

# Systematic Screening in a Busy Clinical Setting Improves Identification of Depression in People with Epilepsy

David E. Friedman, M.D., Doris H. Kung, D.O., Joseph S. Kass, M.D., J.D.

Baylor College of Medicine, Department of Neurology, Houston, TX

## Introduction

Depression is a highly prevalent, relatively underdiagnosed and undertreated comorbid condition in epilepsy that significantly impacts patients' health-related quality of life. The purpose of this study was to determine the effect of using a validated self-reporting depression scale on detecting depression in people with epilepsy receiving care in a busy tertiary facility. In addition, we sought to ascertain the risk factors associated with depression in these patients.

## Methods

The Neurological Disorders Depression Inventory for Epilepsy (NDDI-E) is a 6-item questionnaire validated to screen for depression in people with epilepsy. The authors performed a retrospective review of 192 consecutive charts of patients who had received and completed the NDDI-E while visiting the Ben Taub General Hospital's adult epilepsy clinic in Houston, Texas from December of 2007 to March of 2008. For comparison, 192 unduplicated consecutive patient charts of those receiving care immediately prior to the implementation of the NDDI-E in the same clinic were assessed. NDDI-E scores greater than 16 were considered positive for depression. If screening was positive, a structured psychiatric interview was conducted by the attending neurologist. Treatment decisions were not systematic and were decided by the physician based on individual patient characteristics and clinical impression. Clinical patient data included age, gender, psychiatric history, seizure frequency, number of anti-epileptic medications (AEDs) used, epilepsy type, brain MRI, and EEG findings. Tests of significance were made using two-sided *t* tests.

	NDDIE<16 (n=137)	NDDIE≥16 (n=55)	P
Age, y; mean (range)	42 (19-73)	42 (20-78)	0.832
Women, n (%)	77 (56.2)	30 (54.5)	0.835
Generalized Epilepsy, n (%)	15 (10.9)	4 (7.3)	0.443
Localization Related Epilepsy, n (%)	94 (68.6)	41 (74.5)	0.419
Seizures/mo, mean (range)	1.89 (0-60)	6.28 (0-90)	0.008 *
No. of AEDs, mean (range)	1.69 (0-3)	1.96 (0-4)	0.028 *
Psychiatric history, n (%)	21 (15.3)	23 (41.8)	<0.001 *

\* Statistically significant ( $p < 0.05$ ).  
AEDs = antiepileptic drugs.

### Neurological Disorders Depression Inventory for Epilepsy (NDDI-E)

	Always/ Often	Sometimes	Rarely	Never
Everything is a struggle	4	3	2	1
Nothing I do is right	4	3	2	1
Feel guilty	4	3	2	1
I'd be better off dead	4	3	2	1
Frustrated	4	3	2	1
Difficulty finding pleasure	4	3	2	1

## Results

No significant differences in demographic and clinical characteristics were present between the group receiving the NDDI-E and the group not receiving it. Use of the NDDI-E resulted in detecting active depression in 28.6% (n=55) of patients; whereas only 2.6% (n=5) of patients in the group not systematically screened were found to have active depression ( $p < 0.0001$ ). Thirty-two of the 55 patients (58%) found to be depressed were not previously diagnosed or treated. Significant predictors of depression were seizure frequency, number of anti-epileptic medications, and a history of psychiatric disorders.

## Conclusion

Use of the NDDI-E was successful in significantly improving detection of depression in epilepsy patients in a busy clinical practice. The prevalence of depression in this population is similar to prior reports. Seizure frequency, number of AEDs, and prior psychiatric history significantly correlated with depression. For the future, a prospective study would be useful, evaluating the possible long-term benefits of identifying and treating depression in this patient population.

### Contact Information

David E Friedman MD, Baylor Comprehensive Epilepsy Center, Dept. of Neurology, NB-302, Houston TX 77071  
Tel: 713-798-0980  
Email: defriedm@bcm.tmc.edu

Doris H Kung DO, Baylor College of Medicine, Houston TX 77071  
Tel: 713-798-4333  
Email: kung@bcm.tmc.edu

Joseph S Kass MD, JD Chief of Neurology, Ben Taub General Hospital, Houston TX 77071  
Tel: 713-873-2961  
Email: Kass@bcm.tmc.edu