

**THE UNIVERSITY OF MEDICINE AND PHARMACY
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**HISTORICAL ASPECTS OF EVOLUTION
ROMANIAN PNEUMOPHTISIOLOGY**

Conceptual and institutional dimensions in the European context

Summary

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Introduction

The paper provides a broad and detailed background on the evolution of hospital institutions, with particular attention to the development of health systems and the treatment of diseases. From the ancient origins of medical institutions to advances in the modern era, the text covers a wide spectrum of topics, including the role of hospitals in different historical periods, the evolution of medical specialties, and the contribution of various cultures to health care.

An interesting aspect is the exploration of the possibility that the origin of hospital institutions lies in ancient India, showing that the concern for health care was not limited to Western civilizations.

The chapter on the evolution of hospitals and medical education in Romania adds an important local perspective, highlighting the evolution of the medical sector in a particular region. Starting with the milkweeds of Roman Dacia and culminating with the development of modern hospitals and medical education institutions, the section highlights Romania's contribution to the global medical field.

This work is comprehensive and carefully structured, providing a solid foundation for a detailed discussion of the evolution of hospital institutions and their impact on global health.

1. The evolution of hospital institutions

This section examines the history and development of hospital institutions, an essential pillar in the evolution of health systems globally. Beginning with the first medical institutions in the Eastern Christian world and continuing to the present day, the study highlights the transformations hospitals have undergone, reflecting social, cultural, and medical changes.

The origin of hospitals and their early development

In antiquity, health care was frequently associated with temples, where priests and priestesses provided medical services, exemplified by the healing temples of ancient Egypt and Greece. In the Roman Empire, the first public hospitals (valetudinaria) appear, originally intended for soldiers.

The evolution of the hospital in the medieval period

In the Middle Ages, hospitals became predominantly ecclesiastical institutions, focusing on the care of the poor, pilgrims and widows. They played a crucial role in the management of epidemic diseases such as the plague.

The renaissance and modern evolution of hospitals

With scientific and medical progress in the 19th and 20th centuries, hospitals began to modernize, introducing advanced medical technologies and specializations. Close collaboration between hospitals and medical schools is emerging, contributing to medical development.

The Indian Roots of Hospitals

Interestingly, the paper also explores the possibility that the origin of hospital institutions lies in ancient India, where there were settlements for the care of the poor and the sick, including animals.

The definition of R.F. Bridgman and the impact of the hospital

RF Bridgman defines the hospital as an establishment dedicated to social and medical aid for the poor and sick, with the aim of reintegrating them into society. This model contrasts with the practices of classical antiquity and suggests an evolution of the hospital concept towards a role more oriented towards medical care and social reintegration [1].

Conclusions

The evolution of hospital institutions reflects social, technological and medical changes throughout history. From the first rudimentary forms of care in ancient temples to the emergence of specialized structures in the medieval period and the evolution of modern healthcare systems, this evolution radically changed the way societies approached healthcare. This chapter provides a detailed perspective on this topic, highlighting the importance of hospital facilities in the development of modern health systems.

2. The evolution of hospitals and medical education in Romania

This detailed presentation highlights the remarkable evolution of the medical system and medical education in Romania. From its ancient roots in asclepians and monastery hospitals, to the development of modern hospitals and medical education institutions, Romania has crossed a long and complex road in the field of health.

The Asclepians of Apulum and Sarmizegetusa

In Roman Dacia, the cult of the health god Aesculap and his daughter Hygia was concentrated in two settlements: Colonia Ulpia Traiana Sarmizegetusa and Apulum. Temples had attached asclepians, considered the first places of medical assistance.

Dacian priests combined magic with therapeutic treatments, along with military and civilian doctors. At Apulum and Sarmizegetusa, these centers offered varied medical assistance, from sacerdotal treatments to lay practices [2].

Monastery Hospitals

Starting from the 4th century, the synods recommended the organization of charitable settlements such as parthenocomia, gyrocomia, xenodohia, orphanotrophia, blephotrophia, gherontochomia, ptochotrophia, nosochomia [3]. Monastery hospitals were shelters for lepers, invalids, old people, chronic sufferers, without specific medical assistance. In the Romanian Countries and Transylvania, there were hospitable Catholic orders and, starting from the 13th century, asylums and leprosariums [4].

The beginnings of Colțea Hospital

Founded by Mihai Cantacuzino in 1704, it was the first hospital in Bucharest, built after the Ospedale di S. Lazzaro e Mendicanti in Venice, which represented an important step in the development of the Romanian medical system [5].

It offered free treatments and represented a turning point in the evolution of Romanian medical care.

Saint Spiridon Hospital in Iași in the 18th century

Founded in the 18th century, this hospital became the oldest healthcare institution in Iași and played a crucial role in the treatment of contagious diseases and the Russo-Turkish war. Built around the church of Saint Spiridon, it was recognized as the oldest healthcare institution in Iași, officially established by the charter of ruler Constantin Racoviță in 1757.

Târgu-Mureș Hospital, the first public hospital in Transylvania

This hospital was influenced by the pioneer of smallpox vaccination, J. O. Zsef Szotyori, and was opened to all denominations in 1812, with a curative role, marking a progress in healthcare in Transylvania.

Philanthropy Hospital in the 19th century

Founded and organized by Dr. Constantin Caracaș in 1812, the hospital brought innovations in treatment and organization. This hospital represented a model of free and high-quality treatment for patients without resources. It became an important center for medicine and medical education in Bucharest.

Brâncovenesc Hospital in the 19th Century

Founded by Safta Brâncoveanu between 1835 and 1838, it was an important medical center for poor people and became a medical school. Major reconstruction in 1880-1890 modernized the hospital and increased the capacity to 240 beds.

Colentina – Hospital complex

Founded by Prince Scarlet Grigore Ghica in 1858, this complex gradually grew, improving its services and the quality of medical care, becoming part of the "Eforia Civil Hospitals". Its continued development has included expansions and improvements in medical services.

Hospitals in Cluj

After 1848, Cluj became an important center for medical assistance, with public hospitals and university clinics that contributed to the medical development of the region. Cluj had a significant role in the development of hospitals and medical education, with institutions such as the Franz Joseph University and then the Romanian University of Cluj.

Conclusions

The evolution of hospitals and medical education in Romania was a complex and significant process. From the milkweeds of Roman Dacia to modern hospitals, our country has played an important role in medical development, both nationally and internationally. This detailed history highlights Romania's importance and contribution to global medicine and science.

3. History of Pneumology

This chapter provides a broad overview of the evolution of pulmonology, highlighting key moments and transformations in the discipline. It begins with the periods of Ancient Greece and the Roman Empire, where the first steps in understanding the respiratory system were made. The evolution of the discipline is traced through a series of significant discoveries, such as:

- Developments in anatomy and physiology in the 16th century, with the contribution of Leonardo da Vinci.
- Advances in the 17th century, including William Harvey's discoveries about the circulatory system and Malpighi's about the pulmonary capillary network.
- Inventions and innovative diagnostic methods, such as Laënnec's stethoscope and Auenbrugger's percussion.

- Significant leaps in the 19th century, including developments in microbiology by Pasteur and Koch.
- Advances in the 20th century in diagnosis and therapy, such as chest radiography and the introduction of antibiotic [6].

Pneumology in non-Western civilizations to the end of the 18th century

This subchapter explores the contributions of non-Western civilizations to the development of pulmonology. Attention is paid to the medicine of Mesopotamia, Persia, India, Pre-Columbian America and China, highlighting their approaches and knowledge of lung diseases and treatments. For example, herbal therapies from Mesopotamia and breathing techniques from India are mentioned. Also explored are the contributions of ancient Egypt and classical Greece, including the works of Hippocrates and Galen.

In the ancient civilizations of Mesopotamia, India, Pre-Columbian America, China and Egypt, knowledge of pneumology was fragmentary and often combined with religious practices. In these cultures, various lung diseases were described and therapeutic methods such as inhalations and fumigations were used.

The first half of the 19th century

This subchapter focuses on the period in which Laënnec made his decisive contribution to pulmonology, through the invention of the stethoscope and the development of the anatomico-clinical method. He introduced new concepts in the diagnosis of lung diseases and contributed significantly to the nosology of respiratory diseases. These innovations enabled a more precise classification of lung diseases and solidified pulmonology as a distinct medical discipline.

Pneumology in the second half of the 19th century

This section highlights advances in pulmonology in the context of revolutions in experimental medicine, pathological anatomy, and microbiology. Claude Bernard's contributions to respiratory physiology and the impact of Rudolf Virchow's work on pathological anatomy are mentioned. Claude Bernard and Rudolf Virchow were notable figures in this context.

Pneumology at the beginning of the 20th century

This part explores the development of diagnostic techniques in pulmonology, including radiology and isotopic studies. The development of radiology, bronchology and thoracic surgery marked this period. Wilhelm Konrad von Röntgen discovered X-rays, facilitating the diagnosis of lung diseases. Advances in respiratory pathophysiology have led to the development of respiratory resuscitation.

Special attention was paid to developments in thoracic surgery and bronchoscopy, as well as to the understanding of the role of viruses in respiratory diseases.

The second half of the 20th century - the therapeutic era

This section highlights therapeutic advances in pulmonology, such as the use of antibiotics and corticosteroids. The development of respiratory resuscitation techniques and their impact on thoracic surgery is also discussed. Bronchology and thoracic surgery have advanced significantly, and pathophysiology and resuscitation have been essential in the treatment of respiratory failure. A new nosology, based on immunology, microbiology and epidemiology, evolved during this time.

Pneumology Status and Prospects

The state of pulmonology is presented, emphasizing advances in immunology, microbiology, and epidemiology. Modern pulmonology is based on a detailed understanding of the anatomical structures and functions of the respiratory system. Major problems such as bronchial cancer and respiratory failure remain significant challenges. Research and innovation continue to advance, paving the way for new discoveries and treatments [6].

Conclusions

Pulmonology, as a medical discipline, has evolved remarkably since its inception. Understanding the history of pulmonology helps us appreciate past achievements and anticipate future directions in research and treatment. The need for continued research and innovation in pulmonology is highlighted, given the increase in respiratory problems globally. It is obvious that pulmonology will continue to be crucial in improving the quality of human life, given the increased prevalence of respiratory problems in the modern world.

4. History of tuberculosis

The history of tuberculosis is deep and complex, reflecting humanity's long struggle against this disease. Over time, tuberculosis has influenced various cultures and societies, and its medical approach has evolved considerably.

Ancient presence: Tuberculosis has affected humans since ancient times, with archaeological evidence such as lesions on Neolithic skeletons and Egyptian mummies. Even if the interpretation of cultural artifacts such as the "hunchback" statuettes is uncertain, the existence of the disease in antiquity is clear.

Phthisis in Antiquity: Ancient texts suggest that pulmonary tuberculosis was known and widespread, especially in ancient India and China. Living conditions and proximity to animals facilitated the transmission of tuberculosis from cattle to humans

Ancient Medical Approach: Ancient physicians, including Hippocrates, described tuberculosis (phthisis) in terms of symptoms and effects on the lungs. He noted the contagious nature of the disease and recommended treatments based on rest, proper nutrition, and avoidance of cold.

Concepts of transmission and heredity: In ancient India, tuberculosis patients were considered impure, suggesting an early understanding of the contagious and possibly hereditary nature of the disease.

Hippocrates' contribution: Hippocrates is recognized as a pioneer of phthisiology, laying the groundwork for the later understanding of tuberculosis with an emphasis on detailed clinical observations and therapeutic approaches.

This history emphasizes that tuberculosis has always been a major challenge to human health, and efforts to understand and treat it have spanned thousands of years. The historical study of tuberculosis gives us valuable insights into how human societies reacted to this persistent and dangerous disease [7].

History of pathology and knowledge of the disease

The history of the pathology and knowledge of tuberculosis reflects the evolution of the understanding of this disease over the centuries. This evolution is divided into several significant stages:

Hippocrates' Contribution: Considered the father of medicine, Hippocrates was instrumental in identifying and describing tuberculosis. He noticed symptoms such as persistent fever, profuse sweating, cough and loss of appetite. It also recognized the link between pulmonary tuberculosis and Pott's disease and the importance of early diagnosis and appropriate treatment.

Medical Development in Alexandria and Ancient Rome: Although Alexandria had eminent physicians, their contributions to phthisiology were limited. In ancient Rome, the works of Aretus of Cappadocia and Galen made original contributions, with detailed descriptions of the symptoms of phthisis and the various forms of the disease.

Arab Medicine and the Transmission of Knowledge: Arab physicians, including Avicenna, played an important role in the transmission of ancient medical knowledge regarding tuberculosis as a general and consumptive disease.

Renaissance and Western Middle Ages: A significant spread of tuberculosis was seen, but advances in understanding the disease were limited. However, the works of Girolamo Fracastoro laid the foundations for theories that were to be applied only centuries later.

Evolution of understanding of tuberculous adenitis: In the 17th and 18th centuries, the increased frequency of tuberculous adenitis led to an abundance of medical writings. These works reflected the growing concern with this manifestation of tuberculosis.

The history of the pathology of tuberculosis highlights the gradual advances and how the understanding of this disease has developed over time, from the initial observations of Hippocrates to the theoretical and practical developments of the Renaissance period and beyond. This development was fundamental to the modern approach to the treatment and prevention of tuberculosis [7].

Anatomoclinical stage

The anatomoclinical stage of tuberculosis marks a significant advance in the understanding and diagnosis of this disease. This period was characterized by an increased interest in correlating clinical symptoms with anatomical changes seen at autopsy. The main contributions at this stage include:

Early contributions: Marcello Malpighi advanced the understanding of the structure of the lungs and Thomas Bonet compiled anatomico-clinical observations on pulmonary tuberculosis. Sylvius de la Boe and Richard Morton also contributed important observations, including the description of tuberculous hilar adenitis.

Pierre Desault: Desault stated in 1733 that tuberculosis and scrofulosis (a type of extrapulmonary tuberculosis) are related, establishing a link between pulmonary tubercles and ulcerations.

Progress in pathological anatomy: Pathologists such as Van Swieten, Baillie and Vetter provided detailed descriptions of tuberculous lung lesions.

Gaspard Laurent Bayle: Bayle made significant contributions through his studies of pulmonary phthisis, based on numerous autopsies. He described various forms of tuberculosis, including phthisis granulosa and phthisis occultus.

René Laënnec: Laënnec is known for establishing the connection between tubercles, miliary granulations and lung cavities. He provided a detailed description of the various forms of pulmonary tuberculosis and contributed to the development of mediated auscultation.

P.C.A. Louis: His work "Anatomicopathological Researches on Pulmonary Phthisis" brought further details about pulmonary tuberculosis, with emphasis on the predominant location of the lesions in the upper lobes of the lungs.

Auscultation: Laënnec's invention of the stethoscope and description of the physical signs of tuberculosis represented a major advance in the clinical diagnosis of the disease.

Thermometry: The use of thermometry (introduced by Wunderlich in 1856) complemented the clinical evaluation of patients with tuberculosis.

This milestone marked a turning point in the history of tuberculosis, providing essential tools and methods for accurate diagnosis and a deeper understanding of the disease. These discoveries paved the way for further advances in the treatment and management of tuberculosis [7].

Fundamental discoveries

This detailed section explores fundamental discoveries in the understanding and treatment of tuberculosis, highlighting significant advances in fields such as histopathology, bacteriology, immunology, and radiology.

Histopathology: The use of the microscope radically changed the study of tuberculosis, with important research by Reinhardt and Virchow separating tuberculous granulation from other pneumonic lesions.

Experimental tuberculosis: Jean-Antoine Villemin demonstrated that tuberculosis is an infectious disease through an experimental study, advancing the understanding of the etiology of the disease.

Artificial pneumothorax: Carlo Forlanini, an Italian physician, played a crucial role in developing the treatment of tuberculosis by innovating the artificial pneumothorax, which became a standard method of treatment.

Bacteriology: Robert Koch made a significant impact by discovering the tuberculosis bacillus in 1882, which was a turning point in the diagnosis and understanding of the disease. Further research led to the development of bacterial cultures and the introduction of tuberculin for diagnosis.

Immunology: Koch phenomenon demonstrated resistance to reinfection with tubercle bacilli. The development of the BCG vaccine by Calmette and Guérin was a major step in the prevention of tuberculosis.

Radiology: Wilhelm Conrad Röntgen's discovery of X-rays revolutionized the diagnosis of pulmonary tuberculosis by allowing visualization of internal lesions.

Evolution of the understanding of tuberculosis: The work of Hebrard and Cornil, as well as that of Grancher, contributed to a better understanding of the various forms of pulmonary tuberculosis. The studies of tuberculosis in children by Parrot and Ghon provided essential information on the course and treatment of the disease in the pediatric population. The theory of phthisiogenesis was advanced by Ranke, who proposed a three-stage model of the evolution of pulmonary tuberculosis.

This period marked a significant evolution in the understanding and treatment of tuberculosis, leading to radical improvements in the approach to this disease.

History of treatment a recent triumph

The evolution of tuberculosis treatment throughout history, starting with the hygienic-dietary methods of ancient medicine and reaching modern developments in chemotherapy, highlights significant advances and therapeutic innovations.

Hygienic-dietary cure:

- Ancient doctors (Greek, Indian, Chinese) emphasized the importance of hygiene and diet.

- Hippocrates and Galen recommended healthy food, moderate exercise and avoidance of excesses, specific regimens and change of air as part of treatment.

- In the Renaissance, women's milk was preferred and patients were often advised to change the climate to heal.

- Hermann Brehmer opened the first sanatorium in 1859, establishing a rigorous method that included overfeeding and strict rest. Sanatoriums spread rapidly across Europe, becoming a standard in the treatment of tuberculosis.

Local treatment:

- Artificial pneumothorax: Developed by Forlanini in 1882, it became the main treatment of pulmonary tuberculosis for almost 40 years.

- Thoracoplasty: Initiated in 1885, this surgery was improved in the 1900s to treat severe cases. The subsequent development of thoracic surgery provided additional options for the treatment of advanced tuberculosis.

Development of thoracic surgery:

- Various surgical procedures have been developed, including extrapleural pneumothorax and various methods of collapse therapy.

- Direct surgical interventions on the pulmonary caverns have also been explored.

Drugs:

- Koch's tuberculin: Originally considered a cure, it turned out to be dangerous.

- Immunotherapy and chemotherapy: Various attempts at serotherapy and chemotherapy were made in the 19th and 20th centuries.

- Calmette and Guérin vaccine (BCG): Developed in 1921, it was a major step in the prevention of tuberculosis.

- The era of antibiotics: Streptomycin, discovered in 1943, revolutionized treatment, followed by PAS (para-aminosalicylic acid), isoniazid, and later by rifampicin and other drugs that significantly reduced the duration of treatment.

This evolution of tuberculosis treatment reflected the remarkable progress of medicine over the centuries, from methods based on hygiene and climate to sophisticated surgical and pharmacological approaches [7].

History of prophylaxis: tuberculosis, social disease

The evolution of tuberculosis prophylaxis outlines how this disease has been perceived and approached throughout history, framing it in its social and medical context.

Controversy over contagion:

- The contagionist theory, accepted in antiquity, was later neglected and then reaffirmed in the 16th century by Fracastor.

- In later centuries, the theory was more accepted in the Mediterranean regions compared to northern Europe.

- The works of Laënnec and Villemin, as well as the discovery of the Koch bacillus, strengthened the contagionist theory.

Organization of the anti-tuberculosis fight:

- There is a close relationship between tuberculosis and living conditions, observed since ancient times.

- Different legislative measures have been adopted in Europe, ranging from repressive approaches in regions such as Italy and Spain, to more humanitarian ones in England and Germany.

- In France, the "Permanent Commission for the Prevention of Tuberculosis" was established in 1903.

Health facilities:

- Spas and specialized hospitals were developed to isolate and prevent the spread of tuberculosis.

- In the 18th century, the first infirmaries specialized in the treatment of tuberculosis appeared.

Dispensing:

- Understanding the importance of screening and monitoring led to the creation of dispensaries, the first established in Edinburgh in 1887.

Associations and awareness campaigns:

- Various associations and organizations were established to fight against tuberculosis, such as the French Central League against Tuberculosis and the International Union Against Tuberculosis.

- Public awareness campaigns, including the use of anti-tuberculosis stamps and posters, were initiated to spread knowledge about the disease.

Vaccination with B.C.G.:

- Development of the B.C.G vaccine. by Calmette and Guerin was a key moment in tuberculosis prophylaxis.

- Although initially controversial, especially after the Lubeck tragedy, vaccination with B.C.G. it was finally widely adopted after World War II.

Epidemiology:

- Epidemiological studies began in the 17th century in England and played a fundamental role in the understanding and management of tuberculosis.

- A decline in mortality from tuberculosis was observed in industrialized countries, while developing countries continued to experience high rates [7].

This history illustrates how tuberculosis, as a social disease, has been influenced by scientific, medical and social developments. Progress in understanding and treating tuberculosis has gone hand in hand with improvements in hygiene, living conditions and access to medical care.

5. History of pneumophthisiology in Romania

The history and evolution of pneumophthisiology in the Romanian Countries reflects a long and complex course, marking important milestones in the understanding and combating of tuberculosis. This infectious disease, caused by Mycobacterium tuberculosis, has been around since ancient times.

- ***The first evidence of the presence of tuberculosis discovered in us***

Archaeological and paleopathological evidence: The first signs of tuberculosis in Romania date back to the Neolithic period and the Bronze Age, with archaeological

discoveries in sites such as Cucuteni and Selistea Dealului. Bone lesions found in these sites indicate acute and chronic forms of the disease.

Tuberculosis in the Dacian Period: There are indications, including archaeological finds and historical references, that suggest the presence of tuberculosis during the Dacian period. Celsus, a Roman historian, mentioned the Dacians' predisposition to respiratory diseases, which may include tuberculosis.

Epidemics in the Middle Ages: After the 10th century, tuberculosis was one of the most common epidemics, along with plague, leprosy and other infectious diseases.

- ***The fight against tuberculosis in the Romanian Countries, the middle of the 19th century - the beginning of the 20th century***

It has been marked by a number of significant challenges and developments. Tuberculosis, also known as the "disease of the romantic century", was considered a serious condition, often associated with a death sentence due to the lack of effective treatments and limited medical knowledge. Efforts to combat this disease included the development of health infrastructure, legislative initiatives and improved hygiene practices [8].

The evolution of the fight against tuberculosis:

Awareness and increased mortality: In 1888, Bucharest recorded approximately 1,000 deaths from tuberculosis, a fact that highlighted the need for urgent measures in the field of public health [9].

The development of the health system under the influence of Carol Davila: Carol Davila, a French doctor naturalized in Romania, had a crucial role in the unification of health services and the creation of the Health Directorate in 1862. This movement marked an important step in organizing the fight against tuberculosis [10].

Relevant statistics and reports: Beginning in the 1860s, statistical data were collected that illustrated the impact of tuberculosis on the population. Iacob Felix, chief physician of the Capital, presented reports indicating an increase in mortality caused by pulmonary tuberculosis.

Health legislation and public initiatives: The first Romanian health law was adopted in 1874, and in 1875 a detailed statistic on the causes of mortality in Bucharest was published. These initiatives have marked significant progress in understanding and addressing tuberculosis.

Foundation of the Filaret Hospital and other initiatives: At the beginning of the 20th century, the first hospitals and sanatoriums specialized in the treatment of tuberculosis were

established, such as the Filaret Hospital in Bucharest, which played a vital role in the care of patients and in the attempts to curb the spread of the disease.

Rising mortality and the challenges of urbanization: During the interwar period, mortality from tuberculosis continued to be a major problem, particularly in urban areas, where industrialization and unsanitary living conditions contributed to the spread of the disease.

Education and awareness efforts: Steps were taken to educate the public about tuberculosis, including through broadcast conferences and informational materials. These initiatives have helped increase awareness and prevention of the disease [11].

- ***Filaret Sanatorium and Hospital***

This detailed presentation highlights the historical importance of the Filaret Sanatorium in Bucharest in the fight against tuberculosis in Romania, highlighting the significant contributions of Romanian doctors and civil society in this field.

Foundation and construction of the Filaret Sanatorium:

The initiative of doctors G. Proca and I. Cantacuzino, together with the Society for Tuberculosis Prophylaxis and Assistance to the Poor Tuberculosis, led to the construction of the Filaret Sanatorium in 1901.

It was the first unit of this type in Romania, with an annual budget of 150 thousand lei, representing an important civic and private effort in the fight against tuberculosis [12].

Location and historical significance:

Located in an area with a rich history of Bucharest, the Sanatorium received significant space and funding from the local administration. The name of the hospital was inspired by Metropolitan Filaret II, a respected founder who died of tuberculosis.

Architecture and Design:

The architect Grigore Călinescu was inspired by the models of German sanatoriums for the design of this unit. The sanatorium was awarded at the Romanian General Exhibition of 1906.

The contribution of C.I. Istrati and hospital development:

The mayor and doctor C.I. Istrati made a significant contribution, initiating sanitation projects in the Filaret area [13].

The hospital was equipped with modern facilities including a laboratory and radiology equipment.

The role and leadership of Ștefan Irimescu:

Doctor Ștefan Irimescu, considered the first Romanian phthisiologist, led the institution and brought significant improvements in the treatment of tuberculosis. Under his leadership, new techniques were introduced, such as artificial pneumothorax [14].

The first tuberculosis dispensary in Filaret:

In 1906, the first tuberculosis dispensary was created, offering consultations and treatment.

This initiative placed Romania among the European countries with active efforts in the fight against tuberculosis.

Early diagnosis and screening efforts:

Irimescu was a pioneer in early diagnosis, establishing a roentgenological service in 1922. In 1935, he organized a tuberculosis screening campaign among schoolchildren and students, using portable radiological technology.

- The beginnings of the fight against and treatment of tuberculosis in Romania

It reflects a complex and multidimensional trajectory, with significant advances made throughout the 19th and 20th centuries.

Initial methods of treatment and control:

- The introduction of the artificial pneumothorax by Dr. Ștefan Irimescu at the Filaret Hospital in Bucharest.
- Use of tuberculin, although with limited results at first.
- Hygienic-dietetic cure as basic treatment for tuberculosis patients [15].

Ioan Cantacuzino's contribution:

Professor Ioan Cantacuzino, a pioneer in preventing and combating tuberculosis, had a crucial role in the implementation of effective prevention and treatment strategies:

- Introduction of BCG vaccination in Romania in 1926.
- Creation and coordination of sanatoriums and hospitals specialized in the treatment of tuberculosis.
- Significant contributions to the medical literature and public education about tuberculosis.

Development of infrastructure and legislation:

- Establishment of sanatoriums and hospitals, including Zerlendi and Juvala, for the treatment and isolation of tuberculosis patients.
- The adoption of sanitary laws in 1910 and 1926, with a focus on the declaration of tuberculosis cases and the isolation of the sick.

- Creation of the "Society for the Study of Tuberculosis" and the "Circle of Tuberculosis Studies" in 1930 to coordinate research and education efforts.

Congresses and initiatives to combat:

- Organization of national congresses to discuss prevention and treatment strategies.
- Proposals for improving healthcare and public education about tuberculosis.
- Encouraging collaboration between governmental institutions and non-governmental organizations in the fight against tuberculosis [16].

Advances and changes in the approach to tuberculosis:

- The introduction of radiological examinations in the diagnosis of tuberculosis.
- Implementation of new treatments and isolation methods to prevent the spread of the disease.
- More comprehensive and coordinated approach to combating tuberculosis, with emphasis on education, prevention and treatment [17].

- ***The fight against tuberculosis in the interwar period***

The detailed presentation of the fight against and treatment of tuberculosis in Romania during the interwar period and until the beginning of the Second World War highlights a sustained and complex effort in this field.

Estimating the prevalence of tuberculosis:

The doctor Nicolae D. Staicovici and B. Caraculov pointed out the difficulties in accurately estimating the number of tuberculosis cases, suggesting that the real one is probably higher than the one declared [18].

Tuberculosis Morbidity and Mortality:

The statistical data from G. Banu's work show the evolution of tuberculosis morbidity and mortality in Romania between 1927 and 1932.

The death rate from tuberculosis was higher in urban areas and among industrial workers [19].

The crucial role of Ioan Cantacuzino and other doctors:

Ioan Cantacuzino, through various initiatives and functions, contributed significantly to the fight against tuberculosis.

The organization of sanatoria and dispensaries, as well as the enactment of sanitary legislation, were important steps in the fight against tuberculosis.

The increase in tuberculosis cases and efforts to combat:

In the 1930s, tuberculosis remained a major public health problem in Romania, with a constant increase in cases.

Efforts supported by public education, broadcasting, the development of sanatoriums and dedicated hospitals were made to combat the disease [20].

The impact of tuberculosis in various social sectors:

Tuberculosis affected different segments of the population, including industrial workers, university students, and soldiers.

Regional differences in morbidity and mortality rates were observed, with the highest rates in Bessarabia and Dobrogea.

Tuberculosis League:

Founded in 1934, the League was instrumental in coordinating efforts to combat tuberculosis.

Public awareness campaigns were initiated and facilities were organized for the treatment and care of patients.

Specific measures for the protection of civil servants:

The Tuberculosis Officials Relief Act (1937) provided financial support to officials diagnosed with tuberculosis.

- ***The fight against tuberculosis in Transylvania***

Over time, a sustained and complex effort was reflected, with the involvement of both medical institutions and civil society.

The beginnings in Scheii Braşovului and other regions:

In 1832, Scheii Braşovului recorded a significant mortality rate from tuberculosis (30.8%).

Between 1881-1887, the tuberculosis rate in Transylvania and Banat was 41 per 1000 inhabitants.

Foundation of dispensaries and sanatoriums:

Private dispensaries and sanatoriums were established, such as the one organized by the doctor Gheorghe Baiulescu in 1895 in Braşov and at Băile Eforiei Şcolare.

In 1920, the medical clinic in Cluj included a special section for tuberculosis patients with 70 beds.

Expansion of medical facilities:

In 1922, the Târgu-Mureş Hospital organized a separate ward for tuberculosis patients.

In 1945, a pulmonary tuberculosis service with 30 beds was established in Lugoj.

Development of the Tuberculosis Hospital in Braşov:

In 1921, a tuberculosis pavilion was opened near the hospital for contagious diseases in Braşov.

In 1933, the "*Society for the Prevention of Tuberculosis*" opened a sanatorium under the management of V. Stinghe.

In 1940 and 1943, significant expansions were made to the facilities for the treatment of tuberculosis, including a post-cure sanatorium and a tuberculosis ward at the city hospital.

Significant contributions in pulmonary surgery:

At the tuberculosis hospital in Braşov, progress was made in lung surgery and an effective medical-surgical collaboration was established.

Private sanatoriums:

Between 1918-1948, 14 private medical-surgical sanatoriums operated in Transylvania.

The history of pneumophthisiology in Romania reflects a complex path, marked by sustained efforts to understand, prevent and treat tuberculosis. Starting with archaeological discoveries and reaching modern medical and legislative initiatives, the fight against tuberculosis in Romania has been one of continuous adaptation and innovation.

The origin and evolution of tuberculosis in Romania: Archaeological and paleopathological evidence indicates the presence of tuberculosis since Neolithic times, with an increased prevalence of the disease in the Middle Ages. This historical continuity underscores the persistence of tuberculosis as a public health problem.

The development of the fight against tuberculosis: Beginning in the 19th century, important measures were initiated to combat tuberculosis, including the development of sanitary infrastructure and public health legislation. Carol Davila and Iacob Felix are just some of the personalities who contributed to these efforts.

Filaret Sanatorium and Hospital: The founding and development of the Filaret Sanatorium marked an important moment in Romania's medical history, offering a model of care and treatment for tuberculosis patients.

Combat and treatment efforts in the interwar period: This period was characterized by an increase in public awareness, the development of medical infrastructure and dedicated legislation. The Tuberculosis League played an important role in coordinating these efforts.

Progress in the treatment of tuberculosis: The beginnings of the fight against tuberculosis in Romania included innovative methods of treatment and diagnosis, thanks to

the contribution of personalities such as Ioan Cantacuzino and Ștefan Irimescu. The introduction of the BCG vaccine was a key moment in these efforts.

The impact of tuberculosis in Transylvania: The fight against tuberculosis in Transylvania highlighted an important regional effort, with the founding of dispensaries and sanatoriums, as well as developments in lung surgery.

Through this history, it is observed how approaches and treatments for tuberculosis in Romania have evolved over time, reflecting scientific progress and adaptation to socio-economic changes. These efforts have helped reduce the impact of tuberculosis and improve public health, leaving a lasting legacy in the medical field.

6. The contribution of Romanian doctors in the anti-tuberculosis activity

It was outstanding and had a significant impact both nationally and internationally. Starting with the pre-war period and continuing in the inter-war period and throughout the 20th century, Romanian doctors were pioneers in the research and treatment of tuberculosis, bringing valuable innovations and knowledge to the field. This activity included basic research, development of diagnostic and treatment methods, medical education and public health.

Throughout history, Romanian doctors have made essential contributions in various fields of medicine, especially in the study and treatment of tuberculosis. The paper explores the achievements of some outstanding personalities in Romanian medicine, such as Victor Babeș, a pioneer of bacteriology, Ioan Cantacuzino, an important contributor to the introduction of the BCG vaccine against tuberculosis in Romania, and Iacob Felix, recognized for his role in hygiene and public health.

Some of the most notable Romanian doctors who contributed significantly to the fight against tuberculosis were:

- Victor Babeș: One of the pioneers of modern microbiology, he made essential discoveries in the diagnosis and fight against tuberculosis and was involved in the introduction of anti-rabies vaccination and serotherapy in Romania [21].

- Ioan Cantacuzino: Outstanding bacteriologist, he played an essential role in the fight against tuberculosis in Romania through significant contributions in research, education, public health policies and legislative initiatives. He introduced the BCG vaccine in Romania, contributing to tuberculosis control efforts [22].

- Iuliu I. Hațieganu: He represents a significant figure in the history of Romanian medicine, being recognized for his significant contribution to the development of medical education in Cluj and the research carried out in the field of tuberculosis.
- Ștefan Irimescu: The founder of the Romanian school of pneumophthisiology, he had a crucial role in the creation of hospital institutions dedicated to the fight against tuberculosis and introduced innovative treatment methods[23].
- Marius Nasta: A pioneer in the field of pneumophthisiology in Romania, he contributed to the improvement of diagnostic and treatment methods for lung diseases and was a promoter of scientific research in this field.
- Constantin Anastasatu: A leader in his field, he played an important role in medical education and public health, contributing to the awareness and education of the general public about tuberculosis and other lung diseases.

Along with them, doctors such as Iacob Felix, Mihail Petrini-Galați, Ștefan I. Stâncă, Iacob Iacobovici, Cencéreau, Botezato, Besteley, Georgescu, Kalinderu, Chernbach, Corvin, Petrescu Zaharia, Ecaterina Arbore - Rally, Nicu Bacinschi, Marius Georgescu, Ion V. Alexa expanded medical knowledge and practices, actively engaging in research, education and implementation of public health programs. The creation of dispensaries, sanatoriums, and public health institutions, as well as the promotion of education and public awareness about tuberculosis, reflect the continuous commitment of Romanian doctors in the fight against this disease. This contribution had a profound impact on the control and treatment of tuberculosis both in Romania and globally, continuing to inspire and guide modern approaches in the field of public health and pneumophthisiology [24].

In conclusion, the contribution of Romanian doctors in the fight against tuberculosis is invaluable, having significant benefits in improving the quality of life of tuberculosis patients and in advancing medical knowledge in this field. This legacy continues to inspire and guide lung health physicians and researchers.

7. Personalities who have faced tuberculosis

History is full of remarkable personalities who faced tuberculosis, a disease that left a deep mark on many lives. These figures have made a significant impact in their fields, from literature and art to politics and science. Tuberculosis not only affected the individual lives of these people, but also influenced the way society perceived and treated the condition. Tuberculosis affected people from all walks of life, regardless of their social status or

professional achievements. These notable figures not only left a deep mark in their fields, but their battle with tuberculosis contributed to the awareness and understanding of this disease.

Cardinal Richelieu, Alexander Pope, Johann Wolfgang Goethe, Johann Christoph Friedrich von Schiller, Andrew Jackson, René Laennec, Niccolò Paganini, Frederic Chopin, Elizabeth of Wittelsbach, Anton Chekhov, Muhammad Ali Jinnah, Franz Kafka, Eleanor Roosevelt, Francis Scott Key Fitzgerald, George Orwell (Eric Arthur Blair), Vivien Leigh, Nelson Mandela, Metropolitan Filaret II, Alecu Russo, Nicolae Bălcescu, Ciprian Porumbescu, Iulia Hasdeu, Vasile Voiculescu, Panait Istrati and Max L. Blecher had remarkable lives and influenced deeply the world through their activities and creations, despite their personal battle with tuberculosis.

Their contributions in various fields were often marked by their personal struggle with this disease, which sometimes even inspired their works. On the other hand, the suffering and early loss of some of these figures highlighted the need for medical advances and understanding of tuberculosis. The disease was a driving force in the development of medical research and highlighted the importance of public health care.

In this list, each person represents a unique chapter in humanity's struggle with this disease, showing how tuberculosis has crossed the barriers of time, culture and geography. Although modern treatments have made tuberculosis a manageable disease in many parts of the world, the history of these figures reminds us of the importance of continued research and efforts to control infectious diseases.

These accounts not only highlight the impact of tuberculosis on individual lives, but also how the disease has influenced society, culture and history. It reminds us that health is a fundamental issue that affects all aspects of life and that the fight against diseases like tuberculosis is essential to the well-being of humanity.

8. The history and evolution of pneumophthisiology in Romania, reflected in the doctoral theses

It reflects the significant efforts of the medical community to understand and combat tuberculosis, a disease with a major impact on public health. This period was marked by an intense interest in the research and treatment of lung diseases, especially tuberculosis.

Academic and medical development

1857: Carol Davila and Nicolae Kretzulescu transform the "Small Surgery School" into the "National School of Medicine and Pharmacy" in Bucharest.

In the "Carol Davila" Faculty of Medicine and Pharmacy Library, 197 works on the subject of pneumophthisiology, from the period 1885-1939, were identified and studied.

Distribution of doctoral theses:

- 1885 - 1889: 29 works
- 1900 - 1915: 33 works
- 1916 - 1921: 0 works (influence of the First World War)
- 1922 - 1939: 135 works

This distribution reflects an increase in interest and activity in pneumophthisiology, especially in the interwar period.

The main topics covered during this period included:

Early diagnosis: Early identification of tuberculosis was essential to start treatment as early as possible. Diagnostic methods have advanced significantly, including tuberculin skin tests, chest radiography, and sputum examination.

Tuberculosis treatment and management: Although therapeutic options were limited compared to today, considerable efforts were made to manage symptoms and improve patients' quality of life. Treatments ranged from rest therapy in sanatoriums to the use of drugs available at the time. Sanatoriums and dispensaries played a key role in the care of tuberculosis patients. These facilities provided a controlled environment where patients could receive specialized medical care and benefit from favorable conditions for recovery.

Research role: PhD studies have contributed significantly to the knowledge of tuberculosis, addressing aspects as varied as etiology, epidemiology and innovative therapies, including the use of gold salts and pneumothorax as treatments. Researchers have contributed to the development of new diagnostic techniques, treatment methods and strategies to prevent the spread of the disease.

Education and prevention: Awareness of the importance of personal and collective hygiene, as well as public education about tuberculosis, were priorities during this period. Information and education campaigns were implemented in schools and communities.

BCG vaccination: The introduction of BCG vaccination in Romania represented a significant step in the fight against tuberculosis. The BCG vaccine has helped reduce the incidence of tuberculosis, especially among children.

Tuberculosis prevention: The authorities have taken measures to combat the spread of tuberculosis and improve treatment and prevention, including by establishing sanatoriums

and dispensaries and promoting hygiene, optimizing living and working conditions, public awareness campaigns and facilitating access to medical care.

Epidemiology: Epidemiological studies have played an important role in understanding the spread of the disease, helping to implement preventive measures.

Major public health issues: Conditions such as pneumonia and tuberculous meningitis in children posed significant challenges, and doctoral theses from this period reflect efforts to understand and treat these diseases.

In conclusion, the doctoral theses from the pre-war and inter-war period in Romania demonstrate important progress in the field of pneumophthiology, laying the foundations for further developments in the fight against tuberculosis and other lung diseases. These studies have contributed to improving the diagnosis, treatment and prevention of lung diseases, having a significant impact on public health[25].

Personal and original contributions

This analysis of pneumophthiology in Romania, from its beginnings to the interwar period, provides a comprehensive perspective on the evolution and impact of this medical specialty. Major contributions are evident in several aspects:

Synthesis contributions:

- The thesis summarizes the history of research in the field, emphasizing the Romanian contributions. This includes a clear understanding of the evolution of the field and Romania's position in this context as well as summaries of the evolution of medical institutions and the treatment of tuberculosis in Romania, compared to European trends.

- An analysis of the relevant specialized literature, identifies the main research trends and directions, comparing the therapeutic and diagnostic approaches to tuberculosis over time.

- Synthesis of the impact of public health policies on the spread and control of tuberculosis in different historical periods.

- A synthesis of your own research findings, highlighting original contributions.- A synthesis of your own research findings, highlighting original contributions.Iatro-historical contributions:

Iatro-historical contributions:

- Identification and analysis of relevant historical documents, which have not previously been used, providing new and significant information about the development of the field.

- Documentation of the evolution of medical concepts and clinical practices in pneumophthisiology in the Romanian context.

- Analysis of the significant contributions of Romanian doctors in the field of pneumophthisiology.

- Study of the influence of tuberculosis on Romanian society and culture, including the impact on cultural and scientific personalities.

Scientific curricular contributions:

- Development of educational materials and courses based on the history and evolution of pneumophthisiology for medical programs.

- Creation of educational modules to illustrate the evolution of the treatment of tuberculosis and lung diseases.

The novelty of the doctoral thesis:

- The novelty of this analysis consists in the historical and contextual integration of the evolution of pneumophthisiology in Romania, highlighting the way in which this medical specialty adapted and responded to the challenges of its time. This study contributes to a broader understanding of the evolution of medicine in Romania and its impact on public and social health.

- The unique approach to the evolution of pneumophthisiology in Romania, in a European context, with an emphasis on local and regional contributions. In this sense, doctoral theses, with the subject of pneumophthisiology, supported between the years 1885 - 1939 within the Faculty of Medicine in Bucharest were collected.

Usefulness of research results:

- ***From a scientific point of view:*** The results contribute to the development of knowledge in the field and offer a new perspective on its evolution; enriching specialized literature with new perspectives on Romanian and European medical history.

- ***From a didactic point of view:*** Providing materials and case studies for medical education, especially in the field of pneumophthisiology.

- ***From an application perspective:*** Historical understanding of approaches and treatments can inspire new strategies and innovations in the ongoing fight against tuberculosis and other lung diseases.

Valorization and dissemination of research results:

Dissemination of these results in academia and science can have a significant impact, inspiring future research and contributing to the continued development of pneumophthiology and public health.

Further research directions:

This analysis could open new directions of research, such as comparing the evolution of pneumophthiology in Romania with other countries or the deeper investigation of the socio-economic factors that influenced the spread and treatment of tuberculosis.

Conclusions

The evolution of Romanian pneumophthiology, in the historical and academic context, reflects a complex and deeply engaged course in the understanding, prevention and treatment of lung diseases, with a special emphasis on tuberculosis.

The paper presents a comprehensive perspective on the development of hospital institutions and medical education in Romania, placing them in the wider context of the evolution of European and global medicine.

From its roots in the Dacian milkweeds and remarkable advances in the modern era, to the significant contributions of Romanian doctors in the fight against tuberculosis and the impact of personalities who have faced this disease, the work provides a detailed picture of how Romania has responded to the challenges lung health.

The importance of doctoral theses in the evolution of Romanian pneumophthiology highlights the contribution of academic research to medical and public progress.

This historical review underscores the vital role that nursing and research have played in shaping responses to public health problems and in the continuing evolution of medical practice.

Therefore, the study of Romanian pneumophthiology is not only a chronicle of medical progress, but also a reflection of social, cultural and scientific dynamics, representing a valuable example of adaptation and innovation in the face of health challenges.

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