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*abstract*

## **Confirmed COVID-19 Impact on Pediatric Cancer Patients: Prevalence and Outcomes Report from a Tertiary Referral Hospital in Indonesia**

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## **Confirmed COVID-19 Impact on Pediatric Cancer Patients: Prevalence and Outcomes Report from a Tertiary Referral Hospital in Indonesia**

**Author:** *Novita Wulansari<sup>1</sup>, Murti Andriastuti, Nina Dwi Putri*

**Affiliation:** *<sup>1</sup> Department of Child Health, Faculty of Medicine, Indonesia University/ Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia*

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**Introduction:** Pediatric cancer still has a high mortality rate. The Coronavirus disease 2019 (COVID-19) pandemic has further widened the disparity in outcomes between developing and developed countries. Limited data exist on the prevalence and consequences of pediatric cancer with confirmed COVID-19 in developing countries. This study aims to determine the prevalence and outcomes of these patients and identify influencing factors to optimize cancer outcomes.

**Methodology:** This prognostic study employed a retrospective cohort design at a tertiary referral hospital in Indonesia, using medical record data. Subjects included pediatric cancer patients aged 0-18 years with confirmed COVID-19 treated at the COVID-19 Center – dr. Cipto Mangunkusumo Hospital from March 2020 to June 2023. Descriptive data on prevalence, characteristics, and outcomes were collected, along with analysis of the relationship between cancer type, treatment phase, and COVID-19 severity.

**Results:** Among 585 pediatric cancer patients treated, 110 (18.8%) were confirmed COVID-19 based on SARS-COV-2 PCR. The majority were aged 0-5 years (40%), boys (50,9%), diagnosed with blood cancer (50,9%), and undergoing radio-chemotherapy (89,1%). Fever was the most prevalent symptom (78.2%) with 54.6% experiencing mild COVID-19. Management included oxygen therapy (30%) with ventilator use (8.2%) and intensive care (12.7%), antiviral (69.1%), antibiotic (80.9%), anti-inflammatory (15.5%), and anticoagulant (23.6%). The mortality rate was 19,1% and the highest number of deaths occurred within 14 days of hospitalization. Cancer type and treatment phase were not association with mortality outcomes.

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Meanwhile, COVID-19 severity was associated with mortality outcomes with HR 4.38 (95% CI 1.34-14.26;  $p=0.000$ ) in moderate/severe COVID-19 and 16.29 (95% CI 4.83-54.8;  $p=0.014$ ) in critical case.

**Conclusion:** The prevalence and mortality rates of pediatric cancer with confirmed COVID-19 are notably higher than the general pediatric COVID-19, especially in developing countries. Chemotherapy may be considered postponed, particularly within the first 14 days of hospitalization.