

# PATTERNS OF DEPRESSED MOOD SYMPTOMS ACROSS PARKINSON'S DISEASE, DYSTONIA, AND ESSENTIAL TREMOR

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## BACKGROUND

Depression is common in Parkinson's disease (PD), with approximately 40% of patients meeting DSM criteria for some form of a depressed mood disorder (Slaughter et al., 2001; Cummings et al., 1992). One hypothesis is that depression is a consequence of neuroanatomical changes associated with the degenerative process that occurs in PD. In support of this view are findings that PD patients have higher rates of depression than patients with other chronic, physically disabling diseases such as arthritis (Ehmann et al., 1990; Cantello et al., 1986). However, other researchers have not replicated this effect (Brown, & Marsden (1986). One weakness of the studies thus far is the failure to include a movement-disordered comparison group.

**OBJECTIVE:** Is the high prevalence of depression in PD also found in other movement disorders affecting basal ganglia circuitry, or is it uniquely higher in PD?

PD vs Essential Tremor vs Dystonia

## PARTICIPANTS

	PD	ET	Dystonia
<b>N</b>	<b>351</b>	<b>59</b>	<b>90</b>
<b>Age*</b>	69.5 (10.3)	61.8 (15.9)	58.3 (15.9)
<b>% Men*</b>	59.5	61.3	40
<b>Education</b>	14.4 (3.1)	14.0 (2.5)	14.4 (2.8)
<b>Duration*</b>	7.9 (6)	14.8 (15.4)	10.2 (11.0)
<b>UPDRS motor</b>	39.9 (14.1)		
<b>Hoehn-Yahr</b>	2.9 (0.9)		

*PD > (ET = Dys)*  
*(PD=ET) > Dys*  
*ns*  
*(PD=Dys) < ET*

Convenience sample from UF Movement Disorders Clinic, all PD were idiopathic; \*significant differences among groups

### ABOUT THE MOVEMENT DISORDERS

#### PARKINSON'S



Due to dopaminergic depletion; resting tremor, slowness, rigidity, masked faces

#### ESSENTIAL TREMOR



Action & postural tremor; familial, often of hands, cerebellar-thalamic? Most common neurologic movement disorder

#### DYSTONIA



Sustained muscle contractions causing abnormal postures; 3<sup>rd</sup> most common movement disorder

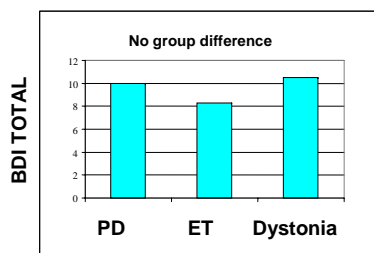
## MEASURE

### Beck Depression Inventory (Beck, 1978)

- Total Depression score (21 items)
  - 2 subscores: Somatic subscore; Cognitive/Affective Subscore
- Cutoff for depression: score > 14; Maximizes sensitivity & specificity for presence of depression in PD (Leentjens et al., 2000)

## RESULTS

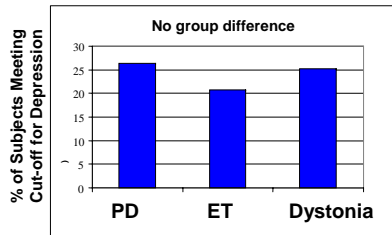
### DEPRESSION SEVERITY:



Covaried for age, sex & symptom duration

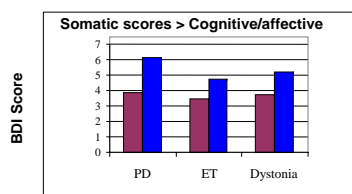
Univariate ANCOVA, (F (2, 386) = 2.01, p > .1)

### DEPRESSION FREQUENCY



Analysis: Chi-square test ( $\chi^2$  (2, N = 490) = .741, p > .6)

### Somatic & Cognitive/Affect Subscores



■ Cognitive  
■ Somatic

Analysis: Repeated Measures ANCOVA covarying for age, sex, and symptom duration. Main Effect of Subscale (Somatic > Cognitive/Affective: (F(2, 386) = 2.63, p = .07), no other effects

## RESULTS (cont)

### BDI Symptoms Most Frequently Endorsed (collapsed across groups)

Symptom	% Endorsement
Fatigue	80%
Difficulty Working	70%
Loss of Pleasure	60%
Sleep Disturbance	57%

### BDI Symptoms That Differed Across Groups

Health Worry	PD > ET
Difficulty Working	PD > ET
Appetite Loss	PD > Dystonia

## DISCUSSION

- Depressive symptoms may be common in movement-disordered populations and not unique or specific to Parkinson's disease.
- One possible explanation is that non-motor basal ganglia circuits are similarly affected in PD, ET, and dystonia.
- Our study highlights the need for appropriate comparison groups when studying both motor and non-motor symptoms in Parkinson's disease.
- Future studies should incorporate use of DSM-IV clinical diagnoses, which would allow for comparison of specific diagnoses across groups. Differences in functional disability (i.e., ADL's) should also be evaluated due to possible effects on mood.
- It is important for health care providers to be aware that depression may be a common comorbidity across movement disorders, and not limited to PD. As such, movement disordered patients should be routinely screened for depression and offered treatment options, as appropriate.