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BRAIN MAPPING
BEYİN HARİTALAMASI

Gökben Hızlı Sayar*[1], Nevzat Tarhan[1]

Associating the mental illness with underlying neural mechanisms is an aim of modern psychiatry. Various brain imaging techniques have the potential to identify the neural correlates of mental illnesses. Electrophysiological techniques have an important place to identify the biological mechanisms of psychiatric diseases.

Quantitative electroencephalography (QEEG), is a relevant electrophysiological method used in clinical psychiatry and researches. Up to 80% of subjects with mental health problems present different QEEG abnormalities (Coburn et al. 2006). However, QEEG is yet not used sufficiently in the diagnostic evaluation of psychiatric cases. The central reason for the limited clinical use of QEEG is the contradictory results of studies in psychiatry. Due to this discrepancy in research results, utilization of QEEG has to be combined with other diagnostic methods.

QEEG is a numerically processed, digitally recorded EEG. It has the advantage of the versatility of displaying specific waveform components. QEEG systems, generally called, "EEG brain mapping," include topographic displays of voltage, frequency, power and statistical comparisons to normative values.

Previous QEEG studies mostly investigated schizophrenia and mood disorders, and the QEEG findings exhibit a wide range of abnormalities. The most frequently reported QEEG abnormality in schizophrenia is a frontal asymmetry of alpha power (Jetha et al. 2009). Recently study results indicate that the QEEG measures of power spectra can be used as potential biomarkers for the development of schizophrenia in prone subjects (Fugetta et al., 2014).

Quantitative EEG studies in patients with depression found increased slow wave activity decreased slow wave activity and increased alpha and beta activity. Asymmetry in EEG activity over frontal regions in depression was also reported (Allen et al. 2004, Vuga et al. 2006). Combined with other clinical ratings, QEEG parameters may be a useful tool for risk estimation, prevention and treatment response. Decreases in prefrontal cordance; left-right asymmetry of combined theta with alpha power reported to be predictive of therapeutic response in depression (Bares et al. 2007, Iosifescu 2008).

QEEG may be used as a tool for distinguishing discrete diagnostic classes of dementia and etiologies of pseudodementia, such as depression and alcoholism. EEG may be more valuable than neuropsychological tests for recognizing pseudo-dementia since motivational and attentional problems are likely to interfere with testing. Although an abnormal EEG in a depressed patient is not specific for dementia, it does identify the patients at greatest risk for functional decline and, therefore, is a useful part of the evaluation (Holschneider & Leuchter, 1999).

QEEG is an important research and clinical tool, providing information that is useful in differential diagnosis and identifying pathophysiological mechanisms of mental illnesses. Mapping the cerebral function of healthy subjects and psychiatric patients, we can achieve a better understanding of the functional organization of the brain. On the basis of this knowledge, the abnormalities underlying the major mental illnesses can also be mapped (Tricht et al. 2014).

Developing multicenter normative databases would help not only to detect EEG abnormalities across the entire age span, but also to classify the patients seen by clinical psychiatrists into different diagnostic groups. This needs a collaboration of centers to compose a large database and to share knowledge. The G20 World Brain Mapping & Therapeutic Scientific Summit aims to facilitate communication between the G20 nations, getting scientists, engineers, physicians together to rapidly introduce clinical solutions. G20 World Brain Mapping Summit was launched in 2014 on the initiative of The Society for Brain Mapping and Therapeutics. Üsküdar University and The Society for Brain Mapping and Therapeutics are holding the 2. Annual Summit on G20 World Brain Mapping and Therapeutics

Üsküdar University, NPIstanbul Hospital, Department of Psychiatry, Üsküdar University .
* Address for Correspondance: Assoc.Prof., Üsküdar University, NPIstanbul Hospital, Department of Psychiatry, İstanbul. E- mail: gokben.hizlisayar@uskudar.edu.tr

Initiative in Istanbul, Turkey. Goals of the program are to build collaboration between G20 nations on translational clinical neuroscience, constituting strategic industry-academia-government cooperation for brain discovery; and to facilitate commercialization of innovations in the field of Brain Mapping & Therapeutics worldwide. It is our great pleasure that we invite you to attend the G20 World Brain Mapping and Therapeutics Initiative in Istanbul, Turkey on 13th Nov, 2015.

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