

Review Article

Covid-19 and Public Health

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Abstract

This document is a reflection that aims to determine what revelations the pandemic leaves us about the current state of public health in the world, for which a systematic review is made of the relevant responses in Public Health to the management of the pandemic by SARS-CoV-2 worldwide, with an emphasis on Colombia and how prepared we are for future pandemics is evaluated. Those articles that address the current situation of the pandemic and its impact on Public Health in the country were chosen. The information search was obtained in various databases, as well as in the web pages of national journals and organizations.

Keywords: Public Health; Covid-19; Pandemic; Colombia

Introduction

In December 2019, a series of cases of pneumonia caused by a new coronavirus were identified in Wuhan (China). This new coronavirus has different names: 2019-nCoV according to the WHO and SARS-CoV-2 and according to the International Committee on Taxonomy of Viruses. The disease that causes it has been named 2019-nCoV. On January 7, 2020, the new coronavirus was officially announced by the Chinese authorities as the causal agent of these infections [1,2].

Currently, this new coronavirus represents a serious problem for public health in the world, due to the high costs it generates for the health system and the way in which it has an economic, social and psychological impact on individuals. Covid-19 represents one of the greatest challenges in recent public health history. Becoming a new paradigm in health where the influence of citizens in the decisions that affect them collectively will be decisive for the active search for joint solutions and it is also essential that the ties of international scientific cooperation be strengthened under a common objective: to protect health of the population [3].

The appearance of a new infectious disease is always a complex situation, especially if it appears as an epidemic of significant extent or severity. Cases increased rapidly in Wuhan and Hubei province, spreading in smaller numbers and with limited transmission chains throughout China. There are imported cases and secondary cases in more than 24 countries. On January 30, 2020, the WHO declared this epidemic as a Public Health Emergency of International Concern and as a pandemic on March 11, 2020 [4-7].

In Colombia, the first case of SARS-CoV-2 was reported in Bogotá on March 6, 2020 [8,9] and from there, cases were reported in various parts of the country, thus configuring a pandemic with heterogeneous

manifestations in the regions. In some places, after the diagnosis of the first case, community transmission occurred quickly, and in others, scattered outbreaks, which implied different moments of the beginning of the increase in cases that were modified according to the activities of each place and its relationship with others regions [9].

In accordance with the behavior of the pandemic in the various countries, measures were initiated in Colombia to mitigate and curb the impact of the disease on the population. In particular, slow down the speed of transmission of the virus in order to prepare the health system to care for cases, avoiding collapse and reducing the social and economic impact of the pandemic. Therefore, this article aims to make a systematic review of the relevant responses in Public Health to the management of the SARS-CoV-2 pandemic worldwide, with emphasis on Colombia, to assess how prepared we are to future pandemics and determine what revelations the pandemic leaves us about the current state of public health in the world.

Covid-19 Prevention and Control Systems

The most important public health actions for the prevention and control of Covid-19 that have been adopted by different countries include the following: 1) Epidemiological intelligence, which includes, in addition to the population surveillance strategy, sentinel surveillance and event-based surveillance given the real impossibility of identifying all positive cases; 2) Measures to mitigate the spread of the epidemic, such as social distancing and hygiene, hand washing, confinement, restriction of movement and the use of masks, among others; 3) Transmission suppression measures when the number of cases is very high, such as the implementation of drastic measures of confinement at home; 4) Strengthening the capacity for medical care in health systems and increasing the capacity to prevent transmission in health services; and 5) Development of prophylactic vaccines against Covid-19, as well as the generation of therapeutic agents [10]. All these actions have also been implemented by the public health system in Colombia to contain, prevent and control the epidemic.

Response Mechanisms to the Pandemic in Colombia in Terms of Public Health

Health systems are facing the most serious global pandemic crisis in a century. Containing and mitigating the spread and infection rate of the SARS-CoV-2 coronavirus is the first priority of public health authorities to distribute the number of infections over time and, if possible, reduce the incidence of the disease that causes (COVID-19). In Colombia, in the face of the pandemic caused by Covid-19, the health

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sector has implemented several mechanisms to provide a favourable response to the population in the face of the worrying situation that plagues the country and many parts of the world, mechanisms that are closely related in matter to Public Health, such as: 1) Strengthening diagnostic capacity: Placing Colombia in the number one position of the Latin American countries with the greatest local diagnostic capacity, since by March 2020 there was only one laboratory with a daily processing capacity of 600 samples (INS), and by November of the same year there are already 144 laboratories with a daily processing capacity of 56,000 tests (INS+National Laboratory Network) [11]; 2) Strengthening of the hospital network, with an increase in ICU beds per 100,000 inhabitants due to the real increase in installed capacity due to: a) The action plan and goals based on technical criteria and articulated with the territories, b) Goals in continuous monitoring and review, c) Authorization to provide health services temporarily, and d) Direct support from the National Government in providing biomedical equipment [11,12]; 3) Home services, such as home care, laboratories taken at home, health guidance and teleconsultations; 4) Control of risk groups, guaranteeing continuity of care, control of the risk of complications, reduction of risk of contagion and mortality, strengthening of protection actions through: enabled telephone lines, use of virtual channels: chats, emails, networks social, etc, enabling virtual offices, health guidance, home care, teleconsultations, clinical laboratories taken at home, medication formulas delivered at home, prenatal controls at home; 5) Attention to Human Talent in Health, with actions such as: taking samples from close contacts, definition of COVID-19 routes in the IPS, delivery of Personal Protection Elements (PPE), declaration of COVID as an occupational disease, definition of protocols for biosafety, virtual training available in managing Covid-19, creation of an intersectoral table for labor protection of the THS, special bonus: 239,791 workers for \$364,656,685,010, operation financing, payment of current THS obligations, support telephone lines for decision-making; 6) Citizen education, promoting the use of different technological platforms and media to inform: About the virus, the disease and the risk of contagion, the application of Biosafety measures: Correct use of face masks, social distancing, hand washing, isolation against flu symptoms, and Self-care and care for the other: Self-care personal decision, individual behaviour changes, warning signs and avoiding crowds; and finally, 7) Health Expenditure, that in order to face the COVID-19 pandemic, the SGSSS has required the convergence of different sources and the adequate and timely flow of resources to the different actors, through the pooling of: Current resources, Extraordinary resources, debt write-off [11].

Currently, in response and preparation for the new normality, in addition to the aforementioned, the formulation and implementation of the PRASS Program, seroprevalence studies, vaccines and treatments are implemented.

Where are we going?

One of the great lessons learned from this COVID-19 pandemic is the resilience that despite each and every one of the circumstances that have gone through this year, each person, government and state has changed to get ahead and survive to this virus. That is why the great importance of articulated work with all sectors and knowledge of actions in the roles of the actors and above all the value of Public Health must be identified, since before it was not seen as something of influence in health institutions; but this leaves us that it is essential for the proper functioning of health services and that the primary intervention is in self-care and community work and

not in the resolution of diseases evaluating from the different social determinants [11].

This is how each of the critical points that this historical event leaves in the world must be intervened, finding that one of the great challenges that Colombia and the entire world has, is to guarantee 100% the articulation of each one of the actors. of the General System of Social Security in Health, such as the Presidency of the Republic, Ministry of Health and Social Protection, Territorial Entities, Insurers, Providers and the other Ministries; to strengthen community and collective actions seeking to promote self-care, use of digital tools to inform and educate the population and thus begin to reform the population's concept of risk aimed at generating change in the culture of care [11].

On the other hand, basic and higher education institutions, health institutions, insurers, providers, among others, should be oriented in order to strengthen the knowledge and implementation of Public Health as the main axis of care models, transforming health care and thus strengthen services seeking compliance with the characteristics of the Mandatory Health Quality Assurance System for humanized and user-centered care.

Also, it denotes the joint work of the countries so that relations and interactions between them must continue to be strengthened, since each one has its strengths, whether in the realization of biomedical, immunobiological equipment, medicines, medical devices and other necessary resources for the provision of health services, without leaving aside in rethinking the Colombian economy in the implementation of companies that produce the aforementioned and thus avoid exhaustion or shortage of products and equipment in the country.

At the same time, workers in the health sector require special suitable implements to protect themselves in their work environment; At the present time, these requirements acquire special relevance, as they constitute the guarantee that they themselves do not become a source of transmission of COVID-19, putting their family group and the community at risk [13]; these are a group particularly susceptible to burnout syndrome given the demanding nature of their profession and work environment [14]. Due to the aforementioned, the human resource in health should be overvalued, which are vital for the proper functioning of the institutions since without them nothing is possible, but in these personnel the expansion of knowledge must be generated permanently and the burdens reduced working extremes to have a productive and satisfied human resource.

At the global level, the reduction of the contagion curve of the countries must be guaranteed for the gradual reactivation of the economy, but for this it requires leadership and dynamics from each state, integrating all sectors and health, economic and social policies; They must be based on sanitary protocols that allow the virus and its spread to be controlled, in addition to protecting workers, particularly health workers [15].

It can be said that this pandemic forces us to discuss the urgency of a health reform to ensure the continuity of a strong health response, less fragmented, with better financing and integrated with other social policies, and represents the opportunity to recognize the importance of transforming a health system aimed at public health with quality, universal and free based on equity [16].

All of the above can lead to a paradigm shift, as Charles Darwin

states, “it is not the strongest species that survives or the most intelligent, but the one that responds best to change” [17]; And this is what the COVID 19 pandemic has brought with it, changing lifestyles, altering economies, work models, conceptions of thought and the vision towards good health, as it was given in previous centuries with each historical event on the occasion of other pandemics or social contexts.

Are we prepared for Future Pandemics?

The new coronavirus has not only led to a public health crisis, but also to a social, economic, moral, ethical and scientific crisis, which forces us to rethink whether we are prepared for future threats that we now see were not movie fiction. This crisis has taught us that data is a priority, in order to advance and solve the evolution of a pandemic in a clear and real way, taking into account clear protocols for a better emergency. The lessons learned should help us improve strategies for the coming months and years because after coronavirus nothing will be the same [18].

We must remain vigilant and prepare ourselves, because the cost of a major epidemic will be much higher than that of prevention”, the effectiveness of efforts is important and essential, training and supporting health workers in health facilities, in the preparation and novel response for future pandemics is vital for the population, it is necessary to equip with knowledge and tools for the surveillance of case management, contact tracing, infection prevention and control [19].

The core of critical focus where there is a profound change in our reality, which forces us to act, in the population and vulnerable communities, “Poverty and fragility exacerbate infectious disease outbreaks and help create the conditions for pandemics.” To make profound and important changes to generate impacts in our future, it is vital to prepare, face and then learn, thus achieving physical and mental well-being in all communities; As a first measure, it would be to have emergency plans prepared for new crises, economic funds for contingencies, and important contingency instruments [20].

Conclusion

The public policy that is being made by the central and local governments is necessary for the way in which its application materializes. Health workers are learning the key messages of coronavirus, for future flu or pandemics they may face in the future, how a virus spreads, how people can protect them and how to identify symptoms, and then share the messages with the population, as appropriate including through face-to-face interaction, WhatsApp messaging, or social media, culturally appropriate messaging about handwashing and physical distancing, self-isolation, and where to access health care services.

References

1. Eurosurveillance Editorial Team. Note from the editors: novel coronavirus (2019-nCoV). *Euro Surveill.* 2020;25(3):2001231.
2. Cruz MP, Santos E, Cervantes MAV, Juárez ML. COVID-19, a worldwide public health emergency. *Rev Clin Esp (Barc).* 2021;221(1):55-61.
3. Barrientos-Gutiérrez T, Alpuche-Aranda C, Lazcano-Ponce E, Pérez-Ferrer C, Rivera-Dommarco J. [Public health in the first wave: an agenda for cooperation before Covid-19]. *Salud Publica Mex.* 2020;62(5):598-606.
4. Trilla A. One world, one health: The novel coronavirus COVID-19 epidemic. *Med Clin (Engl Ed).* 2020;154(5):175-7.
5. World Health Organization. Novel Coronavirus (2019-NCov). Situation Report - 10. (30 January 2020).
6. World Health Organization. Coronavirus Disease 2019. Situation Report. Vol 51. WHO; 2020.
7. Acosta LD. [Response capacity to the COVID-19 pandemic in Latin America and the Caribbean]. *Rev Panam Salud Publica.* 2020;44:e109.
8. Ramírez JD, Flórez C, Muñoz M, Hernández C, Castillo A, Gómez S, et al. The arrival and spread of SARS-CoV-2 in Colombia. *J Med Virol.* 2021;93(2):1158-63.
9. Hurtado-Ortiz A, Moreno-Montoya J, Prieto-Alvarado FE, Idrovo AJ. Comparative evaluation of public health surveillance of COVID-19 in Colombia: first semester. *Biomedica.* 2020;40(Suppl 2):131-8.
10. Lazcano-Ponce E, Alpuche-Aranda C. [Public health literacy in the face of the Covid-19 pandemic emergency]. *Salud Publica Mex.* 2020;62(3):331-40.
11. X Session of the Intersectoral Commission on Public Health. Bogotá December 18, 2020.
12. OECD. Beyond Containment: Health systems responses to COVID-19 in the OECD. 2020.
13. Peraza ACX. Occupational health in the face of the COVID-19 pandemic in Ecuador. *Medisur.* 2020;18(3):507-11.
14. Lozano-Vargas A. Burnout syndrome in health professionals in the COVID-19 pandemic. *Revista de Neuro-Psiquiatría.* 2021;84:1-2.
15. United Nations ECLAC. Health and economy: a necessary convergence to face COVID-19 and return to the path towards sustainable development in Latin America and the Caribbean. Report Covid-19 ECLAC-PAHO. Covid-19. Response. 2020.
16. Sued O. COVID-19: Where have we come from and where are we going? *Updates on AIDS and Infectology.* 2020.
17. Peñasco R. Covid19: A before and after in the History of Humanity? Socio-legal analysis of a paradigm shift and the new parameters and great challenges of the 21st century. *Dykinson;* 2020.
18. Baeza-Yates R, Karma P. Seven Lessons for Dealing with Pandemic Data. 2020.
19. Martinez, Crespo C, Garrido A. The coronavirus pandemic: crisis communication strategies. *More local power.* 2020;41:12-9.
20. Gonzalez, Antonio J. Crisis and pandemics. Disaster or business transformation. *Public Accounting Magazine.* 2021;101:56-9.