The effects of family functioning on patient self-efficacy in multiple sclerosis

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Abstract

Background: Perceived self-efficacy has been shown to be a strong predictor of both psychological and general well-being. It is understood that chronic disabling illness such as multiple sclerosis (MS) can potentially impact a patient's feelings of self-efficacy. It is also understood that family and social support play a crucial role in support of healthy self-efficacy and this is especially so in individuals with considerable disease burden. Little is known regarding the relationship of family function and self-efficacy in MS.

Objective: To evaluate the effects of family function on the MS patient's perceived self-efficacy while controlling for disease severity and disability.

Methods: 79 patients with confirmed MS were given measures of disease severity and self-efficacy (the *Multiple Sclerosis Self-Efficacy Scale [MSSE])*[1] while both patients and their family members completed the *McMaster Family Assessment Device (FAD)*[2] as a measure of perceived family function. Hierarchical linear regression analysis was used to determine the effect of family function on perceived self-efficacy while controlling for demographic factors (age, education and income) and disability status.

Results: None of the demographic variables included in the analysis were significant in predicting self-efficacy. Disability status was the largest predictor of MS self-efficacy (beta= -.657, p<.001). Family function was also a significant as a predictor of patient self-efficacy (beta= -.27, p=.002). After entering demographic variables and disability in step 1, the model accounted for 54% of total variance (R^2=.536). Model 2 which added family function accounted for an additional 7% ($R^2\Delta$= .070).

Conclusions: The variable in MS that most strongly predicts self-efficacy is MS related disability. However, disability alone accounts for only half of the variance in patient self efficacy pointing to psychological factors as most likely to play an additional role in determining self-efficacy. Family function is one such psychological factor. It is important therefore for healthcare providers to emphasize family involvement and education in comprehensive treatment for MS patients.

Background

Family functioning and perceived family function are integral to individual experience and likely to play a significant role in the experience of disease burden. This is particularly so in a chronic debilitating disease such as MS. Little is known about the effects of family function on MS disease experience. Self-efficacy , defined as an individual's belief in his/her own ability to manage personal responsibilities, is a strong predictor of well-being ,and, we propose; a valuable outcome measure of the effects of family function on MS disease burden.

Methods

Sample: Data was collected via mailed questionnaires and over the phone from 79 individuals between ages 20-65 who had confirmed diagnoses of MS, lived with at least one person aged 12 and up, did not have significant cognitive impairments, and did not have or live with someone with another seriously disabling disease or condition.

Materials: Symptom Inventory-Short Form[3] is a 29-item Likert scale self-report questionnaire, designed to measure impairment and disability in MS over the past month. *Multiple Sclerosis Self-Efficacy Scale (MSSE)* is an 18-item self-report measure, designed specifically for the assessment of self-efficacy in patients with MS. *McMaster Family Assessment Device (FAD)* is a 60-item self-report questionnaire designed to measure overall family functioning.

Statistics: The primary analysis for this study is a hierarchical multiple regression used to determine the effect of family function on perceived self-efficacy while controlling for demographic factors (age, education and income) and disability status.

Results

Table 1
Summary of hierarchical linear regression analysis for predicting MS self-efficacy (N=79)

Variable	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Age	-2.230E-9	.000	-.125	-2.9E-9	.000	-.163*
Education	-.289	1.292	-.022	-.920	1.200	-.071
Family Income	1.766	1.643	.106	2.401	1.520	.144
Disability	-5.706	.780	-.688***	**-5.362**	**.723**	**-.647*****
Family Function	--	--	--	**-18.946**	**5.397**	**-.286****
R^2 block 1 = .550	$R^2 \Delta$ = .550			F Δ = 18.646		
R^2 block 2 = .627	$R^2 \Delta$ = .077			F Δ = 12.322		

B = unstandardized beta coefficient; SE B = standard error on beta; β = standardized beta coefficient;   * p < 0.05 ** p < 0.01   *** p < 0.001

Conclusions

• Perceived family functioning emerged as a significant predictor of MS self-efficacy in our analyses.

• Not surprisingly, disability is the largest predictor of patient self-efficacy.

• With disability accounting for roughly half the variance, there is a strong implication that psychosocial, situational and dispositional factors emerge as equally important in predicting patient self-efficacy as physical disability.

•This study provides evidence to the imperative that health care providers consider the role of family in MS disease burden and experience.

References

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