

# MOOD DISORDER PREVALENCE AND CONSEQUENCES IN AN EDUCATED INTERNET SAMPLE OF PEOPLE WITH PARKINSON'S

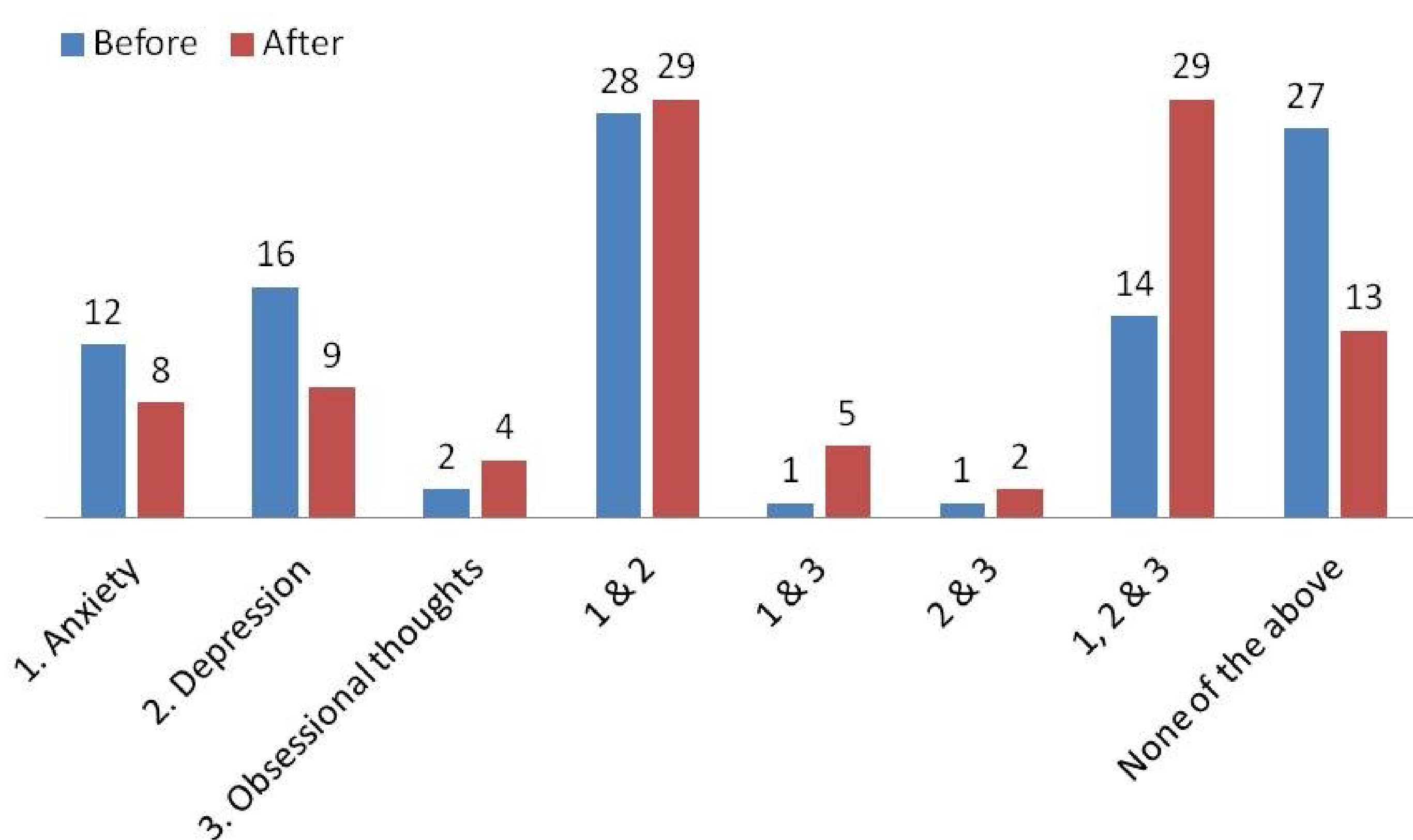
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**INTRODUCTION:** Parkinson's Movement (PM) is an Internet-based, research-oriented, patient-focussed website with a community section. The study aimed to assess the extent and impact of various mood changes in the PM cohort.

**METHODS:** A series of brief (single question multiple answer) polls were posted by Parkinson's Movement ([www.parkinsonsmovement.com](http://www.parkinsonsmovement.com)) via the Health Unlocked website ([www.parkinsonsmovement.healthunlocked.com](http://www.parkinsonsmovement.healthunlocked.com)) between 8 August and 31 December 2011. Data were collected between 22 November and 4 January 2012 and the responses analysed between 30 December 2011 and 4 January 2012. Questions addressed the prevalence of a basket of mood disorders (anxiety, depression, obsessive behaviour) and the personal and social consequences thereof. Other questions characterised the sample demographics.

Figure 1: Mood disorder prevalence before and after PD diagnosis



**RESULTS:** Between 78 and 582 responded to each poll (the PM sample) from an estimated cohort size of up to 1500. The PM sample was mainly young (76% aged 50-69), highly educated (68% with at least 1 degree), with mild Parkinson's (self-assessed Hoehn & Yahr stage 1/2: 66%) for 4-6 years and mostly located in North America (60%) or Northern Europe (33%). There was a modest sex bias in the sample (1.2:1.0, female:male). Self-reported depression was present in 69% of responders, compared with a pre-diagnosis prevalence of 59%, an increase of 17%. Self-reported anxiety was also increased by 20% (from 55 to 71%) of the pre-PD values. Current obsessional behaviour was reported by 38%, a doubling over pre-PD prevalence (18%). Of the PM sample, 36% reported two symptoms while 29% reported all three, compared with pre-PD values of 30% and 14% respectively.

Figure 2: Mood disorder coprevalence before/after PD diagnosis

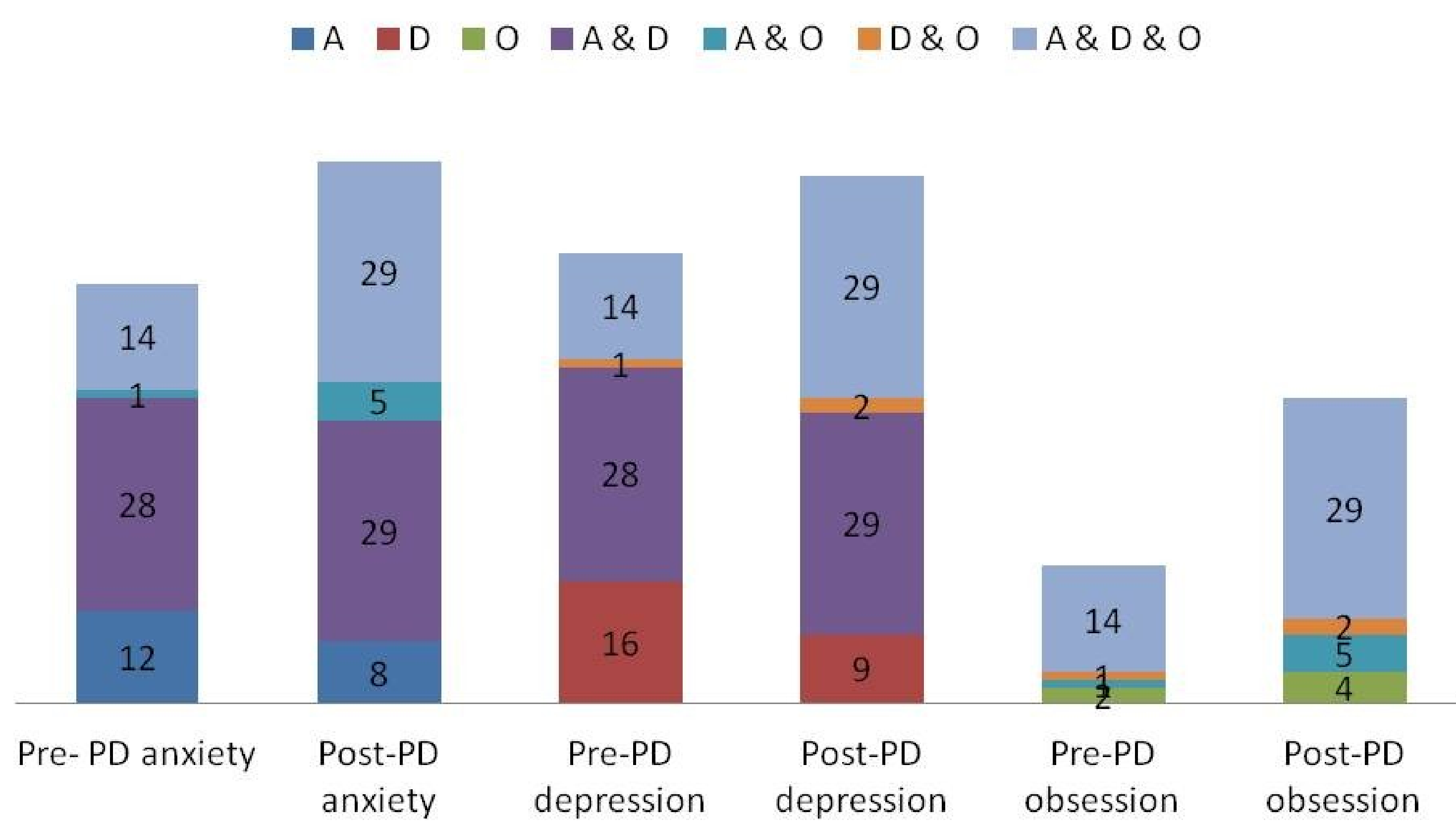


Figure 3: Plurality of mood disorders before and after PD diagnosis

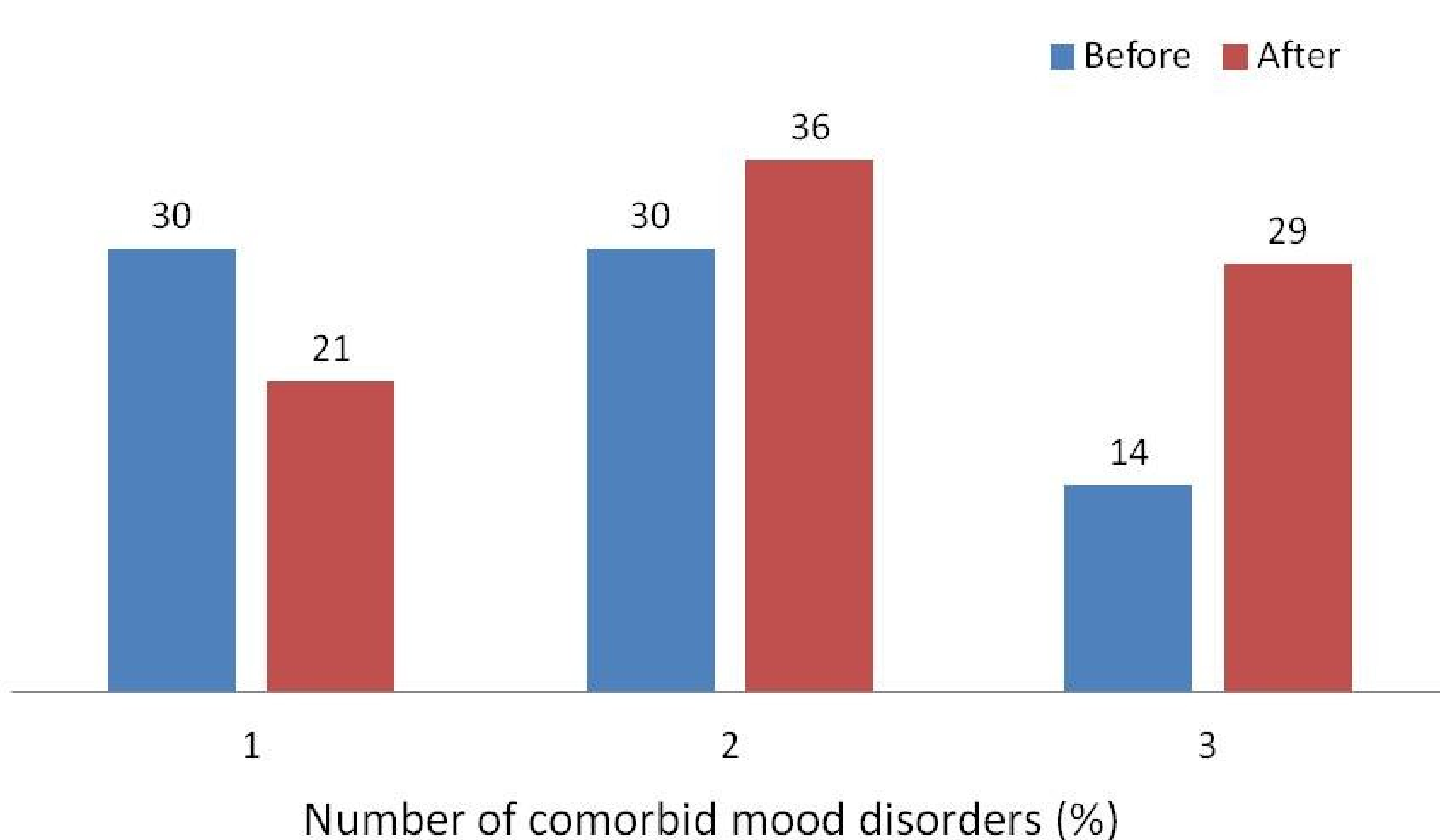
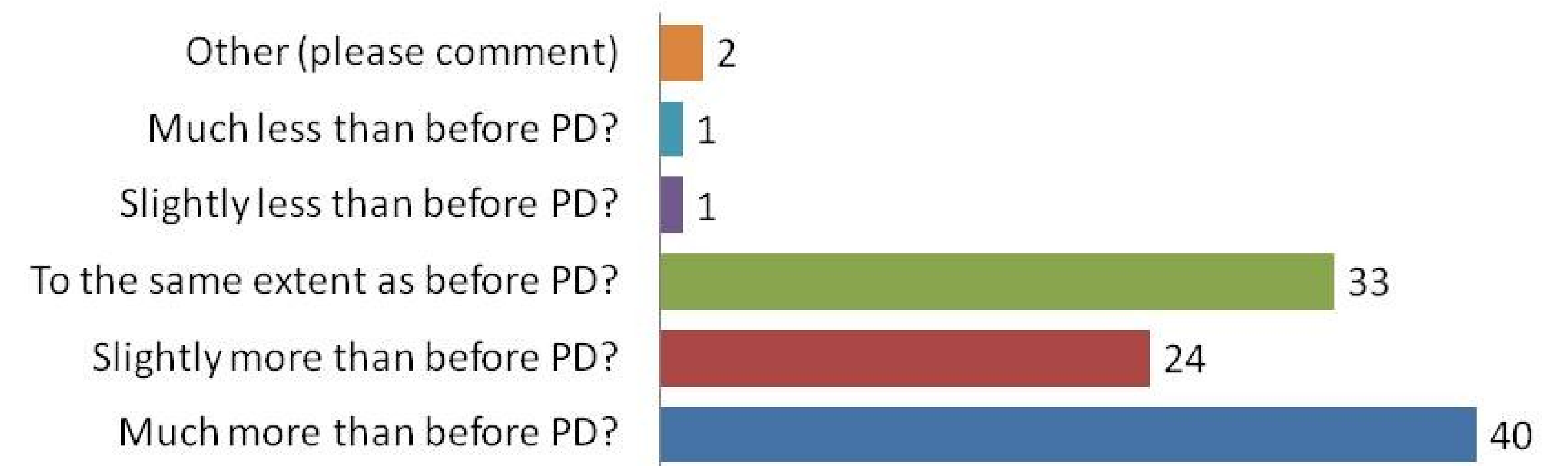


Figure 4: Effect of noise on ability to concentrate



Patients reported an overall neutral effect on close relationships but a decrease in sociability and ability to concentrate in the presence of noise. Insomnia, reflected in medication usage, was reported by 70% of responders, mostly reflecting early waking (66%) or broken sleep (66%) rather than difficulty falling asleep (30%). 50% felt daytime somnolence compromised driving safety, with social (45%) and work problems (42%) also highlighted.

Figure 5: Use of medications to aid sleep

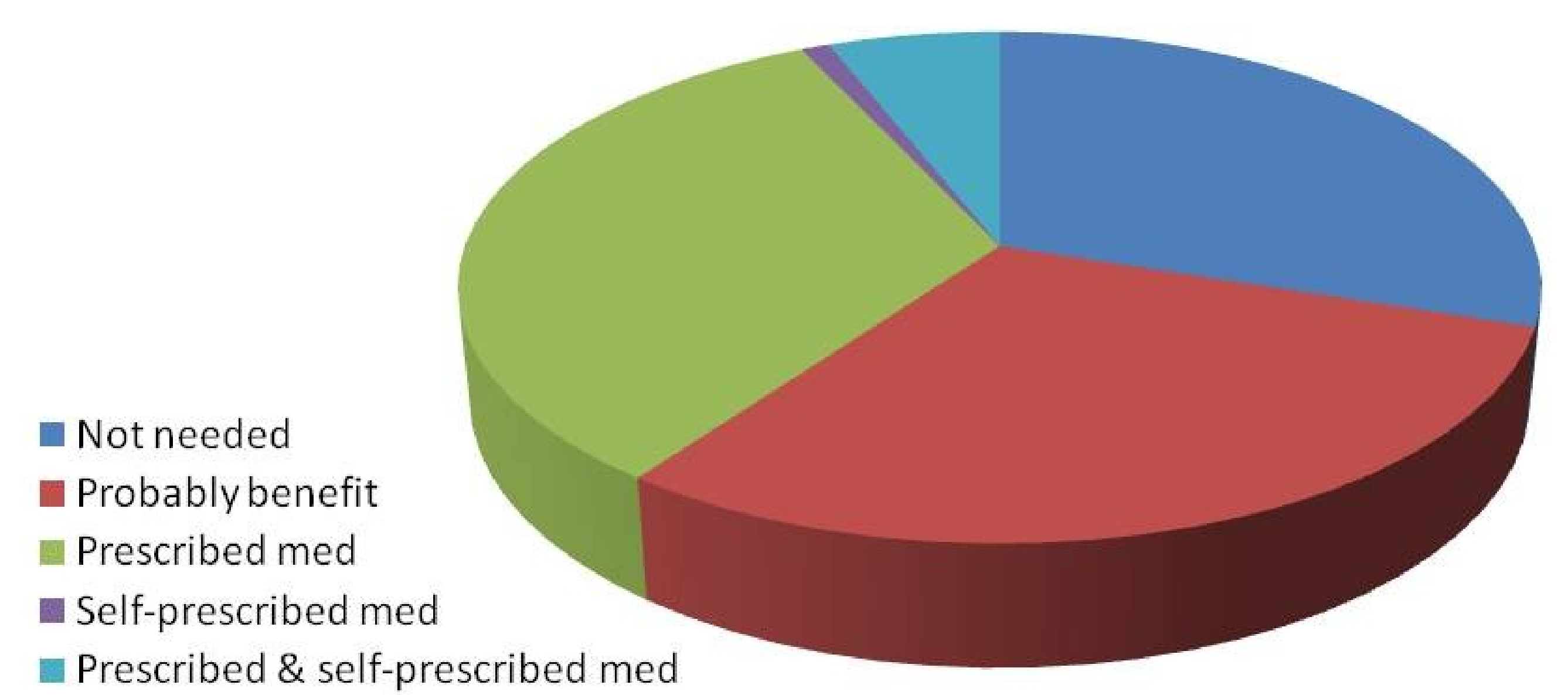
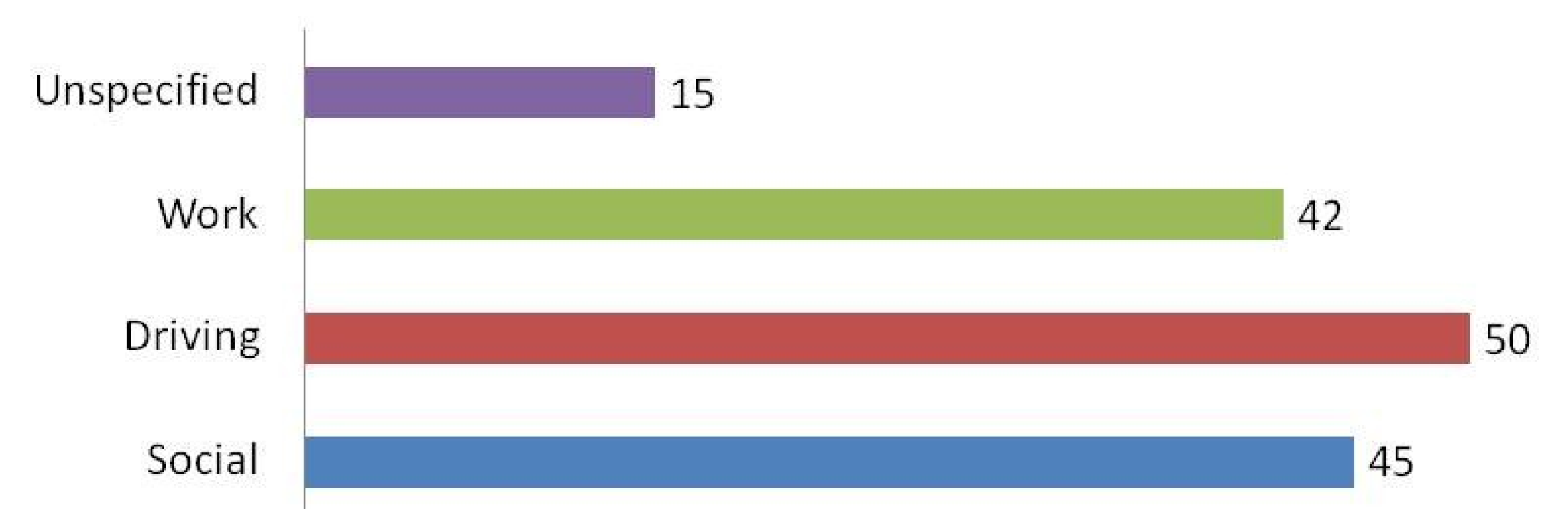


Figure 6: Problems (%) caused by daytime sleepiness



**CONCLUSIONS:** Despite many caveats associated with the use of polls, the results suggest that, in this educated computer literate and engaged patient cohort, self-reported mood and sleep disorders are highly prevalent, consistent with previous reports [1,2] although the causal interrelationship between mood and sleep disturbance is complex [3]. Nonetheless, problems with concentration, social confidence and work issues are likely to have significant QoL implications in this population.

1. Borek LL, Kohn R, Friedman JH (2006) Mood and sleep in Parkinson's Disease. *J Clin Psychiatry*. 67:958-63.
2. De Cock VC, Vidailhet M, Arnulf I (2008) Sleep Disturbances in Patients With Parkinsonism. *Nat Clin Pract Neurol*. 4(5):254-266.
3. Totterdell P, Reynolds S, Parkinson B, Briner RB (1994) Associations of sleep with everyday mood, minor symptoms and social interaction experience. *Sleep: Journal of Sleep Research & Sleep Medicine*, 17(5), 466-475.

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