



**МЕДИЦИНСКИ УНИВЕРСИТЕТ – ПЛЕВЕН**

**ФАКУЛТЕТ „ОБЩЕСТВЕНО ЗДРАВЕ” – ЦЕНТЪР ЗА ДИСТАНЦИОННО ОБУЧЕНИЕ**

**КАТЕДРА “ОБЩЕСТВЕНОЗДРАВНИ НАУКИ”**

# **PRACTICAL TASKS DAY №1**

**DISCIPLINE**

**SOCIAL MEDICINE INTERNSHIP**

**TOPIC:**

**„EPIDEMIOLOGY”**

**6-TH YEAR MEDICAL STUDENTS AT MEDICAL UNIVERSITY-PLEVEN**

**■ SPECIALTY „MEDICINE” ■**

**PLEVEN**

**2020**

**TASK 1 Fill-in the following table of comparison between the case-control and cohort studies**

	<b>CASE-CONTROL STUDY</b>	<b>COHORT STUDY</b>
1 Direction of study	Proceeds from effect to cause	Proceeds from cause to effect
2 Starts with		
3 Research question		
5 Number of subjects		
6 Length of study		
7 Suitability for rare diseases		
8 Possibility to study multiple risk factors		
9 Possibility to study multiple diseases		
10 Clear temporal relationship between exposure and disease		
11 Possibility to calculate Incidence rate		
12 Cost		

**TASK 2 The Nurses' Health Study**

The Nurses' Health Study is a cohort study of 121 700 US female registered nurses aged 30–55 years when the cohort was established in mid-1976. A total of 1799 newly diagnosed breast cancer cases were identified during the first 10 years of follow-up from mid-1976 to mid-1986. Analyses were then conducted to investigate the relationship between oral contraceptive use and risk of breast cancer. On the baseline questionnaire in mid-1976, the following question was asked: “If you are now using or have used oral contraceptives, please indicate intervals of oral contraceptive use starting from first use and continuing until the present time. If applicable, please indicate reasons for stopping”. The same question was asked on subsequent biennial follow-up questionnaires.

In response to the 1976 questionnaire, 7133 women reported that they were using oral contraceptives. Responses to the 1978, 1980, and 1982 questionnaires showed that 2399, 1168, and 302 women, respectively, were still using oral contraceptives. In 1984, none of the women were current users.

The information given in the 1976 questionnaire was used to classify nurses according to categories of oral contraceptive use (‘non-users’, ‘past users’ and ‘current users’) and each nurse started contributing person-time at risk to that category. Similarly, for each subsequent two-year interval, women contributed additional person-time of follow-up to each updated report of oral contraceptive use. The follow-up of women who developed breast cancer was truncated at the time their breast cancer was diagnosed (Romieu et al., 1989).

**Questions:**

1. What is the association under study? What is the research question?
2. How the participants were classified according to their exposure status?
3. Do you expect any potential systematic errors (bias) in this study? Please explain.

### **TASK 3 The relationship between lifetime number of sexual partners and cervical cancer**

A population-based case–control study was carried out in Spain and Colombia to assess the relationship between cervical cancer and exposure to human papillomavirus (HPV), selected aspects of sexual and reproductive behavior, use of oral contraceptives, screening practices, smoking, and possible interactions between them. The study included 436 incident cases of histologically confirmed invasive squamous-cell carcinoma of the cervix and 387 controls of similar age randomly selected from the general population that generated the cases (Muñoz et al., 1992a).

The risk of developing cervical cancer was examined in relation to the lifetime number of sexual partners (Bosch et al., 1992).

#### **Example A**

Number of sexual partners	Cases	Controls
0 – 1	125	74
2 – 5	265	305

#### **Questions:**

1. Calculate an appropriate measure of association between oral contraceptive use and breast cancer.
2. Write in one sentence an interpretation of the calculated measure.

### **TASK 4**

In a study of oral contraceptive (OC) use and bacteriuria among women aged 16-49 years was estimated that of 104 women with bacteriuria, 27 were OC users. Of 2286 women without bacteriuria, 455 were OC users.

1. Define the risk factor (exposure) and outcome (health related event)
2. Calculate risk difference
3. Calculate etiological fraction of exposed
4. Calculate population attributable risk
5. Calculate relative risk

**Prepared by:**  
**Prof. Dr. Silviya Aleksandrova-Yankulovska, MD, PhD, DSc, MAS**  
**Assoc. Prof. Dr. Mariela Kamburova, MD, PhD**