



**MEDICAL UNIVERSITY - PLEVEN  
FACULTY OF PUBLIC HEALTH**

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**DISTANCE LEARNING CENTRE**

**DEPARTMENT OF INFECTIOUS DISEASES, EPIDEMIOLOGY, PARASITOLOGY AND TROPICAL MEDICINE**

# **PRACTICAL EXERCISES – THESES**

**FOR E- LEARNING IN EPIDEMIOLOGY**

**ENGLISH MEDIUM COURSE OF TRAINING**

**SPECIALTY OF MEDICINE**

**ACADEMIC DEGREE: MASTER**

**PROFESSIONAL QUALIFICATION: DOCTOR OF MEDICINE**

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**PRACTICAL EXERCISES – THESES**

**PLEVEN, 2020**

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## THESES OF PRACTICAL EXERCISE № 3

### TOPIC: EPIDEMIOLOGICAL INVESTIGATION

#### **Aims of epidemiological investigation:**

- Stop the current outbreak from spreading
- Prevent future similar outbreaks
- Provide scientific explanation of the event
- Provide knowledge for the understanding of the disease process
- React to and calm public and political concerns
- Train epidemiologists

#### **Common Steps in the Epidemiologic Approach**

The steps in the epidemiologic approach to study a problem of disease ethology are:

- Perform an initial observation to confirm the outbreak
- Define the disease
- Describe the disease by time, place, and person
- Create a hypothesis as to the possible etiologic factors
- Conduct analytic studies
- Summarize the findings
- Recommend and communicate the interventions or preventative programs

#### **Conduct field work**

- Perform initial observation
- Establish the existence of an outbreak
- Verify diagnosis
- Collect data

#### **Define disease**

- Establish case definition
- Identify all cases
- Identify the population at risk

#### **Describe disease by time, place, and person**

- Plot epidemic curve
- Plot spot map
- Tabulate data of exposure and other characteristics

## **Develop hypothesis**

– Hypothesis: exposure to X is associated with disease Y

### **Conduct analytic studies**

– Use appropriate analytic studies

– Calculate measures of risk

– Refine hypothesis

– Conduct additional studies if needed

Summarize findings

Recommend and communicate interventions or preventative Programs

## **Practical Considerations**

### **Stages of EI**

1. Report to Regional Health Authority with a special document called „Rapid / quick notice“, according to legislation / in BG- ORDINANCE NO 21 OF JULY 18, 2005 ON THE REGISTRATION REGULATION, COMMUNICATION AND REPORTING OF INFECTIOUS DISEASES. Performed by all medical specialists.

2. Present a general summary characterizing the outbreak by person, place and time. Performed by medical specialists from Regional Health Authority. Each Regional Health Authority (RHA) or other health care jurisdiction should carry out routine surveillance to identify outbreaks early. Each RHA or other health care jurisdiction should have a plan for the investigation of outbreaks, based on the above model. The key public health officials should be clearly identified. In Regional Health Authorities, this will include, at a minimum, the Medical Officer of Health or designate and the communicable disease control contact person.

3. Anti-epidemic measures - they are different in different infectious diseases. Measures against :

- source of infection – isolation, treatment

-environment - disinfection, disinsection, rodent control

-host - quarantine, medical surveillance and testing, immunization

4. stage-epidemiological analysis - It includes an assessment of the conducted anti-epidemic measures.

26.03.2020г. Department of Infectious diseases, epidemiology, parasitology and tropical medicine

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