

Psychophysiology

EPP223

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

B. Nam^{1*}, S. A. Chung², H. Hwang², H. J. Kim², J. Hong², S. M. Kim² and D. H. Han²

¹Dr. Nam's Psychiatric Clinic, Chungju and ²Chung Ang University Hospital, Seoul, Korea, Republic Of

*Corresponding author.

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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 ΔaccHBO_2 within the left dorsolateral prefrontal cortex (DLPFC). Conversely, the correction rate of pleasant emotional perception negatively correlated with increases in ΔaccHBO_2 within the left DLPFC. Both unpleasant-SDNN and unpleasant-HF negatively correlated with ΔaccHBO_2 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

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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

L. T. Nguyen^{1*} and H. T. T. Hoang¹

¹Department of Outpatients, Hanoi Mental Hospital, Hanoi, Viet Nam

*Corresponding author.

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

C. Spironelli^{1,2*}, Z. Romeo³, F. Fusina¹, S. Messerotti Benvenuti¹ and A. Angrilli¹

¹Department of General Psychology, University of Padova; ²Padova Neuroscience Center, University of Padova and ³Neuroscience Institute, National Research Council (CNR), Padova, Italy

*Corresponding author.

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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