

## Report on research activities

- **The Role of hyperhomocysteinemia in the pathogenesis of infertility and recurrent pregnancy loss in the patients with polycystic ovary syndrome**

The goal of the research project funded by the University Scientific Foundation is to determine the importance of hyperhomocysteinemia in the pathogenesis of the disease in women of reproductive age with polycystic ovary syndrome in the Georgian population and, taking into account the results, to develop recommendations for improving reproductive outcomes and preventing pregnancy losses.

The project is funded and research is in progress. One research paper has been submitted for publication.

- **Effect of *Potamogeton pectinatus* protein fractions on tetrachloromethane damaged hepatocytes in mice**

Experiments with the crude protein extract of Algae *Potamogeton Pectinatus* were conducted on mice whose hepatocytes were damaged by tetrachloromethane. At this moment, the histomorphological analysis of the liver samples is being processed, according to the preliminary data the crude protein extract of algae at a concentration of 0.12-0.14 mg/ml does not have a damaging effect on the hepatocytes of healthy mice. The first gel-chromatographic samples of *P. pectinatus* protein fractions were obtained. In addition, experiments on mice with tetrachloromethane-initiated hepatocyte damage are being conducted, testing crude protein extracts obtained from two endemic plants of Georgia (*Cyclamen Colchicum* and *Allium Albovianum*).

- **Study of medicines available in the Georgian pharmaceutical market using spectrophotometric method**

According to the World Health Organization, 10% of medicines in developing countries do not meet the required standards or are falsified. Since Georgia is a developing country, we decided to study the generic medicines available in the pharmaceutical market of Georgia (including those produced in Georgia). A study has been completed on one of the medications (ibuprofen) and has been submitted for publication. We are planning another medication.

- **Effect of polyphenols extracted from endemic plants of Georgia, on tetrachloromethane -damaged liver tissue in mice**

The aim of this research project was to study biologically active compounds in endemic plants of Georgia. The anti-inflammatory activity of flavonoids is directly related to antitumor protection, therefore, at the first stage, we studied the total effect of polyphenols (flavonoids) isolated from three endemic plants of Georgia on laboratory mice with tetrachloromethane-damaged liver. Results were published.

<https://openscience.ge/bitstream/1/2182/1/PIrtskhalava%2C%20Vakhania...Statia.pdf>

- **Hazardous toxic heavy metals and related issues**

Heavy metals, which are found in various industries including food products, pose a threat to the human population worldwide. Therefore, research in this direction and informing the population about the expected danger is important. Work was published within this project.

<https://ijisrt.com/assets/upload/files/IJISRT20OCT484.pdf>

- **The prevalence of dental caries in adults in Tbilisi**

As a result of the study, the dental status of the adult population of Tbilisi was determined, and the correlation between the dental status of the adult population of Tbilisi and risk factors was revealed. Based on the identification of risk factors, a complex of differentiated preventive measures was developed. The obtained results have been published.

<https://journal.geomedi.edu.ge/index.php/763-2/> <https://doi.org/10.56580/GEOMEDI0003>

- **The impact of word of mouth communication on university choice: an empirical study of students' perspective**

The aim of the study was to study the impact of traditional and non-traditional ways of communication on students' choice of university. We have reviewed the impact of WOM and e-WOM on students' decision-making process in the context of ELM theory. The results have been submitted for publication.

- **The roles of hedonistic, utilitarian incentives and government policies affecting customer attitudes and purchase intention towards green products**

The goal of the project was to study the influence of utilitarian and hedonistic motivators on the attitude of Georgian consumers towards "green products".

<https://link.springer.com/article/10.1007%2Fs12208-021-00325-z>

- **Online Learning of Students with Special Needs: Teachers' Perspectives**

The goal of this project was to explore the challenges teachers face in implementing online teaching for students with special needs during the COVID-19 pandemic.

The results were published in the International Journal of *Early Childhood Special Education*.

<https://www.int-jecse.net/abstract.php?id=397>

- **General theoretical, global and sectoral understanding of competition research, using the example of healthcare**

The classics of economic theory attached fundamental importance to the issues of correct understanding of the competitive environment, which is indeed a priority in modern economic science, however, certain shortcomings, which naturally accompany earlier studies, must be eliminated, since they significantly damage both global and local micro-markets required productivity. The goal of our research is to improve quantitative assessments of competition with qualitative indicators (which, according to world experts, is an important scientific innovation), as a result, instead of artificially increasing the number of competitors, it is optimized, including in the Georgian healthcare market.

<https://journal.geomedi.edu.ge/index.php/800-2/>  
<https://doi.org/10.56580/GEOMEDI0005>

- **The use of extreme management by the healthcare system during pandemic**

This research project covers research on the performance of management functions in health system facilities, the establishment of managerial thinking and effective use of managerial personnel; Joint activities of health care and public health management at the country level in pandemics; determination of the effectiveness of state and private property partnership; Problems of identifying leaders in the health care system.

The article has been prepared and submitted for publication. Studies are in progress.

- **Obstacles related to the integration of people with disabilities into Georgian society**

In the first stage of the project, the goal of the research was to find out how much disabled people are integrated into the society, in particular, into the family environment and the circle of friends. Also to identify the problems they face in the field of education and job search. In the second stage of the project, the goal of education on the rights of persons with disabilities was defined. The main objective is to realize this right without discrimination and under equal conditions, to create such programs that will contribute to the improvement of the inclusive education system and for the purpose of full inclusion, academic and social development in an environment that promotes the maximum. The goals of the project are to provide people with disabilities with the opportunity to learn life and socialization skills, including: promote the acquisition of Braille, alternative fonts, augmentative and alternative methods, communication methods and formats, as well as orientation and mobility skills; study of sign language and linguistic identity of persons with hearing impairment; The education of blind, deaf and blind-deaf people, including children/adults, should be carried out through communication languages, methods and techniques suitable for the individual, which contribute to the assimilation of knowledge and social development as much as possible. All this will contribute to equal access to general higher, professional, adult courses and continuing education for persons with disabilities without any discrimination and most importantly, their reasonable involvement in society.

Research is in progress.