"The Orenburg state medical University"

**METHODICAL DEVELOPMENT**

**FOR THE TEACHER TO CONDUCT PRACTICAL LESSON #3**

Theme "Clinical epidemiology and evidence-based medicine"

**DISCIPLINE "EPIDEMIOLOGY"**

**WITH STUDENTS OF THE 5TH COURSE   
OF THE FACULTY OF FOREIGN**

Methodical recommendations are developed

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**Module 1. General epidemiology**

# 1. The competence generated:

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| --- | --- | --- |
| Cipher  competence | №  competence | Elements of competence |
| Cultural competence | СС-1 | ability for abstract thinking, analysis, synthesis; |
| General professional competence | GPC-1 | willingness to solve standard tasks of professional activity with the use of  information, bibliographic resources, biomedical terminology, information and communication technologies and taking into account the basic requirements of information security; |
| Professional competence | PC-3 | ability and willingness to undertake anti-epidemic measures, organisation of protection  the population in the foci of particularly dangerous infections, the deterioration of the radiation situation, natural disasters and  other emergencies |

## Practical lesson № 3

# 2. Subject:

Clinical epidemiology and evidence-based medicine

# 3. Objective:

Acquire knowledge of clinical epidemiology and evidence-based medicine. Teach students the basic methods of evidence-based medicine.

# 4. Tasks:

***Training:***

* Identify the goals and objectives of evidence-based medicine.
* Teach students the RST algorithm.
* Teach students the cohort studies algorithm.
* To study statistical processing of result in cohort studies.

***Educational:***

* To form an understanding of evidence-based medicine and clinical epidemiology.

***Raising:***

* To form a skill using the methods of evidence-based medicine in daily practice.

# 5. Questions for consideration:

* Background and history
* Definitions, goal and tasks
* Types of questions and a corresponding design of study
* RST (randomized clinical trial)
* Cohort studies
* Statistical processing of result in cohort studies

# 6. Basic concepts of the theme

* Clinical epidemiology and evidence-based medicine
* PICO
* Randomized clinical trial
* Cohort studies
* Chi-square

# 7. Recommended reading:

1. Main literature:

* Methodical recommendations «Modern epidemiological methods in medical practice» of the Department of Epidemiology and Infectious Diseases
* Rothman, Kenneth J.; Greenland, Sander; Lash, Timothy L. Modern epidemiological. 3rd edition. 2008 Lippincott Williams & Wilkins. 1581 p.

2. Additional literature:

* O.V. Kovalishena, V.V. Shkarin, N.V. Saperkin, M.M. Khramtsov. Epidemiology of inflectional disease. Учебник. Издательство: «Смоленская городская типография», 2016. 284 с.

# 8. Activity and time of lesson

|  |  |  |  |
| --- | --- | --- | --- |
| № | The stages and content of the classes | The methods used | time |
| 1 | The organizational part.  The announcement of the theme, the objectives of the class.  Readiness assessment of the classroom, equipment and students.  Brief description of the stages and content of work of students in the class. |  | 5 minutes |
| 2 | Incoming control of knowledge, abilities and skills of students.  The terminological dictation | Handout  A written answer to the question | 5 minutes |
| 3 | Updating of theoretical knowledge | Analysis of theme elements and the construction of logical graphs on the board. | 1 hour 15 minutes |
| 4 | The development of practical skills. Case solving. | Cases | 30 minutes |
| 5 | Quality control of the formed competence /elements of competence (knowledge and skills) students on lessons  Output control | Written test | 15 minutes |
| 6 | The final part of the class:  Summarizing, the findings on the topic.  Homework | - | 10 minutes |

# 9. Form of organization class

instructional workshop (workshop)

# 10. Learning tools:

- logistics (multimedia projector)

# Incoming control

|  |  |
| --- | --- |
| **Task** | **Answer** |
| What’s goal of clinical epidemiology? |  |
| What are the main reasons for applying the EBM? |  |
| Define PICO. |  |
| What does it mean – RCT? |  |
| Which two groups are required for RCT? |  |

# Output control

**Task.** This was cohort study. There were two workshops. There was a lot of noise in the first workshop. "U" people worked in this workshop, "W" of whom lost their hearing. "X" people lost their hearing in the second workshop. Calculate the indicators. Is there a risk factor in the first workshop? In total, the factory employed "Y" people.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Var.** | U= | W= | X= | Y= | **Rex=** | **Runex=** | **χ2=** | **OR=** | **RR=** | **Is there a risk? (+/-)** |
| 1 | 200 | 40 | 12 | 960 |  |  |  |  |  |  |
| 2 | 210 | 50 | 8 | 950 |  |  |  |  |  |  |
| 3 | 220 | 60 | 10 | 940 |  |  |  |  |  |  |
| 4 | 230 | 70 | 6 | 930 |  |  |  |  |  |  |
| 5 | 240 | 40 | 12 | 920 |  |  |  |  |  |  |
| 6 | 250 | 50 | 8 | 910 |  |  |  |  |  |  |
| 7 | 260 | 60 | 10 | 900 |  |  |  |  |  |  |
| 8 | 270 | 70 | 6 | 890 |  |  |  |  |  |  |
| 9 | 280 | 40 | 12 | 880 |  |  |  |  |  |  |
| 10 | 290 | 50 | 8 | 870 |  |  |  |  |  |  |
| 11 | 300 | 60 | 10 | 860 |  |  |  |  |  |  |
| 12 | 310 | 70 | 6 | 850 |  |  |  |  |  |  |
| 13 | 320 | 40 | 12 | 840 |  |  |  |  |  |  |
| 14 | 330 | 50 | 8 | 830 |  |  |  |  |  |  |
| 15 | 340 | 60 | 10 | 820 |  |  |  |  |  |  |
| **Additional question**: Calculate the incidence rate in the plant. | | | | | | | | | | |