



Non motor symptoms profiles in black and south Asian minority ethnic subjects compared to white Caucasians with Parkinson's disease: a prospective multicentre comparative study between London South and India.

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OBJECTIVE

- To compare non motor symptoms (NMS) profiles in black and south Asian communities with Parkinson's disease (PD) with white Caucasian cohort.

BACKGROUND

- We have shown previously that non white PD cases in London are more likely to have:
 - an atypical response to Levodopa (hyporesponsiveness)^{1,2,3}
 - a greater/ atypical cognitive burden^{3,4}
 - an abnormal surrogate imaging³
 - an atypical natural history in terms of progression of PD⁵

METHODS

- In this ongoing study, cases assigned as black/ south Asian as well as white Caucasian ethnicity with PD (OPCS, UK) from a London and Indian (Mumbai) database were included.
- Each patient underwent clinical interview and neurological examination.
- In particular the total scores as well as the scores of each domain of the Non-Motor Symptom Scale (NMSS) were analysed.

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Table 1: Non-motor Characteristics	White UK (n=33)	BSA UK (n=33)	p-value
NMSS Total Score (SD)	71.0 (50.3)	58.9 (46.8)	0.325
Cardiovascular Symptoms (SD)	2.6 (3.7)	2.5 (4.2)	0.975
Sleep (SD)	13.3 (9.7)	10.4 (10.0)	0.244
Mood (SD)	12.5 (17.3)	12.5 (15.6)	0.994
Perception (SD)	2.1 (4.9)	2.8 (6.4)	0.589
Memory (SD)	7.5 (10.5)	8.0 (10.6)	0.852
Gastrointestinal (SD)	6.0 (6.2)	5.5 (5.6)	0.739
Urinary (SD)	11.4 (11.4)	8.0 (7.8)	0.167
Sex (SD)	3.8 (5.9)	3.4 (6.7)	0.785
Miscellaneous (SD)	11.8 (7.8)	7.1 (6.4)	0.009
Pain	6.0 (4.2)	3.3 (4.3)	0.013

Table 2: Non-motor Characteristics	White UK (n=33)	Indian (Mumbai) (n=60)	p-value
NMSS Total Score (SD)	71.0 (50.3)	52.4 (40.1)	0.054
Cardiovascular Symptoms (SD)	2.6 (3.7)	1.2 (2.1)	0.020
Sleep (SD)	13.3 (9.7)	9.3 (9.7)	0.058
Mood (SD)	12.5 (17.3)	10.3 (13.1)	0.489
Perception (SD)	2.1 (4.9)	1.6 (3.6)	0.557
Memory (SD)	7.5 (10.5)	6.1 (8.1)	0.491
Gastrointestinal (SD)	6.0 (6.2)	4.4 (5.7)	0.231
Urinary (SD)	11.4 (11.4)	11.8 (10.2)	0.872
Sex (SD)	3.8 (5.9)	1.8 (3.8)	0.048
Miscellaneous (SD)	11.8 (7.8)	6.0 (7.2)	<0.001
Pain	6.0 (4.2)	2.2 (3.2)	<0.001

Table 1 and 2: Characteristics of white UK, BSA UK and Indian Parkinson's patients. SD, Standard Deviation; BSA, Black/ South Asian; NMSS, Non Motor Symptom Scale. *Variables were compared using the Student's t-test

RESULTS

Cross sectional data is presented:

- 33 black/ south Asian (BSA) (mean age 64.8±11.1 years, mean age at diagnosis 59.4±11.6 years, mean duration of disease 5.4±3.5 years, median Hoehn and Yahr (HY) stage 3 (range 1-4)).
- 33 matched white Caucasians (WC) (mean age 68.1±11.2 years, mean age at diagnosis 60.5±11.8 years, mean duration of disease 7.6±6.7 years, median HY stage 3 (range 1-4)).
- 60 PD patients from Mumbai (India) (IndPD) (mean age 67.3±9.1 years, mean age at diagnosis 60.0±10.7 years, mean duration of disease 7.2±4.6 years, median HY stage 3 (range 1-4)) were compared.
- Observed NMS differences:**
 - There was a trend of statistically significant difference (p=0.054) in NMSS Total score between IndPD (mean 71.0) and WC (mean 52.4).
 - Pain score was higher in WC compared to IndPD (p<0.001) and BSA UK (p<0.05).
 - Scores of cardiovascular NMS domain and sexual domain were different in WC compared to IndPD (p<0.05).
 - Cognitive, depression and anxiety impairment was similar across all racial groups.

REFERENCES: ¹Ray Chaudhuri K et al, Mov Disord 2000;15:18-23, ²Hu MTM et al, Mov Disord 2000;15(suppl 3): P 1000, ³Hu MTM et al, Mov Disord 2002;17(6):1321-1328, ⁴Appiah-Kubi L et al, Mov Disord: An Update. Ed. Bhattacharyya KK. Calcutta, India, 2000, ⁵Dhawan V et al, Neurology 2006; 66 (5) S2 :145

CONCLUSIONS: Preliminary results from this international ethnicity NMS study suggest that NMS profiles may be different in WC PD versus south Asian PD subjects, possibly regardless of any migration related factors. In particular, aspects of NMS such as pain and dysautonomia are overrepresented in the WC PD.