

International Encyclopedia of Rehabilitation

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Multiple Sclerosis: Depression

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Brief Overview of Multiple Sclerosis

Multiple Sclerosis (MS) is a chronic, often progressive and disabling disease of the central nervous system (CNS). It is believed that the immune system attacks the myelin sheath around axons in the CNS causing demyelination and resulting in lesions. These lesions cause a disruption in the transmission of nerve impulses. Because lesions can form anywhere in the CNS and because MS is sometimes associated with axonal damage, MS can produce a wide range of symptoms. Some of the more common symptoms patients experience include vision disturbance, chronic pain, fatigue, impaired cognitive functioning, muscle weakness, spasticity, tremor, loss of bowel and bladder control, and emotional changes. In addition to symptom variability, the course of MS can vary. About 55% of patients with MS experience a relapsing-remitting course, marked by periodic exacerbations that remit fully or partially. The majority of these cases will eventually develop into secondary progressive MS in which disease and disability progress without remission. For as yet unknown reasons, MS affects women about twice as often as it affects men.

Prevalence

Given the often unpredictable and progressive nature of MS with its widespread symptoms and neurological basis, it is perhaps not surprising that depression is a common comorbid condition. The lifetime risk of major depressive disorder (MDD) in persons with MS is estimated to be 50% (Goldman Consensus Group, 2005). This is in contrast to patients in primary care settings where the lifetime prevalence of depression is estimated to be 7 to 12 percent in men and 20 to 25 percent in women (U.S. Dept. of Health and Human Services 1993). In addition to a high lifetime prevalence, the 12 month prevalence has been found to be as high as 25.7% (Patten, Beck et al. 2003). Although most of the literature on the epidemiology of depressive disorders in MS is from Western countries, a recent population-based controlled study of comorbidities amongst Chinese individuals with MS (Kang, Chen, & Lin, 2010) found that individuals with MS were much more likely to have a depressive disorder relative to matched case controls and the general population.

The underlying causes of the high comorbidity of depression and MS remain under debate. Some hypotheses put forth to date include that overlapping somatic symptoms such as fatigue may lead to inflated estimates of depression (Siegert and Abernethy 2005); it could be related to an underlying disease process such as lesion load or brain atrophy (Feinstein, Roy et al. 2004), or it could be explained by psychosocial factors such as social support, coping, conceptions of the self and illness, and stress (Arnett, Barwick et al. 2008). In order to understand this debate, it is useful to look at the diagnostic criteria for MDD. The Diagnostic and Statistical Manual for Mental Disorders-Fourth Edition (DSM-IV: APA, 1994) criteria for a major depressive episode (MDE) include:

- Depressed mood
- Significantly diminished pleasure or interest in activities (referred to as anhedonia)
- Decreased or increased appetite or significant weight loss or weight gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Decreased concentration or indecisiveness
- Decreased energy or fatigue
- Feelings of excessive guilt or worthlessness
- Recurrent suicidal ideation with or without a plan or recurrent preoccupation with death

To be diagnosed with an MDE, an individual must experience a minimum of five of the nine symptoms most of the time for a minimum of two weeks and one of the symptoms must be depressed mood or anhedonia. The constellation of symptoms must cause impairment in functioning and not be attributable to a medical condition or medications. If a person experiences at least one MDE, they meet diagnostic criteria for a major depressive disorder (MDD). See below for a description of the ICD 10 criteria for depression, which is the standard used outside of the United States (World Health Organization 1992).

ICD 10 criteria for Major Depressive Episode

...the individual usually suffers from depressed mood, loss of interest and enjoyment, and reduced energy leading to increased fatigability and diminished activity. Marked tiredness after only slight effort is common. Other common symptoms are:

- a) reduced concentration and attention;
- b) reduced self-esteem and self-confidence;
- c) ideas of guilt and unworthiness (even in a mild type of episode);
- d) bleak and pessimistic views of the future;
- e) ideas or acts of self-harm or suicide;
- f) disturbed sleep;
- g) diminished appetite.

Diagnosis of depression in persons with MS is complicated by the fact that several of the DSM-IV criteria for an MDE overlap with common symptoms of MS (ie sleep difficulty,

concentration difficulty, fatigue). DSM-IV criteria state that impairment must not be attributable to a medical condition or medications. It has been suggested that in spite of the already high prevalence rate, depression may be under-diagnosed in persons with MS as providers may overemphasize the role of MS in these confounded symptoms and underemphasize the role of depression (Mohr and Goodkin 1999).

Risk Factors

In addition to diagnostic overlap, there are several potential contributors to the high comorbidity of depression and MS:

- Depression may be a result of the MS disease process itself. While there is no clear consensus about the specific nature of these underlying neurobiological and neuroimmunological risk factors, there is a correlation between lesion load/location and depression (Feinstein, Roy et al. 2004).
- Medications used to treat symptoms of MS, such as interferon beta, can impact mood, though do not appear to cause depression (Patten, Williams et al. 2008)
- Life stressors are a known risk factor for developing depression in the general population; diagnosis and treatment-related stressors are common in those with MS (e.g. frequent physician visits, financial burden, loss or change of employment, impaired physical and cognitive status, changes in family role, decreased social support).
- Pain, which is experienced by the majority of persons with MS, is strongly associated with depression. Poorly controlled pain is associated with worse depressive symptoms and outcomes and poorly controlled depression is associated with more pain complaints and great functional impairment (Bair, Robinson et al. 2003).
- Frequent use of avoidant coping (e.g. attempting not to think about the situation, avoidance of activity, avoidance through the use of substances, etc) and infrequent use of active coping (e.g. engaging strategies such as problem-solving, seeking support, etc) are associated with experiencing symptoms of depression (Arnett, Barwick et al. 2008).
- Illness meaning: when faced the challenges of coping with chronic conditions, the situation can be evaluated in at least three ways: emphasizing the negative meaning (e.g. helplessness, hopelessness), diminishing the negative meaning (e.g. acceptance), and adding positive meaning (e.g. benefit finding). Helplessness is positively correlated with negative mood, while acceptance and benefit finding are inversely correlated with negative mood (Evers, Kraaimaat et al. 2001).

While there is no formula for determining who will develop depression, it is important to assess these risk factors and monitor depression accordingly (see below).

History of depression

- Have you ever been diagnosed with or treated for depression?
- Have you ever been treated for any other mental health problems, such as anxiety?
- Has anyone in your family ever been diagnosed with or treated for depression?

Life stressors (work, financial, family role, etc)

- How has MS impacted your work/family role?
- Are you worried about your financial situation? How does this impact your sleep or engagement in/enjoyment of activities?
- How is your family coping with your illness?
- What do you do to relax?

Impact of pain

- How does pain impact your life? How does this impact your sleep or engagement in/enjoyment of activities? What do you do to cope with pain?

Social support

- Tell me about your social life. Tell me about a typical day (assess isolation).

Cognitive functioning

- What changes in your thinking have you noticed? Have you completed a neuropsychological evaluation?

Coping styles (avoidance and active coping)

- How do you cope with stressors? Do you tend to try not to think about them? Do you find yourself thinking about the same problems over and over (without finding a solution)? How are you able to find solutions to problems?

Illness meaning

- What does it mean to you to have MS? (Look for hopelessness, acceptance, and benefit finding)

Detection and Treatment

Depression is prevalent among individuals with MS, but research suggests that it remains under-detected (McGuigan & Hutchinson, 2006) and under-treated (Mohr et al., 2006). Screening protocols for identifying cases of depression in MS clinics are unlikely to improve depression care or outcomes unless collaborative treatment protocols are also implemented (for a discussion, see Ehde & Bombardier, 2005). The Goldman Algorithm for the Treatment of Depression in MS (Schiffer, 2010) provides guidelines for the identification and treatment of depression in the MS care setting. Although it has not been empirically tested, it was developed using the existing evidence on the detection and

treatment of depressive disorders in MS. This algorithm also describes several screening measures which have proven useful in identifying potential cases of depression in MS.

Only a handful of clinical trials have examined the efficacy of pharmacologic and psychotherapeutic treatments for depression in MS. However, the available evidence supports offering a choice of these treatments, as there is currently no definitive evidence that either pharmacotherapy or psychotherapy are more effective than the other. A meta-analysis published in 1999 found that both pharmacotherapy and psychotherapy were effective in decreasing depressive symptoms in MS (Mohr & Goodkin, 1999). However, at that time only five studies were randomized clinical trials using an objective measure of depressive symptoms and thus were included in the meta-analysis. A more recent review of antidepressant treatment of MS depression (Patten, 2009) examined the efficacy of antidepressants in treating MDD in MS. This review (which included two additional randomized controlled trials: Ehde et al., 2008; Mohr et al., 2001) concluded that while the literature is not definitive, antidepressants show modest beneficial effects. Patten (2009) noted that many patients treated with antidepressants have residual depressive symptoms and recommended multimodal treatment approaches.

In the past ten years, several randomized controlled trials (Mohr et al., 2000, 2001, 2005) and a 2006 Cochrane review (Thomas et al., 2006) have found that cognitive behavioral interventions are efficacious in treating depressive disorders and symptoms in individuals with MS. In addition, cognitive behavioral interventions delivered by telephone were found to be effective in treating depression relative to usual care (Mohr et al., 2000) and to telephone-delivered supportive-expressive therapy (Mohr et al., 2005). Telephone-delivered interventions are potentially quite valuable in MS because they mitigate barriers such as transportation and fatigue which may interfere with accessing psychotherapy. At least one other non pharmacological modality, exercise, is currently being studied as a treatment for depression in MS. Other forms of psychotherapy such as mindfulness-based interventions, acceptance and commitment therapy, or interpersonal therapy may be useful in treating depression in MS but currently lack empirical investigation.

For MS patients with mild to moderate depression, the Goldman Algorithm (Schiffer, 2009) recommends that the first treatment step involve the MS clinician and patient collaboratively developing a treatment plan based upon goals or outcomes and which involves pharmacotherapy, psychotherapy, or both. Importantly, the Goldman Algorithm recommends close and frequent (four- to six-week reassessments) follow ups during which treatment response is monitored and treatment adjusted accordingly. Suggestions for adjusting treatment as well as maintaining gains for responders are included in this algorithm. These are important components, as inadequate depression care may result in patients not receiving adequate follow up or monitoring of responsiveness to treatment. Research examining the effectiveness of this algorithm and other multimodal interventions is needed.

In the broader depression literature, collaborative care approaches have been shown to be more effective than standard care in treating depression in medical settings (Gilbody,

Bower, Fletcher, Richards, & Sutton, 2006). Collaborative care interventions vary in terms of their specific components but typically involve multifaceted and systematic approaches to depression management such as:

- (1) delivery of care by a team of collaborating professionals such as a case manager, physician, and mental health specialist;
- (2) the systematic utilization of evidenced based practice guidelines such as the guidelines available from the American Psychiatric Association (2000);
- (3) pharmacological, cognitive behavioral, and/or other self-management modalities;
- (4) regularly scheduled and ongoing follow up to monitor treatment adherence and response; and
- (5) adjustment of treatment, including treatment intensity, based upon patient response and preferences.

Such models of care have not been studied in patients with both MS and depression. However, collaborative care models are promising, given they have been shown to improve treatment adherence (potentially through better concordance between patient preferences/goals and care) and decrease inadequate treatment, two challenges common to depression care in MS. Collaborative approaches to MS depression care warrant development and testing.

Resources

- Consortium of Multiple Sclerosis Centers: <http://www.mscares.org>
- Multiple Sclerosis International Federation: http://www.msif.org/language_choice.html
- National Multiple Sclerosis Society: <http://nmss.org>

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