The Relationship Between Depression and Verbal Memory in MS

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Abstract

Purpose: Studies show that depression negatively impacts verbal memory, and that verbal learning and memory is frequently impaired in MS. However, research has been limited on the influence of depression on verbal memory in MS. This study looked at how well depression could predict verbal memory scores in MS.

Method: 87 individuals with clinically definite MS who had participated in neuropsychological testing were used in the analyses from the MS Center at Holy Name Medical Center in Teaneck, NJ. A retrospective chart review was conducted, and a linear regression analysis was performed looking at the relationship between verbal memory and depression in MS.

Results: **:** After adjusting for demographic variables and disease status, depression significantly predicted verbal memory ($\beta = -.24$, $\Delta R^2 = .05$, $p < .05$).

Conclusions: Depression significantly predicts verbal memory in MS. There is a linear negative relationship between depression and verbal memory.

Background

➢Multiple Sclerosis (MS) is a neurodegenerative and inflammatory chronic disease of the central nervous system, characterized by substantial impacts on physical, cognitive, and psychological functioning.

➢ Previous research has found that depression negatively impacts verbal memory, and that verbal learning and memory are frequently impaired in MS.

➢ There has been very limited research on the influence of depression on verbal memory in MS.

➢ This study looked at how well depression could predict verbal memory scores in MS.

Methods

Procedures

➢ 87 participants diagnosed with MS were recruited to participate in the study from the MS Center at Holy Name Medical Center in Teaneck, NJ.

Measures

➢ From a longer battery, the Hospital Anxiety and Depression Scale depression subscale (HADS D) was selected to measure self-reported depressive symptoms.
➢ Patients were also administered the California Verbal Learning Test (CVLT-2), a well-validated test of verbal learning and memory.
➢Incapacity Status Scale (ISS) was used to measure disability in MS.

Statistical Analyses

➢ . A linear regression analysis was conducted looking at the relationship between verbal memory and depression in MS.
- ➢ Age, gender, and years of education were entered in the first step.
- ➢ Disability was entered in the second step.
- ➢The HADS D Total Score was entered in the third and final step.

Results

Hierarchical Linear Regression Analysis Predicting Verbal Memory in MS (N=87)

	Model 1			Model 2			Model 3		
Variable	B	SE B	β	B	SE B	β	B	SE B	β
Gender	-.616	3.434	-.020	.763	3.283	.025	1.385	3.225	.046
Age	.036	.119	.035	.108	.115	.104	.039	.116	.038
Education	-.006	.391	-.002	.022	.371	.006	.073	.364	.021
Disability				-.565	.176	-.347*	-.414	.186	-.254*
Depression							-.631	.292	-.243*
R^2 block 1 = .001		$R^2\Delta$ = .001		F Δ = .035					
R^2 block 2 = .113		$R^2\Delta$ = .112		F Δ = 10.357					
R^2 block 3 = .162		$R^2\Delta$ = .048		F Δ = 4.660					

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

Conclusions

➢ Depression significantly predicted verbal memory performance in MS.

➢There was a linear negative relationship between depression and verbal memory, with higher amounts of depression predicting lower verbal memory scores.

➢There was a linear negative relationship between disability and verbal memory in MS.

Implications

➢ People with MS who have symptoms of depression may have poor memory for verbally presented material, regardless of disability level.

➢More research should be done to determine other psychological and MS symptoms that are influencing the relationship between depression and verbal memory in MS.

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