

Psychophysiology

EPP223

Changes of heart rate variability and hemodynamics within the frontal cortex in response to face emotional stimulation

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Introduction: There is an increasing demand for alternative evaluation tools capable of providing objective assessments or highlighting differences. Functional near-infrared spectroscopy (fNIRS) and heart rate variability (HRV) are frequently employed as biomarkers for assessing emotional status.

Objectives: This study hypothesizes that emotional expressions, particularly unpleasant emotions and their variations in adolescents, are associated with changes in heart rate variability and frontal lobe activity.

Methods: A total of 55 adolescents participated in this study. Following the completion of clinical scales, assessments of both HRV and fNIRS in a resting state were conducted for all participants for 200 seconds. After a 10-second rest, HRV and fNIRS assessments were performed during a positive emotional perception test for 192 seconds. Following a 30-second rest, the same procedures were repeated during a negative emotional perception test.

Results: The correction rate of unpleasant emotional perception negatively correlated with HRV measures (unpleasant-HF, unpleasant-SDNN) and positively with pleasant-RMSSD. Additionally, it positively correlated with the Δ accHBO2 within the left dorsolateral prefrontal cortex (DLPFC). Conversely, the correction rate of pleasant emotional perception negatively correlated with increases in Δ accHBO2 within the left DLPFC. Both unpleasant-SDNN and unpleasant-HF negatively correlated with Δ accHBO2 within the left DLPFC.

Conclusions: The perception of negative emotions in adolescents is associated with individual levels of depression and anxiety. Furthermore, the perception of negative emotions significantly correlates with changes in HRV and activity within the left DLPFC. There is also evidence suggesting a link between changes in HRV and brain activity in response to the perception of negative emotions.

Disclosure of Interest: None Declared

Psychotherapy

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Adapting Tree of Life Group Therapy for Vietnamese Patients with Severe Mental Disorders: A Qualitative Exploration of Treatment and Recovery Perspectives

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Introduction: Severe mental disorders, characterized by their progressive course, early onset, and persistent symptoms, pose

significant challenges to patients' well-being and psychosocial functioning. Despite the growing recognition of the importance of comprehensive treatment, psychological therapies remain underutilized in this population in Vietnam. The Tree of Life therapy, a low-cost, evidence-based, and culturally adaptable intervention, offers a holistic perspective on mental health recovery through personal growth, enhanced coping skills, and social connectedness. This study aimed to explore the therapeutic potential of the Tree of Life group therapy for inpatients with severe mental disorders at Hanoi Mental Hospital.

Objectives: 1) To understand the experience of participating in the Tree of Life therapy group for inpatients with severe mental disorders; 2) To explore the perspectives of patients on the hospitalization, inpatient treatment process, their self-perception, life goals and resources before and after participating in the group

Methods: Using qualitative methods, we interviewed 30 inpatients about their experiences before and after participating in the therapy. The Tree of Life group was conducted through four 1-hour sessions guided by the original protocol (Ncube, 2006). The study design follows a qualitative approach. After collection, the data was transcribed, coded, and stored as online text. We chose thematic analysis using MAXQDA 24 software for data analysis.

Results: Regarding the Tree of Life group therapy experience, prominent themes emerged, including positive group interactions, relevant content, enhanced health and well-being, therapeutic engagement promotion, and memorable session components. When examining patients' perspectives on hospitalization, treatment, recovery, self-description, hopes and dreams, and resources, a strong emphasis on family stood out. The family theme was then analysed further to identify subthemes: Family members were perceived as gatekeepers to treatment, sources of love and support, motivations for recovery, active participants and decision-makers in future life plans.

Conclusions: The pilot qualitative study demonstrates the potential therapeutic efficacy of Tree of Life group therapy for patients with severe mental disorders. The findings also highlight the critical role of the family in supporting patients with severe mental disorders and underscore the importance of involving family members in the treatment process in the Vietnam context. However, further randomised controlled trials are required to establish the therapy's effectiveness on a broader scale and provide robust evidence for clinical implementation.

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Psychophysiology

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Electrophysiological Signature of Emotional Processing in Participants with High Traits of Rumination During a Mood-Induction Task

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Introduction: Past studies found lack of left frontal asymmetry in major depressive disorder (MDD) patients, also during task execution, probably depending on thought disorders associated to MDD. Indeed, individuals suffering from depressive mood are more likely to develop

specific symptoms, i.e., rumination (R) (Thomsen, 2006) and perseverative thoughts (PT). According to Martin & Tesser (1996), rumination could be defined as “[...] a class of conscious thoughts that revolve around a common instrumental theme and that recur in the absence of immediate environmental demands requiring the thoughts”. Following this definition, this symptom can be represented along a continuum ranging between healthy individuals and patients with full-blown mood disorder.

Objectives: The present study aimed at investigating the psychophysiological markers underlying the risk to develop mood disorders, in a community sample selected for two important psychiatric transdiagnostic domains, i.e., perseverative thoughts and ruminations (PT/R).

Methods: In order to prompt a rumination state, we developed a new mood induction paradigm based on presentation of brief, validated videoclips able to evoke sadness, psychological suffering and feelings of loss. Subjective reports and high-density EEG data from 20 students with high ($\geq 80^{\text{th}}$) and 20 with low ($\leq 20^{\text{th}}$ percentile) PT/R were collected. Subjective data analyses included self-perceived valence and arousal for ‘love abandonment’, ‘loneliness’ and ‘city documentary’ (i.e., neutral) clips. sLORETA source analyses on EEG bands were carried out to unmask the cortical areas involved in rumination.

Results: Regardless of group, emotional clips elicited greater valence and arousal scores than neutral videos. Between-group sLORETA analysis revealed greater delta and theta activity in low vs. high PT/R participants in left superior parietal lobule during viewing of ‘love abandonment’ clips. Within-group analysis carried out in low PT/R participants showed that, compared with neutral clips, the ‘love abandonment’ and ‘loneliness’ conditions elicited greater alpha activity in superior (left) and middle (right) frontal gyri, respectively. On the contrary, high PT/R participants showed similar right (pre)cuneus alpha increase, regardless of emotional content.

Conclusions: Results suggest a decreased sensitivity to negative videoclips in high PT/R individuals, together with the loss of the specialized frontal hemispheric valence-dependent asymmetry that is typically found in low PT/R participants.

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Psychotherapy

EPP226

Assessing the impact of psychological support on healthcare workers in conflict zones: a 5-Session intervention in North Kivu and Ituri

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Introduction: North Kivu and Ituri in the Democratic Republic of the Congo (DRC) are among the provinces most severely affected by humanitarian needs. The security situation is highly unstable, with over 530,000 people displaced. Those remaining face urgent needs, and the conflict has severely impacted their mental health. An assessment of healthcare staff in local centers revealed significant distress due to both their exposure to patients in crisis and the surrounding violence and insecurity.

Objectives: The aim of the protocol developed and proposed to healthcare staff was to implement preventive and curative psychological support actions designed to address all the psychosocial risks identified, as well as to alleviate emotional distress, improve well-being and strengthen the resilience mechanisms of healthcare centre staff.

Methods: A 5-session protocol was proposed to healthcare staff. The sessions focused on psychological distress specific to professional situations in the context of conflict and humanitarian emergencies: vicarious trauma and self-help strategies using emotional regulation exercises. We measured several dimensions of participants’ psychological and professional well-being at the start and end of the programme: the PCL-5 to assess post-traumatic stress symptoms, the HADS to measure levels of anxiety and depression, the Maslach Burnout Inventory (MBI) to assess three dimensions of burnout: emotional exhaustion, depersonalisation and personal fulfilment. Finally, the ProQoL scale was used to assess participants’ quality of working life.

Results: Analyses of the scores differences between pre and post intervention, among a pre-sample of 65 participants (21% women; 78.5% men) showed significant improvements. Anxiety and depression levels decreased significantly (HAD-A: $t = -7.71$, $p < 0.001$; HAD-D: $t = 7.30$, $p < 0.001$). On the MBI, participants showed a significant reduction in emotional exhaustion ($t = 5.83$, $p < 0.001$) and depersonalisation ($t = 8.85$, $p < 0.001$) and an increase in the sense of personal accomplishment ($t = -5.12$, $p < 0.001$). The results also show a clear reduction in post-traumatic stress symptoms (PCL-5: $t = 8.64$, $p < 0.001$). On the ProQoL scale, compassion satisfaction also increased significantly ($t = -5.70$, $p < 0.001$), indicating that carers feel more gratified by their role despite the challenges they face. Secondary traumatic stress ($t = 5.38$, $p < 0.001$), and burnout ($t = 2.82$, $p = 0.006$), although significantly reduced, remain areas of concern.

Conclusions: The intervention had significant positive effects on several dimensions of the psychological and professional well-being of healthcare workers, contributing to better stress management, increased satisfaction, and reduced burnout. These results highlight the importance of implementing support programs for healthcare professionals working in challenging contexts.

Disclosure of Interest: None Declared

Intellectual Disability

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Psychiatric and cognitive characterization of Jacobsen syndrome (Del11q)

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Introduction: Jacobsen Syndrome (JS), or 11q Deletion Syndrome, is a rare genetic disorder affecting approximately 1 in 100,000 births, with a female-to-male ratio of 2:1 (Grossfeld *et al.* Am J Med Genet A. 2004; 129A(1):51-61). It is caused by a deletion on chromosome