

Differential Contributions of Perceived Social Support and Surgical Outcome on Depression in Post Surgical ATL Epilepsy Patients

Rogish, M.T.^{1,4}, Bowers, D.^{1,4}, Bauer, R.M.¹, and Gilmore R.^{2,3}

¹Clinical & Health Psychology, ²Neuroscience, ³Neurology, and the ⁴Cognitive Neuroscience Lab at the McKnight Brain Institute, University of Florida



ABSTRACT

Recent studies have shown that the “perceived” aspects of social support are important for modulating depressive symptoms in chronic medical conditions, including epilepsy. Studies have also shown that surgical treatment of epilepsy through the resection of epileptogenic tissue and the reduction or “cure” of seizures leads to increased mood status and quality of life. This study investigated the differential impact of social support and surgical outcome factors on depression post surgically. The study consisted of 49 post surgical epilepsy patients, 20 Right Anterior Temporal Lobectomy (ATL), and 29 Left ATL patients. Subjects were administered measures that assessed social support and surgical outcome. Depressive symptoms were measured using the BDI.

A series of regression analyses were performed to investigate which factors - social support or surgical outcome - predicted depressive symptoms. Results indicated that the patient’s perceived social support predicted depression more so than did surgical outcome. In conclusion, assessment of social support provides clinicians with an important predictor of psychological maladjustment post surgically.

BACKGROUND

The role of social support in chronic medical illnesses and depression has been studied in a number of patient populations. In the epilepsy literature, social support has also been shown to be negatively correlated with depression.

Surgical treatment of medically intractable seizures has been a treatment option for many years. Studies have shown that good surgical outcome, reduction or absence of seizures, is related to higher functioning, and quality of life.

HYPOTHESIS: In this study, we investigated the relative contributions of social support and surgical outcome on level of depressive symptoms in a post surgical epilepsy population. We predicted that perceived social support would be more strongly related to post-surgical depression than surgical outcome. This is based on research showing strong correlations between social support and depressive symptoms in other chronic medical conditions, and only moderate correlations between surgical outcome and psychological adjustment.

SUBJECTS

Subjects included 49 Temporal Lobe Epilepsy (TLE) patients. All had undergone Anterior Temporal Lobe resections for control of seizures. There were 20 Right and 29 Left ATL patients.

	Age	Education	Age of Onset	Years since surgery
LATL	42.7 (10.4)	13.14 (1.79)	11.78 (13.45)	6.32 (4.96)
RATL	45.6 (11.3)	13.10 (1.74)	16.04 (14.54)	5.70 (1.98)

PROCEDURES

Subjects were recruited from a list of patients who had undergone unilateral ATL at the University of Florida, Shands Hospital. Subjects were contacted by letter informing them a researcher would telephone them to ask if they would be interested in participating.

A total of 49 subjects agreed to participate and completed all task requirements.

After subjects agreed to participate they were given a brief telephone interview. They were then mailed a packet that contained the research measures and asked to return the packet as soon as possible.

MEASURES:

Mood Measure

-Beck Depression Inventory (BDI)

Social Support Measures

-Social Support Questionnaire (SSQ; Saranson et al., 1983)

- Number of socially supportive people available
- A listing of the initials and relation of the people available to them for specific support roles
- Subjects satisfaction with the amount of perceived support
- 6 point Likert scale with 6=very satisfied, 1=very dissatisfied

-Received Support Survey (RSS; Dunkel-Schetter et al., 1987)

- Support Received
- 5 point Likert scale, 1 = never, 5 = very often
- Rates actual frequency of support in specific instances
- Support Desired
- 5 point Likert scale, 1 = never, 5 = very often
- Rates how often the subject desired a specific type of support

Surgical Outcome Measures

- Engel Score (1 = Seizure Free, 4 = no improvement)
- Satisfaction with Surgery Rating (1 = not satisfied, 7 = very satisfied)
- Average Number of Seizures per year since surgery
- Average Number of Auras per year since surgery

DATA ANALYSIS:

- Surgical Group and Gender differences were analyzed using ANOVA.
- Multiple regression analyses to examine the contribution of social support and surgical outcome variables to current mood. The categorical variable “Engel Score” was analyzed using a “dummy coding” technique to control for categorical data in regression analyses.

RESULTS

Surgical Group Differences

-No differences in social support, surgical outcome, or mood measures between the Right ATL and Left ATL groups

Regression Analyses Predicting Depression

Social Support Predictors	Surgery Outcome Predictors			Combined Social Support & Surgery Outcome Predictors			
	B	SE B	β	B	SE B	β	
SSQ Average Satisfaction	-4.730	8.393	-.460*	Engel 1 Score	-18.690	9.562	-.805*
SSQ Average Number	.161	.886	.019	Engel 2 Score	-12.774	7.558	-.501
RSS Average Received	-2.976	3.084	-.206	# of Seizures per Year	-.197	.131	-.323
RSS Average Desired	10.698	3.899	.757*	# of Auras per Year	.211	.084	.451*
				Satisfaction with Surgery	1.203	.084	.451
Overall R ² = .536, *p < .001				Overall R ² = .297, *p < .05			
				Engel 1 Score	-4.648	8.670	-.205
				Engel 2 Score	-4.743	4.759	-.186
				# of Auras per Year	-.0324	.035	-.118
				RSS Average Desired	7.508	1.666	.521*
				SSQ Average Satisfaction	-6.282	1.493	-.451*
				Overall R ² = .554, *p < .001			

When social support variables were used to predict depressive symptoms, as measured by the BDI, only the SSQ Average Satisfaction with the support received, and the RSS Average Desired Support predicted depressive symptoms. Higher satisfaction ratings and lower support desired ratings were associated with less depressive symptoms.

For the surgical outcome variables alone, Engle Score and Average Number of Auras per year predicted depressive symptoms, with better seizure control associated with lower levels of depression.

When the significant predicting variables were combined, only the social support variables continued to predict depression.

CONCLUSION

This study was designed to investigate some of the more salient issues facing patients with epilepsy. Namely, depression and poor social support. How these factors are related to surgical outcome for treatment of seizures is an issue scarcely looked at in the currently literature. In the currently study, we investigated whether social support factors, or surgical outcome and seizure control best predicted depression in post surgical epilepsy patients.

The findings of this study indicate that perceived social support, and the satisfaction with that support is negatively correlated with depression. Also, one’s desire for social support is positively correlated with depression (the more support desired, the greater the depressive symptoms). The findings of surgical outcome did suggest that individuals with better outcomes, as measured by Engel Score and Average Number of Auras per year since surgery, were less depressed. However, when all significant factors were analyzed in a single regression, only the social support variables continued to predict level of depressive symptoms.

Taken together, this study illustrates the importance of assessing patients’ level of social support, and their satisfaction with their social support network. This is a key indicator of depressive symptoms in post -surgical epilepsy patients.