

# Impact of pain on the outcome of group psychotherapy<sup>1</sup>

John S. Ogrodniczuk<sup>2</sup> (*University of British Columbia, Canada*),  
William E. Piper (*University of British Columbia, Canada*), and  
Anthony S. Joyce (*University of Alberta, Canada*)

(Received November 22, 2006 / Recibido 22 de noviembre 2006)

(Accepted 18 October, 2007 / Aceptado 18 de octubre 2007)

**ABSTRACT.** This *ex post facto* study investigated the influence of pain among patients with major depression on the outcome of group psychotherapy, after controlling for the effects of type of psychotherapy received, use of antidepressant medication, and alexithymia (in order to account for patients' tendencies to somatise unpleasant, negative feelings). We analyzed data from 48 psychiatric outpatients with comorbid major depression and complicated grief that participated in a randomized trial of two forms of group psychotherapy for complicated grief. Self-reported pain was assessed using the SF-36 Bodily Pain subscale. The Beck Depression Inventory, Brief Symptom Inventory-53, and the Social Adjustment Scale were used to assess various outcomes of psychotherapy. Alexithymia was assessed with the Toronto Alexithymia Scale. Greater pain at baseline was associated with less improvement in depressive symptoms, general psychiatric distress, and social functioning after 12 weeks of group psychotherapy. Pain accounted for 13-21% of outcome variance. The negative effect of pain was consistent across both types of group therapy. Use of antidepressant medication did not differentially affect the impact of pain on treatment outcome. Recognizing and treating comorbid pain may enhance psychotherapeutic treatment outcomes of depressed patients.

**KEY WORDS.** Group psychotherapy. Pain. Depression. Complicated grief. *Ex post facto* study.

---

<sup>1</sup> This research project was supported by Grant MT-13481 from the Medical Research Council of Canada.

<sup>2</sup> Correspondence: University of British Columbia. Department of Psychiatry. Suite 420-5950 University Boulevard. Vancouver BC. V6T 1Z3 (Canada). E-Mail: ogrodnic@interchange.ubc.ca

**RESUMEN.** Este estudio *ex post facto* investigó la influencia del dolor físico en el resultado de la psicoterapia grupal en pacientes con depresión mayor, después de controlar tipo de psicoterapia recibida, uso de medicación antidepresiva y alexitimia (para tener en cuenta la tendencia a somatizar sensaciones desagradables o negativas). Los datos provienen de 48 pacientes psiquiátricos externos con depresión mayor comórbida y duelo complicado que participaron en un estudio aleatorizado de dos tipos de psicoterapia grupal para duelo complicado. Los pacientes evaluaron su propio dolor usando la subescala SF-36 de Dolor Físico. Para medir los resultados de la psicoterapia se utilizaron el Inventario de Depresión de Beck, el Inventario Breve de Síntomas-53 y la Escala de Ajuste Social. La alexitimia fue evaluada utilizando la Escala de Alexitimia de Toronto. Mayores niveles de dolor físico al comienzo del estudio estuvieron asociados, después de 12 semanas de psicoterapia grupal, con menores mejoras en síntomas depresivos, malestar psiquiátrico general y menor funcionamiento social. La variable dolor explicó entre el 13 y el 21% de la variabilidad en el resultado del tratamiento. El efecto negativo del dolor fue consistente en ambos tipos de psicoterapia grupal. El efecto del uso de medicación antidepresiva sobre el impacto del dolor en el resultado del tratamiento fue similar para ambos tipos de psicoterapia grupal. Reconocer y tratar el dolor comórbido podría mejorar el resultado del tratamiento psicoterapéutico en pacientes deprimidos.

**PALABRAS CLAVE.** Psicoterapia grupal. Dolor. Depresión. Duelo complicado. Estudio *ex post facto*.

Although clinicians have long been aware of the co-occurrence of depression and bodily pain, their association is not fully understood. There is a need to clarify what implications their association may have for health care services for depressed patients. Several key findings have suggested that pain affects the experience of depressive illness. First, pain is highly prevalent among depressed patients. On average, 65% of patients with depression experience some form of pain (Bair, Robinson, Katon, and Kroneke, 2003). Pain may be associated with a known medical condition such as cancer, peripheral neuropathy (primary lesion or dysfunction in the nervous system), or an unknown etiology (medically unexplained pain). Estimates of pain prevalence are consistently high across inpatient, outpatient, and primary care settings (Bair *et al.*, 2003). Second, the presence of pain symptoms affects the recognition and appropriate treatment of depression. Depressed patients with significant pain complaints are less likely to have their depression recognized (Kirmayer, Robbins, Dworkind, and Yaffe, 1993) or to receive appropriate treatment for their depression (Fritzche *et al.*, 1999). This may occur more often in primary care settings than in specialized psychiatric settings. Third, the presence of pain negatively affects several aspects of depressive illness. For example, greater pain is associated with more depressive symptoms and more severe depression (Von Korff and Simon, 1996). Furthermore, as pain increases, depressed patients experience greater functional limitations, decreased quality of life, and poorer work functioning (Bair *et al.*, 2003). Finally, the number of medical visits and overall health care costs appear to be higher among depressed patients with comorbid pain compared to depressed patients without pain (Bao, Sturm, and Croghan, 2003).

These findings provide reason to suspect that bodily pain may also interfere with the therapeutic management of depressive illness. However, little is known about whether pain reduces response to mental health treatments for depressed patients. A recent study by Bair *et al.* (2004) addressed this issue by examining pain among patients with major depression, dysthymia, and minor depression who were being treated with antidepressant medication (fluoxetine, paroxetine, or sertraline). These authors found that greater pain at baseline was associated with worse response to medication after 3 months of treatment. Similarly, Karp *et al.* (2005) found that higher levels of pain at baseline were associated with longer time to remission among patients with major depression who were treated with imipramine and individual interpersonal psychotherapy.

Previous studies have not considered the role of pain in group psychotherapy, nor have they considered possible differential effects of pain in psychotherapies with differing theoretical or technical orientations. The present study examined the effect of pain on the outcome of group psychotherapy for patients with comorbid major depression and complicated grief, some of who also received adjunctive antidepressant medication. Additionally, the study examined the effect of pain in two technically different forms of group psychotherapy (interpretive and supportive).

In studies of bodily pain and depression, it is important to consider the role of alexithymia. Alexithymia is conceptualized as a deficit in the ability to identify, differentiate, and communicate one's affective state (Taylor, 2000). It also refers to a cognitive style that is relatively concrete, externalizing, and utilitarian, rather than introspective (Taylor, 2000). Alexithymia is thought to impede successful regulation of emotions (especially those of a negative nature), resulting in chronic sympathetic hyperarousal, physiological sensations, somatosensory amplification, and complaints of physical symptoms, *e.g.*, pain (Lumley, Stettner, and Wehmer, 1996). Several studies have reported a direct association between alexithymia and pain (Ahlberg *et al.*, 2004; Lumley, Asselin, and Norman, 1997). Other studies report that alexithymia is also directly related to depression (Honkalampi, Hintikka, Tanskanen, Lehtonen, Viinamaki, 2000; Luminet, Bagby, and Taylor, 2001). This introduces the possibility that the relationship between self-reported pain and psychiatric symptoms of depressed patients may be confounded by alexithymia (*i.e.*, high levels of alexithymia may predispose patients to report high levels of both pain and depressive symptoms). The previous studies of Bair *et al.* (2004) and Karp *et al.* (2005) did not take into account the possible confounding role of alexithymia when examining the influence of pain on treatment outcomes of depressed patients. In the present study, alexithymia was assessed to control for its potentially confounding effect.

The present *ex post facto* study (Montero and León, 2007), a retrospective analysis of data that was collected as part of a randomized clinical trial of group therapy for complicated grief, edited according to Ramos-Alvarez, Valdés-Conroy, and Catena (2006) had three objectives. The first was to evaluate the effect of bodily pain, after controlling for alexithymia as a potential confound, on the outcome of patients with comorbid major depression and complicated grief who were treated with group psychotherapy. The second was to examine whether the effect of pain on treatment outcome differed for two different types (interpretive or supportive) of group psychotherapy. The third

was to examine whether the effect of pain on treatment outcome differed for those patients who also received adjunctive antidepressant medication.

## Method

### *Data source*

The study used previously collected data from patients with non-bipolar major depressive disorder who were enrolled in a randomized clinical trial of two manualized forms (interpretive, supportive) of short-term, group psychotherapy (Piper, McCallum, Joyce, Rosie, and Ogrodniczuk, 2001). Patients were referred from a large, psychiatric outpatient clinic of a university hospital. The clinical trial was conducted to determine the relative efficacy of interpretive and supportive group therapies for patients experiencing complicated grief and the optimal matching of patient personality and form of therapy. Complicated grief is a syndrome that involves a disturbed bereavement process. Individuals with complicated grief experience a constellation of symptoms that often include preoccupation with the lost person, anger about the death, and avoidance of reminders of the loss. Although these symptoms are familiar to many people who have experienced a death loss, the grief reactions of those with complicated grief reach intensities and durations that are extreme. Such reactions are often associated with other clinical complications (*e.g.*, depression) and interfere with daily functioning in work or school, as well as social roles.

The primary inclusion criteria were: a) elevated scores on measures of grief -the Intrusion or Avoidance subscales of the Impact of Events Scale (Horwitz, Wilner, and Alvarez, 1979) or on a set of seven pathological grief items developed by Prigerson and colleagues (1995)-, b) significant disturbance in social functioning -assessed using the Social Adjustment Scale; Weissman and Bothwell, 1976)-, and c) duration of at least 3 months since the time of the death loss. Exclusion criteria were psychosis, substance abuse, active suicidal risk, organic mental disorder, and antisocial personality disorder. Written informed consent was obtained from all participants after the procedure had been fully explained. All patients included in the present study ( $N = 48$ ) initially had a current episode of major depression, according to Diagnostic and Statistical Manual of Mental Disorders 3<sup>rd</sup> Edition, Revised, (DSM-III-R; American Psychiatric Association, 1987) criteria, in addition to meeting criteria for complicated grief.

### *Treatment description*

Patients received 12 weekly, 90-minute sessions of psychodynamically-oriented interpretive ( $N = 23$ ) or supportive ( $N = 25$ ) group psychotherapy. The treatments were intended to help patients resolve issues related to grief. Grief is recognized as a factor that can contribute to the development and maintenance of depressive disorders (Weissman, Markowitz, and Klerman, 2000). In interpretive therapy, the primary objective is to enhance the patients' insight about repetitive conflicts (intrapsychic and interpersonal) and trauma that are associated with the losses and that are assumed to serve as impediments to experiencing a normal mourning process. In the session, the therapist attempts to

create a climate that is mildly anxiety-arousing in order to allow defences, transference reactions, and unconscious themes to emerge. In regard to technique, the therapist encourages the patients to explore conflicts, which often involve uncomfortable emotions. Interpretations about sensitive topics, including transference, are often made. There is a focus on the here-and-now in the group, but patients' contemporary relationships outside the group are also considered. The therapist attempts to link unconscious intrapsychic conflicts with the more conscious interpersonal situation inside and outside the group.

In supportive therapy, the primary objective is to improve the patients' immediate adaptation to their life situations. It is assumed that improvements in symptoms and social functioning can be achieved through the provision of support and problem solving. In the session, the therapist attempts to create a climate of gratification wherein patients can share common experiences and feelings, and receive reinforcement for their efforts at coping. In regard to technique, the therapist uses guidance, problem solving, and praise. The therapist is active, non-interpretive, and other-focused (*i.e.*, focused on the patients' current external relationships).

About three-quarters (73%) of the patients also received a therapeutic dosage of antidepressant medication during the clinical trial. Patients were prescribed a tricyclic (imipramine, amitriptyline, nortriptyline) or selective serotonin reuptake inhibitor (fluoxetine, paroxetine, sertraline) compound depending on their individual needs. A similar proportion of patients in interpretive therapy (78%) and supportive therapy (68%) received adjunctive antidepressant medication. This difference was not statistically significant ( $\chi^2_1 = .23, p > .50$ ).

### *Study measures*

Pain was assessed by self-report, prior to treatment initiation, using the SF-36 bodily pain subscale (Medical Outcomes Trust, 1994). It assesses pain severity and pain interference (*i.e.*, how much pain interferes with a person's function at work or home). The scale, which ranges from 0 to 100, is scored positively so that a high score indicates lack of bodily pain and interference.

Patient functioning, assessed at pre-therapy and post-therapy, included assessment of depressive symptoms (using the Beck Depression Inventory-II; Beck, Steer, and Brown, 1996), general psychiatric distress (using the global severity index from the Brief Symptom Inventory-53; Derogatis, 1993), and social role functioning (using the overall score from the Social Adjustment Scale; Weissman and Bothwell, 1976). Alexithymia was assessed using the 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Parker, and Taylor, 1994). The TAS-20 provides three subscale scores: *Difficulty Identifying Feelings*, *Difficulty Communicating Feelings*, and *Externally Oriented Thinking*. All three subscale scores were used in the present study.

### *Data analysis*

Data were analyzed using SPSS 12.0. All statistical tests were two-tailed. Independent samples *t* tests were used to compare baseline pain for patients who did or did not receive adjunctive antidepressant medication and for patients who were randomized to

either interpretive or supportive group therapy. Pearson correlation was used to examine the associations that baseline pain had with baseline depression and alexithymia. Hierarchical regression was used to assess the effect of baseline pain on treatment outcomes, over and above the effects of form of psychotherapy received, use of antidepressant medication, and alexithymia. Form of psychotherapy received (*interpretive or supportive*) and use of medication (*yes or no*) were entered into the first step of the regression analysis. At step 2, the three subscale scores from the TAS-20 (representing different facets of alexithymia) were entered. At the third step, the SF-36 bodily pain score was entered. Finally, at step 4, the interaction between form of psychotherapy and the SF-36 bodily pain score, and the interaction between use of medication and the SF-36 bodily pain score were entered. This final step was included to examine whether pain had a differential effect on outcome depending on the form of group therapy received or whether antidepressant medication was used. Residual change scores (representing post-therapy level with the effect of pre-therapy levels partialled out) for depression, general distress, and social functioning served as the dependent variables.

## Results

### *Demographics*

The sample of 48 patients had a mean age of 43.60 years, ranging from 19 to 64 ( $SD = 10.9$ ). Just over three-quarters (77%) of the sample was female, 33% lived with a partner, 50% were educated beyond high school, and 58% were employed. Slightly more than half (54%) of the sample was diagnosed with a DSM-III-R Axis II disorder. The most frequent were avoidant (27%) and dependent (21%).

### *Initial disturbance*

The average SF-36 bodily pain score was 52.8 ( $SD = 25.7$ ), which indicates considerably greater pain than that experienced by the general population sample ( $M = 75.2$ ), but similar to the pain experienced by the clinically depressed sample ( $M = 58.8$ ) reported in the SF-36 manual (Medical Outcomes Trust, 1994). A large proportion of patients (58.3%) achieved scores that, according to normative data provided in the SF-36 manual, are suggestive of high levels of pain (*i.e.*, bodily pain score  $< 63$ ). The average baseline score for the BDI-II was 33.3 ( $SD = 11.1$ ); for general psychiatric distress, 2 ( $SD = .82$ ); and for social role functioning, 2.7 ( $SD = .57$ ). Relative to outpatient normative data, these figures indicate high levels of depressive symptomatology and general distress, and poor social functioning.

There was not a significant difference in pain scores for patients who received adjunctive antidepressant medication ( $M = 54.9$ ,  $SD = 27.7$ ) compared to patients who did not receive adjunctive antidepressant medication ( $M = 47.1$ ,  $SD = 19.1$ ),  $t_{46} = -.93$ ,  $p > .30$ . Similarly, pain scores for patients who were randomized to interpretive group therapy ( $M = 51.7$ ,  $SD = 29.9$ ) did not differ significantly from patients who were randomized to supportive group therapy ( $M = 53.8$ ,  $SD = 21.7$ ),  $t_{46} = -.28$ ,  $p > .75$ .

Baseline pain was significantly correlated with baseline depression  $-r(46) = -.48, p = .001$ -, indicating that greater pain was associated with greater depressive symptomatology. Baseline pain was also significantly correlated with the alexithymia factor difficulty identifying feelings  $-r(46) = -.37, p < .02$ , indicating that greater pain was associated with greater difficulty for identifying feelings. However, baseline pain was not found to be significantly associated with the two other alexithymia factors, difficulty communicating feelings  $-r(46) = -.19, p > .15$ ] and externally oriented thinking  $-r(46) = .03, p > .85$ ].

### *Pain and treatment outcome*

Regarding treatment outcome, baseline pain had a significant relationship with post-therapy residual change scores for depression,  $F_{(1, 39)} = 6.16, p < .02, R^2 = .13$ ; general distress,  $F_{(1, 39)} = 10.15, p < .005, R^2 = .18$ ; and social functioning,  $F_{(1, 39)} = 11.07, p < .005, R^2 = .21$ . These findings indicated that greater pain was associated with worse treatment outcomes. This was over and above the effects of type of psychotherapy received, use of antidepressant medication, and level of alexithymia. The only significant effect for a covariate was for the alexithymia factor of difficulty identifying feelings, which was inversely related to favourable outcome for general distress,  $t_{40} = -2.62, p < .05$ . No significant effects were found for the interaction between pain and type of psychotherapy received or the interaction between pain and use of antidepressant medication

## **Discussion**

We found that the experience of bodily pain was common among our sample of depressed and bereaved psychiatric outpatients. Over half (58%) reported high levels of pain. More importantly, our study demonstrated that pain had an adverse effect on treatment outcomes, which is consistent with the reports of Bair *et al.* (2004) and Karp *et al.* (2005). Greater pain at baseline was associated with worse treatment outcome. The present study builds upon the work of these other authors by demonstrating that pain has significant influence on the outcome of group psychotherapy. An additional contribution of the present study was demonstration that the negative effect of pain remained even after controlling for the patient's level of alexithymia (*i.e.*, the patient's tendency to somaticize unpleasant, negative feelings), as well as type of psychotherapy received and use of antidepressant medication. It is important to point out that pain accounted for about 20% of the variance in two of the three outcome variables (general distress and social functioning) that were assessed. Such a large contribution from a single predictor is unusual in psychosocial research (Garfield, 1994). It is also notable that the effect of pain on treatment outcome did not differ for interpretive or supportive group therapies, nor did the effect of pain differ for patients who received or did not receive adjunctive antidepressant medication. These latter findings suggest that the effect of pain is rather ubiquitous and robust.

Several explanations for why pain may negatively affect psychotherapeutic treatment outcomes are plausible. First, disability, whether real or perceived, that is associated

with pain may have been relatively unaffected by psychotherapy and thus continued to exert a negative influence on the patient's life. Continued depression, generalized distress, and poor social functioning would thus be expected. This explanation is consistent with suggestions in the literature that disability, and not simply the presence of pain, is the active factor that is responsible for the association between pain and depression (Dickens and Creed, 2001; Karp *et al.*, 2005). Studies have shown that self-efficacy mediates the relationship between pain intensity and disability (Arnstein, Caudill, and Mandle, 1999), suggesting that psychological factors play a critical role in determining whether pain impairs a person's life. This implies that negative thoughts or beliefs about one's capacity to cope with pain may be appropriate targets for therapy for patients with comorbid depression and pain.

Second, pain may represent the more difficult-to-treat somatic component of depression, which was unaffected by psychotherapy. These lingering somatic (pain) symptoms, which in essence represent a continuation of the depressive illness, may have prevented the patient from achieving much benefit from treatment (Karp *et al.*, 2005). A study by Paykel, Cooper, Hayhurst, Kerr, and Barocka (1995) found that, following a three month trial of antidepressant medication, 32% of patients experienced residual symptoms of depression. Of these patients with residual symptoms, 94% reported physical complaints. We have previously found that, following 20 weeks of individual psychotherapy, the presence of residual symptoms of depression was associated with poorer functioning at post-therapy and at 6-months follow-up (Ogrodniczuk, Piper, and Joyce, 2004). Thus, it is possible that baseline pain is indicative of a more severe depression that is minimally responsive to short-term group psychotherapy, even with adjunctive antidepressant medication. More aggressive treatment, longer-term treatment, or both may be required to bring about favourable change.

Third, the factors that predispose, precipitate, and perpetuate both pain and depression may have been unaffected by the group psychotherapies that were provided and thus continued to maintain the patient's pathology. The complex relationship between depression and pain is often considered in the context of a biopsychosocial model (Ong and Keng, 2003). This model posits that depression and pain co-occur because of common biological pathways that subserve both processes, social factors that maintain their relationship, and psychological processes that create vulnerabilities to each and maintain their synchronous relationship. If the common mechanisms that contribute to depression and pain are not addressed in therapy, they will continue to perpetuate the pathology associated with each. While such common mechanisms are not completely understood, previous research has suggested that the noradrenergic and serotonergic neurotransmitter systems (Delgado, 2004), marital difficulties (Kerns and Turk, 1984), and neurotic personality traits (Ong and Keng, 2003) each contribute to the depression-pain relationship. These may be considered as targets for treatment when dealing with a depressed patient with comorbid pain.

Several limitations of the present study must be considered along with the findings. First, the clinical trial that provided data for our retrospective analysis included only a simple 2-item measure of pain (*i.e.*, SF-36 bodily pain subscale). Information concerning the location (*e.g.*, back or head), duration (*e.g.*, acute or chronic), and etiology (*e.g.*,



neuropathic or associated with a medical condition) of pain was not available from the measure that was used. Future studies should employ more sophisticated measures that assess these various aspects of pain, in addition to assessing the particular disabilities that are associated with pain, and the cognitive and emotional responses to pain. Second, although our study involved a sample of depressed patients recruited from a general psychiatric outpatient clinic, all patients had lost a significant person through death, met criteria for complicated grief, and received treatment that was intended to help them resolve their loss issues. It is not clear whether our findings would generalize to other depressed patients without complicated grief who receive psychotherapy that is focused on other (non-grief) issues related to their depression. Third, medication use was not randomly determined in our sample. It is not known whether pain among patients who received adjunctive antidepressant medication was systematically different from those patients who did not receive adjunctive medication. In addition, the type of medication prescribed to patients was not standardized (*i.e.*, each patient did not receive the same type of medication). Instead, a variety of medications within the tricyclic and selective serotonin reuptake inhibitor classes were used, depending on each patient's particular needs. Thus, it is not clear if certain medications were more effective at reducing pain and its impact on treatment outcome than others. Our sample size was too small to reliably test for differences between each type of medication that was used. Finally, our study design does not allow us to infer a direct cause and effect relationship between pain and treatment outcome. However, this should not detract from the clinical utility of the findings, which suggest that depressed and bereaved patients who report high levels of pain prior to treatment are likely to have poor responses to treatment.

Despite the limitations noted above, our study suggests that pain is strongly associated with poorer treatment outcome among depressed and bereaved psychiatric outpatients who are treated with group psychotherapy. The findings imply that clinicians should inquire about pain among their patients and directly address pain-related issues in therapy or arrange for adjunctive pain treatment. Inattention to pain may preclude successful response to treatment and perpetuate a patient's poor functioning. Future research needs to further examine the temporal relationship between pain and depression in order to determine whether changes in one lead to changes in another and whether there may be higher-level variables that account for pain and depression (*e.g.*, neurotic personality traits). Additionally, future studies need to examine whether treatments that focus on the synchronous relationship between pain and depression are more effective at treating both than treatments with a singular focus on either depression or pain. The accumulation of evidence pointing to the important, negative impact of pain on treatment outcomes of depressed patients suggests that better understanding, recognition, and treatment of pain is imperative for improving the psychiatric care available to patients with depression.

## References

- Ahlberg, J., Nikkila, H., Kononen, M., Partinen, M., Linholm, H., Sarna, S., and Savolainen, A. (2004). Associations of perceived pain and painless TMD-related symptoms with alexithymia

- and depressive mood in media personnel with or without irregular shift work. *Acta Odontologica Scandinavica*, 62, 119-123.
- American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders, 3<sup>rd</sup> Edition, Revised*. Washington, DC: APA.
- Arnstein, P., Caudill, M., and Mandle, C.L. (1999). Self-efficacy as a mediator of the relationship between pain intensity, disability, and depression in chronic pain patients. *Pain*, 80, 483-491.
- Bagby, R.M., Parker, J. D.A., and Taylor, G.J. (1994). The twenty-item Toronto Alexithymia Scale: I. Item selection and cross validation of the factor structure. *Journal of Psychosomatic Research*, 38, 23-32.
- Bao, Y., Sturm, R., and Croghan, T.W. (2003). A national study of the effect of chronic pain on the use of health care by depressed persons. *Psychiatric Services*, 54, 693-697.
- Bair, M.J., Robinson, R.L., Eckert, G.J., Stang, P.E., Croghan, T.W., and Kroneke, K. (2004). Impact of pain on depression treatment response in primary care. *Psychosomatic Medicine*, 66, 17-22.
- Bair, M.J., Robinson, R.L., Katon, W., and Kroneke, K. (2003). Depression and pain comorbidity: A literature review. *Archives of Internal Medicine*, 163, 2433-2445.
- Beck, A.T., Steer, R.A., and Brown, G.K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio: Psychological Corporation.
- Delgado, P.L. (2004). Common pathways of depression and pain. *Journal of Clinical Psychiatry*, 65 (suppl), 16-19.
- Derogatis, L.R. (1993). *Brief Symptom Inventory: Administration, scoring, and procedures manual, 3<sup>rd</sup> ed*. Minneapolis: National Computer Systems.
- Dickens, C., and Creed, F. (2001). The burden of depression in patients with rheumatoid arthritis. *Rheumatology (Oxford)*, 40, 1327-1330.
- Fritzche, K., Sandholzer, H., Brucks, U., Cierpka, M., Dter, H.C., Harter, M., Hoger, C., Richter, R., Schmidt, B., Larisch, A., and Wirsching, M. (1999). Psychosocial care by general practitioners – where are the problems? Results of a demonstration project on quality management in psychosocial primary care. *International Journal of Psychiatry in Medicine*, 29, 395-409.
- Garfield, S.L. (1994). Research on client variables in psychotherapy. In A. E. Bergin and S. L. Garfield (Eds.), *Handbook of Psychotherapy and Behavior Change, 4th ed.* (pp. 190-228). New York: Wiley.
- Honkalampi, K., Hintikka, J., Tanskanen, A., Lehtonen, J., and Viinamaki, H. (2000). Depression is strongly associated with alexithymia in the general population. *Journal of Psychosomatic Research*, 48, 99-104.
- Horwitz, M.J., Wilner, N., and Alvarez, W. (1979). Impact of event scale: A measure of subjective distress. *Psychosomatic Medicine*, 41, 209-218.
- Karp, J. F., Scott, J., Houck, P., Reynolds, C.F., Kupfer, D.J., and Frank, E. (2005). Pain predicts longer time to remission during treatment of recurrent depression. *Journal of Clinical Psychiatry*, 66, 591-597.
- Kerns, R., and Turk, D. (1984). Chronic pain and depression: Mediating role of spouse. *Marriage and Family*, 46, 845-852.
- Kirmayer, L.J., Robbins, J.M., Dworkind, M., and Yaffe, M.J. (1993). Somatization and the recognition of depression and anxiety in primary care. *American Journal of Psychiatry*, 150, 734-741.
- Luminet, O., Bagby, R.M., and Taylor, G.J. (2001). An evaluation of the absolute and relative stability of alexithymia in patients with major depression. *Psychotherapy and Psychosomatics*, 70, 254-60.

- Lumley, M.A., Asselin, L.A., and Norman, S. (1997). Alexithymia in chronic pain patients. *Comprehensive Psychiatry*, 38, 160-165.
- Lumley, M.A., Stettner, L., and Wehmer, F. (1996). How are alexithymia and physical illness linked? A review and critique of pathways. *Journal of Psychosomatic Research*, 41, 505-518.
- Medical Outcomes Trust (1994). *SF-36 Health Survey: Scoring manual for English-language adaptations*. Boston: Medical Outcomes Trust.
- Montero, I. and León, O.G. (2007). A guide for naming research studies in Psychology. *International Journal of Clinical and Health Psychology*, 7, 847-862.
- Ogrodniczuk, J.S., Piper, W.E., and Joyce, A.S. (2004). Residual symptoms in depressed patients who successfully respond to short-term psychotherapy. *Journal of Affective Disorders*, 82, 469-473.
- Ong, K.S. and Keng, S.B. (2003). The biological, social, and psychological relationship between depression and chronic pain. *Journal of Craniomandibular Practice*, 21, 286-294.
- Paykel, E.S., Cooper, R.R., Hayhurst, H., Kerr, J., and Barocka, A. (1995). Residual symptoms after partial remission: An important outcome in depression. *Psychological Medicine*, 25, 1171-1180.
- Piper, W.E., McCallum, M., Joyce, A.S., Rosie, J.S., and Ogrodniczuk, J.S. (2001). Patient personality and time limited group psychotherapy for complicated grief. *International Journal of Group Psychotherapy*, 51, 525-552.
- Prigerson, H.G., Frank, E., Kasl, S.V., Reynolds, C.F., Anderson, B., Zubenko, G.S., Houck, P.R., George, C.J., and Kupfer, D.J. (1995). Complicated grief and bereavement-related depression as distinct disorders: Preliminary empirical validation in elderly bereaved spouses. *American Journal of Psychiatry*, 152, 22-30.
- Ramos-Alvarez, M.M., Valdés-Conroy, B, and Catena, A. (2006). Criteria of the peer-review process for publication of experimental and quasi-experimental research in Psychology. *International Journal of Clinical and Health Psychology*, 6, 772-787.
- Taylor, G.J. (2000). Recent developments in alexithymia theory and research. *Canadian Journal of Psychiatry*, 45, 134-142.
- Von Korff, M. and Simon, G. (1996). The relationship between pain and depression. *British Journal of Psychiatry (Suppl)*, 30, 101-108.
- Weissman, M.M. and Bothwell, S. (1976). Assessment of social adjustment by patient self report. *Archives of General Psychiatry*, 33, 1111-1115.
- Weissman, M.M., Markowitz, J.C., and Klerman, G.L. (2000). *Comprehensive Guide to Interpersonal Psychotherapy*. New York: Basic Books.