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**UNIVERSIDADE ESTADUAL PAULISTA
“JÚLIO DE MESQUITA FILHO”
FACULDADE DE MEDICINA DE BOTUCATU**

**Desfechos clínicos em pacientes com doenças cardiovasculares
preexistentes e COVID-19: uma revisão sistemática e meta-análise**

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BOTUCATU

2023

CAROLINA FAVORETTO

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Dissertação de Mestrado apresentado
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Universidade Estadual Paulista “Júlio de
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RESUMO

FAVORETTO, C. **Desfechos clínicos nos pacientes com doenças cardiovasculares preexistentes e COVID-19: uma revisão sistemática e meta-análise.** 2023. 96 f. Dissertação (Mestrado em Enfermagem) – Faculdade de Medicina de Botucatu, Universidade Estadual Paulista, Botucatu, 2023.

O vírus da Sars-Cov-2 (*Severe Acute Respiratory Syndrome Coronavirus*) responsável pela doença intitulada *coronavirus disease* (COVID-19) vem se disseminando mundialmente de maneira extremamente alta, sendo declarada uma pandemia pela OMS em março de 2020. Apesar de altamente contagioso, as taxas de letalidade são relativamente baixas na população geral, com a maioria dos infectados assintomáticos ou apresentando sintomas respiratórios de leve a moderados. No entanto, tem-se observado um risco maior de gravidade em pacientes com doenças crônicas preexistentes, incluindo as doenças cardiovasculares. Os objetivos do estudo são: analisar as evidências científicas disponíveis na literatura sobre os pacientes adultos com COVID-19 com doenças cardiovasculares preexistentes e verificar nos pacientes adultos com COVID-19 o efeito da doença DCV nos desfechos mortalidade, alterações de biomarcadores cardiovasculares, eventos tromboembólicos e lesão renal. Trata-se de uma revisão sistemática e meta-análise de ensaios clínicos randomizados ou observacionais obtidos por meio das bases de dados Medline via PubMed, Embase, Latin America and Caribbean Health Sciences Literature (LILACS), Scientific Library on Line (SciELO), e Registro Central Cochrane de Ensaios Controlados (CENTRAL). para avaliar quais características clínicas dos pacientes infectados com COVID-19 e com doenças cardiovasculares preexistentes. O protocolo foi registrado na PROSPERO (Registro Internacional de Revisão Sistemática) código CRD42020185329. Os desfechos primários avaliados foram: sinais e sintomas coronarianos agudos, alterações de biomarcadores cardiovasculares, arritmia cardíaca, miocardite, choque cardiogênico, eventos tromboembólicos; eventos secundários que também foram avaliados: eventos vasculares periféricos, lesão renal, choque séptico, mortalidade cardiovascular, tempo de permanência na unidade de terapia intensiva e duração da internação. Em conclusão, esta revisão sistemática e meta-análise indica que a presença de DCV prévia em indivíduos com COVID-19 estão associadas ao risco maior de desenvolver alteração de biomarcadores (Troponina), lesão renal aguda e principalmente mortalidade.

Descritores: Infecções por Coronavírus; Complicações; Doenças Cardiovasculares.

ABSTRACT

FAVORETTO, C. **Clinical outcomes of patients with pre-existing cardiovascular disease and COVID-19:** a systematic review and meta-analysis. 2023. 96 f. Dissertation (Master's in Nursing) – Botucatu Medical School, Universidade Estadual Paulista, Botucatu, 2023.

The Sars-Cov-2 virus (Severe Acute Respiratory Syndrome Coronavirus) responsible for the disease called coronavirus disease (COVID-19) has been spreading worldwide at an extremely high rate, being declared a pandemic by the WHO in March 2020. Despite being highly contagious, lethality rates are relatively low in the general population, with the majority of those infected asymptomatic or presenting mild to moderate respiratory symptoms, however, a greater risk of severity has been observed in patients with preexisting diseases, including the diseases cardiovascular. As cardiovascular diseases are the leading cause of death in the world, according to the WHO, and also with the increasing number of new publications and data regarding COVID-19 and cardiovascular diseases emerging all the time, it was perceived the need to evaluate the evolution and clinical outcomes of these patients. The objective was to analyze the evidence available in the (inter)national literature on the clinical characteristics of adult patients with COVID-19 and pre-existing cardiovascular disease. A systematic review and meta-analysis of randomized or observational clinical trials obtained from the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE (1966 to present), EMBASE (1980 to present), LILACS (1982 to present), Scopus (international database produced by Elsevier) and Web of Science to assess the clinical characteristics of patients infected with COVID-19 with preexisting cardiovascular diseases and their outcomes, the protocol was registered in PROSPERO (International Systematic Review Registry) code CRD42020185329. The primary outcomes assessed were acute coronary signs and symptoms, changes in cardiovascular biomarkers, cardiac arrhythmia, myocarditis, cardiogenic shock, thromboembolic events; secondary events that were also evaluated: peripheral vascular events, kidney injury, septic shock, cardiovascular mortality, length of stay in the intensive care unit (ICU) and length of stay. It was possible to characterize the population infected by COVID-19 with previous cardiovascular diseases and find a significant relationship or absence of this between severity and clinical outcomes in populations, verifying that the association of these two diseases generates an additional risk factor for worse evolution of COVID-19.

Keywords: Coronavirus Infections; Complications; Cardiovascular diseases.

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LISTA DE SIGLAS

AACCN	–	<i>American Association of Critical Care Nurses</i>
AVC	–	Acidente Vascular Cerebral
BRA	–	Bloqueadores dos Receptores de Angiotensina
CENTRAL	–	Registro Central Cochrane de Ensaio Controlados
COVID-19	–	<i>Coronavirus Disease</i>
DAC	–	Doença Arterial Coronariana
DCV	–	Doença Cardiovascular
ECA2	–	Enzima Conversora de Angiotensina 2
ECR	–	Ensaio clínico randomizado
EUA	–	Estados Unidos da América
FA	–	Fibrilação Atrial
FE	–	Fração de Ejeção
FR	–	Febre Reumática
HAS	–	Hipertensão Arterial Sistêmica
IAM	–	Infarto Agudo do Miocárdio
IC	–	Insuficiência Cardíaca
ICAM	–	Molécula de Adesão Intercelular-1
iECA	–	Inibidores da Enzima Conversora de Angiotensina
IgG	–	Imunoglobulina G
IgM	–	Imunoglobulina M
IL-6	–	Interleucina-6
LILACS	–	<i>Latin America and Caribbean Health Sciences Literature</i>
LRA	–	Lesão Renal Aguda
MHC	–	Complexo Principal de Histocompatibilidade
MS	–	Ministério da Saúde
NK	–	<i>Natural Killer</i>
NO	–	Óxido Nítrico
NOS	–	Escala de Newcastle-Ottawa

OMS	–	Organização Mundial da Saúde
OxLDL	–	Oxidação da Lipoproteína de Baixa Densidade
PAMPs	–	Padrões Moleculares Associados a Patógenos
PCR	–	Parada Cardiorrespiratória
Prospero	–	<i>International prospective register of systematic reviews</i>
QCRI	–	<i>Qatar Computing Research Institute</i>
ROS	–	Espécies Reativas de Oxigênio
Sars-Cov-2	–	<i>Severe Acute Respiratory Syndrome Coronavirus</i>
SBC	–	Sociedade Brasileira de Cardiologia
SCA	–	Síndrome Coronariana Aguda
SciELO	–	<i>Scientific Library on Line</i>
SRAG	–	Síndrome Respiratória Aguda Grave
TEP	–	Tromboembolismo Pulmonar
TNF-alfa	–	Fator de Necrose Tumoral
TnT	–	Troponina T
TVP	–	Trombose Venosa Profunda
VCAM	–	Molécula de Adesão-1

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APRESENTAÇÃO

Nasci em São Paulo, capital, em 16 de abril de 1990. Durante a graduação sempre fui fascinada pelas disciplinas de enfermagem clínico-cirúrgica voltadas aos cuidados críticos no Adulto. Durante o terceiro ano de graduação, comecei a realizar cursos de pequena duração no Instituto do Coração do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (InCor – HCFMUSP) e conhecer mais sobre aquela instituição onde se vivencia a Cardiologia em todos seus diferentes níveis.

Em 2011, último ano de graduação, decidi que queria realizar o aprimoramento em Enfermagem em Cardiologia no InCor, após muita dedicação, veio a tão sonhada aprovação em 1º lugar. Durante um ano tive a oportunidade de realizar estágios em todos os setores da Instituição e aprender com os principais nomes da Cardiologia nacional. Após, desempenhei a função de Enfermeira Assistencial da UTI Clínica desta mesma instituição, atuando por mais de 5 anos na linha de frente assistencial e educacional, desempenhando o papel de preceptora da UTI Clínica junto aos residentes do Programa de Enfermagem em Cardiopneumologia da Escola de Enfermagem da Universidade de São Paulo (EEUSP).

Posteriormente, tive a experiência em um dos hospitais de maior renome da América Latina, o Hospital Israelita Albert Einstein, novamente atuando no cuidado a pacientes de cuidados críticos. Em junho de 2018 surgiu um novo desafio em minha carreira como especialista da unidade de cirurgia cardíaca da empresa multinacional *Edwards Lifesciences*, podendo focar minha atuação e conhecimentos na área de valvulopatias cardíacas, (disfunção de valvas cardíacas) desempenhando funções de treinamento, educação continuada e consumo/construção de evidências científicas e assim o interesse na realização do mestrado em enfermagem em uma universidade pública. Por fim, tive essa oportunidade em um momento de crise global, aprovada por meio do edital COVID-19, o que me trouxe grande alegria e realização, apesar dos desafios enfrentados durante este período, sempre contando com o apoio de minha orientadora, a Prof.^a Dr.^a. Marla.

Ressalto a minha gratidão por tudo vivenciado ao longo destes 11 anos de profissional, me permitindo não somente o desenvolvimento profissional, como o pessoal.

Carolina Favoretto

6 CONCLUSÃO

Em conclusão, esta revisão sistemática e meta-análise indica que a presença de DCV prévia em indivíduos com COVID-19 estão associadas ao risco maior de desenvolver alteração de biomarcadores (Troponina), lesão renal aguda e principalmente mortalidade.ⁱ

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