

The low population health service provision level is defined in the Primorski Krai with the part of 30,8% of the total District population. The low efficiency of medical outpatient institutions (visits on one shift, per 10000 of the population) and number of hospital beds at the average supply with doctors and low-grade medical workers.

An **index-map** with the Far Eastern subjects' population health service provision level territorial difference has become the result of our research.

The analysis of the Far Eastern Federal District population health service provision level allowed coming to the following conclusions:

- The Far East as a whole has average, under-the-average and low population health service provision levels in Russia (in the whole Russia in 2006 – 0,52).
- Regional differences in the population health service provision final index within the Far East are essential and make from 0,46 to 0,95.
- On the final index value and the combination of special indexes of supply with doctors, low-grade medical workers and hospital beds, the efficiency of medical outpatient institutions there are 5 groups of regions marked out in the Far East with the differentiation on the population health service provision level. The majority of the FE subjects has an average and under-the-average population health level (33,3% and 32,4% of the FE population accordingly).

#### References

1. Public health and economy / B.B. Prokhorov, I.V. Gorshkova, D.I. Shmakov, Ye.V. Tarasova – M.: MAKC Press, 2007 – p. 292.
2. Regions of Russia. Socioeconomic factors. Statistical Collection Rosstat, M., 2007.
3. Cherkovets M.V., Role of socioeconomic factors in Central Russia population health formation. Thesis of Cand. Sc. (Geography), M., 2003.

The work is submitted to Scientific Conference "Basic and applied research", Brazil (Rio de Janeiro), February 19 - March 3, 2009. Came to the Editor's Office on 25.12.2008

#### **EVOKED BRAIN POTENTIALS IN DIAGNOSTICS OF LIVER CIRRHOSIS WITH SIGNS OF ENCEPHALOPATHY AND EVALUATION OF CRIO-APHERESIS' EFFECTIVENESS**

Trusov V.V., Ivanov A.G., Aksenov K.V.  
*Izhevsk State Medical Academy  
Izhevsk, Russia*

Currently existing methods of hepatic encephalopathy (HE) diagnostics at patients with liver cirrhosis, including psychometric tests, measuring ammonia level, electro-encephalography, magnetic resonance spectroscopy and other methods, are either not sensitive and specific enough, or are too expensive.

#### The objective

Our goal was to evaluate the method of cognitive evoked brain potentials in diagnostics and evaluation of hepatic encephalopathy dynamics at patients with liver cirrhosis who receive a complex therapy.

#### Materials and methods

We examined and treated 25 patients with liver cirrhosis of classes A and B according to Child-Pugh, with HE of 0-2 stage. The test group consisted of 15 men and 10 women aged between 38 and 63 years old (average age 49,9±1,5). Beside the common therapy that included detoxification measures, hepatoprotectors, aldosterone blockers and preparation «Dufalak» (Solvay Pharma) in dose 45-60 ml/day during 30 days, all patients received a course of crio-apheresis (from 5 till 7 treatment procedures). Method of cognitive evoked brain potentials or P300 was applied in order to analyze cognitive processes in the brain. Using method P300, we studied slowing dynamics of inter-peak latency before and after the therapy. The study was conducted using multifunctional computer equipment «Neuro-MVP».

#### Results

We analyzed the results of the research on the cognitive evoked brain potentials, and saw an obviously bigger latency of peak P300 at all test persons. Average P300 wave was 531,1±10,8 ms. Normal latency in this age group should not exceed 361 ms. These data proved a clear disruption of cognitive functions, which was probably not related to defective identification of important stimulus, but was rather connected with defects in memorizing and operative memory of events. Positive dynamics was observed after the treatment: the latency of component P300 decreased ( $p<0,001$ ), its average value reached 424,2±7,2 ms.

#### Conclusion

To sum up, quantitative parameters of inter-peak latency (P300) could be used as criteria in the evaluation of treatment effectiveness for hepatic encephalopathy, and improve its control.

The work was submitted to the International Scientific Conference «Medical, social and economic problems of population health preservation», Kemer (Turkey), May 20-27, 2009. Came to the editorial office on 30.04.2009.