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REVIEW ARTICLE

CHARACTERIZATION OF COVID-19 CASES IN CRITICALLY ILL PATIENTS: SCOPING REVIEW

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ABSTRACT

Introduction: The leading cause of mortality from the new coronavirus is respiratory failure. Accordingly, intensive care must be promptly provided to the critically ill patient. **Objective:** To explore the evidence about the clinical findings, treatment and outcome of Sars-CoV-2 infected patients admitted to Intensive Care Units. **Method:** Scoping review, carried out in April 2021, in eight national and international data sources, according to the guidelines of the Joanna Briggs Institute, following the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews checklist, without language or time restrictions. The Population, Concept and Context strategy was adopted for the development of the research question. **Results:** A total of 15 scientific articles were included, with a predominance of publications in China, the United States of America and Canada. Of the studies, 80% were with adults and elderly in Intensive Care Unit. The main clinical findings were fever, cough, Acute Respiratory Distress Syndrome and kidney injury, treatment with invasive and non-invasive mechanical ventilation, high flow oxygen therapy and corticosteroids. The main outcome was death. **Conclusion:** Most patients presented with fever, cough and Acute Respiratory Distress Syndrome, receiving care such as mechanical ventilation, high flow oxygen therapy and corticosteroids, with a high death rate.

Keywords: Coronavirus infections. COVID-19. Clinical manifestations. Critical care. Intensive care units.

INTRODUCTION

Coronaviruses are commonly present as agents of Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS); and the new coronavirus (Sars-CoV-2) [1], causing the disease COVID-19, which is related to a significant increase in hospitalizations in Intensive Care Units (ICUs) and mortality, with clinical manifestations similar to those of viral pneumonia, with fever, dyspnea, cough, headache, myalgia and pulmonary infiltrates.[1,2]

Sars-CoV-2 has an accelerated dispersion, global in nature, and is responsible for the infection of more than 97 million people, besides having reached more than 2.1 million deaths, in Brazil, with more than 8 million confirmed cases and more than 200,000 deaths, representing one of the largest pandemics ever faced by the world population.[2]

The need for ICU admissions for COVID-19 is around 5 to 32%, while mortality rates reach 16 to 78%. Indicators for ICU admissions are factors such as respiratory rate equal to or greater than 30 breaths per minute (RPMIs), dyspnea, oxygen saturation (SpO2) less than 90%, nasal cannula oxygenation at least 5 L/min, lactate greater than 2 mmol/L, hypotension, skin hypoperfusion, organ dysfunction, changes in renal and hepatic tests, thrombocytopenia, high troponin levels and arrhythmias.[3]

The main reason for mortality from COVID-19 is respiratory failure caused by SARS, in

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which individuals can progress to shock and multiple organ failure. Thus, intensive care must be promptly provided to the critically ill patient. Among the services offered by the ICU to the coronavirus patient are invasive mechanical ventilation (IMV), vasopressors, renal replacement therapy and extracorporeal membrane oxygenation (ECMO) systems.[4-5]

This study is justified as it contributes to the scientific community by gathering data on the main clinical findings, critical care and outcomes of critically ill patients, allowing future comparisons with the advent of new technologies and care, as well as allowing the identification of gaps still existing in knowledge, suggesting the development of new studies on this subject. It contributes to the services by helping them to develop a scientifically based, updated and quality care, with better direction of material and human resources when providing this care.

The objective was to explore the evidence about the clinical findings, treatment and outcome of Sars-CoV-2 infected patients admitted to Intensive Care Units.

METHOD

This is a scoping review, which aimed to explore concepts about a given area, identify gaps in knowledge, promote the synthesis and dissemination of the data found.[6] It was developed according to the guidelines of the Joanna Briggs Institute using the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)[7] checklist. The study was registered in the Open Science Framework platform for scientific papers registration.

The present research was developed in April 2021, in which the Population, Concept and Context (PCC) strategy was used for the elaboration of the research question[6], being P: hospitalized adult and elderly patients infected with COVID-19; C: knowledge about clinical findings, treatment and outcome; C: Intensive Care Units. Thus, the research question was: What is the scientific evidence available in the literature on the clinical findings, treatment and outcome of Sars-CoV-2 infected patients admitted to Intensive Care Units?

A search was performed on the JBI Clinical Online Network of Evidence for Care and Therapeutics (CONNECT+), Database of Abstracts of Reviews of Effects (DARE), The Cochrane Library and the International Prospective Register of Ongoing Systematic Reviews (PROSPERO) data sources. in order to verify the existence of studies similar to this review. It was found that there are no studies with a similar objective to the one proposed.

The searches were conducted through the Federated Academic Community (CAFe) platform, an institutional resource made available by the Portal for the Improvement of Higher Education Personnel (CAPES) in order to access the articles. Thus, the identification was through the Federal University of Rio Grande do Norte (UFRN).

In order to conduct the search strategy, the following descriptors were used in Portuguese: “Coronavirus Infections”, “Pathological Conditions, Signs and Symptoms”, “Critical Care” and “Intensive Care Units”, according to the Descriptors in Health Sciences (DeCS). According to the Medical Subject Headings (MESH), “Coronavirus Infections”, “Pathological Conditions, Signs and Symptoms”, “Critical Care” and “Intensive Care Units” were used. In order to cover the search, the keyword “covid-19” was added in the syntax. The Boolean operators AND and OR were used.

The inclusion criteria adopted were: scientific articles freely available online in full, dissertations, theses and guidelines, in any language, without temporal scope. Articles that did not answer the research question were excluded.

Eight data sources were used to identify the evidence to be included in the study. They were: Medical Literature Analysis and Retrieval System Online (MEDLINE), SCOPUS, Cumulative Index of Nursing and Allied Health (CINAHL), Web of Science, Latin American and Caribbean Literature on Health Sciences (LILACS), Scientific Electronic Library Online (SciELO), Wiley Online Library and Gale Academic OneFile.

A structured form was developed to collect the information containing author, year of publication, country, sample, comorbidities, clinical findings, critical care and outcome. The search for studies was held by two independent

reviewers through an initial analysis of titles and abstracts.In case of doubt, a third reviewer was consulted for a full reading. Subsequently, the studies were analyzed in detail by reading the full text for inclusion in the results, when relevant. The sample was compared by both reviewers, and only studies that answered the research question were included. The data analysis was descriptive.

Since these are public domain materials from academic data sources and do not involve human subjects, Research Ethics Committee approval was not necessary.

RESULTS

A total of 20,421 articles were identified; and, after the stages of the selection process, 17 studies were selected for the final sample, as shown in Figure 1.

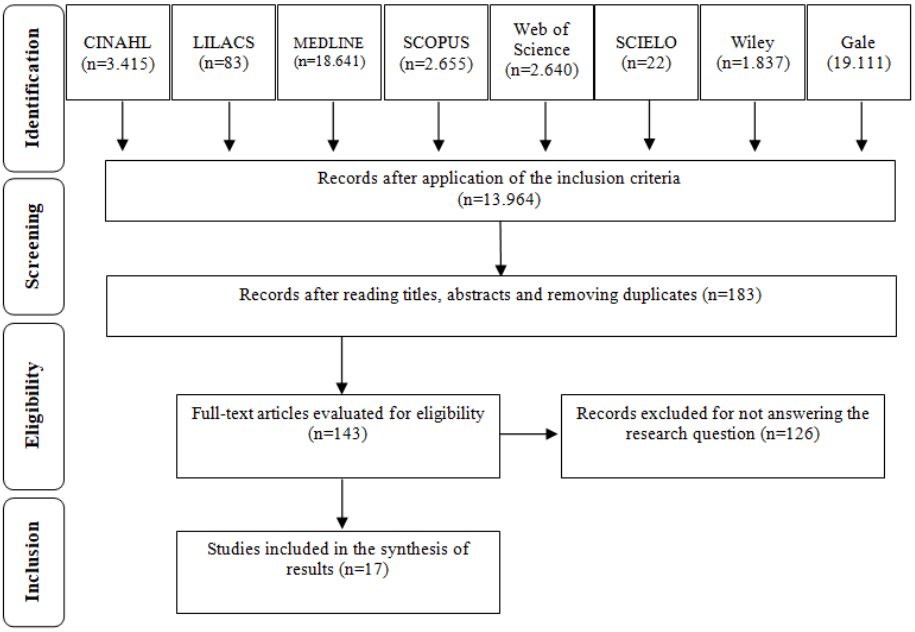

Figure 1. Adapted PRISMA-ScR flowchart of the study selection process
Source: research data, 2020

Of the 17 (100%) studies, publications from China (47%) and the United States of America (USA) (17.64%) predominated. The main comorbidities found in the studies were diabetes[9-17,19-24], hypertension[10-12,14-17,19-20,22-24], cardiac disease[13-14,16,19,21-22], pulmonary disease[13,16-17,19,21], cerebrovascular disease[16-17,21-23] and neoplasms[14,16,19,21]. Data regarding author, year of publication, country, sample and comorbidities are shown in Table 1.

Table 1. Characterization of the articles included based on authors, year of publication, country, sample and comorbidities

Authors/Year of Publication/Country	Sample	Comorbidities
Arentz *et al.*[8]/2020/USA	21 patients, aged 43 to 92 years, in Intensive Care Unit (ICU)	Chronic renal disease and heart failure
Derespina *et al.*[9]/2020/USA	70 patients, aged 1 month to 15 years, in a Pediatric Intensive Care Unit (PICU)	Obesity, asthma, hematological disease/immunosuppression, diabetes
Kayina *et al.*[10]/2020/India	235 patients, mean age 50.7 ± 15.1 years, in ICU	Hypertension and diabetes
Xu *et al.*[11]/2020/China	239 patients, mean age 62.5 ± 13.3 years, in ICU	Hypertension, dyslipidemia and diabetes
Shekerdemian *et al.*[12]/2020/USA	48 patients, ranging from 4.2-16.6 years old, in PICU	Hypertension and diabetes
Xie *et al.*[13]/2020/China	733 patients, mean age 56-73 years, in ICU	Immunosuppression, obesity, diabetes, cardiac and chronic pulmonary disease

To be continued...

Wang *et al*.[14]/2020/China	59 patients, aged 40 to 70 years, in ICU	Hypertension, diabetes, chronic obstructive pulmonary disease (COPD), chronic renal disease, cardiac disease and neoplasms
Mitra *et al*.[15]/2020/Canada	117 patients, mean age 60-75 years, in ICU	Hypertension, diabetes and coronary cardiac disease
Namendys-Silva *et al*.[16]/2020/Mexico	164 patients, mean age 57.3 ± 13.7 years, in ICU	Hypertension, cardiac, pulmonary and cerebrovascular disease, diabetes and neoplasm
Yang *et al*.[17]/2020/China	52 patients, aged 30 to over 80 years, in ICU	Hypertension, diabetes, coronary heart disease, cerebrovascular and chronic pulmonary disease
Shi *et al*.[18]/2020/China	161 patients, mean age ≤44 to ≥ 75 years, in ICU	Not specified
Yu *et al*.[19]/2020/China	226 patients, aged 57 to 70 years, in ICU	Hypertension, cardiac, hepatic and chronic pulmonary disease, diabetes and neoplasm
García-Salido *et al*.[20]/2020/Spain	11 patients, aged 1 year and older, in PICU	Hypertension and diabetes
Xu *et al*.[21]/ 2020/China	45 patients, mean age 56.7 ± 15.4 years, in ICU	Cardiac, pulmonary and cerebrovascular disease, diabetes, neoplasms
Zhou *et al*.[22]/2020/China	21 patients, mean age 66.10 ± 13.94 years, in ICU	Hypertension, diabetes, COPD, cardiac and cerebrovascular disease
Ayed *et al*.[23]/2021/Kuwait	103 patients, mean age 53 years, in ICU	Diabetes, hypertension, cardiovascular disease and dyslipidemia
Sulaiman *et al*. [24] /2021/Multicenter study	560 patients, mean age 60 years, in ICU	Diabetes, hypertension and dyslipidemia

Source: research data, 2021.

Table 2 shows the main results from the literature about the clinical findings, critical care and outcome in critically ill patients resulting from COVID-19.

Table 2. Summary of the articles included in the review based on references, clinical findings, critical care and outcome

AUTHORS	CLINICAL FINDINGS	TREATMENT	OUTCOME
Arentz *et al*. [8]	Shortness of breath (76.2%), fever (52.4%), cough (47.6%), bilateral nodular (86%) and ground-glass opacities (67%), lymphocytopenia (67%), abnormal liver function (38%), Respiratory Distress Syndrome (ARDS) (71.4%).	Vasopressors (67%), invasive mechanical ventilation (MV) (71.4%), non-invasive mechanical ventilation (NIV) (19%), high-flow oxygen therapy (4.8%).	After five or more days in the ICU, 9.5% were identified as discharged from the hospital, 67% mortality, and 24% remained in the ICU. Length of stay not cited.
Derespina *et al*.[9]	Fever (72.9%), cough (71.4%), severe sepsis (17%), ARDS (30%), kidney damage (12.9%).	Hydroxychloroquine (38.6%), corticosteroids (32.9%), remdesivir (18.6%), tocilizumabi (4.3%), anankira (1.4%), renal replacement therapy (1.4%), IMV (28.6%), NIV (20%), prone position (10%), inhaled nitric oxide (2.8%), body membrane oxygenation (1.4%).	On the 14th day of stay in the PICU, 70% of the patients were discharged from the hospital, 2.9% died and 20% remained in the PICU. On the 28th day in the PICU, 78.6% of the patients were discharged from the hospital, the mortality rate was 2.9% and 12.9% remained in the PICU. Length of stay not cited.
Kayina *et al*.[10]	Fever (68.1%), cough (59.6%), shortness of breath (71.9%), gastrointestinal symptoms (12.3%), bilateral pulmonary involvement (80.5%) and unilateral pulmonary involvement (8.8%).	IMV (25.5%), oxygen therapy (77%), high flow nasal cannula oxygen therapy (21.7%). All critical patients received hydroxychloroquine and steroid.	ICU mortality in 24 hours was 8.5%. All critically ill patients died due to refractory hypoxia. Length of stay in ICU and hospital discharge not cited.

To be continued...

Xu *et al*.[11]	ARDS (68.6%), coagulopathy (62.7%), cardiac injury (43.1%), acute kidney injury (49.8%), liver dysfunction (79.9%), bacterial pneumonia (10.5%), bacteremia (4.2%).	IMV (17.6%), NIV (52.1%), extracorporeal membrane oxygenation (ECMO) rescue therapy (3.8%), renal replacement therapy (5%), antimicrobials (95.8%), antivirals (55.2%), glucocorticoids (79.1%).	In the ICU, 35.5% were discharged from the hospital, there was a mortality rate of 61.5% after 60 days of admission to the unit, with a mean of 12 days between admission and death, and 2.9% remained in the ICU.
Shekerdemian *et al*.[12]	Respiratory symptoms (73%), failure of two or more organ systems (23%).	IMV (38%), NIV (44%), antivirals (61%), hydroxychloroquine being the most common and ECMO (13%).	In the ICU, six patients were discharged, mortality was 4.2% and the stay in the unit lasted about three to nine days. The length of stay in the ICU was not mentioned.
Xie *et al*.[13]	Fever (85.9%), dry cough (75%), dyspnea (60.7%), respiratory failure (81.5%), shock (20%), thrombocytopenia (18.8%), renal dysfunction (8%).	IMV (41.9%), NIV (52.9%), high flow oxygen therapy (54.2%), vasopressors (40.4%), antivirals (66.3%), renal replacement therapy (13%).	ICU mortality of 53.8% within 28 days and length of stay from six to 25 days. Hospital discharge and ICU stay not cited.
Wang *et al*.[14]	Fever (79.7%), cough (78.0%), dyspnea (55.9%), chest tightness (52.5%). Chills, disturbance of consciousness, hemoptysis, cyanosis, headache, myalgia, fatigue, anorexia, nausea without specifying numbers.	IMV (61%), NIV (72.9%), high-flow nasal cannula (76.3%), ECMO (3.4%), renal replacement therapy (23.7%), vasoconstrictors (65.5%), antibiotic therapy (98.3%), glucocorticoids (81.4%), immunoglobulin (37.3%), interferon (IFN) (25.4%), antivirals (88.1%).	Mortality of 69.5% after 32 days in the ICU. Hospital discharge, ICU stay and length of stay not cited.
Mitra *et al*.[15]	High white blood cellcount (29.29%), lymphocytopenia (67.5%), high serum creatinine (31.6%).	IMV (63.2%), vasopressors (65.6%), neuromuscular blocker (42.7%), high-flow nasal cannula (36.8%), renal replacement therapy (13.6%), hydroxychloroquine (0.9%) and tocilizumab (3.4%).	In the ICU, 60.7% were discharged from the hospital, 15.4% died and 10.3% remained in the unit. Length of stay not mentioned.
Namendys-Silva *et al*.[16]	Shortness of breath (92.6%), fever (84.1%), dry cough (79.8%), myalgia (51.2%), expectoration (19.5%), rhinorrhea (18.9%), diarrhea (17.6%).	IMV (100%), NIV (1.2%), vasopressors (89.4%), renal replacement therapy (14.6%), high-flow nasal cannula (3%), viral agents (52.4%), glucocorticoids (40.2%), hydroxychloroquine with azithromycin (32.9%), antibiotic therapy (98.7%).	Length of stay in ICU 12 to 19 days, mortality 51.8%. Numbers of hospital discharge and ICU stay not cited.
Yang *et al*.[17]	Fever (98%), cough (77%), dyspnea (63.5%), ARDS (67%), acute kidney injury (29%), cardiac injury (23%), liver dysfunction (29%).	High-flow nasal cannula (63.5%), IMV (42%), NIV (56%), prone position (11.5%), ECMO (11.5%), renal replacement therapy (17%), vasoconstrictors (35%), antivirals (44%), antibacterials (94%), corticosteroids (58%), immunoglobulin (59%).	Hospital discharge of 1.12% in the ICU and mortality, within 28 days of admission in the unit, of 61.5%. Length of hospital stay and ICU stay not cited.
Shi *et al*.[18]	Fever (78.88%), dry cough (68.94%), chest tightness and shortness of breath with 78.88%. ARDS (42.86%), injuries in multiple lobes of the lung (87.58%), liver dysfunction (87.58%), lymphocytes in abnormal numbers (80.12%).	IMV (43.48%), NIV (31.86%), high flow oxygen therapy (18.63%), antibiotic therapy (85.71%), immunoglobulin (67.70%), corticoid (51.55%), lopinavir and ritonavir (93.79%), arbidol (75.78%), oseltamivir (30.43%), Traditional Chinese Medicine (TCM) (80.75%), interferon (68.32%).	In the ICU, there were 48.45% hospital discharge, 31.06% mortality, and length of stay in the unit between 12 and 18 days. Length of stay in ICU not cited.

To be continued...

Yu *et al*.[19]	ARDS (71.2%), septic shock (15.0%), acute kidney injury (25.2%), cardiac injury (27.0%), lymphocytopenia (70.8%).	IMV (37.6%), of which 6.2% with ECMO. NIV (8.8%), continuous renal replacement therapy (10.6%), antivirals (51.8%), antimicrobials (74.3%), subcutaneous injection of thymosin (40.7%), glucocorticoids (16.4%), immunoglobulin (12.8%).	In the ICU, there was 54.9% hospital discharge and 38.5% mortality. The mean length of stay in the unit was not mentioned.
García-Salido *et al*.[20]	There are reports of fever, respiratory symptoms, and pneumonia.	High flow oxygen therapy (100%), high flow nasal cannula (45.5%), NIV (36.6%), IMV (18.1%), azithromycin, lopinavir, ritonavir, corticosteroids and hydroxychloroquine.	No patient died. Hospital discharge in the ICU was 45.5%. Mean length of stay and stay in the unit not mentioned.
Xu *et al*.[21]	Fever (86.7%), cough (71.1%), dyspnea (64.4%), ARDS (80%), septic shock (33.3%), acute kidney injury (17.8%), cardiac injury (33.3%), gastrointestinal bleeding (31.1%).	IMV (44.4%), NIV (37.8%), high-flow nasal cannula (82.2%), prone position, ECMO (25%), continuous renal replacement therapy (22.2%), vasoconstrictors (33.3%), neuromuscular blockers (17.8%).	ICU discharge was 77.8% and mortality 4.4%. The mean length of stay and ICU stay were not mentioned.
Zhou *et al*.[22]	Cough (90.5%), fever (81.0%), arthralgia (9.5%). Diarrhea (23.8%), ground-glass opacity (100%) and interstitial abnormalities (57.1%).	MV (38.1%), NIV (61.9%), high flow oxygen therapy (42.9%), ECMO (4.8%), TCM (23.8%), antibiotic therapy (95.2%), antivirals (100%), hormone therapy (23.8%).	ICU discharge 61.9%, mortality 14.2%, and 23.8% remained in the unit. Length of stay not cited.
Ayed *et al*.[23]	Fever (61%), cough/chest pain (48%), nasal congestion (32%), fatigue/myalgia (15%) and vomiting/diarrhea (1%).	Antibiotics (96%), antiviral therapy (82.5%), hydroxychloroquine (78%), corticosteroids (14.6%), MV (76.7%), ECMO (8.7%), nitric oxide (10.7%), plasma (2.9%), oxygen therapy (42%) and ventral decubitus (54%).	The mean time to ICU discharge was 10 days and to death was 13 days. More than 50% of those in the death group had two or more comorbidities.
Sulaiman *et al*.[24]	ARDS (71.4%), acute kidney injury (46.8%), thrombosis (11.4%) and liver injury (7.1%).	IMV (66.1%), ECMO 91.8%), dialysis (15.7%), plasmapheresis (1.1%), vasopressors (54.6%) and inhaled nitric oxide (8.4%).	Survival was 52.6%, 30-day mortality was 42.3%. Hospital discharge, mean length of stay and ICU stay not cited.

Source: research data, 2021.

The most prevalent clinical findings in critically ill patients were: fever[8-10,13-14,16-18,20-23], cough[8-10,13-14,16-18,21-23], ARDS[8-9,11,17-19,21,24], kidney injury[9,11,17,19,21,24], shortness of breath[8,10,16,18], dyspnea[13-14,17,21], abnormal liver function[8,11,17-18,24] and acute cardiac injury[11,17,19,21]. When it comes to the main care provided to these patients, they cited: IMV[8-22,24], NIV[8-9,11-14,16-22], high flow oxygen therapy[8,10,13-18,20-23], corticosteroids[9-11,14,16-20,23], renal replacement therapy[9,11,13-17,19,21,24], ECMO[9,11-12,14,17,19,21-24], antivirals[11-14,16-17,19,23] and vasopressors[8,13-17,21,24].

The most commonly described outcome was mortality[8-19,21-24], ranging from 2.9 to 67% among the studies, followed by hospital discharge[8-9,11-12,15,17,20-23] ranging from 1.12 to 77.8%, as well as length of stay ranging from six days to 25 days[11-13,16-18], and ICU length of stay[8-9,11,15,22] from 2.9 to 24%.

DISCUSSION

This research had the objective of exploring the evidence about the clinical findings, treatment and outcome of Sars-CoV-2 infected patients admitted to Intensive Care Units. The main clinical findings in critically ill patients were described as the presence of fever[8-10,13-14,16-18,20-23], cough[8-10,13-14,16-18,21-23] and ARDS[8-9,11,17-19,21,24], and the main critical care measures were IMV[8-22,24], NIV[8-9,11-14,16-22], high flow oxygen therapy[8,10,13-18,20-23] and corticosteroids[9-11,14,16-20,23], with evolution mainly to death.

Based on the analysis of the clinical manifestations, a case was reported in which the patient presented with dry cough, sputum, shortness of breath, sore throat and chills, without fever, evolving with a fever of 38.6 degrees in a few hours. It was possible to notice the evolution to ARDS in about 48 hours after admission, having a very rapid clinical evolution.[25]

Corroborating the data, a survey conducted in China noted that 14% of participants had (SpO2) ≤ 93% and more than 50% infiltration in the lungs within a brief interval of 24 to 48 hours, evolving to respiratory failure, septic shock and multiple organ failure.[26]

It is possible to observe the nonspecificity of the symptoms presented, in addition to the rapid progression of the disease in certain individuals. These data consolidate the findings of the present review as to certain symptoms being common to all, however, some patients evolveto a severe picture of the pathology, representing higher mortality rates.[8-19,21-24]

Regarding laboratory tests, a retrospective study conducted in Wuhan/China, with 73 critically ill patients with COVID-19, identified 47 patients who died, showing more pronounced changes compared to those who survived, these being: severe lymphopenia, elevated CRP and interleukin-6, increased D-dimer and increased ultrasensitive troponin type I assay.[27]

Accordingly, it is observed that the patients affected with more severe alterations generally presented more severe conditions. Besides, there is a predominance of higher mortality in individuals with diabetes[9-17,19-24], hypertension[10-12,14-17,19-20,24], cardiac disease[13-14,16,19,21-22], pulmonary disease[13,16-17,19,21], cerebrovascular disease[16-17,21-22] and neoplasms[14,16,19,21].

Analogous to this, a study with 83 patients admitted to an ICU in China corroborates that coagulation factors have significant links with pro-inflammatory cytokines, intensifying the pathogenesis of COVID-19, favoring the evolution to death. Accordingly, it can be seen that the individual's condition and response to established treatments are directly related to the clinical progression of the disease[28].

With regard to imaging tests, it is noted that patients commonly showed pneumonia, bilateral infiltrates in the lungs, ARDS and ground-glass opacity.[8-23] A study of 46 patients with COVID-19, all of whom underwent chest CT scanning, corroborates these data, when the results presented were ground-glass opacity, injuries with pulmonary consolidations and pulmonary artery dilatation, all of which are features well present in the findings of this review.[29]

As for the forms of treatment, the prone position, high-flow oxygen therapy, NIV, IMV[8-24] and ECMO[11-12,14,17,19,21-24] in delicate and specific cases were the most common systems present in the vast majority of research findings. However, we highlight two studies from China that used some TCM therapy, a common practice in the country.[18,22]

This practice shows itself as an option due to the country's experience with TCM therapies.[30]A Brazilian cross-sectional study reinforces the importance of addressing alternative and complementary practices, since they are promising and effective for treating pain, physical and psychological stresses, in view of the current pandemic scenario.[31]

As for the main outcomes, it is observed that the mortality rate is frequent in patients with pre-existing comorbidities, elderly and more debilitated patients, and it is possible to note the development of at least one complication during ICU stay, such as renal, hepatic and cardiac failure[8-24]. Related to this, a cohort study conducted in China has shown that the clinical severity of the disease is directly related to increasing age and the presence of chronic and systemic diseases[32].

In summary, there was evidence of rapid clinical evolution of patients with COVID-19 to ARDS[25], presenting with SpO2 ≤ 93%, more than 50% pulmonary infiltration, worsening to respiratory failure, septic shock and multiple organ failure.[26] Part of the patients who die present with changes such as severe lymphopenia and elevated CRP.[27]Ground-glass opacity, injuries with pulmonary consolidations[29] and the need for complementary practices such as TCM to treat pain, physical and psychological stresses were described.[31]

The limitations of the present review were the small number of data sources selected, the fact that epidemiological data on the disease are frequently updated, as well as the difficulty of selecting studies with scenarios restricted to the

ICU, considering the large number of people affected by the virus and the consequent overcrowding in health care units.

CONCLUSION

The studies showed the knowledge of comorbidities, clinical findings, critical care and outcomes of patients with COVID-19. The most affected population was elderly, the most prevalent clinical findings in critical patients were: presence of fever, cough, ARDS, kidney injury, shortness of breath, dyspnea, abnormal liver function and acute cardiac injury. The main care provided for these patients were: IMV, NIV, high flow oxygen therapy, corticosteroids, renal replacement therapy, ECMO, antivirals and vasopressors. As the main outcome, the articles reported evolution to death.

It is suggested that new studies be developed on this topic to solve gaps that still exist in knowledge due to the rapid changes in the pattern of disease behavior, treatment and outcome of patients, contributing to scientific advancement.

CARACTERIZAÇÃO DOS CASOS DE COVID-19 EM PACIENTES CRÍTICOS: REVISÃO DE ESCOPO

RESUMO

Introdução: A principal causa de mortalidade pelo novo coronavírus é a insuficiência respiratória. Assim, os cuidados intensivos devem ser prontamente prestados ao paciente crítico. **Objetivo**: Explorar as evidências acerca dos achados clínicos, tratamento e desfecho de pacientes infectados pelo Sars-CoV-2 internados em Unidades de Terapia Intensiva. **Método**: Revisão de escopo, realizada em abril de 2021, em oito fontes de dados nacionais e internacionais, conforme orientações do Instituto Joanna Briggs, seguindo o *checklist Preferred Reporting Items for Systematic reviews and Meta-Analysesextension for Scoping Review*s, sem restrição de idioma ou temporal. Adotou-se a estratégia *Population, Concept and Context*para a elaboração da questão de pesquisa. **Resultados**: Incluíram-se 15 artigos científicos, com predominância de publicações na China, Estados Unidos da América e Canadá. Dos estudos, 80% foram com adultos e idosos em Unidade de Terapia Intensiva. Os principais achados clínicos foram a febre, tosse, Síndrome do Desconforto Respiratório Agudo e lesão renal, tratamento com ventilação mecânica invasiva e não invasiva, oxigenoterapia de alto fluxo e corticoesteroides. Como principal desfecho, o óbito. **Conclusão**: A maioria dos pacientes apresentou febre, tosse e Síndrome do Desconforto Respiratório Agudo, recebendo cuidados como ventilação mecânica, oxigenoterapia de alto fluxo e corticoesteroides, com alto índice de óbitos.

Palavras-chave: Infecções por coronavírus. COVID-19. Manifestações clínicas. Cuidados críticos. Unidades de terapia intensiva.

CARACTERIZACIÓN DE CASOS DE COVID-19 EN PACIENTES CRÍTICOS: SCOPING REVIEW

RESUMEN

Introducción: La principal causa de mortalidad por el nuevo coronavirus es la insuficiencia respiratoria. Por lo tanto, los cuidados intensivos deben ser proporcionados rápidamente al paciente crítico. **Objetivo**: Explorar las evidencias acerca de los hallazgos clínicos, tratamiento y desenlace de pacientes infectados por el Sars-CoV-2 internados en Unidades de Cuidados Intensivos. **Método**: *Scopingreview*, realizada en abril de 2021, en ocho fuentes de datos nacionales e internacionales, conforme orientaciones del Instituto Joanna Briggs, siguiendo el *checklist Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Review*s, sin restricción de idioma o temporal. Se adoptó la estrategia *Population, Concept and Context* para la elaboración de la cuestión de investigación. **Resultados**: Se incluyeron 15 artículos científicos, con predominio de publicaciones en China, Estados Unidos de América y Canadá. De los estudios, el 80% fue con adultos y ancianos en Unidad de Cuidados Intensivos. Los principales hallazgos clínicos fueron fiebre, tos, Síndrome Respiratorio Agudo Severo y lesión renal, tratamiento con ventilación mecánica invasiva y no invasiva, oxigenoterapia de alto flujo y corticoesteroides. Como principal desenlace: el óbito. **Conclusión**: La mayoría de los pacientes presentó fiebre, tos y Síndrome Respiratorio Agudo Severo, recibiendo cuidados como ventilación mecánica, oxigenoterapia de alto flujo y corticoesteroides, con alto índice de óbitos.

Palabras clave: Infecciones por coronavirus. COVID-19. Manifestaciones clínicas. Cuidados críticos. Unidades de terapia intensiva.

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