

TEACHING OF MEDICAL PARASITOLOGY AT BUKOVINIAN STATE MEDICAL UNIVERSITY

(Literature review and own research)

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Parasitic infestations account for a significant percentage of overall morbidity and mortality. In this regard, the problem of parasitic pathology often occurs in the practice of physicians, which necessitates an increase in the level of professional training of physicians. It is necessary to expand the knowledge of health professionals not only about the clinical symptoms, diagnosis and treatment of infestations, but also about the epidemiological features and life cycles of parasites that underlie the development of the methods for the prevention of parasitic diseases.

The aim of the work is to analyze the peculiarities of teaching medical parasitology to the first-year students of the Higher State Educational Establishment of Ukraine "Bukovinian State Medical University" in order to improve teaching methods in the training of doctors.

Conclusion. Teaching medical parasitology includes lectures, practical classes, independent work of students, conducting two final modular tests, which include computer testing, theoretical questions, practical skills. The peculiarity of the study of medical parasitology is the use of a large amount of visual material: tables, diagrams, illustrations, photographs, microslides and museum specimens.

Key words:
medical biology,
medical parasitology,
higher school, teaching
methods, education.

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ВИКЛАДАННЯ МЕДИЧНОЇ ПАРАЗИТОЛОГІЇ У БУКОВИНСЬКОМУ ДЕРЖАВНОМУ МЕДИЧНОМУ УНІВЕРСИТЕТІ

(огляд літератури та власний досвід)

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Паразитарні інвазії складають вагомий відсоток у загальному рівні захворюваності та смертності. У зв'язку з цим у практичній діяльності лікаря часто трапляється проблема паразитарної патології, що зумовлює необхідність підвищення рівня професійної підготовки лікарів. Необхідним є розширення знань медичних працівників не тільки про клінічну симптоматику, діагностику та лікування інвазій, але й про епідеміологічні особливості та життєві цикли паразитів, які лежать в основі створення методів профілактики паразитозів.

Мета роботи – аналіз особливостей викладання медичної паразитології студентам першого курсу Вищого державного навчального закладу України «Буковинський державний медичний університет» з метою удосконалення методів навчання при підготовці лікарів.

Висновок. Викладання медичної паразитології передбачає лекції, практичні заняття, самостійну роботу студентів, проведення двох підсумкових модульних контролів, які включають комп'ютерне тестування, теоретичні питання, практичні навички. Особливістю вивчення медичної паразитології є використання великої кількості наочного матеріалу: таблиць, схем, ілюстрацій, фотографій, мікропрепаратів та музейних експонатів.

Ключові слова:
медична біологія, ме-
дична паразитологія,
вища школа, методи
навчання, освіта.

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ПРЕПОДАВАНИЕ МЕДИЦИНСКОЙ ПАРАЗИТОЛОГИИ В БУКОВИНСКОМ ГОСУДАРСТВЕННОМ МЕДИЦИНСКОМ УНИВЕРСИТЕТЕ

(Обзор литературы и собственные исследования)

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Паразитарные инвазии составляют значительный процент в общем уровне заболеваемости и смертности. В связи с этим в практической деятельности врача часто встречается проблема паразитарной патологии, что обуславливает необходимость повышения уровня профессиональной подготовки врачей. Необходимым является расширение знаний медицинских работников не только о клинической симптоматике, диагностике и лечении инвазий, но и об эпидемиологических особенностях и жизненных циклах паразитов, которые лежат в основе создания методов профилактики паразитозов.

Цель работы – анализ особенностей преподавания медицинской паразитологии студентам первого курса Высшего государственного учебного заведения

Ключевые слова:
медицинская биология,
медицинская парази-
тология, высшая шко-
ла, методы обучения,
образование.

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Украины «Буковинский государственный медицинский университет» с целью усовершенствовать методы обучения при подготовке врачей.

Вывод. *Преподавание медицинской паразитологии предусматривает лекции, практические занятия, самостоятельную работу студентов, проведение двух итоговых модульных контролей, которые включают компьютерное тестирование, теоретические вопросы, практические навыки. Особенностью изучения медицинской паразитологии является использование большого количества наглядного материала: таблиц, схем, иллюстраций, фотографий, микропрепаратов и музейных экспонатов.*

Introduction

According to WHO, the cause of the annual death of more than 16 million people in the world are infectious and invasive diseases, and a third of the population of Europe is infected with one or more helminthiasis. For example, 400-600 thousand new cases of helminthiasis are registered annually in Ukraine, and population migration creates the problem of the emergence of tropical parasites in different regions of Ukraine and the world. Today, more and more cases of malaria are registered in Ukraine, which were brought from abroad, and it is noted that in recent years, mainly tropical malaria is brought, which is characterized by a severe course and high, about 1%, mortality, which is 1-3 million deaths in the world annually.

According to the latest data, the incidence rate of helminthiasis is 1333 cases per 100,000 population in Ukraine, while the number of patients with nematodes is 5,000,000, almost every 10th citizen of Ukraine is infested with enterobiasis, ascariasis. The incidence rate for tissue helminthiasis is also growing, in particular, toxocarosis, echinococcosis and dirofilariasis. The situation is significantly complicated by untimely laboratory diagnostics of helminthiasis and asymptomatic parasitic carriers.

The increase in the number of patients with parasitic infestations among the population prompts us to develop more advanced methods of their diagnosis, treatment and prevention, and also exacerbates the issue of increasing the level of professional training of future doctors.

The aim of the work is to analyze the features of teaching medical parasitology to the first and second year students of Higher State Educational Establishment of Ukraine "Bukovinian State Medical University" in order to improve teaching methods in the training of practical doctors.

Body

The modernization of the higher education system in Ukraine is characterized by a combination of the traditional domestic school and the latest global trends associated with Ukraine's entry into the European educational space. Analysis of literary sources shows that the introduction of innovative teaching models, modern e-learning technologies, distance learning is becoming necessary in the formation of a modern highly qualified, competitive specialist. The quality of domestic education, educational standards and norms do not always correspond to the needs of existing world norms [1, 2, 5, 7, 8].

To improve the quality of training competitive doctors, teachers of the Department of Medical Biology and

Genetics are constantly updating materials of lectures and methodological recommendations for practical exercises using the latest achievements of medicine and pharmacy. In the preparation of teaching materials, the ability to proper organization and structure of the lesson plays an important role. When studying medical parasitology, an important point is to determine the relevance of the lesson topic, in order to motivate the student properly to perceive and memorize educational material, it is important to emphasize the further use of the information received in practice. In our opinion, it is necessary for this purpose to indicate the percentage of parasitic invasions in the structure of the general morbidity of the population and the widespread occurrence of these nosologies in the world.

Lectures take the leading part in the organization of the educational process, lecturers use an illustrative method of presenting information using multimedia, the presentation of the material is accompanied by various images, tables and diagrams, fragments of videos, demonstration of micro and macro preparations for maximum clarity, which facilitates the perception of the educational material by students.

During practical classes, the teacher focuses the attention of students on the main content and relevance of studying the topic. In our experience, we have determined that when studying medical parasitology, the main teaching methods are: explanatory-illustrative method or information-receptive (lecturing in front of an audience using multimedia presentations, conducting webinars using modern Internet learning technologies); reproductive method (conducting practical classes using electronic textbooks, databases of Internet resources, applying and recording what was learned on the basis of a sample or rule in students' work (protocol) notebooks; reproduction of knowledge during oral questioning of a student; consolidation of knowledge when performing practical work; intermediate and final control of knowledge using computer test control of knowledge); the method of problem presentation (formulation of a problem with a stating of a task based on various sources and means, followed by comparison of points of view, different approaches under the supervision of a teacher, conducting a scientific search on a specific problem); research method (independent study of literature, scientific sources, followed by comparison of points of view, different approaches under the supervision of a teacher, conducting a scientific search on a specific problem, educational research and research work of students (in practical classes, work in the SSW of the department, participation in conferences, academic competitions, etc.); business (role-playing) games (distribution of

roles between students (the role of a patient, admission doctor, laboratory assistant, pharmacist), which can be used in the study of parasitic diseases. This will give an opportunity to activate students' thinking; to increase the independence of the future specialist; bring the spirit of creativity into teaching; to bring training closer to the professional activity; prepare the student for professional practical activity); discussion methods (elements of discussion: disputes, clash of positions, deliberate exacerbation and even exaggeration of contradictions in the discussed content) can be used in almost any form of education, including lectures, discussion methods act as a means of not only teaching, but also education); modeling method (this is a method of creating and researching models. A model is an imaginary or materially realized system that adequately reflects the subject of research and is able to replace it in such a way that the study of the model contributes to obtaining new information about this subject) [3, 4, 6, 9].

The use of computer technologies plays an important role in the educational process. The arsenal of multimedia technologies includes animation graphics, videos, sound, interactive capabilities, the use of remote access and external resources. With the help of such methods and an interactive whiteboard, teachers of the department create many interesting projects for students.

The use of these technologies gives a unique opportunity to provide a huge amount of useful and interesting information in the most convenient and accessible form. The use of multimedia in the teaching process increases the effectiveness of the study of medical parasitology of students due to the influence of graphic and verbal stimuli that contribute to the construction of visual and auditory types of perception in them.

The department pays great attention to the acquisition of practical skills. When studying medical parasitology, students demonstrate the ability to distinguish the most common human parasites by morphological characteristics in laboratory studies, for which the department uses photographs, micro- and macro-preparations of human parasites from the sections "Medical protozoology", "Medical helminthology" and "Medical arachnoentomology". It is important not only to diagnose parasitic pathology, but also to prevent it in a timely manner, therefore, at the department teachers instruct students to use the knowledge of parasite life cycles to justify preventive measures.

During the study of the discipline, a systematic survey and assessment of all students of the academic group is necessary. The use of test items makes it possible to determine the level of assimilation of the material by the students and to identify gaps in knowledge on the topic. Test control allows the teacher to test the knowledge of all students of the academic group at the same time and form their need for preparation for each practical lesson.

The teachers of the department pay special attention to the test tasks for the preparation of the Unified State Examination (unified state qualification exam for applicants for a master's degree in higher education in the specialties of the branch of knowledge "22 Healthcare"), Stage 1 Integrated test exam "KROK1" and the exam in English, which is passed after learning fundamental

disciplines. In practical classes, teachers analyze test tasks on the topic of the lesson that were offered to the students of the past years (in Ukrainian and English), commenting and focusing on the main key concepts. This type of work demonstrates a good result in the final modular control and the exam "KROK1" itself.

When studying the section "Medical parasitology" at the department, attention is paid to the organization of extracurricular work of students, because the credit-modular (transfer) system of education involves a decrease in the amount of classroom work and increases the importance of student's independent work, allows to reveal one's individual abilities. The academic discipline provides for individual independent work of students, which can be in the form of speeches at a scientific student workshop, participation in scientific conferences, publication of reports in the form of abstracts and articles in scientific periodicals (journals, collections of scientific papers) and writing abstracts, and the like.

Teaching foreign students the section "Medical Parasitology" has its own characteristics, as it covers many issues of tropical parasitology, modern diagnostic methods and medical geography.

The assessment of the level of knowledge of foreign students in a practical lesson is carried out by the classical question-answer method, additional test tasks are used. Time is devoted to the study of macro- and micro-preparations of parasites and sketches of their main morphological features in a workbook.

The teaching staff of the Department of Medical Biology and Genetics is constantly improving the teaching methods of the section "Medical Parasitology", using classical and newest methods (developments, approaches), thereby motivating the students of the HSEE of Ukraine "Bukovinian State Medical University" to active discussion work, participation in scientific workshop of the department and various conferences. The achievements of our students together with the teachers are presented at the Information stands of the department, which we are pretty proud of; this stimulates us to master the latest teaching and information presentation methods.

The latest teaching methods, such as the case method, gaming, smart technologies (using an interactive whiteboard), videos and the like, help students to consolidate the accumulated knowledge of the morphophysiological characteristics of protozoal parasites, helminths and arthropods, to show their importance in medicine, to understand, remember their taxonomy and biological features.

One of the most relevant is the case method, the method of specific situations. This is a method of active problem-situational analysis based on learning by solving specific problems - situations (developing cases). This method belongs to non-play simulation active teaching methods and is considered as a tool that allows one to apply theoretical knowledge in solving practical problems. It allows and assumes modeling of life situations, the use of role-playing games, joint problem solving based on an analysis of the circumstances of a clinical case.

Typically, the case includes the characteristics or symptoms of the disease / circumstances of infection / the results of laboratory tests or additional examination

methods / photos, tables, diagrams. The final stage is a clear task (to determine a diagnosis, morphologically identify the pathogen, give recommendations for the prevention of further spread of the disease), which students must complete in a group discussion or individually.

Each case must correspond to the curriculum within which it is being solved, which contributes to the creation of purposeful and organized student work and the formation of appropriate professional skills. Such tasks motivate future doctors for research activities, analysis of information, form the ability to conduct a discussion, and develop communication skills. Group discussion teaches teamwork, the ability to make a collective decision.

There are a large number of parasites of humans and poisonous animals, the affect of which will require knowledge of the algorithms of medical care. Therefore, when teaching the section "Medical Parasitology" important aspects of knowledge are considered that will be needed by epidemiologists, infectious disease specialists, dermatologists, allergists, dentists and general practitioners in their professional activities.

The modern system of higher education needs the development of interdisciplinary ties, primarily natural sciences, as well as the development of innovative technologies in the training of future specialists [10, 12]. Optimization of the pedagogical process at the Department of Medical Biology and Genetics is carried out by improving the methods and means of teaching through the use of interactive forms of teaching, which is a necessary condition for ensuring the effectiveness of the learning process of students when studying the section "Medical Parasitology". This provides the prerequisites for the formation of professional thinking of students, contributes to their professional and personal development, stimulation of educational and cognitive activity, mastering the skills of a comprehensive analysis of situations, prompt decision-making, the ability to analyze additional information to clarify the initial situation, independence in decision-making, mastering practical experience etc.

The world in which a person lives becomes complex and contradictory. To develop a reasonable strategy for one's own life in it, it is necessary to have a sufficiently high intellectual and creative potential, a high competency, therefore one of the most important tasks of a higher school is the personal and professional growth of students. The society in which we live is developing and changing all the time. The modern world educational space is constantly being replenished with new content of knowledge, new qualification signs. New spheres of relations, new specialties are emerging, which form new disciplines. Higher school of Ukraine is in the process of reforming [11].

Conclusion

1. To optimize the educational process and high-quality training of medical workers in the section "Medical Parasitology", it is necessary to use various teaching methods in combination with modern technologies, which contribute to better motivation of students for learning and ensure effective assimilation

of the material. 2. When studying medical parasitology, there is a need to use a large number of visual materials (multimedia presentations, tables, diagrams, illustrations, photographs, micro- and macro-preparations), which allow providing students with a large amount of information in the most convenient and accessible form. 3. Scientific and pedagogical personnel need to improve themselves constantly in accordance with the challenges of our time and modern learning conditions, including online learning.

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