

Impact of Post Traumatic Stress Disorder (PTSD) on the clinical expression of REM Sleep Behavior Disorder (RBD) in Veterans with Parkinson's Disease (PD)

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Objective:

This project was designed to study the frequency of occurrence and pattern of clinical expression of REM sleep behavior disorder (RBD) in Veterans with PD, with and without co-morbid post traumatic stress disorder (PTSD).

Background:

RBD is common in PD and is also associated with PTSD. However, the impact of comorbidity of PTSD with PD on the clinical expression of RBD is not known.

Methods:

107 Veterans with PD were screened using PTSD-Civilian scale (PCL-C) and RBD Questionnaire –HK (RBDQ-HK). For the PCL-C, PTSD+ was defined as described on the VA National Center for PTSD website using the combined method of having a total symptom severity score exceeding a given normative threshold (≥ 39 was used) and presence of symptoms meeting the DSM IV criteria. For the RBDQ-HK, a cut point of ≥ 19 was used to define presence or absence of RBD. Differences in the distribution of PD-PTSD(+) and PD-PTSD(-) subjects for items on the RBDQ-HK scale were examined.

Results:

54 subjects (50.5%) screened positive for RBD and 14 (13%) for PTSD. 71.4% of PD-PTSD(+) subjects had RBD compared to 47.3% of the PD-PTSD(-), $p = 0.15$.

The scores for the PCL-C and HK-RBDQ scales were correlated, (Spearman's rho = 0.365, 2-tailed $p = 0.01$) with higher PTSD scores associated with higher HK-RBDQ scores.

Lifetime occurrence of nightmares was significantly higher in PD-PTSD+ group than the PD-PTSD(-) subjects (78.6% vs. 49.5%), $p = 0.011$. The groups also differed significantly in the occurrence of dreams with 'emotional and sorrowful' content, whether they had hurt themselves or a bed partner while sleeping, and if so, whether this was related to dream content and disturbed their sleep, with higher expression in PD-PTSD+ group.

The groups did not differ with respect to the occurrence of dreams.

When the same questions were examined for absence/presence within the last year, results were similar, except that an additional item related to violent or aggressive dream content, was answered as positive by a greater proportion of PD-PTSD(+) subjects (69.2% vs. 32.2%, $p = 0.014$).

The groups were comparable with respect to age, H&Y, and UPDRS.

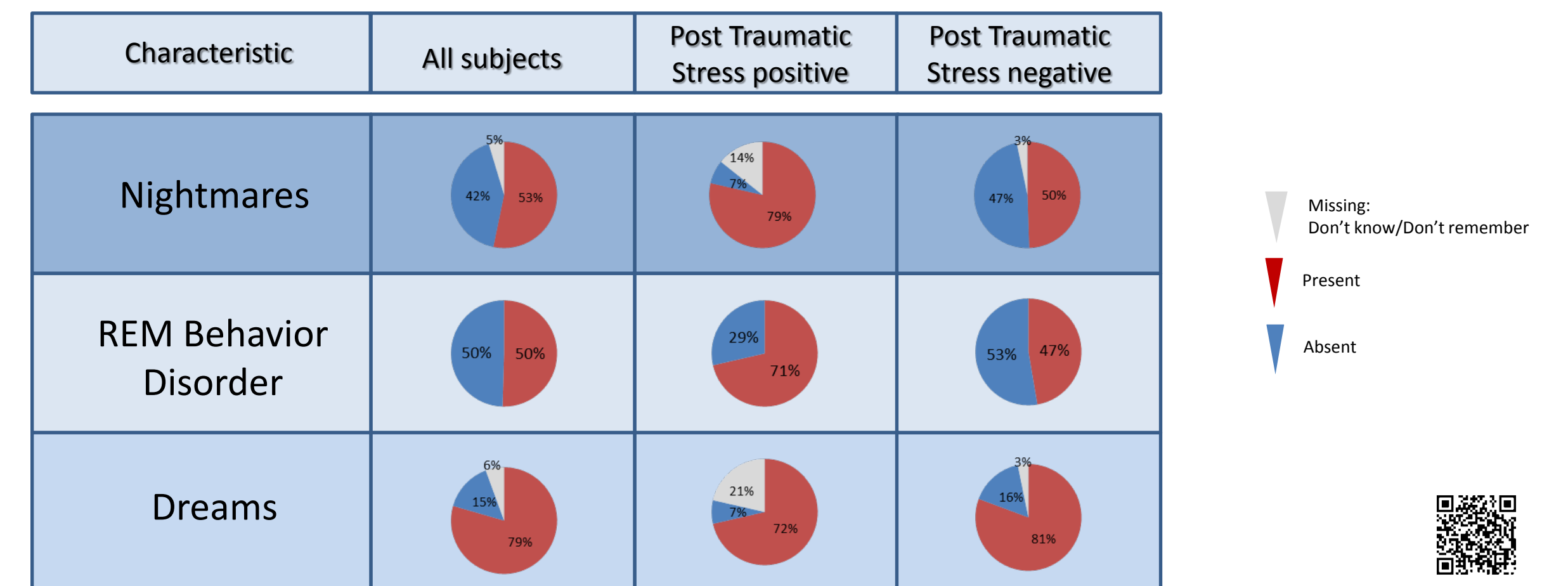
Table 1: Demographic distribution of study subjects

Demographics	N (All) Frequency (%)	PTSD Frequency (%)	Non-PTSD Frequency (%)	RBD present Frequency (%)	RBD absent Frequency (%)
Gender					
Men	105 (98.1%)	14 (100%)	91 (97.8%)	54 (100%)	51 (96.2%)
Women	2 (1.9%)	0 (0%)	2 (2.2%)	0 (0%)	2 (3.8%)
Total	107 (100%)	14 (100%)	93 (100%)	54 (100%)	53 (100%)
Ethnicity					
White	85 (79.4%)	8 (57.1%)	77 (82.8%)	38 (70.4%)	47 (88.7%)
Black	10 (9.3%)	4 (28.6%)	6 (6.5%)	8 (14.8%)	2 (3.8%)
Hispanic	12 (11.2%)	2 (14.3%)	10 (10.8%)	8 (14.8%)	4 (7.5%)
Total	107 (100%)	14 (100%)	93 (100%)	54 (100%)	53 (100%)
Age mean (SD)	70.6 (9.3)	68.2 (5.4)	71.0 (9.7)	69.6 (9.0)	71.6 (9.6)

Table 2: Clinical characteristics of study subjects

Subjects	H & Y mean (SD)	UPDRS (Item 1) mean (SD)
N (All)	2.3 (0.7)	0.9 (0.6)
PTSD	2.2 (0.8)	0.9 (0.5)
Non-PTSD	2.3 (0.7)	0.9 (0.6)
RBD present	2.3 (0.7)	0.9 (0.4)
RBD absent	2.4 (0.8)	1.0 (0.7)

Figure 1: Presence or absence of nightmares, REM sleep behavior disorder or dreams



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Conclusion: Presence of Post Traumatic Stress Disorder intensifies the expression and changes the pattern of the clinical manifestation of REM Sleep Behavior Disorder in Veterans with Parkinson's disease, without significantly increasing its frequency of occurrence.

