



SANITA' PUBBLICA E SCIENZE MEDICO LEGALI - channel 3

12 CFU - 1° Semester

Teaching Staff

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LEARNING OBJECTIVES

▪ Hygiene and Community Medicine

Have solid knowledge about: sources and methods of collecting health data, epidemiological methodologies for their analysis and interpretation, causes of disability and death, determinants of health and lifestyle risk factors, health determinants and risk factors in the environment, methods for the prevention of chronic-degenerative diseases, methods of onset and spread of infections, interventions on individuals and communities for their prevention, principles and application of preventive medicine in communities, principles and methods of communication applied to health information and health education. - Present themselves as authoritative interlocutors on the problems concerning health promotion and disease prevention, in relations with individual persons, with health administrators and with the community as a whole. - Evaluate epidemiological data and learn about their use for health promotion and disease prevention in individuals and in the

community, collaborate with local health services in epidemiological surveillance and in health promotion and disease prevention programs, recognize the health problems of the community and collaborate to solve them, identify and contribute to removing the causes and factors of diseases present in the behaviors and in the living environment, making correct information on the determinants of health and diseases with reference also to lifestyle and factors of the physical and social environment, to educate, in the context of their professional activity, behaviors aimed at promoting health and preventing diseases and disability from microbial causes, from chemical and physical agents, from accidents. Know the health organization at international, European and national level.

▪ **Occupational Medicine**

The aim of the course is to provide information and knowledge about workplace-related pathologies (accidents and illnesses) as well as to become familiar with prevention principles, with particular reference to risk assessment and preventive measure adoption.

Students will have to learn methods and techniques to collect work history, identify environmental and occupational risks and possible relationships with genetic, demographic, socio-economic, psychological and cultural factors, related to health or illness statuses, as well as to look into the possible non-specific effects of occupational risk factors, especially for degenerative chronic diseases.

The main etiologically diagnostic aspects of occupational medicine will be dealt with, and so will the epidemiology of con-causally work-related diseases. Also, the most frequent professional diseases and work accidents will be classified. The main analysis method and work risk assessment instruments will be provided, that is limit exposure levels, environmental/biological monitoring and healthcare surveillance. Also, occupational risk information, safety and health law guidelines in work places, primary and secondary prevention of occupational diseases, role and duties of the competent physician will be discussed.

COURSE STRUCTURE

▪ **Hygiene and Community Medicine**

Frontal or remotely teaching.

▪ **Occupational Medicine**

Frontal lesson.

DETAILED COURSE CONTENT

▪ **Hygiene and Community Medicine**

Principles of demography and health statistics. Sources of demographic and health data. Demographic indicators. Mortality and morbidity indicators. Quality of life indicators. Principles of epidemiological methodology. Measurements in epidemiology. Epidemiological studies: descriptive epidemiology; analytical epidemiology; experimental epidemiology. The causal relationship in epidemiology. Risk assessment. Systematic reviews and meta-analyses. The medicine based on evidence of efficacy. Principles of epidemiology of infectious diseases. Mode of transmission of

infections. The chains of infection. The natural course of infections. General principles of epidemiology of chronic degenerative diseases and disabilities. The necessary causes and sufficient causes. Risk factors and protective factors. Causes and factors of the physical environment and the social environment. Lifestyles and health. Frequency of chronic degenerative diseases and other harmful events in the population. Methodology for prevention and health promotion. Objectives and methods of prevention (primary, secondary and tertiary prevention). The prevention of infectious diseases. Primary prevention of infections Interruption of transmission chains. Interventions for the discovery and inactivation of infection sources. Active and passive immunoprophylaxis. Chemoprophylaxis. Secondary prevention of infections. Prevention of chronic degenerative diseases and disabilities. Primary, secondary and tertiary prevention. Principles of health education. Health and health promotion. Communication modalities and models. Health promotion strategies. Health promotion on the Ottawa map. Epidemiology and prevention of major infectious diseases. Surveillance systems at European level. ECDC networks and activities (European Center for Disease Prevention and Control). - Respiratory tract infections: influenza, tuberculosis, legionellosis. - Infections transmitted by parenteral or sexual means: acquired immunodeficiency syndrome (AIDS), viral hepatitis B and C, blenorrhagia, syphilis, human papilloma virus infections. - Food-borne and zoonotic infections: cholera, viral hepatitis A and E, typhoid fever, gastroenteritis. - Emerging and vector-transmitted infections: arbovirus infections, leishmaniasis, malaria, rickettsiosis. - Infections preventable by vaccination: diphtheria, tetanus, pertussis, poliomyelitis, measles, mumps, rubella, bacterial meningitis, varicella, invasive bacterial infections, rotavirus infections. - Infections acquired in the field of care (HAI, hospital acquired infections): surveillance programs and national and European networks. Epidemiology and prevention of major chronic degenerative diseases. Cardiovascular diseases, Malignant tumors, Diabetes, chronic obstructive pulmonary disease. Health promotion and disease prevention at different stages of life. Pre-conceptional, prenatal and neonatal prevention. Health needs in developmental age. Health needs in adulthood. Defense and health promotion in the elderly. Nutrition and nutrition hygiene. Food hygiene. Food and related health problems. Microbial contamination. Food restoration and conservation. Food safety Environment and health. Environmental factors such as health and disease. The pollution of the environment and its effects on health. Water and its characteristics. Water intended for human consumption, water treatment and distribution. Mineral water. Use of water for recreational purposes. Civil, agricultural and industrial wastewater. Air pollution; the effects on health and the environment of air pollutants. Medical waste and municipal solid waste. Electromagnetic pollution. Risk factors and prevention in living and working environments. Healthcare organization: Healthcare organization at international and European level. The national health service in Italy: the central, regional and local level. Health planning. The national health plan and the regional health plans. Healthcare Management.

■ **Occupational Medicine**

History and evolution of Occupational Medicine: prevention service legislation and organization; work accidents and professional diseases insurance practices. Risk assessment procedure; exposure times and limit levels/values.

Primary and secondary prevention principles. Healthcare surveillance and duties of competent physician. Biological monitoring procedures. General and individual preventive practices and first aid action organization. Biological risk and vaccinations. Physical risks: noise, vibrations, ionizing-non-ionizing radiations, microclimate and compressed atmosphere. Ergonomy principles: postures and work. Workstation, shift and night work risks. Assessment of risks in manual loads handling and in repetitive movements of upper limbs with associated pathologies. Organizational wellness and its associated work stress. Health promotion in working places.

Main dust/fibre and professional allergene exposure-related pathologies; indoor and outdoor pollutants. Exposure risks to chemical, mutagen and carcinogenic agents.

Principles of Industrial Hygiene and hints of Statistics. Risks in the main working cycles. Guidelines on safety and health in working places.

TEXTBOOK INFORMATION

▪ **Hygiene and Community Medicine**

Carlo Signorelli. [Igiene e sanità pubblica](#). SEU

▪ **Occupational Medicine**

- David Koh, Ken Takahashi. Textbook of Occupational Medicine Practice. 3rd Edition ISBN: 978-981-4329-57-6
 - Antonio Mutti, Massimo Corradi: "Lezioni di Medicina del Lavoro". Nuova Editrice Berti, 2014 (ISBN 978-88-7364-627-3)
 - Per Alberto Bertazzi: "Medicina del lavoro". Raffaello Cortina Editore, 2013 (ISBN 978-88-6030-633-3)
 - Enrico Pira, Canzio Romano, Paolo Carrer: "Manuale di medicina del lavoro". Minerva Medica, 2016 (9788877118431)
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