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Relationship between interoception and stress in patients with Functional Neurological Symptom Disorder

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Objectives / aims

Self-report studies of alexithymic traits in individuals with Functional Neurological Symptom Disorder (FND), suggest that emotion dysregulation in this population is characterised by an impaired ability to detect and identify their own emotions (identification impairments) (1). This regulatory deficit might be particularly problematic for a patient group with an increased incidence of stressful life events relative to healthy controls (2), for whom the ability to regulate emotions might therefore be more crucial. Examining sensitivity to changes in physiological cues associated with emotional experience (interoception) is a way of assessing one aspect of participants' capacity to identify their own emotions. However, no studies have yet experimentally investigated how stress might interact with interoception in this population. Therefore, the aim of this study was to investigate patients' interoceptive sensitivity both at baseline and under stress.

Methods

Twenty-six patients with FND and twenty-seven healthy controls performed the Heartbeat Detection Task (HBDT) pre- and post- stress-induction with the Cold Pressor Test. The HBDT is a behavioural paradigm, measuring participants' sensitivity to a physiological cue associated with emotional experience - the heartbeat. Participants also completed a self-report measure of emotion dysregulation (The Emotional Processing Scale-25) which includes a subscale capturing 'a detached experience of one's emotions due to poor emotional insight', and a measure of Major Depressive symptomology (The PHQ-9).

Results

Relative to healthy controls, patients with FND performed more poorly on the HBDT both at baseline and following stress-induction ($p = .032$). Patients also reported greater impairments across all domains of the EPS-25 and higher scores on the PHQ-9 than healthy controls (both $p < .001$). Group differences on HBDT performance were not explained by group differences in age or depressive symptomology.

Conclusions

Impaired HBDT performance suggests that patients with FND lack sensitivity to their heartbeat, both under 'normal' conditions and following stress-induction. Physiological cues (like the heartbeat) are an important source of interoceptive information for emotional experience, for example during stress. Our findings therefore represent a form of identification impairment that may contribute to stress-vulnerability in this population. Raised levels of self-reported 'impoverished emotional experience' corroborate the suggestion that patients with FND have difficulty identifying and understanding their emotions. These findings have direct implications for understanding and treating emotion dysregulation in FND.

References

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