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Assessment of Quality of Life and Respiratory Functional Capacity in Individuals Recovered from COVID-19

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Abstract

Covid-19 is an infectious disease that causes inflammation in the respiratory system, is contagious and spreads rapidly. The sequelae caused after infection and treatment of Covid-19 are not fully known. The study aims to evaluate the quality of life and respiratory capacity of individuals who have been contaminated by the Covid-19 virus. This study is characterized as descriptive, with a cross-sectional design and a quantitative-qualitative approach. The sample consisted of 54 participants, of both sexes, diagnosed with Covid-19, who were hospitalized or not. Data collection was carried out through a mixed online questionnaire, developed on the Google Docs® platform. The results pointed to a worse quality of life in the domains Limitations due to physical aspects, Pain, Vitality, Limitations due to emotional aspects and a better quality of life for the domains Functional Capacity, General State of Health and Mental Health. And a worse quality of life assessed from the respiratory disease. It is concluded that the quality of life was affected and impaired after being affected by Covid-19 and that Physiotherapy helps to improve the sequelae and resumption of day-to-day activities, generating a good recovery.

Keywords

Covid-19, Respiratory System, Quality of Life

Introduction

Coronaviruses are considered RNA viruses that cause respiratory infections, which can cause anything from a cold to more serious diseases, such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) [1]. In December 2019, the China Centers for Disease Control and Prevention reported a new coronavirus called SARS-CoV-2 and

reported a first stage of an outbreak, which was named by the World Health Organization as COVID-19 [2].

SARS-CoV-2 is an infectious disease that generates inflammation in the respiratory system, contagious and rapidly spreading, the main ones being characterized by being similar to a common flu condition and can manifest in a mild form, pneumonia, severe pneumonia and Syndrome. Severe Acute Respiratory Syndrome (SARS), which can lead to death, especially the elderly or individuals who already have other comorbidities, as these may present in an atypical way and rapidly worsen [3].

Post-recovery of Covid-19 in survivors is still being studied, but it was observed that there are significant pulmonary sequelae such as lung damage and other organ damage, possibly those affected return to normal life, but a large number of these may have abnormalities. in residual ventilation and diffusion of blood phases, among other abnormalities, but the severity of these functional lung abnormalities depends on factors such as age, length of stay, disease severity, and medications for each patient [4].

Physiotherapy is one of the areas facing the fight against Covid-19, and can be present from prevention to the treatment of the most serious cases and / or sequels. The main physical therapy goals of the physiotherapeutic approach to respiratory function are to reduce complications, preserve lung function, prevent and improve dysfunctions and disabilities, improve quality of life, and help with anxiety and depression. There is no specific technique to be used in all patients in general, the physical therapist must evaluate the procedures addressed by scientific entities, plans and protocols of each hospital and especially the clinical indicators specific to each case [5].

Methodology

The study is characterized as descriptive, with a cross-sectional design and a quantitative-qualitative approach. The sample consisted of up to 54 participants, of both sexes, diagnosed with Covid-19, who were or were not hospitalized. Data collection was carried out through a mixed online questionnaire, developed on the Google Docs® platform. The questionnaire consisted of questions regarding the characteristics of the sample, the SF-36 quality of life assessment questionnaire and the St. George's Respiratory Questionnaire (SGRQ) respiratory disease assessment questionnaire, and all participants had access to the Free and Informed Consent (ICF).

Results and Discussion

The sample consisted of 54 participants, of both genders, with a mean age of 45.5 years for men and 39.2 years for women. Of these, 67% were married/consensual union.

We observed that respondents were contaminated between the years 2020 and 2021, only 33% were hospitalized, with an average of 11 days hospitalized. 73% were hospitalized in the clinical wing of the hospitals and 89% used oxygen. Regarding the performance of physical therapy in the hospital environment during the period of hospitalization, 45% responded that they had performed both motor and respiratory physical therapy. Of these, 78% were instructed to continue with physical therapy in a clinical manner and 89% were still undergoing treatment on the day they responded to this survey.

Table-1 represents the results of the quality of life assessment carried out using the SF-36 questionnaire. We observed that most scores presented values closer to zero (0) considering these domains with a worse quality of life (Limitations due to physical aspects, Pain, Vitality, Limitations due to emotional aspects), while the domains of Functional Capacity, General State of Health and Mental Health presented results closer to 100, which can be considered as having a better quality of life.

Table-1: Quality of life assessment using the SF-36 questionnaire

	Punctuation
Functional capacity	60
Limitations by Physical Aspects	40
Pain	34
General Health Status	70
Vitality	38
Social aspects	48
Limitations by emotional aspects	47
Mental health	55

According to Rosa and Falavigna (2021), patients coming from hospital admission due to Covid-19 may develop predetermining factors triggering physical, cognitive and/or psychological disorders, leading to a prolonged recovery, providing a greater input of health resources and possible impairment. in terms of quality of life [6].

Table-2 evaluates the quality of life from the clinical part of the respiratory disease, in this case, the disease that caused respiratory distress was Covid-19. This questionnaire has a total score of 76 points divided into three domains (Symptoms, Impact and Activity), with values close to zero (0) classified as better quality of life and results closer to one hundred (100) are classified as worse. quality of life. Observing the results of the sample, the score is closer to one hundred (100), which conditions them with a worse quality of life.

Table-2: Quality of life assessment using the St. George's Respiratory Questionnaire (SGRQ)

	Punctuation
Symptoms	33
Activity	12
Impact	15
Total	60

Covid-19 causes changes in the respiratory tract, which can range from mild pneumonia to a severe condition, presenting symptoms that alter routines, interfering with daily life activities and consecutively decreasing quality of life [7].

Participants, at the end of the questionnaire, also reported how they felt after being affected by Covid-19 and how physical therapy helped in this recovery. We can see that the majority reported feeling fatigue, lack of memory and dyspnea, which were alleviated with physical therapy, which also helped them to return to daily activities. The minority reported that they had no sequelae and that they did not need to perform Physiotherapy sessions.

Final Considerations

It is concluded that the quality of life was affected and impaired after being affected by Covid-19, whether the individual was hospitalized or not and that Physiotherapy helps to improve the sequelae and resumption of day-to-day activities, generating a good recovery.

Conflict of Interest

The authors have read and approved the final version of the manuscript. The authors have no conflicts of interest to declare.

References

[1] Fehr AR, Perlman S. Coronaviruses: an overview of their replication and pathogenesis. Methods Mol Biol. 2015;1282:1-23. [**PMID**: 25720466]

[2] Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, Zhao X, Huang B, Shi W, Lu R, Niu P, Zhan F, Ma X, Wang D, Xu W, Wu G, Gao GF, Tan W; China Novel Coronavirus Investigating and Research Team. A Novel Coronavirus from Patients with Pneumonia in China, 2019. N Engl J Med. 2020 Feb 20;382(8):727-33. [**PMID**: 31978945]

[3] Iser BPM, Sliva I, Raymundo VT, Poleto MB, Schuelter-Trevisol F, Bobinski F. Suspected COVID-19 case definition: a narrative review of the most frequent signs and symptoms among confirmed cases. Epidemiol Serv Saude. 2020 Jun 22;29(3):e2020233. English, Portuguese. [**PMID**: 32609142]

[4] Salehi S, Reddy S, Gholamrezanezhad A. Long-term Pulmonary Consequences of Coronavirus Disease 2019 (COVID-19): What We Know and What to Expect. J Thorac Imaging. 2020 Jul;35(4):W87-89. [**PMID**: 32404798]

[5] Arbillaga A, Pardàs M, Escudero R, Rodríguez R, Alcaraz V, Llanes S, Herrero B, Gimeno E, Ríos A. Fisioterapia respiratoria en el manejo del paciente con COVID-19: recomendaciones generales [*Respiratory physiotherapy in the management of patients with covid-19: general recommendations*]. Sociedad Española de Neumología y Cirugía Torácica. 2020. Portuguese.

[6] Rosa RG, Robinson CC, Veiga VC, Cavalcanti AB, Azevedo LCP, Machado FR, Berwanger O, Avezum Á, Lopes RD, Lisboa TC, Teixeira C, Zampieri FG, Tomazini BM, Kawano-Dourado L, Schneider D, Souza D, Santos RDRMD, Silva SSD, Trott G, Gimenes BDP, Souza AP, Barroso BM, Costa LS, Brognoli LG, Pelliccioli MP, Studier NDS, Schardosim RFC, Haubert TA, Pallaoro VEL, Oliveira DM, Velho PI, Medeiros GS, Gazzana MB, Zavascki AP, Pitrez PM, Oliveira RP,

Polanczyk CA, Nasi LA, Hammes LS, Falavigna M. Quality of life and long-term outcomes after hospitalization for COVID-19: Protocol for a prospective cohort study (Coalition VII). Rev Bras Ter Intensiva. 2021 Jan-Mar;33(1):31-37. English, Portuguese. [**PMID**: 33886851]

[7] Loureiro CM, Serra JP, Loureiro BM, de Souza TD, Góes TM, Neto JD, de Souza F, Dantas S, Valverde AB, Marinho JM. Alterações pulmonares na COVID-19 [*Pulmonary Abnormalities in COVID-19*]. Revista Científica Hospital Santa Izabel. 2020 Aug 27;4(2):89-99. Portuguese.