

To implement an environmental assessment of the effectiveness and feasibility of water purification through basaltic tuff. Methods and materials: analysis, synthesis, comparison and generalization based on ecological and biochemical scientific literature, my own research and observations. Results: The study showed that the basaltic tuffs have multifunctional adsorption properties and can be used for water purification from ionic and molecular contamination. Conclusions: 1. Nowadays the environmental situation in the world and Ukraine in particular has led to a significant deterioration of both surface and groundwater. 2. Many methods of water treatment are outdated. 3. Adsorption technology involving natural mineral sorbents is among the most promising methods of water purification of various contaminants and depends on the chemical nature of sorbent and its availability. 4. As a possible option is using a natural mineral basalt tuff as a sorbent in water purification. This option is a viable choice due to the high porosity of the mineral, the ability to absorb agents of inorganic and organic origin out of the water environment, cheap and large mineral deposits in Ukraine. It is unfortunate that due to fragmentation of research, basaltic tuffs are not yet widely used in water treatment and purification practice.

### **FACTORS AFFECTING THE PREVALENCE OF THE SCHISTOSOMIASIS IN GHANA (THE VOLTA REGION)**

Sandra Dede Ofei

Supervisor: Associate Professor Popovich A.P.

Zaporozhe State Medical University

Department of Medical Biology, Parasitology and Genetics

Introduction: Ghana is one of the West African countries with many small rivers, ponds and lakes. The tropical climate and growth of some algae provide the favorable conditions for the development snails - *Bulinus truncatus*, which are the intermediate hosts in the life-cycle of Schistosomes. Thus, Ghana is one of the high risk countries of schistosomiasis. Goal: The purpose of this study is to examine the factors affecting the prevalence of schistosomiasis in Ghana. Methods and Materials: This information is gathered from researches done by the World Health Organization about diseases affecting West African countries. Results: Schistosomiasis is a disease caused by parasitic worms. The investigations show that changes of the environmental conditions lead to rising incidence of schistosomiasis infection, for example in the Volta Region. When the dam was constructed the conditions supported the growth of the snail vectors, and led to a tremendous increase in snail density and a high infection route resulted. It was noted that there was a trend in the incidence of the disease with the respect to age and occupation. The children under the age of 15 years seemed to be the group with the highest infection rate. Among adults fishermen showed the highest incidence of urinary schistosomiasis. Conclusion: Transmission of Schistosomiasis seems to occur in the lake and head pond. It has increased prevalence in villages close to the lakeshore. The fishermen who come into contact with the infected water more often than other adults become infected more. Children are mostly infected because they are involved in activities of swimming, washing clothes and sometimes even assisting in the fishing activities of the fisherman.

### **APOPTOTIC DEATH OF NEURONS CA-1 ZONE OF HIPPOCAMPUS OF RATS IN THE CONDITION OF PRENATAL CHRONIC ALCOHOLISATION AND THEIR REDUCTION BY CEREBROCURIN AND TIO CETAM**

Sokolik Elena, Okoli Mark-Entony, Faseun Omonike Ibukun

Scientific adviser: Belenichev Igor Fedorovich, MD, professor, PhD

Zaporozhye state medical university

Department of pharmacology

Our research found that prenatal alcoholism leads to increase of NO induction and nitrosine stress in the brain of newborn rats, evidenced by the increasing of nitrotyrosine in cytosole and mitochondria. By adjusting the ratio of mitochondrial/cytosole concentrations of NO and reactive oxygen forms, cerebrocurin and tiocetam limited the effect of these compounds on the activation or deprivation of the processes of gene expression, transcription and translation in neuronal cells of brain of animals that survived the prenatal alcoholism and, thus, may provide the normal development of the cognitive functions of central nervous system. And increased expression of the protein bcl-2 in the group of animals receiving cerebrocurin and tiocetam, testifies to the activation of antiapoptosis protection of damaged neurons. We found that the classic nootropic therapy – piracetam does not suppress neuroapoptose, arising as a result of the PA, combined neurometabolic cerebroprotector tiocetam shows antiapoptotic effect due to the antioxidant mechanism, and the most pronounced antiapoptotic action has neurotrophic cerebroprotector cerebrocurin, increasing the expression of antiapoptotic proteins and slowing down the Red/Oxi-dependent mechanisms of neuroapoptosis. The obtained results are experimental rational for the clinical application of cerebrocurin and tiocetam in the complex phase-by-phase treatment of lesions of the central nervous system due to prenatal alcoholisation.