

FAKULTAS KEDOKTERAN

UNIVERSITAS PEMBANGUNAN NASIONAL “VETERAN” JAKARTA

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Tasya Zuhriya Putri, 2010211060

**HUBUNGAN RIWAYAT COVID-19 DAN ELASTISITAS PEMBULUH DARAH
ARTERI PADA MAHASISWA FAKULTAS KEDOKTERAN UPN “VETERAN”
JAKARTA**

RINCIAN HALAMAN (xii + 80 halaman, 6 tabel, 7 gambar, 11 lampiran)

ABSTRAK

Tujuan

Pandemi COVID-19 merupakan suatu permasalahan kesehatan dunia. COVID-19 dapat memengaruhi sistem kardiovaskular pada berbagai tingkatan dan menimbulkan kerusakan pada endotel. Kerusakan tersebut memicu terjadinya penurunan elastisitas arteri yang berujung pada gangguan fungsi vaskular. Penyakit yang diakibatkan oleh gangguan fungsi vaskular masih menyumbang angka kematian yang tinggi di Indonesia. Penelitian ini bertujuan untuk mengetahui hubungan antara riwayat COVID-19 dan elastisitas pembuluh darah arteri pada mahasiswa Fakultas Kedokteran UPN “Veteran” Jakarta (FK UPNVJ).

Metode

Penelitian menggunakan desain *case-control* dan teknik *purposive random sampling*. Data riwayat COVID-19 dan data karakteristik subjek diambil menggunakan kuesioner, sedangkan

elastisitas pembuluh darah arteri diukur menggunakan *Accelerated Photoplethysmograph (APG) Analyzer SA-3000P*. Subjek terdiri dari 24 orang penyintas COVID-19 (kasus) dan 24 orang yang tidak mempunyai riwayat terinfeksi COVID-19 (kontrol),

Hasil

Pada penelitian didapatkan sebanyak 3 subjek (6,25%) memiliki elastisitas pembuluh darah arteri optimal, 28 subjek (58,3%) normal, dan 17 subjek (35,45%) sub-optimal. Tidak terdapat perbedaan usia, jenis kelamin, aktivitas fisik, dan kebiasaan makan antara kasus COVID-19 dan kontrol ($p > 0,05$). Hasil uji *Chi-square* menunjukkan terdapat hubungan signifikan antara riwayat COVID-19 dengan elastisitas pembuluh darah arteri ($p = 0,003$; OR = 9,8; CI = 2,2-42,0).

Kesimpulan

Penyintas COVID-19 sembilan kali lebih berisiko mengalami elastisitas pembuluh darah arteri sub-optimal dibandingkan subjek yang tidak mempunyai riwayat infeksi COVID-19. Penyintas COVID-19 disarankan untuk melakukan pola hidup sehat dan melakukan pemeriksaan berkala untuk menghindari risiko penyakit vaskular.

Daftar Pustaka : 53 (2002-2023)

Kata Kunci : Arteri, COVID-19, Elastisitas Pembuluh Darah, Mahasiswa

FACULTY OF MEDICINE

UNIVERSITY PEMBANGUNAN NASIONAL "VETERAN" JAKARTA

Undergraduate Thesis, December 2023

Tasya Zuhriya Putri, 2010211060

**THE RELATIONSHIP BETWEEN COVID-19 HISTORY AND ARTERIAL BLOOD
VESSEL ELASTICITY AMONG STUDENTS OF THE FACULTY OF MEDICINE UPN
"VETERAN" JAKARTA**

PAGE DETAIL (xii + 80 pages, 6 tables, 7 pictures, 11 appendices)

ABSTRACT

Objective

The COVID-19 pandemic is a world health problem. COVID-19 can affect the cardiovascular system at multiple levels and cause damage to the endothelium. This damage triggers a decrease in the elasticity of the arteries, leading to impaired vascular function. Diseases caused by impaired vascular function still contribute to high mortality rates in Indonesia. The aim of this study is to determine the relationship between a history of COVID-19 and the elasticity of arterial blood vessels in medical students at the Faculty of Medicine, UPN "Veteran" Jakarta (FK UPNVJ).

Method

This study used a case-control design and purposive random sampling technique. Data on the history of COVID-19 and characteristic samples were taken using questionnaires, while the elasticity of arterial blood vessels was measured using the Accelerated Photoplethysmograph (APG) Analyzer SA-3000P.

Result

In this study, the sample consisted of 24 COVID-19 survivors (cases) and 24 people who had no history of COVID-19 infection (controls). It was found that 3 subjects (6.25%) had optimal arterial blood vessel elasticity, had normal elasticity, and 17 subjects (35.45%) had sub-optimal elasticity. There were no differences in age, gender, physical activity and eating habits between the case and control groups ($p > 0.05$). The Chi-square test results showed that there was a significant relationship between a history of COVID-19 and the elasticity of arterial blood vessels ($p = 0.003$; $OR = 9.8$; $CI = 2.2-42.0$).

Conclusion

Survivors of COVID-19 are nine times more likely to experience sub-optimal arterial blood vessel elasticity compared to subjects with no history of COVID-19 infection. COVID-19 survivors are advised to adopt healthy lifestyles and undergo regular check-ups to avoid the risk of vascular diseases.

Reference : 53 (2002-2023)

Keywords : Arteries, COVID-19, Blood Vessel Elasticity, Students