

ANGIOTENSIN RECEPTOR BLOCKERS (ARB) AND ITS IMPACT ON THE RISK OF MORTALITY IN COVID-19 PATIENTS WITH HYPERTENSION: A META-ANALYSIS

Dwi Trisnawati Zainal

Masters Program in Public Health, University of Sebelas Maret

ABSTRACT

Background: Among patients with COVID-19 admitted to a hospital, emerging data suggest that hypertension may be associated with an increased risk of mortality due to COVID-19. Angiotensin II receptor blockers (ARB) is one of the first-line medications for the management of a large proportion of patients with hypertension. Recent studies showed that ARB was associated with a significant lower risk of hospitalization in COVID-19 patients with hypertension. This study aimed to investigate the impact of ARB on mortality risk in COVID-19 patients.

Subjek dan Metode: A systematic review and meta-analysis was conducted following PICO method, i.e Population: COVID-19 patients with hypertension, Intervention: Angiotensin Receptor Blockers (ARB) therapy, Comparison: non ARB therapy, and Outcome: mortality. Cohort studies published from 2020 to 2022 was collected from Science Direct, PubMed, and Google Scholar databases. English or Indonesian full-text articles which reported odds ratio were involved for screening process. The articles selected using PRISMA flow chart and the data were quantitatively assessed using Review Manager 5.4 application.

Results: 5 cohort studies involved 4,604 COVID-19 patients from United States, China, and United Kingdom were selected for meta-analysis. This study showed that COVID-19 patients with hypertension comorbidity who received ARB therapy had lower risk to mortality compared to those without ARB therapy (OR= 0.82; 95% CI= 0.68 to 1.00; p= 0.050).

Conclusion: Mortality risk in COVID-19 patients with hypertension comorbidity reduces with Angiotensin Receptor Blockers (ARB) therapy.

Keywords: Angiotensin Receptor Blockers, COVID-19, hypertension, mortality

Correspondence:

Dwi Trisnawati Zainal. Masters Program in Public Health. University of Sebelas Maret. Jl. Ir. Sutami 36A Surakarta 57126, Central Java. Email: dwitrisnawatiz@gmail.com. Mobile: +62-8133-1282-009.