

Project title: "Innovative and interactive course in Lung and Thoracic Ultrasonography"-ERS EDUCATIONAL RESEARCH GRANT 2014

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1. Problem analyse

This project aims to diminish the lack of postgraduate medical education and information using lung and thoracic ultrasonography for diagnosis and therapy of lung and pleura diseases. This problem appeared as a result of the absence of a lung and thoracic ultrasonography as part of the Respiratory Medicine curricula. Another generating cause of the current situation it is also the lack of information and training on medical events (National Congress, National Conferences, workshops, etc) with the accent of the lung and thoracic ultrasonography.

For many years it was considered that the ultrasonography had no specificity in the process of diagnosis of the pleural and pulmonary diseases. One explanation is the mechanism on which the ultrasonography is based. An ultrasonography is performed with the help of an transducer which generates ultrasounds. This ultrasounds will propagate with different speeds according to attenuation effect of the structures and tissues that are investigated. The attenuation effect of the air and the bones is bigger. The lungs being organs filled with air and surrounded by the thoracic cave, are even more affected by the attenuation effect. This is the reason why the ultrasonography was not used for the study of lung diseases, and preferred to be use clasic only in pleura diseases, especially in pleura colection, where the liquid brings us a hopeful ecographic window.

The consequence of not using the ultrasonography in this medical field could lead, at the beginning, to an encrease of the health insurance costs, at personal level and at the society level, due to an excessive utilization of the computer tomography (especially in the pleural techniques). Another consequence of the exceeding use of the radiant diagnosis methods is the harmful effect of the radiations of the human body, both patient and doctor. Another disadvantage is the increased number of the complications of the pleural and pulmonary diseases due to an late diagnose or a misdiagnose. All these consequences will lead to a general decrease of quality the medical services, which will secondary determine a overload of the complementary medical specialties. The costs are paradoxically increased because of the excessive use of expensive radiological diagnosis methods and because of the surgical hospitalization costs, sometimes as a result of complications which requiring thoracic surgery.

2. Goal and objectives

This project has as goal to achieve an online e-learning module about the utility and use of lung and thoracic ultrasonography. Lung and thoracic ultrasonography is an emerging and useful technique in the management of certain lung diseases that affected the content of alveolar air and interstitial fluid, and/or when air or liquids are collected in the pleural space.

Lung and thoracic ultrasonography at this point is applicable on many levels, namely: interstitial, alveolar and pleural syndromes.

The objectives of this project are:

O1: To organize a national course in order to prepare **45** participants with the help of 3 national specialists in ultrasonography, about the utility and how to use the lung and thoracic ultrasonography. This course will be held in 3 Medical University Centers of Nord-West of Romania: Oradea, Cluj Napoca and Timisoara.

O2: To develop an online e-learning module available at the Romanian Society of Pneumology and for all specialists and residents in pulmonology, internal medicine, emergency and others specialities interested in the treatment of pleural and pulmonary pathology.

The course will be interactively organized, adapted for each participants profile. The theoretical part will be held by a lecturer from the national specialists. The workshops will take place, in Municipal Hospital of Oradea, Pneumology Department, „Leon Daniello” Clinical Hospital of Cluj Napoca and „Victor Babeş” Hospital of Timișoara, which will provide casuistry available. The subjects of workshops will be different, depending on the casuistry of each hospital. After every meeting, the resulted materials will be gathered, processed and integrated by the IT-team, so that at the end of the project the result will be an online e-learning module.

This online e-learning module will be used by the Romanian Society of Pneumology , by all specialists interested in treatment of pleural and pulmonary pathology and by the European Respiratory Society.

3. Expected results:

The final result will be an e-learning module, that will contain a variety of interactive learning methods, realised by the specialists, organization team and by the interactively contribution of the participants

The purpose of this courses is to contribute to a continuous medical learning postgraduate education. These meetings are also the first step of generating the specific respiratory medical education program.

Another result represents the skills improvement of the participants, in lung and thoracic ultrasonography. .

Expected impact:

For the participants:

- will increase the knowledge in lung and thoracic ultrasonography
- improvement of lung and thoracic ultrasonography skills
- increase the level of motivation and commitment

For the Healthcare System:

- increasing and improving the information and skills in lung and thoracic ultrasonography among physicians, nationally and even at european level
- implementation of mandatory ultrasound investigation in the assessment protocols of lung and pleural pathology in Romania.
- implementation of a lung and thoracic ultrasonography training course as part of the

curriculum for the speciality of pulmonology in Romania.