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INTRODUCTION

Among diurnal symptoms related to Insomnia Disorder (ID), the International Classification of Sleep Disorders (ICSD-3) listed daytime sleepiness. However, patients with ID are characterized by a sustained hyperactivation causing an incompatible attitude for sleep drive [1]. The issue of sleepiness in ID has several implications for its management, particularly for the gold standard treatment, Cognitive-Behavioral Therapy (CBT-I) [2]. This study aimed to evaluate the presence of subjective Excessive Daytime Sleepiness (EDS) in patients with ID, compared to Healthy Controls (HCs), and to patients characterized by EDS, namely Obstructive Sleep Apnea (OSA), Narcolepsy Type 1 (NT 1), and Idiopathic Hypersomnia (IH). Moreover, we aimed to evaluate in IDs the improvement after CBT-I in daytime consequences and their relationship to measures of sleepiness and fatigue.

METHOD

We retrospectively collected the Epworth Sleepiness Scale (ESS) in 671 ID patients (mean age: 45.1 ± 14.2 ; 292 M / 381 F), 105 HC (mean age: 35.5 ± 12.7 ; 51 M / 54 F), and 602 patients characterized by EDS [545 OSAs (mean age: 55.9 ± 12.4 ; 439 M / 106 F), 30 NT1 (mean age: 41.3 ± 19.2 ; 14 M / 16 F), and 27 IH (mean age: 38.2 ± 15.7 ; 11 M / 16 F)]. Moreover, in 435 ID patients enrolled in CBT-I treatment, we collect the pre- and post-treatment evaluation of ESS, Insomnia Severity Index (ISI) and Profile of Mood States–fatigue inertia scale (POMS-FI) scores.

RESULTS

The mixed-ANCOVA showed significant between-group differences for the ESS total score [$F(1,4)=137.91$, $p<.001$, $\eta^2=.288$]. Post-hoc comparisons revealed in ID patients significantly lower ESS scores compared to patients characterized by EDS and, on the other hand, they did not differ from the HCs (Figure 1). Moreover, dividing subjects in each group into those who reported and those who did not report EDS (above and below 10 score at the ESS), only 9% of ID patients reported EDS.

Results revealed absence of significant correlations between ESS, ISI total score ($r=-.023$, $p=.633$), and “diurnal impact” ($r=.033$, $p=.495$), suggesting the independence between sleepiness and daytime functioning. On the other hand, significant correlations were found between POMS-FI, ISI total score ($r=.463$; $p<.001$), and “diurnal impact” component ($r=.491$, $p<.001$). Moreover, data showed a statistically significant increase in sleepiness after CBT-I, despite significantly improving daytime consequences and fatigue (Figure 2).

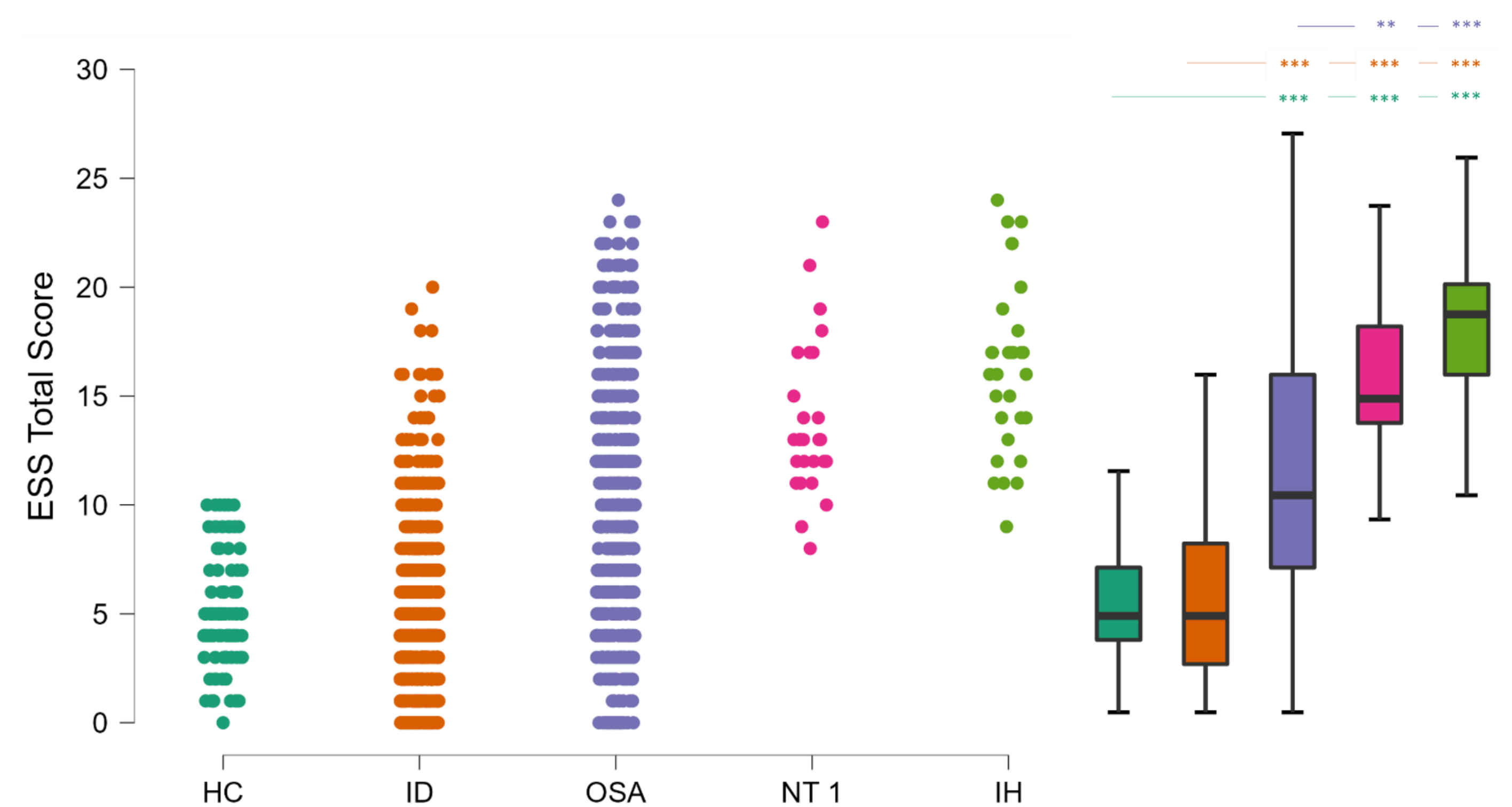


Figure 1. Between-group differences in the ESS total score.

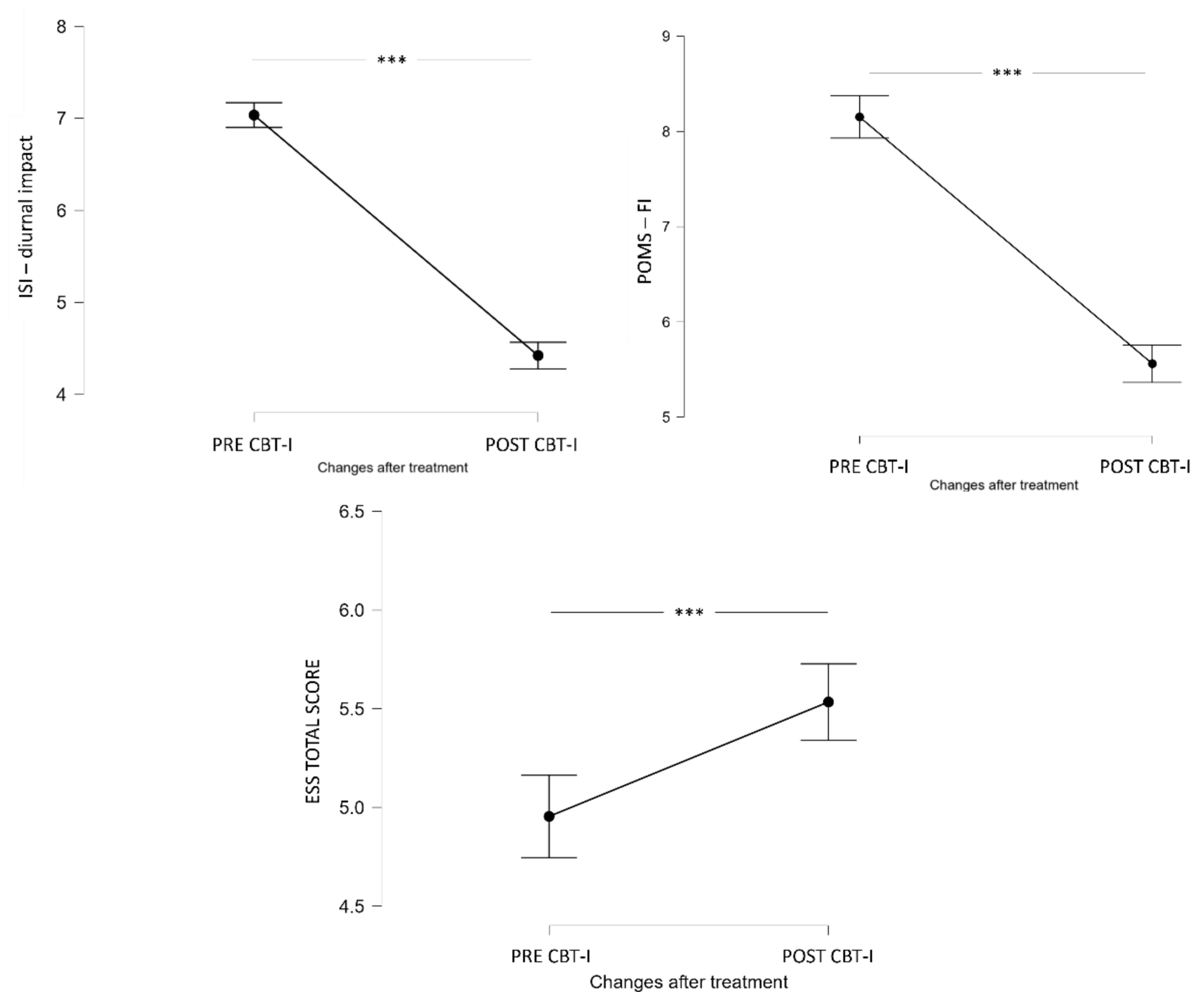


Figure 2. Diurnal sleepiness, impact, and fatigue changes after CBT-I treatment

CONCLUSION

In conclusion, although the ICSD–3 reports daytime sleepiness as a diurnal consequence of sleep symptoms in ID, our data suggest a substantial absence of these symptoms in most patients. Moreover, the present study highlights a dissociation between EDS, daytime impairment, and fatigue in ID likely ascribable to the hyperaroused state characterizing the disorder.

REFERENCES

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