Stability of Depression in Patients with Multiple Sclerosis

Botvinick, J.A.[1], Portnoy, J. [1], Hoffnung, G. [1], Glukhovsky, L. [1], and Foley, F. W. [12]

[1]Ferkauf Graduate School of Psychology, Yeshiva University, Bronx, NY, United States [2]Holy Name Medical Center, MS Center, Teaneck, NJ, United States

Abstract

Background: Depression in multiple sclerosis (MS) has an estimated lifetime prevalence of 50%, and a point-prevalence of 20-25%.[1-3] However, few studies have followed the course of depression in MS longitudinally. Prior research has shown the course of depression to be stable, but these studies have been limited in sample size and longitudinal range.

Objective: To evaluate the stability of depression in MS patients over a period greater than five years.

***Methods*:** Participants (N = 349) were recruited from an outpatient clinic at a large medical center in New Jersey. Longitudinal data were collected as part of an ongoing research project. Participants completed a Beck Depression Inventory-II (BDI-II) and a demographic questionnaire. Linear regression was used to examine the relationship between time and change in BDI-II score. Linear regression was also used to relate BDI-II scores at baseline and follow-up.

***Results*:** Initial BDI-II significantly predicted BDI-II at follow-up (β =.603, $p < .001$). Time did not predict a change in BDI-II score (β = .026, p = .625).

***Conclusion*:** Depression is highly stable in the MS population over more than a five-year span.

Background

- Approximately 40% of people with MS are experiencing clinically meaningful depressed symptoms at any given time.[4]
- Some studies have suggested that severe depressive symptoms decrease as people adapt to their illness.[4]
- Research on benefit-finding suggests that some patients report positive changes brought on by MS, such as feeling closer to their families or gaining an enhanced appreciation of life.[5-6]
- Other studies show depression is stable over time, with baseline depression being the best predictor of depression at follow-up.[7-10]
- Most longitudinal studies have used small sample sizes and examined a shorter period of time

Methods

Sample: Participants (N=349) were recruited from an outpatient clinic, the MS Center at Holy Name Hospital in Teaneck, NJ. They all had a neurologist-confirmed diagnosis of MS. Individuals were allowed to participate each time they visited the clinic.

Materials: *Beck Depression Inventory-II (BDI-II)*: A 21-item self-report inventory that uses a 4-point (0-3) Likert scale to assess severity of depression. The items correspond to the diagnostic criteria for major depressive disorder outlined in the DSM-IV. Total scores range from 0 (no symptoms) to 63 (severe symptoms). A five-point change in score is considered a minimally clinically significant difference.[11]

Statistics: Changes in total depression were calculated by subtracting scores at the participant's final time point from scores at the first time point (Time 2 – Time 1). The primary analysis for this study is a linear regression used to examine the relationships between time, and change in BDI-II scores over time.

Results

Table 1. Depression Stability over Time

	1.	2.	3.	4.	5.	6.	7.	8.
1. Age	-							
2. Time	.07	-						
3. BDI-II baseline	.01	-.01	-					
4. BDI-II follow-up	.00	-.04	.60**	-				
5. BDI-II Change	-.01	-.03	-.46**	.43**	-			
6. Gender^	.11*	-.03	-.02	.03	.03	-		
7. Married^	.16**	.07	-.02	-.03	-.01	.05	-	
8. Employment^	-.12*	.05	-.07	-.03	.07	-.12*	.02	-

^Spearman's Rho correlations, * $p < .05$ (two-tailed), ** $p < .01$ (two-tailed)

Table 2. Demographics and Data Distribution

Variable	N	Percent
Gender		
Female	252	72.2
Male	97	27.8
Married Status		
Married	237	68.3
Not Married	110	31.7
Employment		
Not Working	168	48.8
Working Part-time	34	9.9
Working Full-time	142	41.3

Variable	N	Range	Mean (SD)
Age	349	21-71	44.07 (9.17)
BDI-II			
BDI-II Total Initial	349	0-48	14.89 (10.61)
BDI-II Total Follow-up	349	0-52	13.74 (10.42)
Time (in months)	349	0.92-71.33	29.57 (17.43)

Conclusions

- In this study, depression was a highly stable construct over time in an outpatient MS population.
- These results are consistent with the literature, which suggests that duration of illness does not affect depression in MS.[7-10]
- Early depression scores significantly predicted depression at follow-up. This suggests that there may be individual factors as to why some individuals with MS are more prone to depression than others.
- It is possible that individuals who were less depressed initially used more effective coping techniques or had stronger social support than individuals with more initial depression.
- These results are particularly interesting when one considers that numerous individuals had time points that were over five years apart.

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