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LETTERS TO THE EDITOR

The importance of scientific research in higher education



Dear editor:

Medical education, both undergraduate and postgraduate, is a highly complex scientific-academic work, since it involves the teaching of new knowledge and clinical experiences acquired throughout the everyday life of health professionals. Regarding the formation of medical students and their specialties, there are two important aspects within this academic process.¹

The first one is based on structured educational training, where the role of the teacher plays an important part, as it gives instructions for acquiring knowledge and skills in the functions of daily practice as a physician or specialist. In this, the basic fundamentals are given that must comply with the indicators set out in the program established for the practices, in order to provide quality and ethical medical care according to different scenarios. To achieve this goal, we need learning strategies with an established purpose and objectives, practical-theoretical correlation, and finally, an evaluation of the process to be able to quantify the quality of teaching.²

The second aspect relates to bringing acquired theory to medical practice, with the scientific foundations in accordance with evidence-based medicine; in other words, "applying what has been learned." This phase is relevant to the generation of adaptive skills for the modifications that are carried out in the course of the professional day-to-day. Education, health institutions, scientific societies and unions are also involved.^{3,4}

It is there where the scientific societies of students or health professionals play a key role, because through them, the student deepens the knowledge acquired during his career years, both undergraduate and postgraduate. At the same time, the students update their knowledge of new therapeutic or surgical interventions through conferences, conventions or journals for the benefit of the patient through the dissemination of research carried out in these societies.⁵ It allows a generation of friendly links in different countries to exchange clinical experiences in order to improve education and thus the opportunity for care. These entities provide tools for undergraduate or postgraduate students to join the advancement of science and technology, though we must not forget that this requires a solid and structured foundation to be able to arrive at the discussion of any raised hypothesis. When an undergraduate or graduate

student decides to work in research, they must be aware of 3 factors: a: Economic income, b: Extended periods of training, and c: Uncertainty in success. These 3 factors lead to very few students to continue the line of research.⁶

It should be emphasized that it is important to allow the student time to dedicate to medical scientific research, as it strengthens continuous and comprehensive training, and through his/her concerns, which lead to research work, the veracity of knowledge based on evidence grows, where scientific societies take action by disseminating this information to other colleagues.⁷

In 2009, Dr. Cañedo, et al. reported that scientific production in Latin America is low, and 82.82% is mainly produced in Brazil, Mexico and Argentina. In Colombia, publication is encouraged by approximately 2%, which is very low.⁸ At the same time, it is perceived that we are facing great difficulties with regard to the number of researchers, since this is decreasing due to a lack of interested staff, academic stress or economic deficiency in stimulating this area.⁹ Therefore, educational institutions should encourage research from the undergraduate level, and improve and increase this index, since not all publications are applicable to our population and we cannot take only the consensuses from other countries that deal with different situations.

It is recommended to generate strategies that increase scientific production, promote and stimulate research stages, allocate time to generate new knowledge or strengthen previous ones, as well as the acquisition of the necessary methodological tools.¹⁰ By increasing this indicator, the rankings of the university and the scientific society will also increase, making the gain not only for the entities in question but for the student in formation, since it generates intellectual appropriation, recognition and dominion in a line. This is achieved through the creation of student magazines that disseminate the scientific productions made in the different specialties, promoting continuous education and supporting scientific growth.

For undergraduate students, the Latin American Federation of Scientific Societies of Medical Students (or FELSOCM, by its Spanish acronym) is responsible for encouraging undergraduate medical students in scientific growth by supporting them in the formulation of new questions to be solved. Through different working committees, such as the medical education committee, the scientific evaluation and development committee, and the comprehensive health care committee. In Colombia this society is known as The Association of Scientific Societies of Medical Students of Colombia (or ASCEMCOL, by its Spanish acronym), which is governed by the same functions as FELSOCM.

Currently, in our institutions of higher education in the area of healthcare, there is no scientific society that ratifies FELSOCHEM. Therefore it is recommended to work on this and take the initiative to create a partnership for academic-scientific purposes, encouraging postgraduate students from different areas to focus on research from the beginning of their postgraduate course, while not forgetting that it cannot be an obligation but by personal motivation.

As a conclusion, universities that have health science faculties are responsible for the education of the health professional, and in turn, health care institutions play an important role, as they allow for training and clinical skills. Scientific societies collaborate and reinforce continuous and investigative learning, and finally, unions and groups protect the professionals of the legislature and supervise for the adherence to moral and ethical integrity.

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Infectious diseases in patients over 65 years attended in Leticia, The Amazonas, Colombia



Dear Editor,

Infectious diseases (ID) continue to be a major cause of morbidity-mortality in patients over 65 years of age, and its early detection is a challenge in today's medical clinical practice. Although there are numerous studies of elderly patients with specific infectious diseases, such as urinary tract infections, pneumonia, gastroenteritis, bacteremia, tuberculosis and bacterial meningitis, less is known about IDs in patients over 65 in general, and in Latin America, studies analyzing infectious profiles among this group are scarce.¹

We were unable to find studies on infectious diseases in the elderly in Colombia among the literature. Therefore, an observational, descriptive, transversal study was designed, using a non-probabilistic sample of consecutive cases, with the general objective of determining the prevalence

of infectious diseases in the elderly ≥ 65 years old who were attended at the "Clínica de Leticia" Foundation, a level II-1 private hospital, with a total of 27 beds (20 adults and 7 pediatric) located in Leticia, the capital of the Department of the Amazonas in Colombia, during the years 2010 through 2014. An electronic form was designed for data gathering, using Microsoft Office Excel 2013©, which contained the variables of interest.

Total patient registration was 10,405 patients, who were ≥ 65 years of age and were treated at this institution over a period of five years (2010–2014). The registered data, after quality control, were exported and analyzed using the statistical package Stata v.14.0, where measures of central tendency, dispersion and proportions were expressed. For group comparison, a $p < 0.05$ was considered to be significant.

During the study period, 2083 (20.01%) patients were diagnosed with infectious diseases, with an age range between 65 and 99 years of age, with a median age of 72 years, and between 68 and 78 years of age. Eleven thousand one hundred and thirty four (54.4%) of the patients were female; similar numbers to those reported in a study conducted in Norway by Steens et al.²