Can EEG predict the outcome of dependence treatment?

Czy za pomocą EEG można przewidzieć wynik leczenia uzależnień?

Hamidreza Famitafreshi[1], **Morteza Karimian**[2]

[1]Department of Physiology, Tehran University of Medical Sciences – International Campus, Tehran, Iran
[2]Department of Physiology, Tehran University of Medical Sciences, Tehran, Iran

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Despite many advances in molecular mechanism of relapse and compulsive psychoactive substance use, there is still a lack of an effective clinical method for assessing dependence and treatment. That is important because despite implementing of many effective treatments, there is still lack of an effective method for predicting the course of disease [1].

Electroencephalogram (EEG), that is the recording of electrical activity of brain neurons, can be considered as an effective diagnosing method in this regard [2]. EEG abnormalities have been observed with biofeedback modulation and without modulation. These studies use neurofeedback and then recording EEG [3]. In another study without application of modulation in abstinence period, EEG alternation as the result of cue reactivity was studied [4]. Also, learning that is important in addiction period has been monitored in treated dependent persons [5]. EEG changes have been observed in other types of addiction like food and internet addiction [6, 7].

EEG can be also used to evaluate comorbid conditions like anxiety and depression that occur in the abstinence period [8, 9]. The absence of these symptoms is associated with better prognosis.

EEG can be considered as an effective method for helping dependent persons. It is suggested more studies are conducted to describe the mechanisms that may be altered in dependence.

Correspondence to/Adres do korespondencji: Morteza Karimian, Department of Physiology, Tehran University of Medical Sciences, Enghelab St., Shanzdahazar St., Poorsina Ave, 1417613151 Tehran, Iran, phone: +98 21 6641 9484, e-mail: karimian@tums.ac.ir

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Ethics/Etyka

The work described in this article has been carried out in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) on medical research involving human subjects, EU Directive (210/63/EU) on protection of animals used for scientific purposes, Uniform Requirements for manuscripts submitted to biomedical journals and the ethical principles defined in the Farmington Consensus of 1997.

Treści przedstawione w pracy są zgodne z zasadami Deklaracji Helsińskiej odnoszącymi się do badań z udziałem ludzi, dyrektywami UE dotyczącymi ochrony zwierząt używanych do celów naukowych, ujednoliconymi wymaganiami dla czasopism biomedycznych oraz z zasadami etycznymi określonymi w Porozumieniu z Farmington w 1997 roku.

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