

Research Topics of János Selye College for advanced studies in English

Analysing of the risk factors of health professionalisms

Leader of the program: **Dr. Zoltán Mándy**

This topic has bigger significance nowadays because of the so many case are all around the globe, which present that the nurses sometimes meet dangerous situations.

Analysing of Health applications

Leader of the program: **Dr. Zoltán Mándy**

The topic supposes the knowledge of Informatics. Nowadays so many students uses health applications on his/her cell and they can analyse which applications would be the suitable after the using.

Correlation Between Social Support and Health Status

Leader of the program: **Dr. György Jóna:**

Social support is a key social determinant of health, consistently linked to better self-rated health, lower psychological distress, and improved coping with chronic conditions. This research topic examines how different forms and sources of support (emotional, informational, instrumental, and appraisal support; family, friends, peers, and professionals) relate to health status. The project will explore potential mechanisms such as stress buffering, health behaviour reinforcement, self-efficacy, and access to care. Particular attention will be paid to vulnerable groups (e.g., older adults, low-SES populations, unemployed individuals) and whether social support moderates or mediates health inequalities. Students will develop a concise conceptual framework and empirically test selected associations using survey data, or generate qualitative evidence on perceived support and health experiences. The output will be a short report with clear implications for public health and health communication.

This research topic is intended for nursing students.

Health Technology Assessment, HTA

Leader of the program: **Dr. Csaba Dózsa**

Basics of Health Economics and main methods of health technology assessment (HTA). After going through the theoretical introductory knowledge, within the framework of a project work, students can go through the analysis and evaluation process of a specific new health procedure or health technology along the recommendations in accordance with the Hungarian Guideline on economic evaluation (e.g. through the example of a modern imaging diagnostic procedure, or biomarker laboratory test, or a modern minimally invasive surgical or interventional radiological procedure).

General anaesthesia as a new way of restorative sleep therapy

The leader of the research: **Dr. Mihály Kovács, MD**

Sleep disorders affect many people. Lack of sleep has a prevalence rate between 20% and 41.7% in the general population. There is quite a bit of scientific research supporting General anaesthesia agent propofol as a way to treat sleep disorders. Among others, a randomized, double-blind, placebo-controlled study of 103 people found propofol therapy to be an “efficacious and safe choice for restoring normal sleep in patients with refractory chronic primary insomnia.” A study in rats found that “a recovery process similar to that occurring during naturally occurring sleep also takes place during anesthesia and suggest that sleep and anesthesia share common regulatory mechanisms”. It is assumed, that most people only need one or a few propofol sessions for their natural sleep to improve.

We would like to further investigate this topic, as the literature is very scarce.

Possible use of optogenetic tools in the medical practice

The leader of the research: **Tamás Tompa, PhD.**

Optogenetic tools offer revolutionary possibilities in medicine by enabling precise, light-controlled regulation of cells and tissues. Our research aims to explore the potential applications of this technology in treating neurological disorders, genetic diseases, and advancing regenerative medicine.

Advantages/disadvantages/dangers of various types of genetic vehicles in the human medical practice

The leader of the research: **Tamás Tompa**, PhD.

Genetic vehicles play a crucial role in gene therapy and precision medicine, yet their application comes with various advantages, challenges, and potential risks. Our research aims to examine the efficacy, safety, and ethical considerations of different types of genetic vectors in human medical practice.

Bioarchaeological, paleopathological, and osteological analyses

Leader of the program: **Krisztián Kiss**

Bioarchaeology deals with the biological reconstruction of past human populations, while paleopathology examines diseases of these past human communities. With the help of anthropological research it is possible to reconstruct the interactions and migration patterns between former populations. It also allows us to investigate the frequency of various pathological alterations in populations from different archaeological periods and geographical regions with distinct cultural practices, and to assess how differences in lifestyle influenced their skeletal systems. In addition to have a knowledge with contemporary clinical data, paleopathological research, and the historical and archaeological literature of the given region and period, the interpretation of population-level and paleoepidemiological results also requires the acquisition of data management skills and statistical methods, due to the predominantly digital nature of the data for this topic.

Open-source databases and modelling, reconstruction softwares

Leader of the program: **Krisztián Kiss**

A wide range of open-access databases—available for education, learning, and research purposes—as well as free yet highly capable software for imaging, reconstruction, and modelling are accessible online. Within this current topic, the primary focus may be on exploring, comparing, and evaluating the applications and technical background of these softwares, as well as implementing them in one's own research, particularly in the context of osteological analyses.