

New Findings on the Mind-Body Connection in MS

Newland PK, Naismith RT, Ullione M. The impact of pain and other symptoms on quality of life in women with relapsing-remitting multiple sclerosis. *J Neurosci Nurs.* 2009;41:322-328.

Phillips LJ, Stuifbergen AK. The relevance of depressive symptoms and social support to disability in women with multiple sclerosis or fibromyalgia. *Int J Rehabil Res.* 2009 Dec 1. Epub ahead of print. doi: 10.1097/MRR.0b013e3283310cce.

Zipoli V, Goretti B, Hakiki B, et al. Cognitive impairment predicts conversion to multiple sclerosis in clinically isolated syndromes. *Mult Scler.* 2010;16:62-67.

At every stage of disease, multiple sclerosis (MS) interacts profoundly with mental health, cognitive functioning, and quality of life (QoL). The interplay of mind and body in MS influences overall wellness, the ability to cope with illness, and adherence to therapy. Several recent studies have illuminated various aspects of mental health and cognition and their impact on MS, ranging from mental QoL and disability to prognosis for disease progression.

MS and Women: The Burden of Pain

Newland et al explored the effects of pain, fatigue, depression, and sleep disturbance on quality of life (QoL) in women with relapsing-remitting MS (RRMS) and a matched group of healthy controls. Both groups were primarily Caucasian, married, and well-educated, with an average age of 44. Women with RRMS demonstrated not only a higher prevalence of pain (67% vs 33%, $P = 0.005$), but also greater pain intensity over 7 days (median pain scores, respectively = 5.0 vs 2.0; $P = 0.02$) and more interference of pain in their daily lives ($P = 0.0008$). Overall, the data indicated that “women with RRMS represent a unique population who experience pain differently than do healthy women,” the authors reported. This suggested that the inflammation and/or demyelination of the central nervous system (CNS) involved in the pathophysiology of MS may contribute to the disparity. Fatigue and depression intensity did not differ significantly between the 2 groups, although sleep disturbance intensity was significantly higher in women with RRMS ($P = 0.02$).

Using a statistical regression model, the investigators determined that fatigue, depression, and sleep disturbance were predictors of decreased mental QoL (the mental component summary of QoL scores) in both groups. In both groups,

fatigue was the symptom with the greatest adverse impact on QoL. Surprisingly, pain demonstrated only a modest relationship to mental and physical QoL in all women. However, the small size of the subset reporting pain in this cohort limited the power of the finding.

Recommended nursing strategies for all female patients included evaluation of pain using a reliable instrument, attention to fatigue-management interventions such as exercise and rest between activities, and early identification of depression through screening with a standardized tool and referral for treatment. “Effective pain management may decrease the intensity of fatigue, depression and sleep disturbance in all women,” the authors concluded.

Depression's Link to Disability

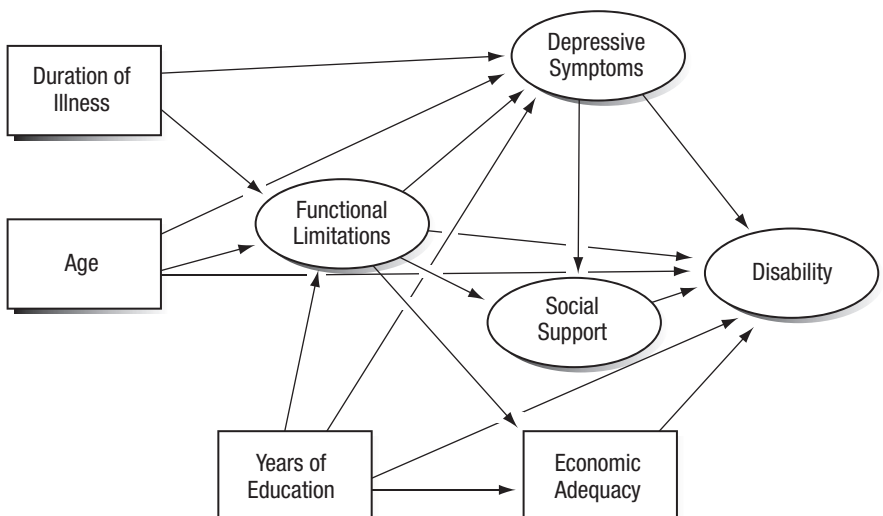
In clinical practice, the MS nurse

observes disability as a dynamic process with many dimensions. An individual's level of disability is affected not just by pathophysiology and physical limitations, but also by a host of risk factors and variables both internal and external. Phillips and Stuifbergen examined psychosocial predictors of disability in women with MS or fibromyalgia (FM), conditions that are both associated with an elevated risk for depression. They investigated how depression, social support, and economic status mediated the effects of functional limitations on disability (Figure 1).

The authors performed a secondary analysis of disability predictors among women recruited for wellness studies, including 118 with MS and 197 with FM. In both groups, disability was predicted by greater functional limitations, lower economic adequacy, less social support,

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Figure. Contributors to Disability in MS. Research model of the disablement process.



Adapted with permission from Phillips LJ, Stuifbergen AK. The relevance of depressive symptoms and social support to disability in women with multiple sclerosis or fibromyalgia. *Int J Rehabil Res.* 2009 Dec 1. Epub ahead of print. doi: 10.1097/MRR.0b013e3283310cce.



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and higher levels of depressive symptoms. In women with MS, depressive symptoms had a substantial effect on role limitations due to physical disability, whereas functional limitations had a greater impact on women with FM. Advancing age was associated with fewer functional limitations for women with FM, but the opposite effect was seen in women with MS. "Our results suggest that disability is as much a function of psychosocial characteristics as the extent of functional limitations," the authors concluded. "Patients with symptoms of depression deserve referral to mental health professionals who appreciate psychosocial determinants of disability."

CIS and Cognitive Impairment

In patients with clinically isolated syndrome (CIS; a first episode of neurologic symptoms resembling MS), a critical question is whether and when they will develop clinically definite MS (CDMS). Might significant cognitive impairment, which is found in 20% or more of patients with CIS, be a prognostic factor for subsequent conversion to CDMS? In an analysis by Zipoli et al, the answer was affirmative. The investigators assessed all CIS patients referred to their MS center since 2002 who had undergone at



CLINICAL INSIGHTS

- ✎ *The mind/body connection shapes the patient's experience of MS, including adherence to therapy. Cognitive impairment, depression, and pain affect both mental and physical quality of life.*
- ✎ *Nurses should be aware of how best to assess pain in women with RRMS, who report a higher prevalence of pain, and more interference from pain in their daily lives, compared to healthy women without MS.*
- ✎ *Screening for fatigue, depression, and sleep disturbance in women with MS can help nurses identify and address risks to patients' mental quality of life.*
- ✎ *Disability in MS is associated with psychosocial factors (like social support and depression) as well as with functional limitations; addressing these factors may help patients defer disability.*
- ✎ *Identification of cognitive impairment (which is found in about 20% of patients with CIS) may present the opportunity for earlier DMT intervention and introduction of targeted strategies to enhance adherence, and may offer better clinical outcomes.*

least one year of follow-up (a total of 56 patients, 41 female; age 33.2 +/- 8.5 years; Expanded Disability Status Scale score 1.2 +/- 0.7). Cognition was evaluated using the Rao's Battery and Stroop test; Kaplan-Meier curves and Cox regression analysis were used to identify possible predictors of conversion to MS.

At baseline, 32 patients (57%) fulfilled McDonald's MRI criteria for dissemination of lesions in space, and during follow-up (3.5 +/- 2.3 years), 26 patients (46%) converted to clinically definite MS. But the proportion of patients with baseline cognitive impairment who converted to MS was markedly higher: 64% of those failing 2 or more cognitive tests and 88% of those failing 3 or more tests developed MS. In a statistical regression

analysis, failure of at least 3 tests (HR 3.3; 95% CI 1.4-8.1; $P = 0.003$) and fulfillment of Thompson's MRI criteria at baseline (HR 3.8; 95% CI 1.5-9.7; $P = 0.005$) emerged as the only predictors for conversion. "Cognitive impairment may represent a sensitive marker of more severe changes within the lesions or more disseminated damage in the normal-appearing brain tissue, that is not revealed by conventional MRI," the authors hypothesized. They added that early identification of such impairment might enhance the opportunity for early intervention with disease-modifying therapy and better clinical outcomes. ■

*This summary was reviewed by
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