

## VIII. STRESZCZENIE W JEZYSKU ANGIELSKIM

For the proper functioning of the human body, it is necessary to maintain a proper concentration of minerals called bioelements. It is a factor determining normal physical development, mental well-being and proper performance at work. The human organism is not able to synthesize them by itself and therefore bioelements should be delivered in appropriate proportions and quantities along with food. The influence of abnormal supply of minerals on the development of cardiological diseases, diabetes, osteoporosis or some cancers is documented.

Hair is a permanent, neutral tissue, not subject to biological degradation, which is not directly affected by homeostatic mechanisms as in the case of blood. These parameters make the hair an ideal analytical material for assessing the concentration of the minerals throughout the body.

The aim of this work was to present the influence of demographic characteristics and nutritional behaviors on the concentration of selected micro and macro elements (sodium, potassium, calcium, magnesium, sulphur and lead) in the hair of French, Polish and Belarusian students representing respectively Paramedical School of Niort (France), Pope John Paul II State School of Higher Education in Biała Podlaska (Poland) and Yanka Kupala State University of Grodno (Belarus). These three groups of students live in countries characterized by different economic development, diverse climate and also different consumption habits.

The obtained results can be used for epidemiological purposes in order to counteract diseases due to deficiency of micro and macro elements among young people.

The following conclusions were made:

- demographic characteristics and biometric indicators have a significant impact on the concentration of minerals in the hair of the surveyed students,
- the level of physical activity and selected nutritional behaviors significantly differentiate the concentration of micro and macro elements in the hair of the surveyed students,

- the frequency of consumption of selected products has a significant impact on the concentration of minerals in the hair of the surveyed students.

Obtained results can be used for prevention in the form of raising the awareness of young people in terms of the impact of their diet on the functioning of the human body. The analysis of the elemental composition of hair has not been performed so far on the studied population and is therefore a good comparative material (sensitive marker) to assess the deficiency as well as the excess of micro and macro elements in the surveyed students as is caused by the poor eating habits that may contribute to the etiology of some civilization diseases.