



Viruses, Resilience, and their Health Implications: Some Reflections



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Abstract

Humanity is living a stage where different types of viruses have appeared, implying many problems at a social level, which is called upon to adapt to these adversities, so as not to have more relevant conditions than those that occurred with the appearance of COVID-19. The objective is Know the implications of these for human health and how to be resilient to them. The bibliographic review and the inductive-deductive method were used. The result was that humanity must reflect on joint actions to address the viral threat and draw up policies that help adapt to the change caused by them.

Keywords

COVID-19;
mental health;
policies;
resilience;
strategies;
viral conditions;

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Introduction

Viruses are a unique form of life characterized by their ability to replicate rapidly within the cells of other organisms. Their resistance and adaptability have allowed them to survive in hostile conditions and continue to infect hosts throughout history (Jones, 2009; Segalés, 2012). The resilience of viruses is a topic of interest, many scientists have chosen to study it due to its impact on human health (Castagnola Sánchez et al., 2021), since the time of Plato and Aristotle they have talked about viruses and their spread (Angelo, 2007).

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One of the characteristics of the resilience of viruses is their high mutation rate. Because viruses reproduce rapidly and make copies each time, they infect a cell, their genomes are subject to a high rate of errors during replication (Maze Malave & Celis, 2021). These mutations can lead to the evolution and emergence of new viral strains (Ayllon Valdés et al., 2006), making it difficult to completely eradicate a viral infection.

In addition, viruses have developed several strategies to evade the host's immune system (Suárez & Villegas, Characteristics, and specialization of the immune response in COVID-19, 2020). Some viruses can enter latency, where they remain inactive within the recipient's cells for prolonged periods (Gutiérrez & López, 2010), allowing them to evade detection and destruction by the immune system. Other viruses can suppress the immune system, allowing them to establish a persistent infection in the host.

In summary, the resilience of viruses is a complex and fascinating topic that is due to a combination of factors, including their high mutation rates, their ability to enter latency, and their ability to evade the immune system (Suárez Reyes & Villegas Valverde, 2020). The study of viral resilience has important implications for the prevention, treatment and eradication of viral diseases, and continues to be an active area of research in biology and medicine.

Materials and Methods

The research is of an inductive type that allows us to achieve accurate results through the review of the bibliography and observation methods regarding how a society should work to be resilient to the viruses with which it lives.

Analysis and Discussion of Results

Since ancient times, society has lived with different types of viruses, many of them were fatal in some countries, these had no border, in the book *The five most lethal pandemics in the history of humanity*, each of them is explained (Crespo, *the five deadliest pandemics in the history of humanity*, 2022), the author states that COVID-19 is still far from surpassing their numbers (Solórzano et al., 2020). All of them must be given thanks to scientific researchers around the world who are still preparing to face these difficulties.

Considering the above and related to resilience; if society according to what it proposes (Crespo, 2022); "...The same forces that drive species extinction, habitat loss and climate change will cause more pandemics in the future," and what another report related to the protection of the earth and all living beings indicates will be mitigated. future pandemics" (Yuki et al., 2020; Cevik et al., 2020), when these approaches are analyzed, it is induced that we must fight to be resilient, in the face of looming problems, creating conditions to protect biological diversity, the contributions of nature, protect resources natural and with them be sustainable in all spheres of life; This can only be achieved through the work of unity of society (Jacob et al., 2020; Vindegaard & Benros, 2020). The implications for human health of viral processes are several and the scope of these is essential to develop prevention, treatment, and effective control strategies to combat them. Figure 1 shows some of them.

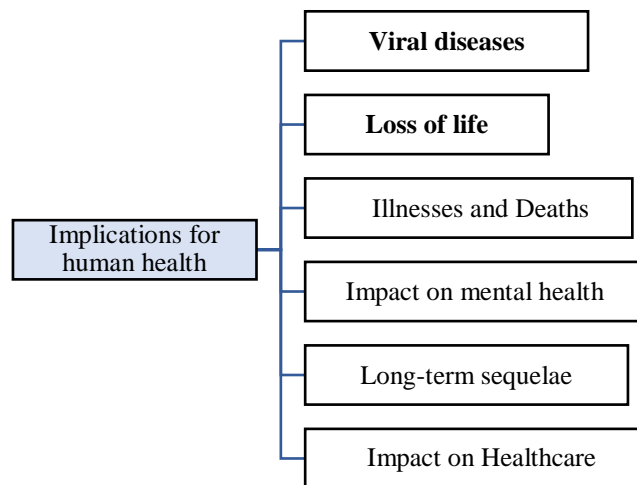


Figure 1. Implications for human health

Many of these implications are maintained during viral processes, and mark society for life, allowing us to reflect and create better living conditions to be resilient to these phenomena. These implications are significant for human health, and understanding them is essential to develop effective prevention, treatment, and control strategies to combat viral diseases (Davydov et al., 2010; Killgore et al., 2020).

With the last pandemic that society went through, the devastating effects were reduced thanks to the effort and dedication of many scientists based on the concept of resilience as the ability of human beings to adapt and cope with adverse events through the deployment of multiple physical and psychological resources to overcome a situation as proposed by (Bastidas, 2021).

All that remains is to reflect and act and adapt safely and intelligently to change through infection prevention and control, research and development, mental health care, international cooperation, public policies, and socioeconomic measures (Ifanti et al., 2013; Starfield & Shi, 2002).

In this sense, public and socioeconomic policies can help mitigate the impacts of viral diseases as a decisive element in these processes, where financial support is necessary for affected people and companies, protection of workers on the front line and promoting equity in health care and vaccination.

In summary, humanity can safely and intelligently adapt to viruses through infection prevention and control (Vega-Vega et al., 2020), research and development seen as the fundamental source of preparedness (Castagnola et al., 2021), mental health care (Martínez Arriaga et al., 2021), the authors cited above give clear examples of how to act; Furthermore, it is evident that without international cooperation and effective public policies they cannot be resilient. Reflection and joint action at a global level is essential to address the viral threat and be able to complete aspects that are essential for human preservation on our planet.





Conclusion

Viral diseases have affected humanity at different times. Today, the scientific advances achieved must reflect on joint actions at a global level to address the viral threat based on the experiences acquired, so policies must be drawn up to help adapt to the virus change caused by these and being resilient to them.

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