

The International Parkinson and Movement Disorder Society Non-Motor Scale (MDS-NMS) for Parkinson's Disease: preliminary results from an international validation.

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Objective

To provide update on ongoing international validation programme of expanded, refined and improved scale for the assessment of non-motor symptoms (NMS) in Parkinson's disease (PD), the MDS-NMS, sponsored by the International Parkinson and Movement Disorders Society (IPMDS).

Background

The PD NMS scale (NMSS) was developed in 2006 and remains only dedicated composite scale to assess NMS in PD¹. Needing updating, a project to revise and update the NMSS, now called the MDS-NMS, was commissioned by the IPMDS. The MDS-NMS previously underwent cognitive pre-testing and a final version developed. It includes 13 domains with 52 items total, each item scored for frequency (0 to 4) and severity (0 to 4), when multiplied generating the item score (0 to 16). Domain score is the sum of item scores within a domain. Additionally, the scale includes an optional section for evaluating non-motor fluctuations (NMFs) (8 items).

Results

402 patients, 62.2% male, mean age 67.4 years (46-93), median H&Y 2 (1-4), mean duration of disease 8.2 years (0-35). Mean and median scores for each and for NMFs are listed in **Table 1**. Standardised domain score severity (% of maximum possible score), and % of patients experiencing problems (any non-zero score) in each domain are presented in **Figure 1**. The domains with the highest prevalence of symptoms present were "Sleep/wakefulness" (86.6%), "Others" (including impaired olfaction) (80.1%), "Cognition" (80.1%), and "Pain" (75.9%). The greatest average severity of symptoms was observed in "Others" (16.4%), "Urinary" (15.6%), and "Sexual" (13.9%).

Methods

- Cross-sectional, multicentre international validation reporting clinical data from administration of the MDS-NMS.
- Acceptability, internal consistency, reliability, construct validity and precision in 402 non-demented PD patients (Montreal Cognitive Assessment (MoCA) score >20 (mean=26.8 [21-30]))
- Test-retest reliability assessed after two weeks average (N=138) and inter-rater reliability (N=174 patients).
- Additional assessment of NMS, motor symptoms and global severity of PD with existing measures.

References:

1. Chaudhuri KR et al. The metric properties of a novel non-motor symptoms scale for Parkinson's disease: Results from an international pilot study. *Mov Disord.* 2007 Oct 15;22(13):1901-11.

Acknowledgments:

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Figure 1

Patients with NMS by MDS-NMS Domain

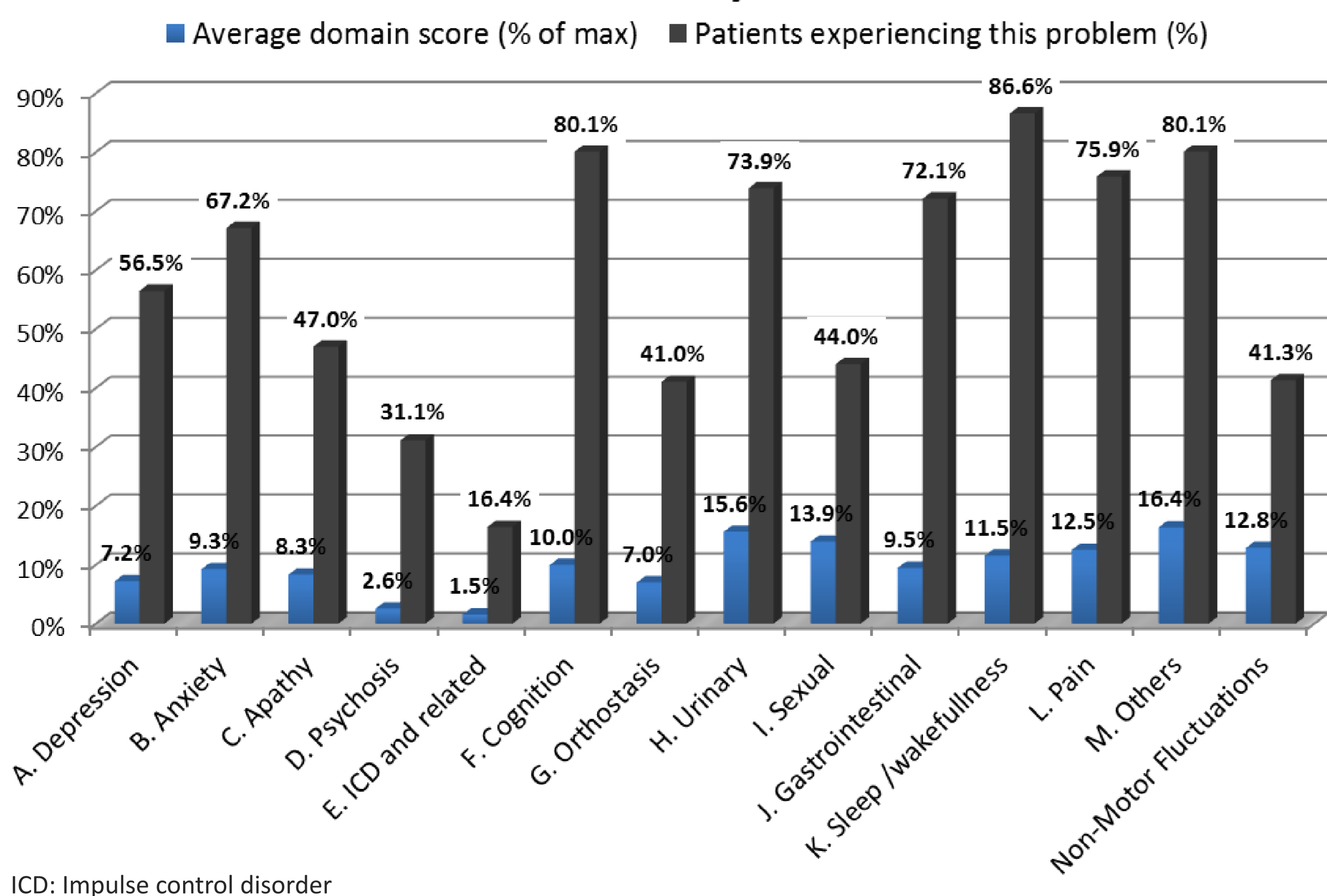


Table 1

Domain	Mean score	Min	Max	Maximum possible score	SD	Median
A. Depression	5.8	0	72	80	10.6	1
B. Anxiety	5.9	0	54	64	8.4	2
C. Apathy	4.0	0	36	48	7.1	0
D. Psychosis	1.6	0	36	64	4.0	0
E. ICD and related	1.0	0	25	64	3.1	0
F. Cognition	9.6	0	66	96	11.9	5
G. Orthostasis	2.2	0	24	32	4.3	0
H. Urinary	7.5	0	48	48	9.2	4
I. Sexual	4.5	0	32	32	7.9	0
J. Gastrointestinal	6.1	0	47	64	7.8	4
K. Sleep/wakefulness	11.1	0	76	96	11.3	8
L. Pain	8.0	0	53	64	9.4	5
M. Others	13.1	0	56	80	11.9	12
Non-motor Fluctuations	4.1	0	32	32	5.3	0

Conclusion

The MDS-NMS will provide a comprehensive outcome measure of non-motor symptoms in clinical trials and epidemiological studies to assess the wide range of NMS that occur in PD.