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SHORT COMMUNICATION

Impact of COVID-19 on Argentina's Health System: Challenges and Sequelae

Impacto del COVID-19 en el Sistema de Salud de Argentina: Retos y Secuelas

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ABSTRACT

In early 2020, the World Health Organization (WHO) declared Covid-19 an international health emergency, recommending all countries to implement surveillance and control measures. By mid-March, the virus was considered a pandemic. By that time, China was reporting almost all the global cases, with a high number of deaths. The virus arrived in Latin America at the end of February, and soon spread throughout the continent, including Europe and North America. In Peru, Covid-19 appeared in early March, prompting the government to declare a state of emergency and impose social isolation. This highlighted the shortcomings of the Peruvian healthcare system, which was unprepared to deal with the crisis, with a limited number of ICU beds. Covid-19, caused by the SARS-CoV-2 virus, mainly affects the respiratory system. Its transmission occurs mainly by respiratory droplets. The most common symptoms include fever, cough, shortness of breath, and alterations in taste and smell. Although there are no definitive treatments, antivirals, corticosteroids and other drugs are used depending on the patient's condition. Pneumonia caused by Covid-19 can lead to serious complications, such as multi-organ failure and renal, liver and cardiovascular damage. The nursing care process, based on the NANDA model, is used to guide the care of patients, identifying their needs and establishing intervention plans to improve their health and reintegrate them into the community.

Keywords: COVID-19; pandemic; health system; vaccination; sequelae.

RESUMEN

A principios de 2020, la Organización Mundial de la Salud (OMS) declaró al Covid-19 como una emergencia sanitaria internacional, recomendando a todos los países implementar medidas de vigilancia y control. A mediados de marzo, el virus fue considerado pandemia. Para ese entonces, China reportaba casi todos los casos globales, con un alto número de muertes. El virus llegó a América Latina a finales de febrero, y pronto se extendió por todo el continente, incluyendo Europa y Norteamérica.

En Perú, el Covid-19 apareció a inicios de marzo, lo que llevó al gobierno a declarar un estado de emergencia e imponer aislamiento social. Esto evidenció las deficiencias del sistema de salud peruano, que no estaba preparado para enfrentar la crisis, con un número limitado de camas de UCI. El Covid-19, causado por el virus SARS-CoV-2, afecta principalmente el sistema respiratorio. Su transmisión ocurre principalmente por gotículas respiratorias. Los síntomas más comunes incluyen fiebre, tos, dificultad para respirar y alteraciones del gusto y olfato. Aunque no existen tratamientos definitivos, se utilizan antivirales, corticosteroides y otros fármacos según el estado del paciente. La neumonía causada por el Covid-19 puede llevar a complicaciones graves, como insuficiencia multiorgánica y daño renal, hepático y cardiovascular. El proceso de atención de enfermería, basado en el modelo NANDA, se utiliza para guiar el cuidado de los pacientes, identificando sus necesidades y estableciendo planes de intervención para mejorar su salud y reintegrarlos a la comunidad.

Palabras clave: COVID-19; pandemia; sistema de salud; vacunación; secuelas.

The World Health Organization (WHO) published at the beginning of 2020 that the COVID-19 virus is declared a health emergency with international impact, which entails making an alert for all nations, suggesting immediately to establish surveillance measures, application of tests that measure the virus and strategies in the proper management of patients, in order to take actions to prepare for the possible arrival of cases from other countries. All this led to the declaration of Covid-19 as a pandemic by mid-March 2020 (Rodriguez et al., 2020).

Likewise, this global health organization reported that 46,997 cases had been declared worldwide, where 46,550 (99.04%) were from China, and of which 1,368 (2.93%) have died, all of which resulted in this virus becoming an emergency in the field of global public health (Palacios et al., 2021).

It was also known that COVID-19 appeared in Latin America and the Caribbean towards the end of February 2020, when the highest health authority in Brazil issued an alert of the first case in this nation. After that, the virus appeared continuously in all the cities of South America. This pandemic also continued to generate a collapse in the nations of the European continent, as well as in North America.

Specifically, the SARS-COV-2 virus in Peru, which COVID-19 generated, appeared at the beginning of March 2020. By the end of that month, Supreme Decree N° 094-2020-PCM was instituted, which came to promote mandatory measures of social isolation focused on a new way of living together socially. Then, a state of emergency was extended throughout the territory of Peru due to the severe circumstances that startled the community's life because of the aforementioned virus. All this allowed us to visualize that the Peruvian health system is deficient and does not cover the emergency needed to attack this pandemic (Barrutia et al., 2021).

Therefore, the health system in Peru is seen as precarious and insufficient because the number of ICU beds only reached 100, and most of them were located in Lima, knowing that it is only a third of the metropolis. Subsequently, more than a thousand beds were acquired, and the number of active cases increased by 35.42% requiring hospitalization. This means that the health system needs major changes to address this pandemic. (Zevallos, 2020).

It is important to understand that SARS-CoV-2 (COVID-19) is seen as a viral infection that can directly affect the respiratory tract, specifically in cases that show to be severe, a massive systematic inflammation could be observed and could cause significant damage to other organs (Alves et al., 2020). (Alves et al., 2020).

In turn, it is known that this virus is composed of 30 thousand RNA bases, using the spike protein, massively glycosylated to enter the host cells and then groups with the receptor of angiotensin-converting enzyme 2 (ACE2); this enzyme is manifested in alveolar cells type II. In this way, the RNA of the virus enters the lower and upper respiratory tract cells, known as the viral protein.

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The COVID-19 virus arises from linked pathophysiological processes: one is the direct cytopathic effect resulting from the viral infection, which is intensified in the early stage of the disease, and the other is the unregulated inflammatory response of the host, which is observed in the late stages. Incorporating these two pathophysiological processes turns phenotypically into a three-stage disease progression: 1) Early phase, which manifests clinical stability with mild symptoms, showing fever, cough, and headache. 2) Pulmonary phase: In this phase, it is observed that the infection has increased at the respiratory level, leading to an incipience of the same, and c) Hyperinflammatory phase is here where the multiorgan failure is shown in a fulminant way that generates the commitment with the rest of the organs (Ana, 2020).

It is also known that the infection is transmitted primarily from individual to individual through respiratory droplets. The presence of the virus has been confirmed in sputum, pharyngeal swabs, and feces. Symptoms include fever, cough, dyspnea, odynophagia, rhinorrhea, diarrhea, nausea, vomiting, headache, and smell and taste disorders (Vera, 2021).

Currently, no treatment is very effective in treating SARS-CoV-2 infection. However, the classes of drugs that are mainly used include antiviral agents, inflammation inhibitors, low molecular weight heparins, plasma and hyperimmune immunoglobulins, oxygen therapy, and ventilatory support in relation to the patient's condition.

Technical Standard N°181-MINSA/DGESP-2022 recommends corticosteroid administration, such as dexamethasone, in people with critical COVID-19. Prophylactically, in case of thromboembolism, the use of anticoagulants such as enoxaparin and in patients with severe to critical Covid 19 and with evidence of systemic inflammation, the use of Tocilizumab is detailed more extensively in this technical standard. (Ministry of Health of Peru, 2022).

COVID-19 pneumonia is an infectious disease caused by an acute respiratory syndrome secondary to coronavirus (Murrieta, 2021), acute inflammation of the lower respiratory tract, and lung parenchyma, resulting in a clinical syndrome of fever, cough, shortness of breath, and malaise. It is generally caused by Streptococcus Pneumoniae bacteria (pneumococcus); in this case, it is caused by COVID-199 (Diaz, 2020).

As for the symptoms, they are presented according to the course of the days of disease progression. From the onset of the first symptoms after an average of 7 days, there are signs of desaturation due to dyspnea; since then, its progression has been swift, presenting respiratory distress syndrome after three days from the onset of dyspnea, this being the main complication in these patients. The complications associated with a patient admitted to the ICU for Covid pneumonia are the following: acute kidney injury, elevated liver enzymes, delirium and/or encephalopathy, and cardiac lesions such as cardiomyopathy or sudden arrhythmia and thrombosis (Gonzalez, 2018). (González, 2018).

Pathophysiology is a defect in the transmission of impulses from neurons to myocytes due to the loss of standard or available post-synaptic membrane receptors at the neuromuscular junction; there is a reduction in the number of acetylcholine receptors at individual neuromuscular junctions.(Brunner and Suddarth, 2000)

Despite immense research over the years, the mechanisms that trigger the production of antibodies in patients with myasthenia gravis have not yet been established. (Mazia, 2017)

The main clinical manifestations are fatigue and progressive musculoskeletal weakness of ocular and extraocular, bulbar, and limb muscles at the proximal level. Symptoms usually worsen with physical activity and improve with rest (Falla et al., 2021)

Treatment is based on three pillars: acetylcholinesterase inhibitor drugs (pyridostigmine), immunotherapy (corticosteroids or immunosuppressants), and surgical intervention (thymectomy). (Castro, et al., 2017).

Complications result from emotional disorders, systemic infections, some drugs, surgery, or trauma. They are manifested by sudden onset of muscle weakness, acute respiratory dysfunction, and inability to

swallow or speak. If not treated promptly, depression and airway obstruction occur, caused by weakness of the respiratory, laryngeal, and bulbar musculature. (Brunner and Suddarth, 2000)

The Nursing Care Process (PAE) is a technical tool internationally recognized by the North American Nursing Diagnosis Association (NANDA) that allows nursing staff to identify, communicate, and record the care provided to the patient, family, and community through a comprehensive approach, a systematic and organized method that helps to evaluate objectively achieving a safe, timely intervention to prevent, resolve and reduce changes in the user's health status. (Moya, 2018)

The main objective of the PAE is to constitute a structure that can cover in an individualized way the needs of the patient, family, and community, as well as identify their actual and potential needs, establishing care plans to solve the problems and prevent or cure the disease. (Iztacala, 2020)

The present nursing care process, applied to a patient with SARS-CoV-2 pneumonia, has followed the NANDA model, establishing nursing diagnoses and then developing the objectives (NOC) and interventions (NIC) in order to establish a practical guide for intervention, allowing the earliest possible insertion of the patient into the community.

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