

Syllabus of „Preventive Medicine“ for General Medicine students

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Course objectives:

At the end of course, student will understand the relationship between human and environment, its physical, chemical, biological and psychosocial factors and their interactions. Student will be able to understand the role of adaptation and its active support for the positive development and promotion of both individual and public health; Student will be able to make deduction about possibilities for preventive provisions in the field of clean and safe environmental, occupational and home surrounding, the quality of air, water, food. Student will be able to understand and explain the different types of prevention, their tasks and aims and methods of realization.;

The student will be able to interpret the positive and negative influences of lifestyle factors on human/public health, including the autoaggressive behaviors (nutrition, physical activity, psychical overload and stress, smoking, abuse of alcohol and illegal drugs);

Based on acquired knowledge, the student will be able to make deductions about the importance of environment and lifestyle in the health protection and promotion, and about the primary prevention priorities;

Student will be able to work with obtained informations and make decisions about concrete preventable possibilities for some more important non-communicable diseases, such as cardiovascular, oncological, metabolic, immune, respiratory.

Syllabus in English:

MAN AND ENVIRONMENT: Physical, biological, chemical and social factors in macro- and microenvironment. Their interactions. Ways of adaptation and compensation for keeping the homeostasis. "health" and "disease", their determinants.

PREVENTION: primary and secondary prevention, tasks and aims. The most important world and Czech primary prevention programmes. NOISE: sources, impact on health, possibilities for control.

LIGHT AND ILLUMINATION: physiology of seeing, optimal working conditions. The physiologic sense of colours.

RADIATION: different types, their sources and impact on human health. Possibilities of control.

COMPLEX OF MICROCLIMATE: external and internal conditions. Ways of thermoregulation. Work places with extreme microclimate, rules for drinking schedule. Long-term and short-term thermal load.

BIOLOGICAL RHYTHMS: circadian and other types, their influence on the performances. Shift work as a risk for health. Active and passive rest. Hygiene of sleeping.

AIR AND HEALTH: the most common contaminants of ambient air, their sources and human exposure. Smog. Health consequences of the exposure to polluted air.

BASIC TOXICOLOGY: ways of exposure, intake, uptake; metabolism of xenobiotics, genetic polymorphism in the microsomal enzymes; excretion. Health insured caused by chemical exposure, carcinogenesis. Similarities and differences between children and adults in toxicology.

HOUSING AND HEALTH: the most common risk factors at homes, health consequences of exposure (housing-related diseases, sick building syndrome, multiple chemical sensitivity). Ventilation, types and sense.

WATER AND HEALTH: the hygienic limits for drinking water, indicators of sewage contaminants. Trace elements in drinking water. Diseases related to water pollution. The principles for safety source of water.

NUTRITION AND HEALTH: diseases related to malnutrition and food contaminants. The role of nutrition in health promotion. Dietary guidelines. The ways for measurement of nutritional habits.

WASTE AND HEALTH: the types of waste products, their sources. Hygienic rules for safe destruction of waste products.

NATURAL AND MAN-MADE CHEMICALS IN ENVIRONMENT: their types, point and areal sources. Environment in the Czech Republic. Principles of the monitoring of environmental pollutants. "Natural pesticides".

SMOKING AND HEALTH: Smoking as the most important single preventable risk factor of premature morbidity and

mortality. Dependence on smoking as a psychiatric disease. Involuntary smoking and health consequences of exposure.

WORKING AND HEALTH: risk occupational factors and related diseases. The rules for safety of occupational environment and health protection of workers.

STRESS AND HEALTH: physiologic response on stress situations. Stress- related diseases. Rules for the prevention of stress.

NON-COMMUNICABLE DISEASES: epidemiology, ethiology, prevention; Cardiovascular diseases, Cancer, Respiratory diseases, Allergy, Diabetes mellitus, Osteoporosis.