**AL-FARABI KAZAKH NATIONAL UNIVERSITY**
**FACULTY OF MEDICINE AND HEALTHCARE**
**CHAIR OF EPIDEMIOLOGY, BIOSTATISTICS AND EVIDENCE-BASED MEDICINE**

**APPROVED**
**Dean of faculty**
**_____ (signature)**
**Kalmatayeva Zh.A.**
**"_____"_____ 2021г.**

# TEACHING MATERIALS

**PiO3219**

**PATIENT AND SOCIETY**

**Field of education**
**6B101 Public Health**

**EDUCATIONAL PROGRAM**
**6B10104 Dentistry**

Grade – 2
Semester – 4
Credits 6

**Almaty, 2021**

Teaching programs of course is compiled on a base of

Curriculum **6B10104 DENTISTRY**

Reviewed and recommended at a meeting of the Chair of Epidemiology, Biostatistics and Evidence-Based Medicine from «___ » _____ 2021, protocol N

Head of the chair _____ Mamyrbekova S.A.
(signature)

Recommeded at a meeting of Faculty methodical bureau «____» _____ 2021., protocol N

Chair of Faculty methodical bureau _____ Ualyeva A.E.
(signature)

**Al-Farabi Kazakh National University**
**Faculty of Medicine and Healthcare**
**Chair of Epidemiology, Biostatistics and Evidence-Based Medicine**

**Approved**
**Dean of Faculty**

_____
Kalmatayeva Zh.A.
"_____"_____ **2021**

**SYLLABUS**
**6 semester 2020-2021 ac.ys**

**Academic information about course**

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|---|---|---|---|---|---|---|
| Code of discipline | Title | Type | Hours | | | Number of credits ECTS |
| | | | seminars | SIWT | SIW | |
| PiO 2217 | Patient and society | BD | 120 | 40 | 80 | 8 |
| Course's coordinator | Acting Associate Professor Iskakova Farida Arkenovna | | 9.00- 13.00 | | | On schedule |
| e-mail | Iskakova.farida@kaznu.kz | | | | | |
| Phone | +77011013086 | | | | | |
| | Lecturer Baibossinov Eldorbek Uzakbayevich | | | | | |
| e-mail | Eldorbek.baibossinov@kaznu.kz | | | | | |
| Phone | 87714010916 | | | | | |
| | Lecturer Abilkhair Nazerke | | | | | |
| e-mail | Abilkaiyr.nazerke@kaznu.kz | | | | | |
| Phone | 87018880624 | | | | | |

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| | The goal of this course is a formation of knowledge and skills of evidence-based medicine for critical assessment of medical information and rational use in further practical activities; the ability to assess various external environmental factors in the context of the formation of pathology in a particular patient.<br>Teaching outcomes:<br>1. Identify health problems at the population level;<br>2. Be able to integrate scientific evidence with physician's clinical experience and patient values;<br>3. To be able to use conscientiously, accurately and meaningfully reliable results of clinical trials for a choice of particular patient's treatment;<br>3. Possess knowledge, skills and abilities of basics of evidence-based medicine, which allow to critically evaluate medical information for rational use in further practice; |

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| | 4. Apply exposure-oriented knowledge of disease's epidemiology to assess various external environmental factors in context of a formation of pathology in a particular patient<br>5. Apply different approaches to understand social, economic and political forces that affect both the burden of disease and the ability of the health system to improve it.<br>6. Apply knowledge of outcome-based disease epidemiology to identify and improve the effectiveness of therapeutic and preventive health care programs.<br>7. Recognize and analyze ethical issues in practice that based on the ethical principles as a base of clinical care, research and professionalism in general;<br>8. Critically assess evidence and use it appropriately in clinical decisions and public health management in the context of national and global health policy.<br>9. Demonstrate adherence to the highest standards of professional responsibility and integrity; comply with ethical principles in all professional interactions;<br>10. Demonstrate needs for continuous professional training and improvement of their knowledge and skills;<br>11. Demonstrate skills of conducting scientific research, desires for new knowledge and transfer it to others;<br>12. Apply knowledge and skills of population's heath surveillance, including epidemiological surveillance over infectious diseases;<br>13. Apply modern statistical methods of analysis in medical and biomedical research and independently use computer statistical programs. |
| Пререквизиты | Social medicine module |
| Постреквизиты | Community medicine module, Preventive medicine |
| Информационные ресурсы | **Module Epidemiology** |
| | In Kazakh language |
| | Basic references:<br>1. Покровский, В. И. Жалпы эпидемиология дәлелді медицина негіздерімен : практика-лык сабақтарға нұсқаулық / редакциясын басқарғандар В. И. Покровский, Н. И. Брико ; қазақ тіліне аударған және жауапты редакторы Н. Жайықбаев ; жалпы редакциясын басқарған С. Ә. Әміреев - Москва : ГЭОТАР-Медиа, 2015. - 448 с. - ISBN 978-5-9704-3384-3. - Текст : электронный // URL : http://www.studmedlib.ru/book/ISBN9785970433843. html |
| | Additional references:<br>1. Әміреев С. Ә., Темірбеков Ж. Т. Эпидемиология. Жалпы эпидемиология. 1-т. - Алматы: ЖАК-тың баспа орталығы, 2000. 552 б.<br>2.С.А. Әміреев, Қ.Құдайбергенұлы, Н. Жайықпаев, А.Жаханов. Жұқпалы ауруларға қатысты терминдерінің түсіндірме сөздігі.-Алматы.-2010.288 б. |
| | In Russian Language |
| | Basic references:<br>1.Принципы эпидемиологии в общественном здравоохранении. Введение в практическую эпидемиологию и биостатистику. Р.Дикер, Оффис эпидемиологических программ СДС, USAID.-2012.-457 с.<br>2. Общая эпидемиология с основами доказательной медицины. Под ред. В.И. Покровского, Н.И. Брико. Учебное пособие. М., ГЭОТАР-Медиа, 2010 г. 400 с.<br>3. Материалы тренинга по эпидемиологии. Модуль 1, 2, 3. Центрально-Азиатский Офис Американских центров по контролю и профилактике заболеваний. – февраль-май 2014. |
| | Additional references:<br>4. Эпидемиология.Л.П.Зуева, Р.Х.Яхаев.Санкт-Петербург.-2008.-797с. |

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| | 5. Ющук Н. Д., Мартынов Ю. В. Эпидемиология: Учеб. пособие. — 2-е изд., перераб. и доп. — М.: Медицина, 2003. — 448с., с.13-60<br>6. Ф.А.Искакова. Аналитическое исследование причин и структуры смертности от туберкулеза в некоторых регионах Казахстана. Монография. Астана.-2011.-174 с.<br>7.Ф.А.Искакова. Эпидемиология туберкулеза в Казахстане.Учебно-методическое пособие. Алматы.=2009.-128 с. |
| | In English Language |
| | Basic references:<br>8.Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013.-<br>9. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012<br>10. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017.-229p.<br>11. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014. |
| | Additional references:<br>12.Water, Sanitation, & Environmentally-related Hygiene//https://www.cdc.gov/healthywater/hygiene/audience-healthprofessionals.html<br>13. Modern Epidemiology. 3rd Edition Keneth.J. Rothman, Sander Greenland, Timothy L. Lash.-2008.-158 p. |
| | **Module Biostatistics** |
| | In Kazakh Language |
| | Basic references:<br>Раманқұлова, А. А. Биологиялық статистика: оқу құралы / А. А. Раманқұлова. - 2-бас. - Алматы : Ақнұр баспасы, 2019. - 210 б. |
| | Additional references: |
| | In Russian Language |
| | Basic references:<br>1.Авива Петри, Кэролайн Сэбин. Наглядная медицинская статистика. Учебное пособие для вузов. М., ГЭОТАР-Медиа, 2015 г. 168 с.<br>2. Койчубеков Б.К. Биостатистика. Учебное пособие / Алматы, 2012 г.-70с. |
| | Additional references:<br>1.Стентон Гланц. Медико-биологическая статистика. Электронная книга. Москва 1999.-<br>2.Медик В.А., Токмачев М.С., Фишман Б.Б. Теоретическая статистика // Статистика в медицине и биологии. В 2-х томах / Под ред. Проф. Ю.М.Комарова. – Т. 1. – М.: Медицина, 2000. – 412 с<br>3. Epi Info™. Инструмент для расследования вспышек. Центры по контролю и профилактике болезней. США.-2003.- 176 с. |
| | In English Language |
| | Basic references:<br>1. Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p. |
| | Additional references:<br>1. Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p.<br>2. Epi Info for windows// www.cdc.gov/epiinfo /pc. html |
| | **Module Evidence-Based Medicine** |
| | In Kazakh Language |
| | Basic references: |

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| | 1.М.Д.Кульжанов, Р-К- Назарбаева, А.В.Костюк, Т.М. Мажитов, М. Т. Искакова, К.А.Гаркалов. Дэлелд1 медицинанын негіздері: студенттерге, резиденттерге, магистранттарга, докторанттарга және денсаулык сактау саласынын кызметкерлерге арналган окулык - Астана, 2012. - 163 б. |
| | Additional references:<br>1.Клиникаға дейінгі (клиникалық емес) және клиникалық зерттеулерді, медициналық-биологиялық эксперименттерді жүргізу қағидалары. ҚР Денсаулық сақтау министрінің 02.04.2018 № 142//http://adilet.zan.kz/ kaz/ docs/V090005932_ |
| | In Russian Language |
| | Basic references:<br>1.Т.Гринхальх. Основы доказательной медицины. Москва, «ГЭОТАР-МЕД», 2009. 288 с.// https://drive.google.com/file/d/ 1YjJahATlz0-hSvP8W41w2qTWUxIV0rw2/ view?usp=sharing<br>2.Карл Хенеган, Дуглас Баденоч. Доказательная медицина. Карманный справочник. М., ГЭОТАР-Медиа, 2011 г. 144 с.<br>3.Основы доказательной медицины. Учебное пособие для системы послевузовского и дополнительного профессионального образования врачей./Под общей редакцией академика РАМН, профессора Р.Г.Оганова.– М.: Силицея-Полиграф, 2010. – 136 с.<br>4.Шарон Е.Страус, В.Скотт Ричардсон, Пол Глацейо, Р.Брайан Хэйнц. Медицина, основанная на доказательствах. М., ГЭОТАР-Медиа, 2010 г. 320 с. 5.Биомедицинская этика. Практикум. Под редакцией С.Д.Денисова, Я.С Яскевич-//Минск, БГМУ,2011,206 с. |
| | Additional references:<br>1.Инструкция по пойску в Pubmed.<br>2.Об утверждении Правил проведения медико-биологических экспериментов, доклинических (неклинических) и клинических исследований. Приказ Министра здравоохранения РК от 02.04.2018 № 142// http://adilet.zan.kz/rus/docs/V090005932_ |
| | На английскоя языке |
| | Basic references:<br>1.Evidence-Based Medicine. How to Practice and Teach EBM (3rd Edition).S.E. Straus, W.S. Richardson, Paul Glasziou, R. Brian Haynes.<br>2. Literature Reviews in Social Work. Robin Kiteley and Christine Stogdon.-2014.-20 p. |
| | Additional references:<br>1.Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book.-2009.-26p.<br>2.APPRAISAL OF GUIDELINES FOR RESEARCH & EVALUATION II. The AGREE Next Steps Consortium.-May 2009.-52 p. |
| | 1. www.who.org<br>2. www.cdc.gov<br>3. www.medscape.com<br>4. www.oxfordmedicine.com<br>5. www.uptodate.com<br>6. www.medline<br>7. www.cockrane.library<br>8. https://pubmed.ncbi.nlm.nih.gov/<br>9. http://www.gbd.org/ |

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| Academic policy of the course in context of university values | 1) **Rules of academic conduct:**<br>Personal appearance:<br>➢ dress code<br>➢ clean ironed robe<br>➢ medical cap<br>➢ changeable shoes<br>➢ badge with full name<br>**1. Properly executed personal medical record.**<br>**2. Mandatory compliance with personal safety rules and occupational safety.**<br>3. **Wearing personal protective equipment during the epidemic period.**<br>4. Systematic preparation to educational process.<br>5. Accurate and timely maintenance of reporting documents.<br>6. Active participation in medical, diagnostic and social events of the departments.<br>Discipline:<br>➢ Students are not allowed to be late for class or morning conference. If the student is late - the decision on admission to the lesson is made by the teacher leading the lesson. After the third delay, the student writes an explanatory letter to a head of the department indicating reasons for the delay and goes to the dean's office to obtain admission to class.<br>➢ Leaving class ahead of schedule, being outside the workplace during school hours is considered as absent.<br>➢ Additional work of students during school hours (during practical classes and on duty) is not allowed.<br>➢ A report about an expulsion is issued for students who have more than 3 passes without notifying the curator and a good reason.<br>➢ Missed classes are not completed.<br>➢ Students are fully subject to the Internal Order Rules of KazNU and clinical bases.<br>**Academic values:**<br>Academic honesty and integrity: independence in completing all assignments. Plagiarism, fake, crib notes, cheating at midterm and exam, disrespectful attitude towards a teacher are not allowed. |
| Grading policy and certification | **Criteria-based assessment:**<br>Evaluation of work by type of activity using checklists.<br>**Summative assessment:** final control of the discipline from 2 stages:<br>I. stage – MCQ testing for understanding and applying knowledge.<br>II. stage – short case study.<br>The method of assessing SIW is the results of student's scientific research. |

**Course content implementation calendar:**

| | | Notice | Max. scores |
|---|---|---|---|
| **Module 1. Epidemiology** | | | |
| Class 1 | Introdiction and bases of Epidemiology. | 3 hours | 10 |
| Class 2 | Epidemiological approach. Frequency Measures. | 3 hours | 10 |
| Class 3 | Epidemiological methods and study design. Descriptive and analytical studies. | 3 hours | 10 |
| Class 4 | Epidemiological methods: experimental studies. | 3 hours | |
| Class 5 | Introduction to Exposure oriented Epidemiology. | 3 hours | 10 |
| Class 6 | Exposure oriented Epidemiology. | 3 hours | |
| Class 7 | Introduction to Outcome-oriented Epidemiology. | 3 hours | 10 |
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| Class 8 | Base of epidemiological surveillance. Prophylaxis of diseases. | 3 hours | 10 |
| Class 9 | Introduction to Public Health Surveillance. | 3 hours | 10 |
| Class 10 | Prevention of diseases. Diagnostic and screening tests. | 3 hours | 10 |
| Midterm (BC 1) | | Type of control: test or case study | 100 |
| Module 2. Biostatistics | | | |
| Class 1 | Introduction to Biostatistics. | 3 hours | 10 |
| Class 2 | Data processing programs. | 3 hours | |
| Class 3 | Descriptive statistics I. | 3 hours | 10 |
| Class 4 | Descriptive statistics II. | 3 hours | |
| Class 5 | Analytical statistics I. | 3 hours | 10 |
| Class 6 | Analytical statistics II. | 3 hours | |
| Class 7 | Inferential statistics I. | 3 hours | 10 |
| Class 8 | Inferential statistics II. | 3 hours | |
| Class 9 | Statistics in Evidence-Based Medicine I. | 3 hours | 10 |
| Class 10 | Biostatistics in Evidence-based medicine II. | 3 hours | 10 |
| Midterm (MT) | | Type of control: test | 100 |
| **Module 3. Evidence-based medicine** | | | |
| Class | Introduction to Evidence-based Medicine. | 3 hours | 10 |
| Class 1 | First step of Evidence-based Medicine. | 3 hours | 10 |
| Class 2 | : Search and critical appraising of medical scientific articles. | 3 hours | 10 |
| Class 3 | Second step of Evidence-based Medicine. | 3 hours | 10 |
| Class 4 | Third step of Evidence-based Medicine. | 3 hours | 10 |
| Class 5 | Clinical Epidemiology I. | 3 hours | 10 |
| Class 6 | Clinical Epidemiology II. | 3 hours | 10 |
| Class 7 | Systematic review and meta-analysis. | 3 hours | 10 |
| Class 8 | Practice guidelines. | 3 hours | 10 |
| Class 9 | AGREE System and assessment of recommendations. | 3 hours | 10 |
| Class 10 | Four and fifth steps of EBM. | 3 hours | 10 |
| Midterm (BC 2) | | Type of control: test or case study | 100 |
| Final exam on the course | | 100 | |
| - I stage - MCQ testing for understanding and applying knowledge | | 50% | |
| - II stage –short case | | 50% | |

Acting associate professor Iskakova F.A.
Assistants: Boibossinov E.U.
Abilkhair N.A.

Teachers: _____

Head of Chair _____ Mamyrbekova S.A.

Chair of methodological bureau of the faculty _____ Ualyieva A.E.

**SCHEDULE AND CONTENT OF CLASSES**

| N | Title | Content | Resource materials |
|---|---|---|---|
| | 2 | 3 | 4 |
| **MODULE 1. EPIDEMIOLOGY** | | | |
| 1 | Introduction and bases of Epidemiology. | The basic terms and field of application. Concepts of causality and probability. Epidemiological triad. Factors that related to infectious agent, environment and susceptible person. The concept of the epidemic process and mode of transmission. Glossary. Mini presentation. CBL- Case study. | 1. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p. 20-54, 55-61, 61-78<br>2. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012. Lesson 1-4.<br>3. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition, p.86-96<br>4. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017, p.3-10<br>5. An Introduction to Epidemiology. Wolfgang Ahrens, Klaus Krickeberg, Iris Pigeot, p.3-20<br>6. CDC-materials https://www.cdc.gov/csels/dsepd/ss1978/lesson5/section2.htm |
| 2 | Epidemiological approach. Frequency Measures. | Epidemiological approach. Measure of populations' incidence, prevalence and mortality. Glossary. Mini presentation. CBL- Case study. | 1. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p. 20-54, 55-61, 61-78<br>2. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012. Lesson 1-4.<br>3. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition, p.86-96<br>4. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017, p.3-10<br>5. An Introduction to Epidemiology. Wolfgang Ahrens, Klaus Krickeberg, Iris Pigeot, p.3-20<br>6. CDC-materials https://www.cdc.gov/csels/dsepd/ss1978/lesson5/section2.htm |

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| 3 | Epidemiological studies and study design. Descriptive and analytical studies. | Epidemiological studies. Observational and interventional studies. Descriptive: case reports, case series, ecological, cross-sectional studies. Analytical: case-control, cohort studies. Measure of associations. OR, RR. Advantages and limits of epidemiological studies. Glossary. Mini presentation. CBL - Case stydy. | 1. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017, p.11-14, 17-24<br>2. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p.197-232, p.158-194, p.235-247, p.250-280, p.282-296, 346-367<br>3. An Introduction to Epidemiology. Wolfgang Ahrens, Klaus Krickeberg, Iris Pigeot, p. 29-35<br>4. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition, p.57-71, 82-92<br>5. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014, p.187-388 |
| 4 | Experimental studies. | Experimental studies. Clinical trials, RCT and non-RCT. Measure of associations, bias и confounders. Advantages and limits of RCT and non-RCT. Diagnostic and screening tests. Sensitivity and specificity. Likelihood. Positive prognostic value. Negative prognostic value. Usage of epidemiological studies in clinical medicine. | 1. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017, p.11-14, 17-24<br>2. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p.197-232, p.158-194, p.235-247, p.250-280, p.282-296, 346-367<br>3. An Introduction to Epidemiology. Wolfgang Ahrens, Klaus Krickeberg, Iris Pigeot, p. 29-35<br>4. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition, p.57-71, 82-92<br>5. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014, p.187-388 |
| 5 | Introduction to Exposure oriented Epidemiology | Environmental Epidemiology. Professional Epidemiology. Features of development and measurement of risks factors. Glossary. Mini - presentation. CBL - Case study. | 1. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p.299-323<br>2. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014, v.4 |

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| 6 | Exposure oriented Epidemiology. | Nutritional Epidemiology. Reproductive Epidemiology. Social Epidemiology. Features of development and measurement of risks factors. Glossary. Mini - presentation. CBL - Case study. | 1. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p.299-323<br>2. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014, v.4 |
| 7 | Introduction to Outcome oriented Epidemiology | Epidemiology of infectious (communicable) diseases. Modes of transmission. Epidemiological classification of infectious diseases. Case standard definition: expected, probable and confirmed cases. Outbreak investigation.<br>Glossary. Mini - presentation. CBL -Case study. | 1. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition, p.96-100<br>2. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p. 54-56, p.328-335<br>3. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014, v.5<br>4. Cancer Epidemiology: Principles and Methods. Isabel dos Santos Silva. WHO.-1999.-437 p.<br>5.Communicable disease control in emergencies. A field manual. Edited by M.A. Connolly.2005.-194 p. |
| 8 | Outcome oriented Epidemiology | Epidemiology of chronic non-communicable diseases: cardiovascular, oncology, respiratory diseases, dental diseases, and diabetes. Features of disease's history and measurement of outcomes.<br>Glossary. Mini - presentation. CBL -Case study. | 1. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition, p.96-100<br>2. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p. 54-56, p.328-335<br>3. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014, v.5<br>4. Cancer Epidemiology: Principles and Methods. Isabel dos Santos Silva. WHO.-1999.-437 p.<br>5.Communicable disease control in emergencies. A field manual. Edited by M.A. Connolly.2005.-194 p. |

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| 9 | Introduction to Public Health Surveillance. | Bases of Public Health Surveillance. Epidemiological surveillance. Population, sentinel and syndromic surveillance. The list of diseases. Collection data. Analysis of surveillance data: time, place and patient. Interpretation of data. Mapping. Glossary, mini presentation. CBL – Case study. | 1. Epi Info. Инструмент для расследования вспышек. 2006.-176 с.<br>2. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p.55-61, p.371-376<br>3. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012. Lesson 4.CAPABILITY 13: Public Health Surveillance and Epidemiological Investigation. Public Health Preparedness Capabilities: National Standards for State and Local Planning. – p.119-126 |
| 10 | Prevention of diseases. Diagnostic and screening tests. | Prevention of communicable and non-communicable diseases, including dental diseases. Glossary, mini presentation. CBL – Case study. | 1. Epi Info. Инструмент для расследования вспышек. 2006.-176 с.<br>2. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013, p.55-61, p.371-376<br>3. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012. Lesson 4.CAPABILITY 13: Public Health Surveillance and Epidemiological Investigation. Public Health Preparedness Capabilities: National Standards for State and Local Planning. – p.119-126 |
| | **MODULE 2. BIOSTATISTICS** | | |
| 1 | Introduction to Biostatistics. Data processing programs. | Class 1. Basic concepts and terms in Biostatistics. Data management in Epidemiology. Presentation. Intro to Biostats Lesson 1 – Variables https://www.youtube.com/watch?v=85ChePx5Yqw&ab_channel=Dr.JessicaUriarteWright Organizing Data. Types of Variables. Types of Data: Nominal, Ordinal, Interval/Ratio – Statistics. Measurement scales of variables. Average values. | 1. Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2. Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p.<br>3. Excel program. |
| 2 | Data processing programs. | Describing Data: Shape. Describing Data: Central Tendency. Mean, median and mode. Application of Ms Excel in medical statistics. Analysis package. | 1. Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2. Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p.<br>3. Epi Info for windows// www.cdc.gov/epiinfo /pc. html, 12 |

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| 3 | Descriptive statistics I. | Descriptive statistics. Qualitative and Quantitative Data. Sampling and Data: Frequency, Relative Frequency and Cumulative Frequency. Glossary. Mini-presentation. CBL - Case study. | 1. Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2. Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. |
| 4 | Descriptive statistics II | Descriptive statistics II. Describing Data Variability: Range, Standard Deviation. Probability. The Distribution of Samples means. Estimation, Confidence Intervals and Effect size.<br>Glossary. Mini-presentation. CBL – Case. | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. |
| 6 | Analytical statistics I | Methods of statistical analysis of quantitative characteristics (two groups): the T-test.<br>Glossary. Mini presentation. CBL - Case study. | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p., Chapter 4.- p.64-87.<br>3.Excel program. |
| 5 | Analytical statistics II | Methods of statistical analysis of qualified data: test Fisher, Chi square test, z-test. The concept of reliability. Statistical probability.<br>Glossary. Mini presentation. CBL - Case study. | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. Chapter<br>3.Epi Info for windows// www.cdc.gov/epiinfo /pc. html |
| 7 | Inferential statistics I | Testing hypothesis. Null and alternative hypotheses. P value. Type I and II error. Statistical power. Paired T test. Statistical studies the relationship between variables. One and multifactorial analysis. Mini presentation. CBL - Case study. | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. |
| 8 | Inferential statistics II | Correlation analysis: Pearson's and Spearman correlation coefficients. Linear regression analysis. P-values.<br>Mini presentation. CBL - Case study. | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. |
| 9 | Biostatistics in Evidence-based medicine I | Statistical rates in bio-medical research. Using of computer Epi Info program for data analysis.<br>Glossary. Mini presentation. CBL - Case study.<br>11 from Biostatics full | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p.<br>2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. |

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| 10 | Biostatistics in Evidence-based medicine II | Statistical rates in bio-medical research. Using of computer Epi Info program for data analysis. Glossary. Mini presentation. CBL - Case study. | 1.Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.-2016.-856 p. 2.Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p. |
| **MODULE 3. EVIDENCE-BASED MEDICINE** | | | |
| 1 | Introduction to Evidence-based Medicine. | Principles and basics of Evidence-based Medicine. History, global experience and importance of evidence-based medicine for clinical practice. Five steps of evidence-based medicine. Glossary. Mini presentation. CBL - Case study. | 1. Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book.- 2009.-26p. 2. Essentials of Evidence-based Clinical Practice. Second Edition. -2008.-349 p. |
| 2 | First step of Evidence-based Medicine. | Asking and formulating answerable clinical questions or a problem by using the PICOT principle. Structure and types of question. Foreground and background questions. Glossary. Mini presentation. CBL - Case study. | 1. Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book.- 2009.-26p. 2. Essentials of Evidence-based Clinical Practice. Second Edition. -2008.-349 p. |
| 3 | Second step of Evidence-based Medicine. | Search of scientific papers. Basic search principles. Generate appropriate keywords. Choose a bibliographic database: the Cochrane Library databases, MEDLINE, EMBASE, and CINAHL and others. Glossary. Mini - presentation. CBL - Case study. | 1. How to read a paper. T. Greenhalgh. -2003.-240 p. 2. Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book. - 2009.-26p. |
| 4 | Third step of Evidence-based Medicine. | Critical appraisal of medical scientific papers. | 1. How to read a paper. T. Greenhalgh. -2003.-240 p. 2. Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book. - 2009.-26p. |
| 5 | Clinical Epidemiology I | Design of epidemiological research. Descriptive, analytical and experimental research. RCT and non-RCT. Hierarchy of research on evidence. Level of evidence. GCP. Glossary. Mini presentation. CBL - Case study. | 1. Evidence-Based Medicine. How to Practice and Teach EBM (3rd Edition).S.E. Straus, W.S. Richardson, Paul Glasziou, R. Brian Haynes. 2. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017, p.11-14, 17-24 |
| 6 | Clinical Epidemiology II | Epidemiological methods and principles of EBM for solve diagnostic, etiologic, prognostic and therapeutic issues of clinical medicine. DEPTH model. Level of evidence. Glossary. Mini presentation. CBL - Case study. | . Evidence-Based Medicine. How to Practice and Teach EBM (3rd Edition).S.E. Straus, W.S. Richardson, Paul Glasziou, R. Brian Haynes. 2. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017, p.11-14, 17-24 |

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| 7 | Systematic review and meta-analysis. | Studies summarizing other studies. Systematic review and meta-analysis. Stages of creating and conducting of systematic review. Presentation of variants of meta-analysis in systematic review. Strategy of search of systematic review. Glossary. Mini presentation. CBL- Case study. | 1. Literature Reviews in Social Work. Robin Kiteley and Christine Stogdon.- 2014.-20 p.<br>2. APPRAISAL OF GUIDELINES FOR RESEARCH & EVALUATION II. The AGREE Next Steps Consortium.-May 2009.-52 p. |
| 8 | Practice guidelines. | Creation of practice guidelines. Purpose and scope of guidelines. Advantages and disadvantages of practice guidelines.<br>Glossary. Mini presentation. CBL- Case study. | 1. User's guides to the Medical Literarute. Essentials to EBM Clinical Practice. Second Edition. G.Guyatt, D.Rennie, M.O.Meade, D.J. Cook.-2012.-349p. |
| 9 | AGREE System and Assessment of recommendations. | Assessment of systematic review with using AGREE program. Classes of recommendations: I, II, II-a, II-b, III.<br>Glossary. Mini presentation. CBL- Case study. | 1. Literature Reviews in Social Work. Robin Kiteley and Christine Stogdon.- 2014.-20 p.<br>2. APPRAISAL OF GUIDELINES FOR RESEARCH & EVALUATION II. The AGREE Next Steps Consortium.-May 2009.-52 p. |
| 10 | Four and fifth steps of EBM. | Four and fifth steps of EBM. Basic ethical principles of bio-medical research. Ethical aspects of non-clinical and clinical research.<br>Glossary. Mini presentation. CBL - Case study. | 1. Essentials of Evidence-based Clinical Practice. Second Edition. -2008.-349 p.<br>2. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017.-chapter 14. |

**Grading of seminar on the course Patient and society**

| | № | Criteria | 10 | 8 | 6 | 4 | 2 |
|---|---|---|---|---|---|---|---|
| | | | ***Perfect*** | ***Good*** | ***Acceptable*** | ***It requires correction*** | ***Not accepted*** |
| Criteria | 1 | Understanding of classes. | Full understanding of the and complete answers to questions by student. Student knows how using critical thinking for reasoning. Full | No full understanding of the with inaccuracy in answers. Standard reasoning and thoughts. Full achievement all | No full understanding of the with inaccuracy in answers. Standard reasoning with erroneous judgments. | No full understanding of the , serious inaccuracy in answers. Understanding of mistakes and willingness to | Lack of understanding of the of class, absent of willingness to correct erroneous judgments. Lack of understanding with |
| | 2 | Full answers to questions and test tasks. | | | | | |
| | 3 | Reasoning with critical thinking. | | | | | |
| | 4. | Achieving the goal of class. | | | | | |

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| | 5 | Good communication with classmates and with the teacher during TBL | achievement all objectives of class. Good communication with classmates and a teacher. | objectives of class. Good communication with classmates and a teacher. | Adoption of information with light inaccuracies in the answers. Misunderstanding with classmates and a teacher are possible. | correct them by student. Misunderstanding with classmates and a teacher are possible for student. | classmates and a teacher. |
| | 6. | Understanding of their erroneous judgments and willingness to correct. | | | | | |

**Grading of student's independent work over teacher's advising (maximum 50 scores)**

| N | Criteria | 10 | 8 | 6 | 4 | 2 |
|---|---|---|---|---|---|---|
| 1. | Completeness and accuracy | Full completion of a task. Appy critical thinking and analytical skills in completing an assignment. Effective presentation of | Completing the assignment with some inaccuracies. Standard thinking and reasoning, and application of analytical skills. Good presentation | Completing the assignment with serious inaccuracies. Understanding of mistakes and ready to fix them. Poor analytical skills. Adequate | Completing assignment with serious inaccuracies. Poor scientific thinking, practical and analytical skills, and presentation of the assignment. | Failure to complete the assignment. Does not show scientific thinking, practical analytical skills. Absent or poor presentation. |
| 2. | Critical thinking | | | | | |
| 3. | Analytical skills | | | | | |
| 4 | Task presentation | | | | | |

**Grading of Student's independent work (SIW) (maximum 90 scores) + bonus for using English language**

| N | Criteria | *Perfect* | *Good* | *Acceptable* | *It requires correction* | *Not accepted* |
|---|---|---|---|---|---|---|
| | | **100** | **75** | **50** | **25** | **0** |
| **1** | The urgency of issues | **10** | **8** | **5** | **3** | **1** |
| **2** | Informativeness | **10** | **8** | **5** | **3** | **1** |
| **3** | Credibility | **10** | **8** | **5** | **3** | **1** |
| **4** | Consistency and consistency | **10** | **8** | **5** | **3** | **0** |
| **5** | Literature analysis | **10** | **8** | **5** | **3** | **0** |
| **6** | Practical significance | **10** | **7** | **5** | **2** | **0** |
| **8** | Applicability in future practice | **10** | **7** | **5** | **2** | **0** |

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| **9** | Presentation | **10** | **7** | **5** | **2** | **1** |
| **10** | Check of Plagiarism | **10** | **7** | **5** | **2** | **0** |
| **bonus** | * - for Kazakh/Russian groups – completion of task by using English language; for groups are studying in English – in Kazakh/Russian languages | | | | | |

**Map of educational and methodological capacity of the course "Patient and society"**

| № | Websites | Number of students studying the discipline (estimated number) | Number of materials in the library of Al-Farabi KNU | | |
|---|---|---|---|---|---|
| | | | kaz | rus | eng |
| | **Course books (title, year, authors) electronic variant** | | | | |
| I. | **Module Epidemiology** | | | | |
| 1 | In Kazakh Language | | | | |
| 1.1 | Basic references:<br>1.Покровский, В. И. Жалпы эпидемиология дәлелді медицина негіздерімен : практика-лык сабақтарға нұсқаулық / редакциясын басқарғандар В. И. Покровский, Н. И. Брико ; қазақ тіліне аударған және жауапты редакторы Н. Жайықбаев ; жалпы редакциясын басқарған С. Ә. Әміреев - Москва : ГЭОТАР-Медиа, 2015. - 448 с. - ISBN 978-5-9704-3384-3. - Текст : электронный // URL : http://www.studmedlib.ru/book/ISBN9785970433843. html | | | | |
| 1.2 | Additional references:<br>2.. Әміреев С. Ә., Темірбеков Ж. Т. Эпидемиология. Жалпы эпидемиология. 1-т. - Алматы: ЖАК-тың баспа орталығы, 2000. 552 б.<br>https://drive.google.com/file/d/10IIlnlqFXhNFxJdvKl6rQvnbLFbmfyrA/view?usp=sharing<br>3.С.А. Әміреев, Қ.Құдайбергенұлы, Н. Жайықпаев, А.Жаханов. Жұқпалы ауруларға қатысты терминдерінің түсіндірме сөздігі.-Алматы.-2010.-288 б. | | | | |
| 2 | In Russian Language | | | | |
| 2.1 | Basic references:<br>4. Принципы эпидемиологии в общественном здравоохранении. Введение в практическую эпидемиологию и биостатистику. Р.Дикер, Оффис эпидемиологических программ СДС, USAID.-2012.-457 с.<br>https://drive.google.com/file/d/1yGMy7pbmcxslbwJrKPk5Aa2o1nI-Q-O1/view?usp=sharing<br>5. Общая эпидемиология с основами доказательной медицины. Под ред. В.И. Покровского, Н.И. Брико. Учебное пособие. М., ГЭОТАР-Медиа, 2010 г. 400 с.<br>6. Материалы тренинга по эпидемиологии. Модуль 1, 2, 3. Центрально-Азиатский Офис Американских центров по контролю и | | | | |

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| | профилактике заболеваний. – февраль-май 2014. | | | | |
| 2.2 | Additional references:<br>7. Эпидемиология.Л.П.Зуева, Р.Х.Яхаев.Санкт-Петербург.-2008.-797с.<br>8. Ющук Н. Д., Мартынов Ю. В. Эпидемиология: Учеб. пособие. — 2-е изд., перераб. и доп. — М.: Медицина, 2003. — 448с., с.13-60 https://drive.google.com/file/d/1HSDMhrGD62LDFXkG1ghmwdHxmKoTIgVu/view?usp=sharing<br>9. Ф.А.Искакова. Аналитическое исследование причин и структуры смертности от туберкулеза в некоторых регионах Казахстана. Монография. Астана.-2011.-174 с.<br>10.Ф.А.Искакова. Эпидемиология туберкулеза в Казахстане.Учебно-методическое пособие. Алматы.=2009.-128 с.<br>11. Epi Info. Инструмент для расследования вспышек. 2006.-176 с. https://drive.google.com/file/d/1250rJM314tOitw3N9605bkD2ZyIJxm1n/view?usp=sharing | | | | |
| 3 | In English Language | | | | |
| 3.1 | Basic references:<br>11.Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders Company, 2013.- https://drive.google.com/file/d/1nUfmrzWD-Jw02AzHXEcmjPadgC2AgTjb/view?usp=sharing<br>12. Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012.- https://drive.google.com/file/d/0BzjLXzHs114hUWpsUzlMR0poNEU/view?usp=sharing<br>13. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition.-297p. https://drive.google.com/file/d/1Qh1B6vdUkd-OA7dS1jJCiG1ZeQXxvBKr/view?usp=sharing<br>14. Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017.-229p. https://drive.google.com/file/d/1t2HByO_ybBomAH_Z8HhmP3rSJxewwKBC/view?usp=sharing<br>15. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014. | | | | |
| 3.2 | Additional references:<br>16.Water, Sanitation, & Environmentally-related Hygiene//https://www.cdc.gov/healthywater/hygiene/audience-healthprofessionals.html | | | | |

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| | 17. Modern Epidemiology. 3rd Edition Keneth.J. Rothman, Sander Greenland, Timothy L.Lash.- 2008.-158 p. | | | | |
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| 4 | In Kazakh Language | | | | |
| 4.1 | Basic references:<br>18. Раманқұлова, А. А. Биологиялық статистика: оқу құралы / А. А. Раманқұлова. - 2-бас. - Алматы : Ақнұр баспасы, 2019. - 210 б. | | | | |
| 4.2 | Additional references: | | | | |
| 5 | In Russian Language | | | | |
| 5.1 | Basic references:<br>19.Авива Петри, Кэролайн Сэбин. Наглядная медицинская статистика. Учебное пособие для вузов. М., ГЭОТАР-Медиа, 2015 г. 168 с.<br>20. Койчубеков Б.К. Биостатистика. Учебное пособие / Алматы, 2012 г.-70с. | | | | |
| | Additional references:<br>21.Стентон Гланц. Медико-биологическая статистика. Электронная книга. Москва 1999.- https://drive.google.com/file/d/12xfFSVUXq_s0yozh7LSnPjpMvz3qJ7tD/view?usp=sharing<br>22.Медик В.А., Токмачев М.С., Фишман Б.Б. Теоретическая статистика // Статистика в медицине и биологии. В 2-х томах / Под ред. Проф. Ю.М.Комарова. – Т. 1. – М.: Медицина, 2000. – 412 с<br>23. Эпидемиология и статистика как инструменты доказательной медицины. Е.А.Корнышева, Д.Ю.Платонов, А.А.Родионов, А.Е.Шабашов.- 2009.- 80 с.<br>24. Epi Info™. Инструмент для расследования вспышек. Центры по контролю и профилактике болезней. США.-2003.- 176 с. | | | | |
| 6 | In English Language | | | | |
| 6.1 | Basic references:<br>25. Fundamentals of Biostatistics.8th Edition. 7th edition. Bernard Rosner, Cangage Learning.- 2016.-856 p. https://drive.google.com/file/d/1EqPlTfyovqpb930pfCYt-zIKYYPE5-TG/view?usp=sharing | | | | |
| 6.2 | Additional references:<br>26. Primer of Biostatistics. Seventh Edition. Stanton A. Glantz, Ph.-2009.-297p.<br>27. Epi Info for windows// www.cdc.gov/epiinfo /pc. html | | | | |
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| 7 | In Kazakh Language | | | | |
| 7.1 | Basic references:<br>28.М.Д.Кульжанов, Р-К- Назарбаева, А.В.Костюк, Т.М. Мажитов, М. Т. Искакова, | | | | |

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| | К.А.Гаркалов. Дэлелд1 медицинанын негіздері: студенттерге, резиденттерге, магистранттарга, докторанттарга және денсаулык сактау саласынын кызметкерлерге арналган окулык - Астана, 2012. - 163 б. https://drive.google.com/file/d/15R9lKBcsmapPqpXYwI7QAcZxquGU-urF/view?usp=sharing | | | | |
| 7.2 | Additional references:<br>29.Клиникаға дейінгі (клиникалық емес) және клиникалық зерттеулерді, медициналық-биологиялық эксперименттерді жүргізу қағидалары. ҚР Денсаулық сақтау министрінің 02.04.2018 № 142//http://adilet.zan.kz/ kaz/ docs/V090005932_ | | | | |
| 8 | In Russian Language | | | | |
| 8.1 | Basic references:<br>30. Т.Гринхальх. Основы доказательной медицины. Москва, «ГЭОТАР-МЕД», 2009. 288 с.// https://drive.google.com/file/d/1YjJahATlz0-hSvP8W41w2qTWUxIV0rw2/view?usp=sharing<br>31. Карл Хенеган, Дуглас Баденоч. Доказательная медицина. Карманный справочник. М., ГЭОТАР-Медиа, 2011 г. 144 с.<br>32. Основы доказательной медицины. Учебное пособие для системы послевузовского и дополнительного профессионального образования врачей./Под общей редакцией академика РАМН, профессора Р.Г.Оганова.– М.: Силицея-Полиграф, 2010. – 136 с. https://drive.google.com/file/d/1sfUWZPRon_vec2-DQPS05EdmXoqwh8S4/view?usp=sharing<br>33. Шарон Е.Страус, В.Скотт Ричардсон, Пол Глацейо, Р.Брайан Хэйнц. Медицина, основанная на доказательствах. М., ГЭОТАР-Медиа, 2010 г. 320 с.<br>34. Биомедицинская этика. Практикум. Под редакцией С.Д.Денисова, Я.С Яскевич-//Минск, БГМУ,2011,206 с. | | | | |
| 8.2 | Additional references:<br>35. Инструкция по пойску в Pubmed.<br>36. Об утверждении Правил проведения медико-биологических экспериментов, доклинических (неклинических) и клинических исследований. Приказ Министра здравоохранения РК от 02.04.2018 № 142// http://adilet.zan.kz/rus/docs/V090005932_<br>37. Доказательная медицина. Практическое руководство для врачей. Г.П.Котельников, А.С.Шпигель.-2009.-109 с. | | | | |

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| | ttps://drive.google.com/file/d/1_EUfg2W06lnT4HYf5yiktbidddGTiB_8/view?usp=sharing | | | | |
| 9 | На английскоя языке | | | | |
| 9.1 | Basic references:<br>38. Evidence-Based Medicine. How to Practice and Teach EBM (3rd Edition).S.E. Straus, W.S. Richardson, Paul Glasziou, R. Brian Haynes.<br>39. Literature Reviews in Social Work. Robin Kiteley and Christine Stogdon.- 2014.-20 p.<br>https://drive.google.com/file/d/1Ybiea7gwaJD25RzlcNvH-m8j0wk27Cmd/view?usp=sharing | | | | |
| 9.2 | Additional references:<br>40. Evidence-Based Answers to Clinical Questions for Busy Clinicians Work book.-2009.-26p.<br>https://drive.google.com/file/d/1F8UIXlusu6FjRejtotQG6VisGUBDL9Br/view?usp=sharing<br><br>41.APPRAISAL OF GUIDELINES FOR RESEARCH & EVALUATION II. The AGREE Next Steps Consortium.-May 2009.-52 p.<br>42. Essentials of Evidence-based Clinical Practice. Second Edition.-2008.-349 p.<br>https://drive.google.com/file/d/1FykOXyFhsSp4UQROJQvwsknHvrKxFgMQ/view?usp=sharing | | | | |
| 10 | 1.www.who.org<br>2. www.cdc.gov<br>3. www.medscape.com<br>4. www.oxfordmedicine.com<br>5. www.uptodate.com<br>6. www.medline<br>7. www.cockrane.library<br>8. https://pubmed.ncbi.nlm.nih.gov/<br>9. http://www.gbd.org/<br>10.https://pubmed.ncbi.nlm.nih.gov/<br>11.http://www.gbd.org/ | | | | |