

## Health science professors take the lead to deal effectively with COVID-19 in Artemisa province. Cuba

*Protagonizan Educadores en Ciencias de la Salud enfrentamiento contra la COVID-19 en Artemisa*

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### ABSTRACT

**Introduction:** scientific societies of the healthcare sector, through their chapters, play an essential role in researches, dissemination of relevant information, knowledge and awareness on the prevention and control of the outbreak of COVID-19 all over the world today.

**Objective:** to describe the leading role of health science professors, during the outbreak of COVID-19 pandemic in Artemisa.

**Methods:** descriptive and analytical research conducted at Artemisa School of Medical Sciences, during March to July 2020 with all member of Artemisa chapter. A search for specialized information on the subject and a review of the documents of the board of Artemisa chapter was completed and recorded in a computerized database that was designed for this purpose.

**Results:** health science professors stand out with a 29,4 % participation in the active survey, dealing effectively with COVID-19 pandemic.

**Conclusions:** health science professors marked a leading role during the outbreak of COVID-19 pandemic in Artemisa.

**Keywords:** Research; Associated; Pandemic, Active Investigation, Covid-19.

## RESUMEN

**Introducción:** las sociedades científicas de la salud mediante sus capítulos juegan un papel esencial en la investigación, divulgación de información relevante, conocimiento y sensibilización sobre la prevención y el control de la pandemia que azota al mundo, hoy de la COVID-19.

**Objetivo:** describir el protagonismo de los Educadores en Ciencias de la Salud, durante el enfrentamiento contra la COVID-19, en Artemisa.

**Métodos:** investigación descriptiva y analítica en la Facultad de Ciencias Médicas de Artemisa, durante marzo a julio del año 2020 con la totalidad de los asociados del capítulo artemiseño mencionado. Se realizó una búsqueda de información especializada sobre el tema y una revisión de la documentación reglamentada de la junta de gobierno del capítulo, posteriormente registrada en una base de datos computarizada diseñada para este propósito.

**Resultados:** se destacan los Educadores en Ciencias de la Salud el con un 29,4 % de participación en la pesquisa activa, durante el enfrentamiento a la COVID-19

**Conclusiones:** marcado protagonismo de los Educadores en Ciencias de la Salud, durante el enfrentamiento contra la COVID-19, en Artemisa.

**Palabras clave:** Investigación; Asociado; Pandemia, Pesquisa Activa, Covid-19.

## INTRODUCTION

The Provincial Council of Health Scientific Societies in Artemisa has had, in recent years, an emerging development that responds not only to the social demands, but also and above all, to the development of its chapters.

The chapters of the scientific societies, being integrated to the National Council of Scientific Societies, have an institutional space for the actions of the professionals that comprise them and that are committed with the praiseworthy work of favoring the increase of the health level of the population towards qualitatively superior stages, and collaborating in the disclosure of the main scientific-technical achievements, introduction of advanced technologies, new prophylactic and therapeutic approaches in the field of their specialties.

If disease prevention and health promotion are indispensable goals for all health professionals, it should be accepted that dealing with epidemics and pandemics is also a priority for scientific societies.

Associated with this, a health problem of global significance today is COVID-19, a pandemic that has claimed thousands of lives in 185 countries.

Never has a crisis given so many headlines and be the main act to history. The term COVID-19 has registered over 3,5 billion results on Google. Origins and spread of the virus, scientific research, search for vaccines, socioeconomic impact, entrepreneurial action, leadership, innovation, technology and small great stories of solidarity, sufferings, act of hopes and overcoming. News and scientific research article undertaken, precision in journalism in addition to interviews with personalities, experts and leaders; chronicles, reports and posts. All genres add up to provide responses that can satisfy the legitimate information appetite of the world's population.<sup>(1)</sup>

The speed and extent of the spread of COVID-19 is sufficient to illustrate the severity and complexity of the outbreak. For this reason, the health scientific societies through their chapters in the provinces play an essential role in research, dissemination of relevant information, knowledge, awareness on prevention, disease control and prevention of social panic.<sup>(1)</sup>

It is the purpose of this study to describe the leading role of Health Science Professors, dealing with COVID-19 pandemic in Artemisa.

## METHODS

A descriptive and analytical research was carried out at the School of Medical Sciences in Artemisa province, in the period from March to July 2020. The 295 associated professionals of Artemisa Chapter of Health Sciences Professors participated.

A search for specialized information on the object of study was carried out; this included systematic reviews, scientific articles, theses, books, etc. The databases of LILACS, MEDLINE, BIREME-PAHO, TRIPDATABASE and COCHRANE were accessed. The delimiters of the search were: scientific societies; health, professionals, development, COVID-19. Besides, a revision of the regulations and documents in relation to the governing board of the chapter was conducted: meetings, minutes, the balance sheet of the semester, the book of the scientific activities and opinions, the register and control of the scientific production of the associates. Computerized database was designed to store the information; frequency analysis was used to process the results obtained by means of percentage calculation.

The consent of the authorities of the province and the institution for the implementation, socialization and publication of the research results complying with the ethical principles that complement this type of study was requested.

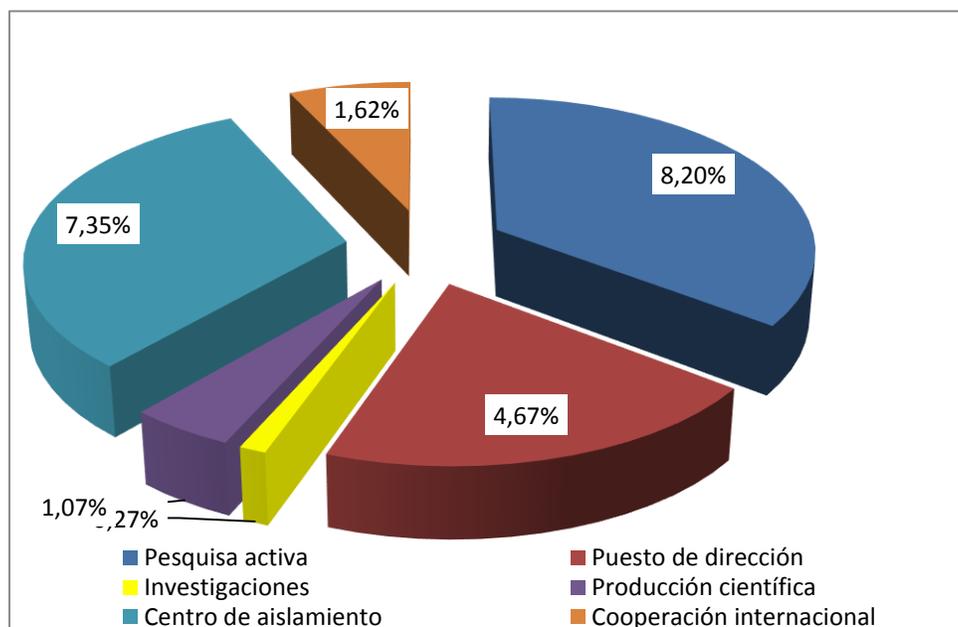
## RESULTS

The participation of Artemisa chapters in the battle against COVID-19, along with the chapters of Health Sciences, Hygiene-Epidemiology and Nursing Professors with the total number of members (87,9 % respectively), provided the highest number of associates for the active survey. It should be noted that the Nursing chapter has the strength of having all of its professionals and technicians associated; therefore it was the most representative. The least representative figure belonged to chapter of Dermatology Society (35 %). Table-1

**Table 1.** Participation of the provincial chapters in the confrontation against COVID-19. Sagebrush. March - July 2020

CHAPTERS	POTENTIAL	No.	%
Educators	294	294	100
Nursing	3 321	2 921	87,9
Psychology	52	19	36,5
Public health	45	38	84,4
Hematology	21	13	61,9
Dermatology	20	7	35
Comprehensive General Medicine	79	32	40,5
Medical Informatics	56	22	39,2
Biomedical sciences	28	13	46,4
Stomatology	39	22	56,4
Hygiene and Epidemiology	43	43	100
<b>Total</b>	<b>3 998</b>	<b>3424</b>	<b>85,64</b>

Graph 1- shows specifically the participation of the members of the chapter of health science professors in the different activities during the battle against COVID-19, where it is emphasized that a considerable number of the total of the members (table-1), are associated to the different chapters from their profiles and to that of health sciences professors for the educational work they carry out. These results point out that the greatest participation was in the active survey with 328 members who represent 8,20 %.



**Source:** Records of the Provincial Health Direction of Artemisa

**Graph. 1** Participation of Health Science Professors in the different activities during the battle against COVID-19 pandemic in Artemisa from March - July 2020

Solidarity, empathy and humanism in Cuba are implicit in the characteristics of its social system, legal coverage and responsibility for the health of all citizens.<sup>(2)</sup>

The international cooperation inspired by the example of Commander Ernesto Che Guevara, is developed in 22 countries with 104 collaborators from Henry Reeve brigades. The province of Artemisa has 32 professionals who are members of Artemisa chapter of Health Science Professors who support the battle against COVID -19 pandemic in 17 countries.

Also in this battle, social distancing is one of the preventive measures, which has motivated many educators in the scientific community to socialize the results of their studies and research related to this disease, based on the analysis of published articles, and the development of activities in the community.

Consequently, persuading, supporting and promoting a scientific production of high competitive level, with an important participation of researchers, healthcare professionals, students and other groups as established in the National Health Policy, constitutes one of the priorities of the Science and Technological Innovation in Healthcare System.<sup>(3)</sup>

Therefore, during this period of battle against COVID-19 pandemic, professors and researchers associated to the chapter of Health Science Professors developed researches whose results were published in Cuban journals of impact. The total of publications carried out and registered by the Artemisa chapter was 11 where the highest percentage was represented in original articles (45,4 %), followed by review articles (36,3 %), while the letters to the editor and brief communications were 18,1 %.

## DISCUSSION

In view of the epidemiological situation provoked by SARS-CoV-2 all over the world, Cuba implements protocols of action in the different levels of healthcare, to avoid the spread COVID-19 pandemic in the country.

Primary Health Care, a scenario that has the characteristics of continuous, global and comprehensive assistance, with other healthcare services, which allocate the research in aspects related to epidemiology and public healthcare, the history of the disease, the clinical and therapeutic characteristics of health problems and the population's risk factors.<sup>(3)</sup>

At this level of healthcare, two main activities were carried out: active survey and the opening of isolation centers. The active survey, the first link in the battle against COVID-19, was carried out systematically by students, professionals and professors of medical sciences, with the timely monitoring of the family doctor and nurse.<sup>(4)</sup>

An article published in the Journal of Havana Medical Sciences,<sup>(4)</sup> shows a descriptive research with retrospective character of the results of the active surveys, as a strategy in the battle against COVID-19, at Antonio Maceo teaching polyclinic, from Havana province, where it considers the work of Primary Health Care, as well as, the vast experience of these professionals, basic elements that contributed to control the disease. On the other hand, other studies suggest that active survey is the most important health technology and contributes to the protocols used to battle the disease.<sup>(5)</sup>

Likewise, recent works confirm that the results of the active survey, validate the worth of the professor-student team facing the epidemiological events and their contribution to the improvement of the health status of people.<sup>(6)</sup>

In this sense, the authors of this study are unanimous in recognizing that active survey is a basic activity, and as part of it, prevention and training actions directed to families and communities with the purpose of guiding them on how to prevent the disease and the measures to follow to avoid its transmission. In this sense, the "Professors" play a leading role in training all of the healthcare professionals and technicians, students and other participants from different social sectors.

It is worth mentioning the participation of 3 998 people associated to the different activities during the battle against COVID-19 pandemic, representing 11 chapters of different specialties in the province. The companion of these professionals during the implementation of educational activities, in a systematic way, with the purpose of training the population in matters related to the disease and emphasizing on the protocols established by MINSAP to prevent the spread of the disease. Strictly dealing with COVID-19, the chapter of Health Science Professors stood out for its participation in all the activities. The result is consistent when we take into account that the chapters with less participation have the least number of associates.

This research activity has been identified with another group of actions, corresponding with the training in Medical Sciences, in the different levels of healthcare system. Therefore, it is not casual the challenge that education has to generate today qualitative jumps in the teaching-learning processes, as a response to COVID-19 pandemic and its repercussion in the academic training at all levels. For this reason, Health Science Professors are the protagonists, as they set themselves the goal of strengthening the quality of education from different social perspectives, mainly in the search for teaching alternatives that respond to the subjects, conditions and current contexts.

The previous reasons make that the members of the Chapter of Health Science Professors in Artemisa, conduct a deep revision and restructuring of the pedagogic practices, particularly, of the teaching-learning process, adapting them with respect to the demands of the 21<sup>st</sup> century, of an attractive and efficient approach to develop an instruction process of quality and excellence, supported by the technologies of information and the communications.

Coincidentally, a research carried out in Peru on the topic of COVID-19 and the training of medical students, ensures that virtual education emerges as an option to replace face-to-face teaching, particularly during this pandemic.<sup>(7)</sup>

Recent research on academic training, in times COVID-19, allows unifying the criterion on the importance of distance education, as it is referred in a study recently published in Higher Medical Education journal, where the authors relate a group of actions for the development of an effective teaching-learning process during the pandemic, among which are the implementation of virtual learning forms with more interaction with the professors, where they should implement the use of ICT, having a satisfactory access to a broadband to navigate in Internet, and a close communication with students and parents, in order to have the largest number of virtual tools that allow covering the different learning styles.<sup>(8)</sup>

Another research carried out in the province of Camagüey where the authors assert that the professionals of these and other specialties, mostly professors, in addition to these actions, are involve in the analysis of the curricula of the different disciplines and subjects for their adjustment to the current conditions, that even though the subjects of the main comprehensive discipline have taken benefits from the field of work, integrated by students of different academic-years and the group of professors that accompanies and give advice to them, favoring in-service education, the rest of the disciplines have not been able to impart their subjects in the presence of students and it is responsibility of the professors to make the precisions, with innovative methods, that guarantee the training process, with the required quality.<sup>(9)</sup>

Similarly, a descriptive study to evaluate the level of satisfaction of students of health sciences, states that the current historical context, marked by the COVID-19 pandemic, makes students of health sciences to be in exceptional situations, fulfilling special functions, such as the active survey of clinical findings of acute respiratory infections and / or non-specific febrile syndrome, an element that contributes positively in their training as healthcare professionals.<sup>(10)</sup>

The contingency of the COVID-19 has unfortunately hindered the development of academic and postgraduate training processes around the world due to its rapid spread. For this reason, it is an imperative for all professors to create educational strategies, methods and actions so that students acquire and develop knowledge and skills in accordance with the requirements of the model of the professional they aspire to train.

Seen in this light, such approaches may not only be necessary to effectively address the dilemma of medical student education during this current crisis, but would also serve to set the base for medical education in future health emergencies.<sup>(7)</sup>

Therefore, the challenges and demands of higher medical education and the society of health science professors , demand the search for teaching and training alternatives that respond to the subjects, conditions and current realities , in short, to rethink education and strengthen learning ecosystems in order to train individuals with 21<sup>st</sup> century skills and, at the same time, to strengthen the academic world as an exercise to thinking about the sciences, through the work of professors and researchers from different disciplines, who, united by common interests, around fields of knowledge, making every effort to find answers and alternatives to the diverse contexts that emerge in the current era.

Together with the above and as part of the Cuban action protocols to battle this disease, all patients suspected of COVID-19 or contacts are admitted to an isolation center for study and treatment.

In the period from April to June 2020, a total of 14 isolation centers were in session. The teams for the care of these patients were comprised of three doctors, three nurses, a dentist, a psychologist and a health technologist (laboratory and microbiology), security and protection personnel, kitchen-dining room, cleaning and laundry staff. Eighty-six percent of the medical and nursing professionals who worked in these centers are associated with the chapter.

Borges states in his study that the consecration and dedication of the work team in charge of the care of COVID-19 suspected and confirmed patients, showed at every moment their ethical values, characterized by a high level of professionalism, humanism and solidarity, which prevailed in the battle of this pandemic,<sup>(11)</sup> a pronouncement with which the group of authors of this work agrees, if it is taken into consideration that Health Science Professors hold a

position in the Cuban health system as a part of it, while its status has a social character, given by its heroism and ethical principles, and for what it is capable, in concrete conditions, of having earned the social opinion of students and all the community, from the national and international spheres.

It is worth noting that, based on requests made by certain governments in response to the current COVID-19 epidemic, Cuba prepared medical brigades that are now in Antigua and Barbuda, Andorra, Angola, Barbados, Belize, Cape Verde, Dominica, Grenada, Haiti, Honduras, Italy, Jamaica, Mexico, Nicaragua, Qatar, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, South Africa, Togo and Venezuela,<sup>(12)</sup> integrated also by Artemisa Health Science Professors from different specialties: medicine, nursing and health technology.

In this context for Cuba, the management of research in health in the polyclinic and other entities of the Healthcare System, has been characterized in the last months by the implementation of a policy of Extension of the System of Science and Technological Innovation in healthcare, with the promotion of researches<sup>3</sup> related to COVID-19 pandemic and the development of projects by the Professors-Researchers, where professionals of the following specialties stand out:

- ✓ Hematology specialists associated with the chapter do a commendable job in extracting plasma from patients who have overcome COVID-19 disease in order to obtain antibodies that fight the virus and use them to treat infected patients or to prevent the development of the disease in subjects who have had close contacts.
- ✓ Professors of Basic Biomedical Sciences, have planned to carry out research related to Biosafety in the working environment: regarding SARS-CoV-2 virus pandemic, due to the vulnerability detected during this activity, not only to the age groups of greater risk, but specifically to the healthcare personnel exposed to them.
- ✓ Dermatology and Hygiene-Epidemiology Specialties who designed and implemented the use of immunohomeopathics for the prevention in the epidemiological control of COVID-19, in the health area of Adrian Sansaric teaching polyclinic of Artemisa municipality, currently implemented.
- ✓ The total of the Professors who participated in the active survey, worked in the distribution of the Cuban product, of homeopathic nature PrevengHo-Vir, as well as in the training on its application.

There are no doubts that the epidemiological emergency constituted an important source for the development of research for healthcare professors, in each one of the levels of care, where the investigations were directed, mainly, in the assessment of the impact of the disease in the individual and in families, the treatment of the disease with a multidisciplinary approach, development of studies by means of the active survey, implementation of scientific evidences for the decision making, evaluation of the quality of the activities carried out during the this wide-reaching battle, among others.

In this sense, there are evidences of researches and articles published on this subject, standing out the works carried out from the Primary Health Care whose topics are mainly focused on: active survey, promotion activities, intersectoral actions, work of health teams in isolation centers, challenges of biotechnology and its impact in dealing with COVID-19.

It is worth noting that some of these aspects coincide with those reported by other authors,<sup>(9)</sup> similar research shows that contingency effort is present in the work of directors.<sup>(13)</sup> With regard to the role of directors in administration positions, as well as awareness to the concerns, complaints and suggestions of the population, a representative number of Health Science Professors worked in the 10 municipal teaching sections and in the Provincial Health Direction; they represented 78,5 % of the professionals.

To strengthen the actions of hygiene, epidemiology and microbiology, as well as to lead also the work in the healthcare sector, they strengthen the work of health promotion and prevention in the population of Artemisa, the studies of behavior and predisposition that have served to appraise the risk, prognosis of the disease, as well as the design of strategies.

Likewise, other associated specialists to the chapter carry out activities of scientific character (virtual) where the professionals achieve the socialization of the aspects related to this disease from the analysis of the published articles, update bibliographies related to the topic, aspects that contribute to the increase of scientific level in response to the improvement of the quality of the services that are given to the population. This is stated clear by specialists in intensive medicine, internal medicine, pulmonology, ophthalmology, clinical anatomy, dermatology, microbiology, geriatrics, natural and traditional medicine and pharmacology.

Professionals of Psychology develop an important work in the counseling and treatment of the possible situations or reactions of the population of the province in the course of this disease. From this perspective, centers were created, with the use of the telephone, to offer psychological counseling to the families, in order to counteract the reactions that cause the social distancing.

The work showed the marked a leading role of healthcare professionals who are members of Artemisa chapter of Health Science Professors, during the battle against COVID-19 with relevance in the activities addressed to the active survey and welfare action in isolation centers. On the other hand, the research implementation was addressed to the search and problem-solving responding to the current epidemiological context.

### **Contribution of the authors**

**AGPS:** original idea, revision and literature searching. Desing of the manuscript.

**LPS, LBD, JPC and IVG:** design and approval of the final version of the manuscript.

### **Conflict of interests**

No conflicts of interests are declared.

### **Additional material**

Additional material to this article can be consulted in its electronic version available at: [www.revcmpinar.sld.cu/index.php/publicaciones/rt/suppFiles/4685](http://www.revcmpinar.sld.cu/index.php/publicaciones/rt/suppFiles/4685)

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