MedCrave
Step into the World of Research

Sociology International Journal

Short Communication

Open Access

CrossMark

Investigative competencies in medicine students: research skills in medical students, questioning abilities in medicine students

Abstract

The development of competences in scientific and documentary research in the medical professional practice is of great importance since these will allow you to obtain the necessary data for the realization of consultations, as well as to check and / or develop new scientific theories, treatment of diseases, prevention satisfying the needs of society. A survey will be applied to 100 students of the Medicine career and interviews with 10 professors of the different levels in the Medicine Career (Basic, Intermediate and Advanced), where it is addressed from the perspectives of both on the current situation of scientific – documentary research in the students of the Medicine career of the Franz Tamayo Private University, of how is the evaluation to know the scope achieved in the research competences, if they have the necessary tools to develop scientific and documentary research following the APA (American Psychological Association) or Vancouver regulations, what they consider should be done to improve the situation in research during the teaching-learning process and if all teachers should use the same technological and motivational strategies.

Keywords: research, medical students, factors that affect research, technological and motivational strategies, teaching-learning process

Volume 7 Issue 6 - 2023

Andrés Valentín Rivera Torres
Institution of Origin, Franz Tamayo Private University (UNIFRANZ), Bolivia

Correspondence: Andrés Valentín Rivera Torres, Institution of Origin, Franz Tamayo Private University (UNIFRANZ), Bolivia, Email andresvalentinr96@gmail.com

Received: November 15, 2023 | **Published:** December 08, 2023

Introduction

Importance of scientific – documentary research in medical professionals

The importance of research within the area of health lies in the fact that it will not only allow the generation of scientific theories that will satisfy the needs of society, but also contributes to the verification of theories in relation to diseases and their treatment; in a way that will contribute to the generation of science in a way that allows it to achieve prestige among other countries and position itself in strategic places within the ranking of countries that contribute to global scientific production.

Research indices in Bolivia are very low, ranking 120th in the world scientific production index with 6,365 works published according to the Scimago Journal & Country Rank. Within the same categorization it can be seen that of the 6,365 works published in Bolivia, 2077 of these are contributions from the health area specifically Medicine and all specialties within it.

Unlike other Latin American countries, which mostly rank above 100th place. Brazil located in position 14 with 1,233,706 published works, Argentina in position 41 with 260,997 works, referring to the latter as works published in the other references of works in the other Latin American countries mentioned, Chile in position 47 and Colombia in the position 48 with 203,622 and 150,096 works published respectively, Cuba in position 67 with 47,064 works, Ecuador in position 76 with 36,638 works, Uruguay in position 84 with 25,948 works published, these parameters draw attention because, with the exception of Brazil, the others Latin American countries are below the first twenty positions.

It must be considered that research is an inherent faculty of people, a quality, it is acquired and developed from childhood, it is observable and manifest in children from their first years of life, it is born from the curiosity to know and learn. What is around him, he himself realizes through observation, he feels it through "experimentation" and confirms his "theories". He manages to satisfy his curiosity and increase the knowledge he acquires as his age advances.

As the child grows, the research becomes formalized, a fact that he knows from school where, depending on the level he is at (primary or secondary), he begins to know the necessary steps to work on it and acquire the complexity according to the work he performs and presents. Once he has completed his baccalaureate, he has to choose a professional career, which will accompany him for the rest of his life, a decision that must be made with caution, without pressure that could mean his fulfillment or frustration for not doing what he is passionate about, because depending on the area in Anyone who decides to professionalize research-related work has its characteristics, but under the same methodological model.

Medical professionals during their professional practice have to carry out different investigative works, whether descriptive, analytical, documentary, experimental, among others, which allow the verification of scientific theories or new discoveries of different pathologies developed by their peers in other countries, the development of new theories according to the needs of the society that demands. The failure to carry out these scientific investigative works implies that the contribution to world scientific production is far below what was expected, it implies stagnation and dependence on the works generated by other countries, resulting in the delay of Bolivia's progress.

Public or private universities, in their capacity as higher education institutions, promote research in professionals from different areas through undergraduate training. The research methodology is found as a core and main subject in most careers within the research competencies to be developed during their learning, under the precept that research and its methods are one and the characteristics plus other aspects are the that differentiate them according to the science studied, also providing the necessary resources and environments for their execution from an undergraduate level, especially in the area of Health Sciences (Medicine).

It is a necessity for medical professionals to know the tools and obtain skills in scientific research and differentiate its types (documentary, descriptive, analytical, and experimental, etc.). Knowledge of these allows the preparation of different documents during professional medical practice, the same documents contribute to the knowledge of their peers, and thus achieve a significant contribution to the scientific community, whether local, national or international.

According to Rojas Cairampoma,[1] In his article, he reviews the different types of research used within the health sciences, mentioning basic, applied, field, documentary, experimental, correlational, non-experimental, qualitative, quantitative; He emphasizes that the most used are the descriptive, analytical and experimental. However, in the book Scientific Research Methodology[2] it is observed that research is classified as qualitative, quantitative, scientific and experimental.

Meanwhile, one of the points to be investigated in the factors that affect scientific-documentary research, it is observed that documentary research consists of collecting data from different existing sources of information, to subsequently carry out an analysis. Critical, either with the aim of reinforcing the previous knowledge acquired or developing it from a new perspective. According to Coelho,[3] Documentary research focuses its study base on the collection of information available in books and documents that have been previously developed, being direct or related to the topic investigated. Regarding the documentary investigation, it is observed that Tancara makes the following definition: (…) a refinement process, both of the topic and the problem and its explanatory response, through a selection and search of pertinent information in documents. This process is called documentary research. (...) is defined as a retrospective information service, as opposed to a current information service, of an information unit (...).[4]

The research skills that must be developed by health professionals lie in having the capacity for analysis and synthesis in conjunction with criticism and self-criticism, seeking information from reliable sources through the correct use of communication technologies (ICTs). , while the integration of these allows the medical professional to participate in conferences, symposiums and be able to present advances in their work or new discoveries. In this sense, UNIFRANZ (Franz Tamayo Private University) has parameters that students must meet to fulfill the professional profile, among them the capacity for criticism and self-criticism, use of ICTs, capacity for conscious research, management are observed. Of projects, masters the sources of reliable information, knows how to reach them and participates in scientific events.[5]

In the same way, other authors such as Robles are mentioned, who refers to the fact that documentary research can be treated from an exploratory, descriptive and explanatory point of view.[6] Rojas Cairampoma mentions that within the research work in the area of health there is basic, applied, field, documentary, experimental, correlational, non-experimental, qualitative, quantitative.[1]

Regarding the importance of research within the training of medical professionals, Toledo Ocampo mentions that knowledge in research will allow identifying unresolved health problems, planning prevention strategies for diseases with greater prevalence in the environment.[7]

Experiences in scientific research from the perspective of the researcher

During professional training, medical students have to carry out different investigative works, in which they must apply different scientific-documentary research techniques, overall they present difficulties in the correct application of the research methodology. When writing monographs, essays, preparing case reports, etc.

The problem has its origins in school training, as students are asked to make presentations, these are understood as "pininos" in research on different topics depending on the cycle in which the students are, however, it is not observed that reinforce the different types (of research) and the appropriate techniques for their correct application and development, that is, that throughout the school training cycle up to high school, the educational program should include teaching in writing dissertations, monographs, essays; Although there are schools that promote research training and culture from the primary level, the efforts are not enough, because Bolivia's contribution to the world scientific production index is not enough.

The lack of incentive and correct application of research methodology is not only a problem for universities, this problem also affects schools and different levels of government. Because as a whole, regardless of whether educational and higher training institutions are publicly or privately funded; They have to promote the development of educational policies focused on research, but not only for development, but also financing, equipment of different environments for their execution; in which the fulfillment of the objectives set together with the innovative works are rewarded and receive incentives for continuous training in scientific research.

The scenarios for carrying out research related to the area of health for students of the Medical career are broad and diversified, among them we can mention the different subjects that are taken throughout their professional training and the subjects involving practical laboratory regardless of the exclusive subjects or linked to the research methodology, practical rotations in hospitals within the clinical and surgical area, rotating internship, provincial year or mandatory rural social health service (SSSRO); The investigative works vary according to the complexity of the subject and the moment of training in which the medical students are, they can be essays, preparation and presentation of clinical cases, monographs, thesis.

It should be considered that the components may include lack of interest, insufficient motivation to carry out scientific-documentary research, the distribution of workload being not adequate in the subjects in which scientific research methodology and techniques are advanced, problems personal, economic, social, restricted access to some sources of information, lack of research culture, little or no collaboration on the part of society for data collection during the field study, incorrect practice of the different tools for collection of information, limited scenarios for the presentation of results obtained from the different problems investigated, among others.

Research-based learning is one of the methodologies used at UNIFRANZ, where the student has the resources provided by teachers and technological resources, access to virtual libraries and Research 4 Life, a page that UNIFRANZ subscribes to and allows both teachers and students have free access to paid bibliographic resources.

The results are measured through procedural evaluation in each training milestone in the semesters that make up the Medicine degree, in which the students defend real clinical cases provided by the teachers of each subject, in which the students proceed to prepare the defense. Of their assigned clinical case, they present the techniques carried out in research.

The procedural evaluation is the moment where the application of research-based learning is evident, a scenario where teachers evaluate the competencies developed by students in research when preparing

the presentations of their clinical cases, in addition to demonstrating the applicability of the subjects they advance by semester, this being an integrative evaluation in which research competencies and skills are measured, but also transversal competencies per semester and for each subject (Figures 1 & 2).

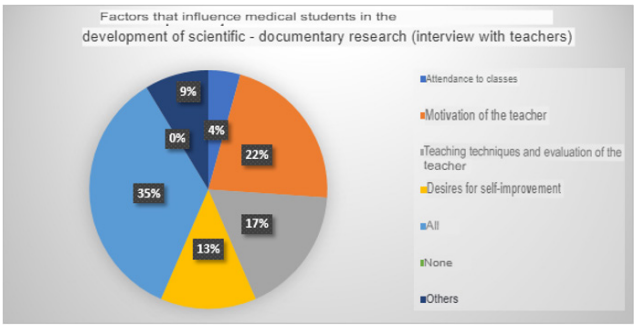

Figure 1 Factors that influence medical students in the development of scientific.

Source: Self-made.

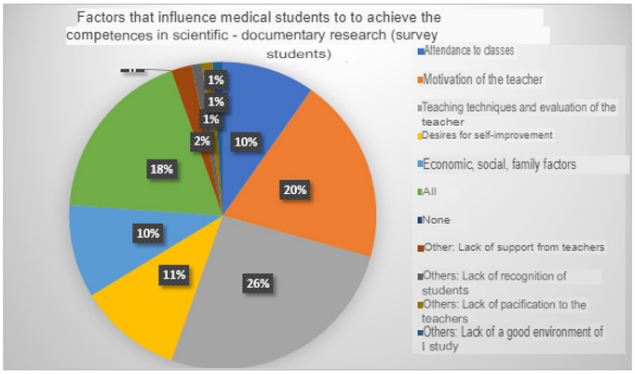

Figure 2 Factors that influence medical students to achieve the competences.

Source: Self-made.

As preliminary results of the surveys carried out with the students, it can be observed that of the total number of students surveyed, some believe that the current situation of research at the university is good, while a large majority believe that it is very underdeveloped and stagnant. Among the factors that affect the development of research is the lack of a person to help and encourage them to do research, lack of access to reliable sources of information, low workload to carry out research, lack of incentives to carry out the same, among others. 54.5% say that teachers are not using the necessary tools to evaluate research skills and 45.5% say that they are adequate.

In relation to the question if they believe that teachers use motivational and technological resources to strengthen research skills, 54.5% say yes while 45.5% say no. With the same percentage in relation to the previous question, it is observed that students do have the necessary tools to carry out scientific - documentary research. Regarding the question of whether students feel safe to carry out scientific-documentary research with APA and/or Vancouver regulations, 54.5% do not feel safe and 45.5% do feel safe to carry out research under the aforementioned regulations.

Acknowledgments

None.

Conflicts of interest

The authors declare that they have no conflicts of interest related to the present work.

Funding

None.

References

1. Rojas Cairampoma M. Types of scientific research: a simplification of the complicated incoherent. *REDVET Electronic Journal of Veterinary Medicine*. 2015;1–14.
2. Velazquez FD, Cordova LN. Cientific investigation methodology. Peru: 1999.
3. Coelho F. "Investigation". On Meanings.com. 2019.
4. Tancara QC. Documentary research. In UM Andres. *Social issues*. 1999;91–106.
5. UNIFRANZ. Dimension 1 institutional context component 1.1 characteristics of the career and its institutional insertion. Bolivia: Franz Tamayo Private University; 2018.
6. Robles D. What is documentary research? Definition and objectives. 2020.
7. Toledo Ocampo EA. The importance of health research. 2013;19(1).