 2

Case 1: Ann’s Summary of Scores

<table>
<thead>
<tr>
<th>Depression Measures&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Baseline</th>
<th>Post Treatment</th>
<th>I-month Follow-up</th>
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<td><em>Clinician’s Global Impression Scale – Severity</em></td>
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<td>-</td>
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<tr>
<td><em>Beck Depression Inventory – II</em></td>
<td>29</td>
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<td>-</td>
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<td><em>Housework</em></td>
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<td>-</td>
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<td><em>Social and Leisure Activities</em></td>
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<td><em>Overall Adjustment</em></td>
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<td><em>Friends</em></td>
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<td>-</td>
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<td><em>Significant Other</em></td>
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<td><em>Total</em></td>
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Table 2 - continued

Case 1: Ann’s Summary of Scores (continued)

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<td>Role Limitations due to Physical Health</td>
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<td>-</td>
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<tr>
<td>Role Limitations due to Emotional Problems</td>
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<tr>
<td>General Health</td>
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</tr>
</tbody>
</table>

**Caregiver Measures**<sup>a</sup>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck Depression Inventory – II</td>
<td>9</td>
</tr>
<tr>
<td>Zarit Burden Inventory</td>
<td>26</td>
</tr>
</tbody>
</table>

<sup>a</sup>Decrease in scores indicates improvement. <sup>b</sup>Increase in scores indicates improvement.
CHAPTER V

Case 2: Bob

Baseline

At baseline, Bob presented with moderate depression (Ham-D = 14; CGI-S = 4; BDI-II = 20) with mild to moderate difficulties adjusting to his current social functioning (SAS-SR overall adjustment = 2.25, housework = 1.33, social/leisure activities = 2.44, relationship with extended family = 1.88, relationship with significant other = 2.78, role as member of family unit = 2.75). He endorsed depressed mood and occasional feelings of worthlessness. Although he stated that he was not “immobilized” by his depression and reported his emotional health to be adequate, he reported severe role limitations due to emotional problems (SF-36 emotional well-being = 50, role limitations due to emotional problems = 0). He acknowledged that his interest in activities had significantly decreased, preferring to sit and watch television instead of engaging in productive activities. He struggled with completing daily chores and household projects that needed to be done in order to sell their home. An avid golfer, Bob continued to participate in weekly golf outings with his friends, although this had decreased from twice a week. Although he acknowledged improvement in his mood when engaged in activities, he reported that it was difficult to get started and that he had to push himself to get out of bed in the mornings. He reported moderate limitations in social functioning (SF-36 social functioning = 75) and described his social interest to be good, but attributed this to his wife, Jackie, whom he described as a “social butterfly,” who frequently scheduled social activities for the both of them. He also reported significant anxiety about the
future and feelings of guilt related to the “downsizing” of their home and his perceived inability to provide for his family.

Bob perceived himself to be in great health (SF-36 general health = 85) and reported minimal physical and role limitations due to physical functioning (SF-36 physical functioning = 95, role limitations due to physical health = 100). He endorsed some fatigue and mild body pain (SF-36 energy = 50, pain = 90).

Bob’s responses on the MSPSS (total = 59) suggest that he perceived receiving significant support from his wife (significant other = 28), adequate support from his family (family = 22), and minimal support from his friends (friends = 9). Bob’s wife reported minimal symptoms of depression (BDI-II = 9) and mild to moderate caregiver burden (ZBI = 26).

Course of Treatment

Bob attended a total of 15 sessions over the course of 17 weeks which accommodated a two-week family vacation during the latter half of the middle phase. He attended four initial phase sessions (sessions 1 to 4), ten middle phase sessions (sessions 5 to 14), and one termination session.

During the initial phase of treatment, Bob reported a large family consisting of his wife and six grown children, five of whom lived in the same state with their own families. Bob described a close and supportive relationship with his wife, Jackie. Prior to their financial difficulties, Bob reported that he and Jackie often took weekend trips to New York City and dined at restaurants weekly. He stated that these activities significantly decreased due to their recent financial situation; this had been bothersome
for Bob. Although they continued to engage in activities together (i.e., walks, dinners
and playing cards with friends), Bob stated that due to their differing interests, they did
most things separately. Bob identified their primary conflict to be the issue of Jackie’s
retirement and Bob’s reservations about their financial stability when Jackie retires.
Jackie, who was primarily responsible for their finances, viewed the situation to be
manageable but has avoided discussing the topic because she knew it exacerbated Bob’s
anxiety and depression.

Overall, Bob described positive and close relationships with his children, although
he did not see them or speak with them as frequently as desired due to their jobs and
families. In particular, he described a distant relationship with his son, Scott, who he
only saw on holidays despite previous discussions to get together for lunch. In general,
Bob had been reluctant to initiate contact with his children, stating that he did not want to
impose on their busy lives and rather preferred his wife to be the point of contact
responsible for coordinating get-togethers and for keeping him abreast on his children’s
activities.

Bob also expressed particular frustration with some of his children who he viewed
as necessary to his retirement goals (i.e., his sons who were contractors and could help
with house-related projects and his daughter who was the executor of his will). Bob
stated that his children previously offered their services but had been inconsistent in
providing their help, again attributing this to their jobs and families. Despite his
frustrations, Bob had only made passing or joking comments to his children about their
decreased contact.
A review of his interpersonal inventory revealed Bob’s depression and anxiety symptoms to be associated with his struggle with the transition into old age and the challenges related to getting older (i.e., retirement, financial planning, spending time with family members who have their own families). Bob reported symptoms of depression and anxiety began around the time of his diagnosis of PD, but worsened as a result of financial difficulties over the past year. Bob and Jackie were considering selling their home and moving into a smaller apartment or retirement facility. Bob hoped that his children would help with the house projects that needed to be done prior to selling the house and with planning for their future. However, he had not been receiving their aid as quickly as he would prefer.

Thus to decrease his depression and worries about his future, the treatment goals during the middle phase of treatment were to increase the overall amount of quality time with his family. This included increasing pleasurable interactions with his children and spending more time working on issues which concern him (i.e., household projects, selling the home, researching retirement facilities, financial planning) with the help of his family. Due to the time-limited nature of treatment, Bob narrowed down the primary focus of treatment to enlisting the help of two of his children, Nina and Daniel, with settling his financial and housing situation and a secondary focus of increasing contact with his children, particularly Scott.

Jackie attended a joint caregiver session at the first middle phase session. In this session, she was provided psychoeducation on interpersonal psychotherapy, Bob’s experience with depression and how it related to his transition into old age and was exacerbated by his diagnosis of PD. Bob explained to Jackie his goals for treatment and
began a discussion about how Jackie could help to achieve these goals outside of sessions. Bob and Jackie were encouraged to have a conversation about the necessary steps to have their financial affairs and housing situation in order. Contrary to Bob’s view, Jackie perceived that it was not necessary to ask their children for assistance. Thus, the therapist asked them to, together as a team, prioritize the steps needed to be accomplished, determine which tasks can be done on their own, with their children’s help, or with the help of outside resources. It was suggested that this conversation occur prior to requesting help from Nina and Daniel. Jackie later attended a second joint caregiver session towards the end of the middle phase which provided Bob another opportunity to discuss with Jackie how she could be helpful to him in completing his goals. They utilized this second caregiver session to begin a conversation about their financial concerns and the issues to discuss with the financial planner.

Towards his goal of increasing pleasurable interactions with his children, Bob was encouraged to plan lunches with his son, Scott. This was reviewed at the beginning of each session to increase accountability and the likelihood of following through on this goal. As a result, he met with Scott over lunch and agreed on meeting for monthly lunches. Although he acknowledged improvement in his mood as a result of these interactions, Bob expressed a sense of guilt, indicating that he was “losing a day” going out to lunch instead of being productive at home. Thus, the therapist reminded him of the limited sick role, and discussed having balance in his life and that it was acceptable to have quality time and unproductive days within overall productive weeks.

Towards his goal of working on resolving his concerns about his future, he was encouraged to have conversations with his children requesting their help. As previously
mentioned, in preparation for these conversations, Bob and Jackie prioritized the tasks needed to be done and determined which tasks required their children’s help. Bob created a list of house projects and phone calls he was responsible for and enlisted Jackie to make phone calls to the plumber. Due to Jackie’s busy work schedule, Bob also offered to initiate contact with a financial planner.

In sessions, Bob was encouraged to set realistic weekly goals and he utilized the therapist to keep him accountable for these goals. It became apparent, however, that since his retirement, Bob had been struggling with procrastination which contributed to his decreased productivity and promoted his anxiety and depression. Moreover, his generalized anxiety further exacerbated his procrastination. He described that deadlines at work previously allowed him to accomplish his goals in a timely manner. Bob was, therefore, encouraged to set a schedule for himself and to share his schedule with Jackie for additional motivation. Bob, however, was unwilling to attempt this strategy expressing concern that it would result in increased nagging from Jackie.

During the course of treatment, Bob increased attempts at seeing his sons and thanked them for the help they previously provided for the house. He mentioned his current house projects, and as before, his sons offered their services without Bob directly asking for help. Analyses of these conversations suggested that Bob was concerned that making direct requests from his children would create conflict. However, he acknowledged that his passivity caused him to be irritable towards his children when they did not follow through on their offers to help. Additionally, he had difficulties with being specific in his requests including his expectations about timing. This contributed to
others not fully comprehending Bob’s needs, thereby contributing to Bob’s frustration, anxiety, and depression.

Communication skills were discussed in sessions, particularly being direct and specific in his requests (including providing time frames). The pros and cons of direct communication were additionally addressed. Sessions also provided Bob the opportunity to script conversations to practice a different manner of communicating with his children. However, Bob perceived his requests to be adequately direct and was reluctant to include time frames in his requests, stating that he did not want to “be a pain” by giving them a deadline.

At session 12, Bob had made only minor progress towards his treatment goals and his BDI-II (score = 19) revealed minimal improvement in his depression symptoms. Bob indicated that he wanted to continue to “chip away” at his financial and housing situation which he viewed to be improving his mood. Thus, it was mutually agreed to extend his treatment by adding two middle phase sessions. This provided Bob with additional time to speak with the financial planner and to have a conversation with Nina about searching for apartments and visiting retirement facilities.

By termination, Bob had been more active in scheduling pleasurable activities with Scott and had made some progress regarding his financial and housing situation. He initiated contact with a financial planner and was in the process of scheduling their initial meeting. He also had a discussion with Nina who agreed to help with looking at apartments and retirement facilities and to attend the meeting with the financial planner. Bob had become more engaged in household tasks and had spoken with his sons about getting involved with household projects. Bob, however, continued to struggle with
expressing his frustrations and concerns with his children and with directly requesting for their assistance, preferring instead to make joking or aside comments. Despite continued encouragement, Bob appeared reluctant or unwilling to do this.

It was determined that Bob would not benefit from additional sessions since his reluctance to utilize techniques would continue to limit treatment progress. Therefore, the termination session focused on reviewing the progress he made, particularly the positive impact of spending time with his family on his mood, and how he could maintain these positive interactions with his family after treatment. His ambivalence to change his communication style and its effect on treatment progress was discussed. Finally, the termination session focused on examining how Bob could continue to get support from others to resolve any remaining issues related to planning for his future, including attempting previously discussed communication strategies.

**Outcome**

Bob attended sessions consistently and found the therapist to be empathic (Empathy total score = 18) and the sessions to be adequately helpful (Mean = 14.07; see Figure 4). A review of his responses indicated that Bob found the IPT approach to be reasonable and was able to express his feelings and talk about the problems that were bothering him for all sessions. His ratings over the course of treatment indicated that he did not learn many new strategies for coping with his problems and he was less inclined to view the techniques learned be helpful. These ratings were not surprising considering his reluctance to utilize the strategies. At termination, Bob rated the strategies learned to
be adequately helpful, which suggests more willingness to attempt the techniques and greater opportunities to determine their effectiveness.

Bob experienced moderate depression throughout the course of treatment (see Figure 5). A review of his weekly mood ratings revealed his moods to be significantly affected by situational stressors and perceived productivity related to his housing projects and financial planning. It was also apparent that positive interactions with his family had a notable buffering effect against his depression. This was evident at the first session (which followed a vacation with his wife) and in the latter half of treatment when he increased his interactions with his children including a two-week family vacation. His depression ratings indicated his mood to be stabilizing by termination of treatment.

Although there was no noticeable decline in Bob’s physical health during treatment, Bob’s responses on the SF-36 at his post-treatment evaluation indicated significant worsening of his health with increased pain and limitations on physical functioning and usual role activities due to physical health problems (SF-36 general health = 55, physical functioning = 65, pain = 55, role limitations due to physical health = 0). It is possible that Bob’s increased engagement in physical activities at home may have resulted in increased awareness of his physical limitations due to PD resulting in this response. There was a minimal increase in energy (SF-36 energy = 60) and a decrease in limitations due to emotional problems and an increase in emotional well-being (SF-36 emotional well-being = 48, role limitations due to emotional problems = 33.33). His Ham-D and BDI-II scores (12 and 18, respectively) reflected mild depressive symptoms. Although not a clinically significant change (CGI-I = 3), Bob showed a reduction in depressive symptoms over the course of treatment. He continued to report
depressed mood, though he no longer endorsed feelings of worthlessness. There were no significant changes associated with feelings of guilt or anxiety. There were, however, notable changes in Bob’s interest and motivation in activities over the course of treatment. At his post-treatment evaluation he reported increased interest in social activities and increased overall productivity. He reported that his television-watching had decreased “dramatically” and that his motivation to engage in activities had significantly improved. These improvements were maintained at 1-month follow-up (Ham-D = 11; CGI-I = 3). See Table 3 for a summary of Bob’s scores.

There were no significant changes in Bob’s perception of social support, although there was a minimal increase in perceived support from his family (MSPSS total = 62, family = 25, friends = 9, significant other = 28). There was no significant change in Bob’s social functioning as measured by the SAS-SR (overall adjustment = 2.36, housework = 1.83, social/leisure activities = 2.44, relationships with extended family = 2.25, relationship with significant other = 2.89, role as member of family unit = 2.00). There was minimal improvement in his caregiver’s depressive symptoms (BDI-II = 6) and caregiver burden (ZBI = 23).
Figure 4. Bob’s helpfulness ratings over the course of treatment.
Figure 5. Bob’s depression ratings over the course of treatment
Table 3

Case 2: Bob’s Summary of Scores

<table>
<thead>
<tr>
<th>Depression Measures&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Baseline</th>
<th>Post Treatment</th>
<th>1-month Follow-up</th>
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<tr>
<td>Hamilton Depression Scale</td>
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<td>Clinician’s Global Impression Scale – Improvement</td>
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<td>Beck Depression Inventory – II</td>
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<th>Social Adjustment Scale – Self Report&lt;sup&gt;b&lt;/sup&gt;</th>
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<th>Post Treatment</th>
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<tbody>
<tr>
<td>Housework</td>
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<td>Social and Leisure Activities</td>
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<td>Relationship with Significant Other</td>
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<td>Overall Adjustment</td>
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<th>1-month Follow-up</th>
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<tr>
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<tr>
<td>Total</td>
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<td>62</td>
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Table 3 - continued

Case 2: Bob’s Summary of Scores (continued)

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<th></th>
<th>Baseline</th>
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<th>1-month Follow-up</th>
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<tr>
<td><strong>36-Item Short-Form Health Survey</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>Emotional Well-Being</td>
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<td>Social Functioning</td>
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<td>Pain</td>
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<td>General Health</td>
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<td>Beck Depression Inventory – II</td>
<td>9</td>
<td>6</td>
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<tr>
<td>Zarit Burden Inventory</td>
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</tbody>
</table>

<sup>a</sup>Decrease in scores indicates improvement.  
<sup>b</sup>Increase in scores indicates improvement.
Baseline

At baseline, Cathy presented with severe depression (Ham-D = 22; CGI-S = 5; BDI-II = 16) and mild to moderate difficulty adjusting to her current social functioning (SAS-SR overall adjustment = 1.56, housework = 1.33, social/leisure activities = 1.11, relationships with extended family = 1.38, relationship with significant other = 2.56, role as member of family unit = 1.00). She reported her mental health to be fair and reported moderate limitations in social functioning and severe limitations in role functioning due to her emotional well-being (SF-36 emotional well-being = 44, social functioning = 75, role limitations due to emotional problems. Cathy endorsed depressed mood most days with occasional feelings of hopelessness and helplessness. She reported significant loss of interest in all activities, stating that “nothing appealed to [me] anymore,” including housework, reading, and playing cards. Cathy also endorsed loss of interest in social activities, declining invitations to go to lunch with friends, preferring to stay at home with her husband instead. Although Cathy described her current appetite to be good, she reported an unintentional weight loss of over 20 lbs. over the past 1 ½ years; she had not regained any of this weight which was significantly troublesome to her. She reported being overly critical of her physical appearance and reported frequent rumination and guilt related to opting out of activities. She also endorsed frequent irritability, daily early awakening and severe fatigue.
In addition to depression, Cathy presented with significant symptoms of anxiety which interfered with her daily functioning and met criteria for panic disorder with agoraphobia. She reported that she began experiencing panic attacks approximately 1½ years ago and had avoided driving or leaving her home as a result of these attacks. Cathy reported that her anxiety and avoidance decreased with her medications though she still experienced daily panic attacks. Formerly a competitive ballroom dancer with her husband, Cathy stated that due to her anxiety and the worsening of her PD symptoms, she and her husband no longer engaged in dancing; this further contributed to her depressed mood. She reported that she fearful in engaging in activities and had cancelled several activities and appointments, including medical visits, due to increased anxiety and PD symptoms. Cathy also reported concerns for her children and constant and excessive worries about her physical health and the progression of her illness.

Cathy described her health to be fair (SF-36 general health = 25) and reported moderate physical and role limitations due to physical functioning (SF-36 physical functioning = 55, role limitations due to physical health = 75). She endorsed low energy and severe body pain (SF-36 energy = 50, pain = 37.5). Cathy stated that her PD symptoms interfered with her ability to drive and dance. Due to her nightly off periods, Cathy avoided seeing others beginning in the late afternoon and preferred not to take phone calls when her symptoms were present. The latter has caused multiple arguments with her husband who often answered calls and transferred them to her despite her requests. Cathy reported that the anxiety and PD symptoms significantly affected her relationships in that she had become increasingly socially isolated and overly dependent on her husband, resulting in feelings of guilt and depression.
Cathy’s responses on the MSPSS suggested that she felt well supported by her family, friends, and husband (total score = 80, family = 24, friends = 28, significant other = 28). Cathy’s husband reported minimal depression (BDI-II = 13) though moderate to severe caregiver burden (ZBI = 51). Her husband reported frustration at Cathy’s overreliance on him, which has resulted in him decreasing time spent on hobbies and independent activities.

Course of Treatment

Cathy attended a total of nine sessions over the course of nine weeks. All sessions were held in Cathy’s home due to her inability to independently drive as a result of her PD symptoms and agoraphobia. She attended three initial phase sessions (sessions 1 to 3), five middle phase sessions (sessions 4 to 8), and one termination session (session 9). Cathy’s treatment began a couple of months prior to the therapist’s internship commencement, thus the three initial phase sessions were extended to two-hour sessions to accommodate the shortened time frame.

During the initial phase of treatment, the interpersonal inventory revealed several significant relationships in Cathy’s life including her husband, two children, neighbor, friends, and extended family members. Cathy described a caring relationship with her second husband, John, who she had been married to for 27 years. Cathy and John had been avid ballroom dancers for over 30 years, but had not gone to dance studios in over a year due to Cathy’s anxiety and PD symptoms. Cathy stated that she had been overly reliant on John over the past year; he was her primary source of transportation and company. Cathy acknowledged that John had sacrificed many of his activities and
hobbies, including attending church and playing tennis, in order to accommodate her needs and she expressed guilt for his sacrifice. She also reported that recently, she and John had been getting into frequent trivial arguments, including John’s tendency to be late and to ignore her requests about not taking phone calls at night.

Despite both her children living out of state, Cathy also described them to be supportive, and she had been open with them about her struggles with PD. She spoke with her son on a weekly basis and described the phone calls to have had positive impacts on her mood. Her daughter visited monthly and engaged Cathy in pleasurable activities such as shopping or going to the beach. Cathy reported that although her relationship with her daughter had grown closer over the past couple of months, she still felt her daughter’s resentment over her divorce with her first husband. To prevent further estrangement, Cathy had avoided engaging in arguments with her daughter.

Cathy identified several friends who she met through dance, and stated that she had seen them less frequently since she and John stopped dancing a year ago. In particular, Cathy had not seen her friend, Patricia, in months and had declined several of her invitations for lunch. Cathy also reported increased irritability towards Patricia who Cathy claimed to have made several bothersome comments about PD. Cathy expressed frustration over her perception that Patricia may not be listening to her during their phone conversations and that Patricia may be negatively talking about her to others. Cathy had avoided confronting Patricia to prevent instigating arguments, but she was considering ending their 30-year friendship,

Additionally, Cathy identified receiving support from her next door neighbor, Grace, whom she had known for over five years. She and Grace previously saw each
other twice a week, watched television shows together, went out for lunch, and engaged in conversations. Although she and Grace continued to email each other multiple times a week and spoke by phone, Cathy reported that had seen Grace less frequently in the past year. Cathy attributed this to her discomfort exhibiting her tremors and dystonia around others.

A review of Cathy’s interpersonal inventory and symptoms of depression indicated her depression to be associated with the onset of her panic disorder and the resulting changes in her relationships, particularly her increased social isolation and increased dependence on her husband. She was given the limited sick role. In particular, the therapist discussed that although Cathy’s anxiety, PD, and depressive symptoms made activities more difficult or uncomfortable to do, they should not necessarily prevent her from doing any of the activities. Thus, she was encouraged to attempt activities, including returning to dancing with her husband, despite the discomfort of anxiety or her PD symptoms.

The treatment goal for the middle phase of treatment was to help Cathy gather the necessary support to adjust to this change in her life and, as a result, to improve her depressive symptoms. In particular, the middle phase of treatment was dually focused on reestablishing the social interactions with her neighbor and dance friends and continuing to be supported by her husband while decreasing her reliance on him.

John was provided information about Cathy’s treatment goals during his initial caregiver session, to provide Cathy with additional encouragement and support outside of sessions. To allow John to engage in his own activities and to provide Cathy with privacy during her sessions, Cathy asked John to leave the house during her treatment
sessions. John also attended a joint caregiver session during the middle phase of
treatment which gave Cathy the opportunity to thank him for his care and support and to
suggest increased independence for the both of them since her anxiety and PD symptoms
had improved. They were encouraged to have a discussion on how Cathy could feel
comfortable being on her own at home, including ways to get in contact with John should
she need his help when he is away from the house.

Towards the goal of reestablishing her network of friends, Cathy opted to first
focus on her relationship with Patricia and her ambivalence about maintaining the
relationship. A decision analysis was conducted to initially determine the possible
options for the relationship (i.e., including limiting their interactions, ending the
friendship, or having a discussion with Patricia about what has been bothersome to
Cathy) and then discussed the advantages and disadvantages of each option. After
reviewing her options, Cathy chose to have a conversation with Patricia to express her
appreciation for her friendship and to discuss the comments that have been bothersome to
her.

Communication analyses of previous conversations were utilized to determine
both Cathy and Patricia’s communication styles and aided in anticipating likely obstacles
for their future discussion. Communication strategies were discussed in sessions,
including non-verbal communication, being aware of the goal(s) for conversations,
determining the best time to have conversations, using I-statements to express feelings,
viewing the situation from the other person’s perspective, using specific and recent
examples, and planning how to begin and end conversations. Cathy particularly had
difficulty with perspective-taking, often assuming negative intentions from others’
actions or comments. Cathy was frequently reminded to view the situation from the other person’s perspective; this strategy seemed to allay Cathy’s concerns and irritability. Additionally, sessions provided Cathy the opportunity to script and role-play conversations, and summaries of the important points of the sessions were emailed to her immediately following her session.

In addition, Cathy was encouraged to increase her face-to-face contact with her neighbor, Grace. Cathy was open to this suggestion as she expressed having missed that time with Grace over the past year. She reinstated their lunches and television watching, utilizing the suggestion of recording television shows at night and watching them during the day when her PD symptoms were less prominent. During the course of treatment, Grace invited Cathy to join a monthly community “chit-chat” club. Although Cathy was interested in the club, she expressed concern about her PD symptoms manifesting during the meetings which were scheduled for early evenings. Thus, another decision analysis was conducted which yielded options of informing the group of her PD, informing only a couple of people, or informing the group leader and have the leader explain it to the group at a later time. Ultimately, Cathy decided to inform the group members herself, to try to stay even if the PD symptoms arise and to leave if the symptoms became severe. The session was utilized to determine the best way of presenting this information to the group and to begin scripting the conversation.

By termination, Cathy had made significant progress towards her treatment goals. She had reestablished social get-togethers with her friends and had planned to attend the next chit-chat club with Grace. She had a conversation with Patricia and was able to express her concerns with her, which allowed her to maintain her friendship. Moreover,
Cathy had become less reliant on John; she reported increased comfort in being home alone which allowed John to join a tennis league that met in the mornings when Cathy’s PD symptoms were better controlled. Additionally, Cathy began researching volunteer positions available in her area and had been going to dance studios with John more frequently.

The termination session focused on reviewing her progress and any issues that remained unresolved, including improving her relationship with her daughter and expressing to John her frustration about not being heard. The strategies learned over the course of treatment were reviewed as well as which strategies could be applied to resolve current issues with her daughter and husband and other issues which may arise in the future.

**Outcome**

Cathy attended sessions consistently and found the therapist to be empathic (Empathy total score = 20) and the treatment to be very helpful (Mean = 19.67; see Figure 6). She indicated that she was able to express her feelings and to talk about the problems that were bothersome to her over the course of treatment. She found the IPT approach to be acceptable and reasonable. She reported learning new techniques to help her cope with her problems and found the techniques to be very helpful. Her weekly depression ratings (see Figure 7) indicate improvement in her depressive symptoms as treatment progressed.

At her post-treatment evaluation, Cathy’s responses on the SF-6 indicated deterioration in physical functioning with associated increase in limitations to her usual
role activities (SF-36 general health = 35, physical functioning = 40, role limitations due to physical health = 0, energy = 40, pain = 35). She, however, experienced meaningful improvement in her depressive symptoms (Ham-D = 19; CGI-I = 2; BDI-II = 11), although no significant changes were observed in her SF-36 responses (emotional well-being = 40, role limitations due to emotional problems = 33.33). She reported improved mood, no longer reporting feelings of hopelessness and helplessness. Her motivation and interest in activities had also improved; she no longer felt the need to push herself to do activities and had been planning upcoming social activities, including attending a clubhouse meeting in her community. She had also resumed dancing with her husband and socializing with friends. This, however, was in contrast with her SF-36 response indicating a decrease in social functioning, which may be due to the worsening of physical symptoms rather than due to her emotional health. Cathy also reported a significant decrease in self-reproach, rumination, and feelings of guilt. She continued to experience significant anxiety, though she denied excessive concerns about her health. These improvements were maintained at 1-month follow-up (Ham-D = 15; CGI-I = 2). See Table 4 for a summary of Cathy’s scores.

Though clinically insignificant, Cathy’s responses revealed a decrease in perceived social support (MSPSS total = 65, family = 18, friends = 23, significant other = 24). It is likely that this decrease in social support resulted from her decreased reliance on others, particularly her husband. There was no significant change in Cathy’s social functioning as measured by the SAS-SR (overall adjustment = 1.64, housework = 1.17, social/leisure activities = 1.44, relationships with extended family = 1.25, relationships with significant other = 2.67, role as member of family unit = 1.25). There was no significant
change in her husband’s depressive symptoms (BDI-II = 14), although there was a noticeable decrease in caregiver burden (ZBI = 46). Over the course of treatment, Cathy had become less reliant on her husband and became more comfortable with being home while he went to play tennis or spent time with his friends.
Figure 6. Cathy’s helpfulness ratings over the course of treatment.
Figure 7. Cathy’s depression ratings over the course of treatment
Table 4

Case 3: Cathy’s Summary of Scores

<table>
<thead>
<tr>
<th>Depression Measures&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Baseline</th>
<th>Post Treatment</th>
<th>1-month Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton Depression Scale</td>
<td>22</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>Clinician’s Global Impression Scale – Severity</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Clinician’s Global Impression Scale – Improvement</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Beck Depression Inventory – II</td>
<td>16</td>
<td>11</td>
<td>-</td>
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</table>

<table>
<thead>
<tr>
<th>Social Adjustment Scale – Self Report&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
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<tbody>
<tr>
<td>Housework</td>
<td>1.33</td>
<td>1.17</td>
<td>-</td>
</tr>
<tr>
<td>Social and Leisure Activities</td>
<td>1.11</td>
<td>1.44</td>
<td>-</td>
</tr>
<tr>
<td>Relationships with Extended Family</td>
<td>1.38</td>
<td>1.25</td>
<td>-</td>
</tr>
<tr>
<td>Relationship with Significant Other</td>
<td>2.56</td>
<td>2.67</td>
<td>-</td>
</tr>
<tr>
<td>Role as Member of Family Unit</td>
<td>1.00</td>
<td>1.25</td>
<td>-</td>
</tr>
<tr>
<td>Overall Adjustment</td>
<td>1.56</td>
<td>1.64</td>
<td>-</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Multidimensional Scale of Perceived Social Support&lt;sup&gt;b&lt;/sup&gt;</th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Family</td>
<td>24</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>Friends</td>
<td>28</td>
<td>23</td>
<td>-</td>
</tr>
<tr>
<td>Significant Other</td>
<td>28</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>65</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 4 - continued

Case 3: Cathy’s Summary of Scores (continued)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Post Treatment</th>
<th>1-month Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>36-Item Short-Form Health Survey</strong>&lt;sup&gt;b&lt;/sup&gt; (continued)</td>
<td></td>
<td></td>
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<tr>
<td>Physical Functioning</td>
<td>55</td>
<td>40</td>
<td>-</td>
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<tr>
<td>Role Limitations due to Physical Health</td>
<td>75</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Role Limitations due to Emotional Problems</td>
<td>33.33</td>
<td>33.33</td>
<td>-</td>
</tr>
<tr>
<td>Energy</td>
<td>50</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Emotional Well-Being</td>
<td>44</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Social Functioning</td>
<td>75</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>Pain</td>
<td>37.5</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>General Health</td>
<td>35</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td><strong>Caregiver Measures</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck Depression Inventory – II</td>
<td>13</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td>Zarit Burden Inventory</td>
<td>51</td>
<td>46</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>a</sup>Decrease in scores indicates improvement.  
<sup>b</sup>Increase in scores indicates improvement.
Psychosocial treatment options are highly desirable for depressed individuals with PD coping with both the physical and non-motor aspects of the illness. Despite IPT’s proven efficacy for the treatment of depression (DiMascio et al., 1979; Elkin et al., 1989; Hinrichsen & Clougherty, 2006; Klerman, DiMascio, Weissman, Prusoff, & Paykel, 1974; Reynolds et al., 1999; Reynolds et al., 2006; Weissman et al., 1979) and its demonstrated effectiveness in the medical population (Caron & Weissman, 2006), this psychosocial intervention has not been evaluated for the treatment of dPD. This case series examined the feasibility and effectiveness of interpersonal psychotherapy for depression in individuals with Parkinson’s disease.

IPT was an easily implemented, time-limited intervention found to be well-tolerated by all three patients. All three patients found IPT to be helpful and practical. Cathy demonstrated clinically significant improvement in depression, as evidenced by a CGI-I rating of “Much Improved” at post-treatment and follow-up evaluations. Bob also experienced notable reductions in depressive symptoms, particularly in the areas of mood, interest and motivation in activities, over the course of the treatment. For both Bob and Cathy, these improvements were maintained at 1-month follow-up. No significant changes in perceived social support or social adjustment were noted. Cathy’s spouse experienced a notable decrease in caregiver burden while Bob’s spouse reported a minimal decrease in burden. There were no significant changes in caregiver depressive symptoms. Overall, results indicated that IPT, when modified appropriately to meet the
needs of individuals with PD, may be a feasible and effective option for the treatment of moderate to severe depression in PD.

IPT for the treatment of dPD was advertised as a treatment which did not involve medication and focused on improving the quality of relationships in the individual’s life that may be affected by his/her mood or may be affecting his/her mood. Several individuals with PD expressed interest in the study, demonstrating its acceptability as a treatment option for this population as well as the clinical need for psychosocial treatments, in general, for depressed individuals with PD. Of those evaluated for treatment eligibility, only one individual declined to participate due to inability to commit to weekly sessions. Of note, five of the 15 individuals who expressed interest in the study did not meet the depression criteria and were excluded from study participation. This suggests that even minimal to mild depression may negatively impact relationships in individuals in PD. Thus the potential benefits of IPT for PD individuals with mild depression should be evaluated in future studies.

This case series also demonstrated the feasibility of IPT for dPD. In the present study, all patients were committed to and regularly attended weekly IPT sessions. All patients reported the treatment to be helpful with notable improvements observed in both 9-session and 15-session treatment lengths. All caregivers were willing to participate in the treatment, although the challenge of coordinating the schedules of three people (i.e., clinician, patient and caregiver) was present, highlighting the importance of flexibility in scheduling for both patient and caregivers. Although it was feasible to provide home visits to address some PD individuals’ transportation limitations, the generalizability of this modification remains debatable. Despite the benefits for the PD patient, the
practicality of home visits will remain dependent on the clinician’s willingness, current caseload, and schedule flexibility. Moreover, home visits may prove challenging for billing purposes as well as contribute to decreased productivity for the clinician due to travel time. Thus, it is important for the clinician to consider other alternatives such as the option of telephone sessions or video sessions through services such as Skype or Google Talk.

Comparable to previous adaptations of IPT for other medical illnesses (Markowitz et al., 1995; Markowitz et al., 1998; Donnelly et al., 2000; Miller & Reynolds, 2007; Miller, 2009), the treatment for all three patients was primarily focused on adjusting to the role transition resulting from the diagnosis of PD. The middle phase of treatment focused on improving patients’ mood by utilizing the necessary social supports to aid in the transition (i.e., Case 2 requesting help from his wife and children regarding retirement and financial planning). As seen in Case 3, in addition to the interpersonal problem area of role transition, the diagnosis of PD can also result in interpersonal conflicts with friends and family as well as increased caregiver burden. This finding is consistent with literature on the association of PD and caregiver burden (D’Amelio et al., 2009; Schrag, et al., 2006; Whetten-Goldstein et al., 1997), which has been found to closely associated to the patient’s psychiatric symptoms and disability (Schrag, et al., 2006). Thus, although the most relevant problem area for PD individuals is role transitions, role disputes may also be present in some individuals. In these individuals, in addition to garnering support to adjust to the transition of having a medical illness, sessions should focus on identifying and resolving conflict with others, which can include modifying expectations about the
relationship and/or providing the patient with communication skills to address and resolve the conflict.

Additionally, all three cases demonstrated the significant effects of both PD symptoms and depression on patient functioning, including participation in occupational or social activities, which resulted in decreased social interaction further negatively impacting patients’ mood. The sick role was, therefore, modified for all three patients into the limited sick role and included the effects of both mood and PD symptoms. Treatment encouraged engagement in activities, despite mood and physical symptoms, and decrease in social isolation by resuming or increasing social activities (i.e., Case 2 initiating lunches with his son and Case 3 resuming lunches with friends and dancing with husband). This strategy is akin to behavioral activation which has been researched and shown to be effective in the treatment of depression (Dimidjian, Martel, Addis, & Herman-Dunn, 2008). Yet, in IPT, the purpose is not only to increase activities, in general, but to increase social interactions with friends and family which positively impact the clients’ mood and increase support. Decision analysis was also employed in sessions to problem-solve obstacles associated with engaging in activities (i.e., Case 3 attending community meeting despite physical discomfort due to PD and communicating this with group members).

Positive social support has been associated with better coping (Ehmann, Beninger, Gawel, & Riopelle, 1990), better quality of life (Andreadou et al., 2011; Winter et al., 2010a; Winter et al., 2010b), as well as decreased psychiatric symptoms for individuals with PD (Cheng et al., 2008; MacCarthy & Brown, 1989; Simpson, Haines, Lekwuwa, Wardle, & Crawford, 2006). Thus, caregivers were incorporated into the intervention as
in the adaptation of IPT for the treatment of depressed older adults with cognitive impairment (Miller & Reynolds, 2007; Miller, 2009) and in CBT for the treatment of depression in Parkinson’s disease (Dobkin et al., 2006; Dobkin et al., 2007; Dobkin et al., 2011). The primary purpose of this modification was to decrease the patient’s depression by providing the patient with additional encouragement outside of sessions to follow through on their treatment goals. Caregiver sessions provided caregivers with psychoeducation on the patient’s experience of depression as it related to the interpersonal problem area(s) identified, informed the caregivers of the patient’s treatment goals, and elicited the caregivers’ help in the attainment of those goals. Joint sessions allowed the patient and caregiver the opportunity to effectively communicate about disputes or differing expectations and to problem-solve issues related to the patient’s treatment goals.

In the present study, caregivers attended one to two caregiver sessions and experienced minimal decrease in caregiver burden and no significant change in depressive symptoms by post-evaluation. It is likely that attending additional caregiver sessions may prove helpful in reducing caregiver burden or improving treatment outcomes for the patient. The number of caregiver sessions offered can vary and the optimal number of sessions should be determined by the patient’s identified target(s) of treatment as well as the severity of caregiver burden/depression. Measures of caregiver burden and caregiver depression should precede the onset of treatment; this data will inform the clinician of the approximate number of caregiver sessions warranted for the individual’s treatment. One to two caregiver sessions seem sufficient for those with
minimal to mild caregiver burden/depression; additional sessions may be necessary for caregivers experiencing more severe caregiver burden/depression.

Another factor clinicians should consider when determining the optimal number of caregiver sessions is the patient’s treatment goal. For example, in Case 3, Cathy’s goal was to increase her independence from her husband, thus additional caregiver sessions were not warranted. The resolution of interpersonal conflict may necessitate more caregiver sessions, particularly if the dispute is with the caregiver. As recommended in IPT-ci (Miller, 2009), a meeting alone with the caregiver during the initial phase of treatment might provide useful information about likely sources of interpersonal disputes for the patient. Additionally, the interpersonal inventory should be utilized to identify other individuals to incorporate as interpersonal targets in the middle phase of treatment.

As is true in previous adaptations of IPT for medical populations (Donnelly et al., 2000; Koszycki et al., 2004; Lesperance et al., 2007; Miller & Reynolds, 2007; Miller, 2009), IPT for dPD also allowed for greater flexibility in scheduling. For Cases 1 and 2, appointments were coordinated with other medical appointments, whenever possible, to decrease travel time. Case 3, who had driving limitations, was provided in-home sessions. Moreover, flexibility in length of sessions and in treatment length was permitted and found to be feasible and acceptable. As demonstrated in Case 3, the number of initial phase sessions were decreased while extending the session length to accommodate for the shortened time frame available for treatment while allowing for storytelling during the interpersonal inventory. There was a negotiated extension of the middle phase of treatment for Case 2 to provide the patient more time to utilize treatment strategies. Although it was possible to reduce the termination phase into one session in
both cases, two termination sessions are still recommended for optimal results. Two termination sessions allow for sufficient time to discuss treatment progress and to review the strategies learned and the techniques that remain challenging for the patient. The additional termination session also provides an additional opportunity to include caregivers into treatment. It allows for a joint review of the symptoms of depression, particularly the patient’s personal warning signs of worsening depression, to increase the patient’s likelihood of sustained remission. Moreover, the additional session allows for a more in-depth discussion of the patient’s long term goals, which includes how the patient can utilize the strategies learned in treatment to work towards those goals and how the caregiver can help the patient attain his/her goals. This serves to maintain social support after treatment and to increase patient accountability, thereby increasing the likelihood of accomplishing desired treatment goals.

As recommended by Dobkin et al. (2007; 2011a), treatment-related information were simplified and presented in both verbal and written formats at various points throughout the treatment to address the cognitive dysfunction highly associated with PD (Dubois & Pillon, 1997; Farina et al., 2000; Norman et al., 2002; Starkstein et al., 1992), particularly memory impairment. Patients were provided with written summaries of session materials including communication skills discussed and summaries of planned conversations. Phone coaching was offered to provide additional opportunities for review and to practice skills outside of session. Clinicians should assess for the presence and severity of cognitive impairments for each individual PD patient to determine which of these memory aid modifications are warranted. A neuropsychological evaluation of memory impairment is, therefore, recommended prior to the commencement of
treatment. Regardless of the presence of cognitive impairment, all patients would benefit from brief verbal summaries at the end of each session. In addition, the provision of psychoeducational information in written handouts (i.e., handouts on IPT, PD, depression, and description of communication strategies) would be beneficial to all patients as these can serve as review materials during and after the course of treatment. Written summaries of weekly session topics, written scripted conversations, and phone coaching may not be necessary for all patients but may be useful for many depressed PD individuals.

Those who completed the intervention, Cases 2 and 3, demonstrated notable improvements in depressive symptoms from baseline to post-treatment, with maintained or greater improvements at 1-month follow-up. Moreover, post-treatment scores reflected a decrease in severity of depression for both patients: Case 2’s Ham-D and BDI-II scores reflected only mild depressive symptoms by post-treatment, and Case 3’s BDI-II score reflected only minimal depression at post-treatment and her Ham-D score indicated a change in severity from severe to moderate depression at follow-up.

Significant improvements in mood, interest and motivation in activities were demonstrated. These changes are likely the result of the intervention’s focus on increasing pleasurable social interactions and utilizing social supports to increase the patient’s meaningful activities, thereby reducing depression and anhedonia. Minimal improvements in anxiety were also reported. Although not a direct focus of treatment, the reduction in anxiety is likely the result of utilizing social supports to resolve issues which contribute to anxiety (i.e., as in the retirement and financial issues for Case 2 or being home alone for Case 3) or being assigned the limited sick role to encourage
continued participation in activities despite mood and PD symptoms. In addition to
decreasing self-reproach, the limited sick role might function similarly to exposure
treatment for anxiety in cognitive-behavioral therapy (Norton & Price, 2007; Ougrin,
2011). These findings, however, may also be an artifact of the small sample size.

Although a treatment goal of IPT is to improve mood by increasing patients’
social support, the outcome measures did not indicate significant changes in perceived
social support or social adjustment for either patient. This likely is due to a floor effect,
as both patients reported good social support and social adjustment at baseline. It is
possible that larger improvements in perceived social support would be identifiable for
patients with poorer baseline perception of social support or social adjustment. Although
changes were not seen on the measures, both clients made notable changes in their
interpersonal relationships during the course of treatment.

Comparative data is limited since IPT has not yet been evaluated for the treatment
of dPD. The changes observed in this study, however, were smaller than the
improvements seen in the clinical trials of IPT for depressed adults (Cuijpers et al., 2011;
DiMascio et al., 1979; Elkin et al., 1989; Jakobsen, Hansen, Simonsen, Simonsen, &
Gluud, 2012; Luty et al., 2007; Weissman et al, 1979) and older adults (Hinrichsen &
Clougherty, 2006; Reynolds et al., 1999; Reynolds et al., 2006). Research has indicated
that anxiety is associated with slower treatment response rates in late-life depression
(Andreescu et al., 2007), thus the smaller treatment response may be attributed to the
presence of significant comorbid anxiety for all cases. The improvements demonstrated
in this study were also not comparable to the improvement observed in CBT for dPD
(Dobkin et al., 2011a); this finding suggests that CBT, which directly targets symptoms
of depression, may be more effective in treating the dPD population as compared to IPT, which indirectly reduces depression by addressing associated interpersonal relationships.

**Limitations.** Since the treatment outcomes presented in this series are limited to three patients, further research is warranted to replicate the findings and to assess the feasibility, acceptability, and efficacy of IPT with a larger and more diverse sample of depressed PD individuals. Furthermore, no comparison group was available to rule out the role of chance and non-specific factors (i.e., time, therapeutic alliance, placebo effect) on treatment outcomes. Since all treatment evaluations were conducted by the therapist, the possibility of experimenter and participant bias also cannot be excluded. Thus, a larger, controlled study is needed to make this determination.

**Conclusions.** Despite its limitations, this case series indicates that IPT, when modified appropriately, is a potentially beneficial psychosocial intervention for depression in individuals with PD. This finding is promising for individuals who prefer a nonpharmacological intervention to help them cope with their illness, for individuals who are treatment-resistant to antidepressant medications, or in conjunction with pharmacological treatment. It is recommended that modifications of IPT for the treatment of depression in PD include a primary focus on the interpersonal problem areas of role transition and role disputes, the limited sick role, flexibility in scheduling, the integration of caregivers in treatment, and the utilization of techniques to improve the retention of information. These modifications should serve as guidelines when treating the PD population, but should be determined based on the individual’s presentation.
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