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Автори:	Malyshevska, H. (/browse?type=author&value=Malyshevska%2C+H.) Bolotnikova, A. (/browse?type=author&value=Bolotnikova%2C+A.) Tokmenko, I. I. (/browse?type=author&value=Tokmenko%2C+I.+I.)
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Короткий огляд (реферат):	Essential oil is a volatile solution with a specific odor, it usually is lighter than water and is not soluble in polar solutions [6]. All essential oils are labile and volatile compounds evaporate in the environment so they lose their biological effect [7]. A few methods are used to protect essential oil, for example, microencapsulation. Microencapsulation is usually a simple physical method and many excipients' variations could be used [1,4,5]. The shell of microcapsules protects volatile compounds from oxidation, temperature, and moisture influence [2]. In this study, nutmeg essential oil was used and microcapsules with sodium alginate were prepared.
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Файли цього матеріалу:

Файл	Опис	Розмір	Формат

FEATURES OF STUDYING THE TOPIC "PROPERTIES OF COMPOSITES AND ALLOYS IN DENTISTRY" FOR HYBRID LEARNING

Malyshevska H, Bolotnikova A., Tokmenko I.

Bogomolets National Medical University,

Kyiv, Ukraine

Kolonova_Anna@ukr.net

Key words: hybrid learning, distance learning, composite materials, analytical skills.

Introduction. Nowadays hybrid learning is quite popular due to the COVID-19 coronavirus pandemic. Distance education requires an individual approach to each student [1, 2, 5, 7]. Educators must create comfortable conditions for learning in the new, modern world.

Materials and Methods. Scientific materials, methodical materials of the platform for distance learning LIKAR_NMU [8] were used as materials. This paper used theoretical methods of analysis and systematization of literature data, as well as questionnaires of students.

Results and Discussion. The main principles of hybrid education are: flexibility, modularity, dynamism, adaptability, continuity, creativity and openness. It is based mainly on the independent acquisition of the required amount and quality of knowledge and involves a combination of a wide range of traditional and modern information technologies [4, 7, 8]. While, the online learning process requires a creative approach of the teacher when explaining the material. Distance educational resources allow students to communicate with the teacher in an online format, continuously improve their knowledge and skills of self-education, which in the future will be the basis for successful work [7]. Base on pedagogical experience and modern knowledge of the educational process, organized with the help of various information technologies, as well as taking into account the development of competencies of future professionals of health care institutions, a case method was proposed on "Physico-chemical properties of composites and alloys dentistry "for the course" Medical Chemistry "[6, 8].

The purpose of the case on the topic "Physical and chemical properties of composites and alloys in dentistry" is the assimilation of the material by students, as well as the development of analytical skills in conditions of hybrid and distance learning. at the Bogomolets National Medical University (NMU), the discipline "Medical Chemistry" in the context of the COVID-19 pandemic is taught online using the ZOOM and LIKAR_NMU platforms [8]. Practical tasks are performed mainly using the LIKAR_NMU platform. However, communication and discussion of topics takes place through online lessons in Zoom. The proposed topic is designed for first-year students of the educational stage "second (master's) stage of higher education" specialty 221 "Dentistry" [6].

Alloys and composite materials are a necessary component in dental practice. Knowledge of the physical and chemical properties of composites and alloys allows the future specialist to choose the right material, taking into account the medical and technological requirements for it and the individual characteristics of the human body.

One of the objectives of this course is to develop the following skills:

- ✓ Understand the criteria and requirements for materials used in dentistry.
- ✓ Distinguish between the concepts of composites and metal alloys.
- ✓ Know the medical and technological requirements that must meet dental alloys.
- ✓ Understand the relationship between the properties of chemical materials and their biological role.
- ✓ Understand the pathological processes that occur in the biological incompatibility of alloys with oral tissues.

The topic reveals and substantiates the concepts of "biological compatibility" and "biological tolerance" of materials, which is very important for future professionals [4].

This case material includes exercises to master the basic requirements for metals and alloys used in dentistry. The classification of basic alloys used in dental practice is considered. The role of each component of the alloy is substantiated. To consolidate theoretical knowledge, test tasks and calculation tasks corresponding to the topic have been developed.

Conclusion. The topic "Physical and chemical properties of composites and alloys in dentistry" is the basis for further study of special disciplines. In addition, the lessons formed by the case-method [1, 3] contribute to the effective acquisition of knowledge and skills.

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