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Attitudes Regarding the Etiology and Treatment of Depression in Parkinson's Disease: A Qualitative Study

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Abstract

Depression in Parkinson's disease (dPD) remains under recognized and under treated. As patients' beliefs may impact the reporting and treatment of depression, this study assessed the opinions of 38 dPD patients, approximately half with a self-reported poor response to antidepressant treatment, regarding the etiology and treatment of their depression using a semi-structured, audio-taped, qualitative interview. About half of the participants listed PD itself as a primary cause for their depressive symptoms, with most in this group citing psychosocial factors rather than PD-related neurobiological factors. Antidepressant therapy, psychotherapy, and self-initiated approaches were noted as preferred treatments for dPD. Many had concerns about antidepressant therapy, listing side-effects and medication dependency most frequently. About half raised concerns about psychotherapy with trust/discomfort, stigma, and transportation issues most frequently mentioned. This preliminary study suggests that many PD patients with clinically significant depressive symptoms attribute their depression to psychosocial factors and endorse nonpharmacologic treatment approaches.

Keywords

Parkinson's disease; depression; antidepressant; psychotherapy; qualitative interview

Although motor symptoms have been the focus of most of the research on Parkinson's disease (PD), neuropsychiatric aspects have been increasingly recognized as significant determinants of quality of life and outcome. Depression is one of the most common psychiatric complications in PD, affecting up to 40% of patients,¹ and it has been found to be independently associated with increased disability,² reduced quality of life,³ and increased caregiver distress.⁴

An estimated 20 to 25% of PD patients in specialty care are on an antidepressant at any given time,^{5,6} most commonly a selective serotonin reuptake inhibitor (SSRI).⁶ However, it still appears that depression in PD (dPD) is under recognized and under treated.⁶ This may be due in part to difficulties in the accurate assessment of dPD related to symptom overlap between depression and PD (eg, insomnia, fatigue, psychomotor changes, and concentration difficulties) and the atypical presentation of some dPD cases (ie, anxiety, hopelessness, and irrationality seem to be more common symptoms than guilt and self-reproach in dPD).^{1,7,8} In addition, the efficacy of newer antidepressants for dPD has not been established, and it is

possible that these medications may not be as effective in PD patients as in the general population.⁹ In spite of unanswered questions about the efficacy of antidepressants for dPD, relatively few patients receive non-pharmacologic forms of treatment.⁶

The recognition and treatment of dPD may also be affected by the perceptions, beliefs, and attitudes of PD patients regarding their own depressive symptoms and depression in general. For instance, if patients' attributions for their depressive symptoms or preferences for depression treatment do not match those of their providers, they may be less likely to seek, receive, or comply with treatment. Research suggests that disease-related neurobiological changes are related to occurrence of dPD,¹⁰ but it is not clear that PD patients with depression are aware of this link, or that they would accept or concur with this attribution.

Regarding treatment, anecdotal experience is that many PD patients have concerns about taking additional medications, and the degree of confidence that dPD patients may have in various depression treatments is unclear. This may be of clinical importance, as previous research has indicated that response to both psychotherapy and pharmacotherapy for depression in the general population is predicted by the patients' expectancies of efficacy.¹¹ Overall, mismatches in depression attribution and treatment preferences between PD patients and their providers may lead to the suboptimal recognition and treatment of depression.

We are unaware of published research that has investigated the perceptions PD patients have of the etiology of and preferred treatment strategies for depression. Qualitative research techniques provide a valuable means of understanding the beliefs and attitudes of PD patients that may not be fully captured by traditional psychiatric or psychological rating scales. In order to investigate the beliefs and attitudes of depressed PD patients regarding the etiology and treatment of their depression, we performed semi-structured, audio-taped interviews with a cohort of PD patients who screened positively for clinically significant depression.

Methods

Participants

Participants were 38 outpatients with PD enrolled at the Parkinson's disease centers at the Philadelphia Veterans Affairs Medical Center or the University of Pennsylvania. The Institutional Review Boards at the 2 institutions approved the study, and only patients able to provide their own written informed consent were included. Patients were all participants in an ongoing screening and assessment study, the aims of which are to determine the frequency and correlates of dPD, and which involved assessment with a variety of psychiatric, neuro psychological, and neurological instruments. All patients were diagnosed with idiopathic PD by an attending neurologist with expertise in movement disorders.

Assessment

Patients ($N = 259$) were approached or referred for depression screening during a routine PD clinic visit. The 15-Item Geriatric Depression Scale (GDS-15)¹² was administered as a depression screening instrument, and global cognition was assessed with the Mini-Mental State Examination (MMSE).¹³ Patients' clinical records were reviewed to collect demographic and clinical data. Patients who were able to provide written informed consent and were found to have clinically significant depressive symptoms on screening (ie, a GDS-15 score ≥ 5 , which has been shown to be sensitive and specific for a diagnosis of dPD¹⁴) were invited to participate in the audio-taped qualitative interview. Approximately one-third (86/259) of patients screened positive for depression, which is consistent with previous literature reporting depression rates for PD patients in specialty care.¹⁰ The study population for the qualitative interview represented a convenience sample (ie, those willing to complete the additional audiotaped

qualitative interview) of depression-positive patients (38/86 [44%] of patients who screened positive for depression agreed to participate). Patients were told that the interview would consist of questions to gather information on their views about their depressive symptoms and different treatment options.

The interview consisted of 18 open-ended questions taking 10 to 15 minutes to complete, and the audiotapes were transcribed following the sessions. As not all participants' responses on the audiotapes were audible, the number of responses included for each scheduled question varied (range = 29–38). The interview questions are shown in the Appendix.

Analyses

Responses to interview questions were transcribed and entered into the QSR-N6 software program, Version 6.0 (QSR International Pty Ltd, Doncaster, Victoria, Australia), a qualitative data management program. Responses to scheduled questions were sorted into categories (codes) that emerged from the texts, and common themes not covered by scheduled questions but spontaneously reported were coded as well. Codes and a coding dictionary were constructed independently by a subset of the authors (KO, FKB, DW, GB, DT) and modified by discussion until a consensus was reached. Once the coding was completed, further analysis included investigating the relationships between and among categories. Randomly selected text units from 20% of the documents were selected and recoded to gauge intercoder reliability. There was 94% agreement in codes assigned to 197 text units. The authors participating in the analysis included a medical anthropologist (FKB), a clinical psychologist with expertise in depression and cognitive behavioral therapy with PD patients (GB), a psychiatrist specializing in depression and pharmacotherapy with PD patients (DW), and 2 trained post-baccalaureate research coordinators (KO and DT).

Comparisons between depressed subjects who agreed and those who declined to participate in the qualitative interviews were made using a two-sample *t* test (for continuous variables) and the chi-square test (for categorical variables).

Results

Demographic and Clinical Characteristics

Thirty-eight patients agreed to participate in the study. Twenty-three (61%) of the participants were male and 37 (97%) were Caucasian. Mean (SD) age and years of education were 65.5 (12.1) and 13.9 (3.1) years, respectively. Mean duration of PD was 6.2 (5.3) years, and mean daily levodopa dosage was 433.6 (314.3) mg. The mean GDS-15 and MMSE scores were 8.8 (2.6) and 28.4 (1.8), respectively. There was no difference between depressed subjects who agreed and those who declined to participate in the qualitative interview in gender ($\chi^2 = 0.4$, *df* = 1, *P* = .56), race ($\chi^2 = 0.5$, *df* = 1, *P* = .46), and mean age (*t* = 1.3, *df* = 84, *P* = .20), years of education (*t* = 1.2, *df* = 84, *P* = .25), duration of PD (*t* = 1.5, *df* = 84, *P* = .14), daily levodopa dosage (*t* = 1.0, *df* = 84, *P* = .32), GDS-15 score (*t* = 0.3, *df* = 84, *P* = .77), and MMSE score (*t* = -1.7, *df* = 76.4, *P* = .09).

Additional closed-ended questions addressed psychiatric history and experiences. Twenty-four (63%) patients reported having comorbid anxiety symptoms. Nineteen (50%) reported current antidepressant treatment, and 28 (74%) reported lifetime antidepressant treatment; of the latter group, 20 (71%) reported no or minimal response to treatment. Fifteen (39%) participants reported participating in psychotherapy or regular meetings with a mental health professional either currently or in the past, and 12 (32%) were currently in or had regularly attended PD support groups. There was no difference between depressed subjects who agreed and those who declined to participate in the qualitative interview in current ($\chi^2 = 0.3$, *df* = 1, *P* = .56) or

lifetime ($\chi^2 = 1.7$, $df = 1$, $P = .20$) exposure to antidepressant treatment, or response to antidepressant treatment ($\chi^2 = 1.7$, $df = 1$, $P = .19$). Counting all ($N = 86$) subjects who screened positive for depression, 64% (55/86) had been treated for depression at some point, including 45% (39/86) currently, with only 22% (12/55) of the “ever-treated” group, and 23% (9/39) of those currently taking an antidepressant, reporting more than a minimal response to treatment.

Perceived Etiology of Depression in PD

Parkinson’s Disease-Related Factors—Audible, intact data were available for 35 cases in response to the scheduled question, “What do you think is the cause or causes of your symptoms of depression?” Table 1 provides the major categories of responses to this question, along with the number of respondents and a representative verbatim response from each category.

Approximately half (19/35 [54%]) of participants listed their PD as a primary cause of their depression symptoms. The majority of these patients (13/19 [68%]) attributed the etiology of their depression to psychological factors directly related to PD, rather than to neurobiological changes associated with PD (2/19 [11%]).

Loss of control and self-efficacy: A recurrent theme in the patient interviews was the experience and fear of a loss of control and self-efficacy, or the belief in one’s own behavioral competence in a particular situation. As one female patient expressed it:

That’s destructive, if I can’t hold a pen right now or I’m trying to eat soup and I get it all over the front of my shirt or I wanna get to the store and I don’t wanna ask somebody and I can’t run the errands that I wanna run, and that kind of thing...or, you know, your husband says he can’t travel anymore because he’s afraid of leaving you and then you feel like a burden, you can’t do things the way you used to do it, or it takes you ten times longer... you know, or the time when you leave the house so that nobody sees you shaking. That kind of stuff, what I’m doing now, I guess, is subconsciously feeling worthless because I can’t do those things anymore.

Patients focused particularly on their inability to perform usual daily activities without the help of their PD medication, upon which they felt completely dependent. Participants mentioned repeatedly the frustration of dealing with the debilitating symptoms of PD on a daily basis as being a prominent feature of their mood:

Well, I think I’m depressed, but I think more of it...I have...with the Parkinson’s and sometimes with the medicine not working as quickly as it can, that’s the main reason why...it’s more of an aggravation level, more than I think depression.

Patients also commonly related frustration over having to rely upon their families for support and help in such previously mundane tasks as running errands, dressing, bathing, and eating.

Concern over immediate and long-term future: A number of patients (9/38 [24%]) expressed worry about the uncertainty of their future, both short- and long-term, and even attributed their symptoms of depression to this concern. Some of the immediate concerns that patients mentioned were falling and injuring themselves when no one is there to help, and experiencing an “attack” of shaking when out of the house. As one patient said:

You can’t, you know, go out whenever you want to because you’re afraid that an attack may come in and you take your medicine, but it doesn’t last very long, maybe a couple of hours.

Considerations of the long-term future were also reported as being a source of worry among patients:

I think just thinking that things aren't going to get better for me, probably going to get worse and worse and I will be a burden to my family.

This worry about becoming a burden to the family was cited by some participants as being a motivation for hiding their symptoms of depression:

My mom gets all excited if I get upset so I try to be, appear more upbeat than I am so that they don't get upset.

Non-PD Attributions—A minority (13/35 [37%]) of participants reported that their symptoms of depression were related to or exacerbated by psychosocial factors not directly attributable to PD, such as situational, interpersonal, or psychological factors. Of these, the most common were interpersonal difficulties in the context of family or spousal relationships. Interestingly, when these issues were brought up, they tended to be treated as contributory rather than primary causal factors:

There are causes to attribute to it but not, nothing in a way that would cause me to be any way, that's not who I am, you know. It makes it worse, like family difficulties, and my husband and I having problems or my grandson not behaving himself, but I already had the depression and that only contributes to it."

Attitudes and Preferences Regarding Treatment of Depression

Overview—Data were available from 37 cases in response to the scheduled question, "What do you think is the best way to treat your symptoms of depression?" (Table 2.) Similar numbers of participants offered medication therapy (19/37 [51%]), psychotherapy (15/37 [41%]), and self-initiated approaches (16/37 [43%]), such as increasing one's activity level, as the preferred treatment for dPD, with some patients endorsing more than one treatment approach. A number of respondents (8/37 [22%]) did not offer any ideas about how best to treat their depression symptoms.

Antidepressant Therapy—Data were available from 33 cases in response to specific questions about antidepressant therapy. When asked directly about how they felt about taking an antidepressant, 42% (14/33) of participants had negative opinions, 15% (5/33) had positive opinions, and 42% (14/33) said they would "take it if it helped." These latter participants reported that they refrained from taking medications unless necessary, but would if they thought that it would be effective. Even those participants who expressed positive views towards medication were not enthusiastic about it: "I don't mind mild medication."

A majority of respondents (18/29 [62%]) had concerns about taking antidepressant medications, with potential side-effects (9/29 [31%]) and the possibility of dependency (7/29 [24%]) being the most frequently mentioned concerns. Several participants endorsed the belief that "any medication is dangerous." Some participants harbored misconceptions about the effects and expected course of action of antidepressants, confusing them with other classes of medications such as sedative-hypnotic agents. The concerns about dependency, or "addiction", were generally based on such misconceptions. For instance, one patient speculated:

Maybe once you're taking a pill that makes you feel good...it could be like Valium... you get that euphoria feeling...once you get used to that you're gonna be looking for those depression pills.

Often, this concern was related to a worry about further loss of control. For example, one patient reported his concern about taking an antidepressant was: "That I won't be in charge of me."

One participant mentioned stigma as a deterrent to using antidepressant medication:

I'm a little concerned that most people that know you're taking it, they look at you like, you know, you've got something wrong with you in your head.

Psychotherapy—Data were available from 33 cases in response to specific questions about psychotherapy. When asked directly about how they felt about psychotherapy in general or psychotherapy as a treatment for depression, 55% (18/33) were positive about it, 27% (9/33) were negative, and 12% (4/33) said they would do it if it would help. Participants who were in favor of psychotherapy as a treatment ranged in their enthusiasm from thinking that it is “worth a try” to thinking that it is an “excellent way to do it.” Those who felt negatively about therapy had low expectations for the efficacy of a purely verbal treatment:

Talking about it doesn't really do any good because you can talk till you're blue in the face but it doesn't change anything; I mean there's nothing that they could say that's gonna make it go away, so...I don't think therapy would help me deal with it any better.

Fewer (16/33 [48%]) participants had concerns about psychotherapy, with trust/discomfort (7/33 [22%]), stigma (4/33 [13%]), and transportation issues (3/33 [9%]) most frequently mentioned. Participants who brought up trust concerns specifically cited discomfort in speaking with people they didn't know about personal issues, and said that they would have to know who they were “dealing with”. The stigma associated with psychological illness and its treatment was also expressed in the context of psychotherapy:

You feel inadequate and there's, I think, still a stigma attached to things that are mental. If I had a heart attack, God forbid, or broke a leg, everybody understands that...You can't see and touch depression so it's not as acceptable socially.

Other—Almost half (16/37 [43%]) of participants mentioned nonprofessional or self-initiated approaches to handling their depressive symptoms, ranging from an increase in social or physical activity to taking on a more positive outlook. Some activities mentioned were increasing time spent around other people, getting physical exercise, engaging in new hobbies, and generally “staying busy.” One participant said that all he really needed was a “shift in perspective,” while another admitted, “It's tough to change habits and attitudes of a lifetime.”

Discussion

A primary finding of this study was that depressed PD patients were much more likely to attribute their depression to psychological or interpersonal causes than to biological causes. In addition, they were as interested in and had a more favorable impression of psychotherapy than antidepressant therapy as a treatment for depression. Another noteworthy finding was that many patients also favored self-initiated activities, instead of or in addition to formal treatment, as a way of managing depressive symptoms.

There are several limitations to this study that bear mentioning. Most importantly, slightly less than half of depression-positive patients who were approached agreed to participate in the taped interview, and of those who agreed to participate, three-quarters reported a lifetime history of antidepressant treatment, with almost three-quarters of those reporting a poor response, likely biasing our results against antidepressant treatment. While there were no differences in clinical and demographic characteristics between depressed patients who agreed and declined to participate in the study, including exposure and response to antidepressant treatment, it is likely that including more patients with either no previous antidepressant exposure or a favorable response to treatment would have changed our findings, so our results cannot be generalized to depressed PD patients as a group. The relatively small sample size did not allow us to stratify groups on the basis of antidepressant treatment exposure to examine this issue. However, the

fact that most of a group of 86 PD patients in specialty care with clinically-significant depressive symptoms reported a lack of significant response to antidepressant treatment may not be atypical of the experience of many depressed, given that there is no evidence for the efficacy of antidepressants in PD and preliminary evidence that they may be less efficacious in this population than in the general population.⁹

A second limitation was that participants were identified on the basis of having PD and recruited in the context of research on depression in PD, which may have led to an increased focus on PD when responding to depression attribution questions. Third, patients did not undergo a formal diagnostic interview as part of this assessment process, so many of the patients may have had milder forms of depression, which may impact on how patients view the etiology and treatment of their depression. Fourth, most patients had mild–moderate PD, so we were not able to examine the impact of severe functional disability on patients' views on the etiology and treatment of depression. Finally, it is important to note that the interpretation of qualitative data is, by definition, subjective, and that in general the results of qualitative research are best used to generate hypotheses for subsequent research.

Research has suggested significant neurobiological underpinnings to depression in PD.¹⁰ Yet, in spite of this evidence for a “biological” depression in PD, most of our participants did not conceptualize their depression in this way. Rather, they believed that their depression resulted either from psychological stressors related to having PD or interpersonal stressors unrelated or only indirectly related to PD. Thus, a pure biological approach to treatment (ie, prescribing an antidepressant without any other treatment) may not match most patients' psychosocial conceptualizations of their depression, a discrepancy which may substantially impact their expectancies of treatment efficacy and adherence to treatment, as has been shown in primary care patients.¹⁵

Especially common in patients' depression attributions were the perceived lack of self-efficacy, perceived loss of control over life in general, inability to engage in interests, embarrassment over PD symptoms, concern for the future secondary to disease progression, and concern about becoming a burden to others. These results suggest that the constructs of control and self-efficacy may be important psychological predictors or indices of depression in PD, and that their accurate assessment may be integral to the study of the etiology and treatment of dPD. The perceived importance of these factors by PD patients also suggests that they may be especially fruitful targets for interventions in the context of psychotherapy (eg, cognitive–behavioral therapy).

Further support for most patients' conceptualization of dPD in psychological or psychosocial terms was provided by the responses given for depression treatment preferences. In spite of the fact that antidepressants are commonly used in PD, only half of the participants were in favor of their use in their own treatment, and there were far more negative than positive comments about antidepressant therapy. In addition, most participants had concerns, even if ones about drug–drug interactions and dependency are unfounded, about the use of antidepressants. As most of the participants had been on antidepressants at some point with little or no self-reported benefit, it may be that PD patients are not opposed in principle to antidepressant treatment, but rather either have concerns about their use or are skeptical about their efficacy based on previous experience.

In contrast, patients were more positive and expressed fewer concerns about psychotherapy as a treatment for depression, in keeping with a psychological or psychosocial conceptualization of their depression. While this is not surprising given the fact that most participants had previously been on an antidepressant with little or no self-perceived benefit, this is also consistent with the authors' clinical experience that many PD patients with depression either

prefer psychotherapy to antidepressant therapy or have sufficient concerns about taking antidepressants to dampen enthusiasm for their use. This is important, as the positive impact of outcome expectations on both pharmacotherapy and psychotherapy for depression is well established.¹¹

Regarding the use of psychotherapy in PD, it is important to note that in the context of a study of cognitive-behavioral therapy (CBT) for dPD, we frequently encountered factors that complicated treatment, including significant comorbid anxiety, cognitive impairment that necessitated the involvement of an informed other, and physical impairment that made it difficult to adhere to a weekly therapy schedule. Similar issues have been raised by others reporting on the use of CBT for dPD.^{16,17}

Almost half of patients also thought that self-initiated activities could improve their depression. This highlights that PD patients are interested in nontraditional approaches to treatment that accentuate engagement in positive activities. This fact is encouraging, given recent research demonstrating that although PD patients are less likely to engage in daily positive activities than elderly controls, they demonstrate as great an improvement in positive and negative affect when they do.¹⁸ This finding is also consistent with our work on understanding depression and preferences for depression treatment in older adults in general.¹⁹ This suggests that psychotherapeutic strategies aimed at increasing pleasurable activity, such as behavioral activation, which is commonly employed in the primary stages of CBT,²⁰ may be particularly effective and well-received among patients with PD. These techniques, such as detailed activity scheduling, the identification and assignment of activities that confer a sense of accomplishment (mastery) and positive emotions (pleasure), and assertive training and role-playing, may be particularly relevant to the PD patient given our results of the importance that patients place on a sense of control or self-efficacy.

Educational efforts may increase patients' understanding of the neurobiological underpinnings of dPD, but it is unclear if these efforts will impact how patients experience their depression. Such efforts may also decrease certain misperceptions about the use of antidepressants in this population, but our preliminary findings of other patient concerns about antidepressant use coupled with ongoing questions about their efficacy in PD suggest a more comprehensive approach to the treatment of depression in PD. While efficacy studies for antidepressants in PD are sorely needed, the attributions and treatment preferences of PD patients with depression suggest the need to develop empirically validated and easily accessible psychotherapies or other nonpharmacologic treatments for dPD.

Appendix

Scheduled Interview Questions

1. What do you think is the cause (or causes) of your symptoms of depression?
2. What do you think would be the best way to handle your depression symptoms? (What kind of help?) (Who could help?)
  - a. What does your family think you should do about your depressive symptoms?
3. How do you think that treatment for your depression symptoms would change the way you feel?
  - a. How long do you think it would take for those changes to take place?
  - b. How much improvement in your depression symptoms would you expect to get if you got treatment for depression?

- c. How much improvement in your Parkinson's disease symptoms would you expect to get if you got treatment for depression?
  - d. How much improvement in your ability to function would you expect to get if you got treatment for depression?
- 4. Have you ever taken medicine for problems with depression?
  - a. If yes, what was it like to take this medication(s)?
- 5. How do you feel about taking medicine for depression?
  - a. What concerns would you have about taking medicine for depression?
- 6. Have you ever had counseling or therapy for depression?
  - a. If yes, what was it like? (Type of therapy?) (Type of therapist?)
  - b. Did it help?
- 7. What do you think about counseling or psychotherapy for depression?
  - a. What concerns would you have about getting counseling or psychotherapy?

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Table 1

Responses to a Scheduled Question Regarding the Perceived Etiology of Depression

Category	Category Description	Sample Quotation	Number of Respondents ^a
Parkinson's disease (PD) attributions			
Not otherwise specified	Respondent attributes depressive symptoms to PD, but does not elaborate on the relationship.	"Well, Parkinson's is the number one and that's all."	4
Biological	Respondent attributes depressive symptoms to the biological changes inherent in PD.	"I think there's some deterioration and something in my mind that is related to it somehow that the death of the dopamine cells or something else, I think, is triggering it."	2
Psychological	Respondent explains depressive symptoms as a psychological reaction to the complications of PD, such as frustration with tremors or fear of future decline in condition.	"Sometimes it's just because I... I know that I can't do anything about what's occurring [in terms of PD symptoms]. I don't like to be in a situation where I'm not in control." "Because it's irritating ...when you have the tremors and you can't do what you want to do. And you can't, you know, go out whenever you want to because you're afraid that an attack may come in and you take your medicine but it doesn't last very long, maybe a couple of hours. So, that, that can be a handicap and that can be depressing."	13
Psychosocial attributions (non-PD)			
Situational or life-event	Respondent attributes depressive symptoms to events or other special circumstances unrelated to PD.	"Well, I lost my son last year in a car accident, separated from my wife, my oldest son turned out to be a drug user. I mean I could just go on and on."	2
Interpersonal	Respondent attributes depressive symptoms to interpersonal factors, including family, unrelated to PD.	"Well, I'm having some problems accepting my husband's personality problems. I understand to a certain degree but I can't accept them completely."	7
Psychological	Respondent attributes depressive symptoms to psychological causes, such as feelings or emotions either unrelated to PD or unclear in their relationship to PD (for instance, frustration with general disability).	"Some anger, which I've tried to deal with but I didn't seem to have, a too effective of a way. So, I guess it's anger, which I try to stuff, I guess comes out in frustration."	4
Biological attributions (non-PD)	Respondent attributes depressive symptoms to a biochemical and/or genetic source, unrelated to PD.	"My mind chemistry, I would think. If I really knew I would cure it, but..."	4
Other health-related attributions	Respondent attributes depressive symptoms to health problems other than or in addition to PD.	"I think it's my age and some of the illnesses that I have."	2
No attribution offered	Respondent does not express insight into the causes of the depressive symptoms.	"I don't know. I wish I knew."	3

^a“Numbers of respondents” refers to the number of participants whose response falls within that category. Some participants offered responses that fit into more than one category, so the total number of responses exceeds the number of participants.

Table 2
Responses to a Scheduled Question Regarding How Best to Treat Depression

Category	Category Description	Sample Quotation	Number of Respondents ^a
Antidepressant therapy	Respondent believes that anti-depressant medication would help depressive symptoms.	"I would imagine medication would help."	13
Psychotherapy			
PD group therapy/support	Respondent believes that PD group support, or talking to someone knowledgeable about PD would help depressive symptoms.	"Probably being able to talk to someone who understands. You know, talk to a support person, another person's who's got Parkinson's or a person that's very knowledgeable of the disease."	2
Personal therapy	Respondent believes that individual psychotherapy or consulting a mental health professional would help depressive symptoms.	"I guess speaking to somebody, trying to resolve the problems. I currently am consulting a psychologist about my situation."	9
Combination of antidepressant and psychotherapy	See above	"I think it would be a combination of both the medication and the therapy because I do tend to get a lot of talking to somebody."	6
Self-initiated activities			
Social/talking	Respondent believes that increasing level of social activity would help depressive symptoms.	"Well, if I could be with people all the time... you know, if I'm not alone... I just don't feel like being alone."	4
Increasing activity/staying busy	Respondent believes that increasing his/her level of general activity (via exercise or hobbies) would help depressive symptoms.	"Be more active, joining in activities."	6
Change in outlook/be positive	Respondent believes that staying "positive" or changing his/her outlook will help depressive symptoms.	"Just a way to, you know, talk myself out of it."	4
Other	Two cases in which the patients thought that their problem was a specific situation, and believed that the best way to handle the symptoms was to handle the underlying situation and/or divert his attention away from the problem.	"I'm trying to divert my attention by doing things like going gambling, playing the slots to take my mind off of things." "I need to find somebody, and I tried with my girlfriend's son... have him help me take the pressure off."	2
Cure/treat Parkinson's disease	Respondent believes that a general cure for PD or improving his/her individual symptoms would help depressive symptoms.	"Find a magic cure for all my illnesses." "Make me move better, would be the first one."	2—Cure PD 2—Improve symptoms
Unsure	Respondent does not know the best way to treat his/her depressive symptoms.	"Well, that's a good question. I can't answer it."	8

^a“Numbers of respondents” refers to the number of participants whose response falls within that category. Responses in which the participant mentions more than one category are counted in each individual category; due to the number of participants mentioning both anti-depressant medication and psychotherapy, such respondents were additionally included in a separate category “Combination of antidepressant and psychotherapy”.