

1. Title: Event-related Potential in Trauma-Affected Refugees

2. Project period: 01-02-2016 – 31-01-2017

3. Investigator: Hanieh Meteran (medical and research year student)

4. Supervisors and collaborative partners

- Jessica Carlsson Lohmann, CTP.
- Sigurd Winggaard Uldall, CTP.
- Erik Vindbjerg, CTP.
- Bob Oranje, UMC Utrecht Hersencentrum.

5. Background

Refugee victims of severe traumatisation have endured experiences that often lead to a complex form of PTSD, which apart from the core symptoms of hyperarousal, flashbacks and anxiety encompasses persistent and pervasive impairments in affective, self and relational functioning (1). Avoidance often takes the form of social isolation, making patients susceptible to depression and cognitive understimulation (2,3). In our clinical experience, patients will often display hyperarousal to unpredictable social situations, while being under engaged in relation to routine activities. We would expect this relegation of resources to reflect in deficits in psychophysiological measures. Contrary to PTSD among trauma-affected refugees, research into the neuropsychological deficiencies schizophrenia is common. While being recognised as two distinctive diagnostic entities, PTSD and schizophrenia also bare many resemblances and both common psychopathology (4,5) and psychological mechanisms have been suggested (6). Despite the clinical common ground, no research has looked into common neural underpinnings of these different diagnoses as far as we know.

6. Aim/s

To provide a better understanding of psychophysiological characteristics of trauma-affected refugees and investigate the correlation between the psychophysiological measures and symptom severity. Furthermore we will compare the deficiencies in psychophysiological measures in our patient group with a group of patients suffering from schizophrenia. The choice of EEG measures reflects an aim to potentially implement knowledge gained from this study into routine clinical assessment of trauma-affected refugees, as well as an objective measure of treatment outcome.

7. Methods

7.1 Number of participants (N): 60

7.2 Population: Adult trauma-affected refugees

7.3 Description of data and data collection

The study will include 30 trauma-affected refugees with PTSD recruited at [Competence Centre for Transcultural Psychiatry \(CTP\)](#). 30 healthy control refugees matched on age, country of origin and socioeconomic status will be recruited through www.forsøgsperson.dk (Danish online

platform for people to sign up for study participation) and by use of snowball sampling. We will measure neural activity with electroencephalography (EEG) using a psychophysiological battery, which tests sensory-gating, sensorimotor gating, selective attention and mismatch negativity. Study participants will undergo one day of interview and one day of psychophysiological assessment.

7.4 Application/acceptance from the Danish Data Protection Agency, the National ommittee on Health Research Ethics: Applied and awaiting final approval.

8. Expected results

We expect a difference in the psychophysiological measures between trauma-affected refugees with and without chronic PTSD. The deficiencies will correlate with symptom severity. Compared to the control group the deficiencies in the psychophysiological measures in trauma-affected refugees with chronic PTSD will be closer to those in patients with schizophrenia.

9. Dissemination of results

Winter 2016/2017. Findings will be published in international peer-reviewed journals and presented at relevant conferences.

10. References

1. Maercker A, Brewin CR, Bryant RA, Cloitre M, Van Ommeren M, Jones LM, et al. Diagnosis and classification of disorders specifically associated with stress: Proposals for ICD-11. *World Psychiatry*. 2013;12(3):198–206. ^[L]_[SEP]
2. Buhman C, Mortensen EL, Lundstrøm S, Ryberg J, Nordentoft M, Ekstrøm M. Symptoms, Quality of Life and level of functioning of traumatized refugees at Psychiatric Trauma Clinic in Copenhagen. *Torture*. 2014;24(1):25–39.
3. Strijk PJ1, van Meijel B, Gamel CJ. Health and social needs of traumatized refugees and asylum seekers: an exploratory study. *Perspect Psychiatr Care*. 2011 Jan;47(1):48-55.
4. Portin R, Kovala T, Polo-Kantola P, Revonsuo A, Müller K, Matikainen E. Does P3 Reflect Attentional or Memory Performances, or Cognition more Generally? *Scand J Psychol*. 2000;41(1):31–40. ^[L]_[SEP]
5. McFarlane AC, Lee Weber D, Clark CR. Abnormal stimulus processing in posttraumatic stress disorder. *Biol Psychiatry*. 1993;34(5):311–20.
6. Javanbakht A. Sensory gating deficits, pattern completion, and disturbed fronto-limbic balance, a model for description of hallucinations and delusions in schizophrenia. *Med Hypotheses*. 2006;67(5):1173–84. ^[L]_[SEP]