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CHARACTERISTICS OF BASELINE EEG OF INSTITUTIONAL CHILDREN AGED FROM ONE AND A HALF TO THREE AND A HALF YEARS

Bielalov V. V., Dyagileva Iu. O., Timush I. Ya., Yurchenko I. A., Pavlenko V. B.

*V.I. Vernadsky Crimean Federal University, Simferopol, Crimea, Russian Federation
E-mail: vadim.belalov@mail.ru*

The aim of this study was to identify and analyze the performance characteristics of the power spectral density (PSD) EEG rhythms in a state of relative dormancy orphans between the ages of one and a half to three and a half years, the child brought up in the House of Simferopol, and children of the same age living in two-parent families in the Republic of Crimea. The survey is not the children were included: a) whose weight at birth was less than two and a half kilograms, b) with genetic diseases, c) have entries in the medical record of the diseases of the central nervous system, d) a registered fetal alcohol syndrome, e) depicting the left hand. The group of orphans also included children, who are in the child's home less than a year. We studied the characteristics of the power spectral density (PSD) rhythms of the electroencephalogram (EEG) in a state of relative dormancy in orphans ($n = 41$) and children from families ($n = 50$) aged from two and a half to three and a half years from the values of the PSD in the range of theta (3–5 Hz), alpha (6–9 Hz), beta (11–25 Hz) and gamma rhythms (26–45 Hz) waves using 16 recording electrodes. During registration EEG to reach children of relative calm were asked to sit with open eyes calm and relaxed. Statistical analysis was performed using ANOVA module and using Tukey test. The parameters of the MTA EEG rhythms, registered in the state of relative rest, are significantly different from orphaned children compared to children from families. Children orphaned lowered JPM gamma rhythm EEG leads in seven, and the beta rhythm - four leads. A significant increase in SPM was recorded only in the left frontal leads to the alpha rhythm and the right frontal - EEG theta rhythm. The revealed changes the pattern of the current EEG orphans may reflect suboptimal, for the investigated age, state of the neocortex, which may account for declines in values of cognitive-verbal sphere. It is assumed that the lower level of the PSD in the high frequency range of the EEG may indicate a certain lag in the development of neural networks of the brain.

Keywords: electroencephalogram (EEG), orphan children.

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