

ABSTRAK

Faktor-Faktor yang Berhubungan dengan Peningkatan Pertumbuhan Pasca Operasi Korektif pada Anak dengan Penyakit Jantung Bawaan Asianotik dan Sianotik

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Latar belakang: Penyakit jantung bawaan (PJB) dapat menyebabkan gangguan pertumbuhan pada anak. Operasi korektif diharapkan memperbaiki kondisi hemodinamik sehingga mendukung terjadinya *catch-up growth*.

Tujuan: Menganalisis faktor-faktor yang berhubungan dengan peningkatan pertumbuhan anak PJB asianotik dan sianotik setelah operasi korektif.

Metode: Penelitian kohort retrospektif dilakukan pada 72 anak usia 1–18 tahun dengan PJB yang menjalani operasi korektif di RSUP Dr. Kariadi Semarang periode 2021–2025, terdiri atas 36 pasien sianotik dan 36 asianotik. Faktor risiko yang diteliti meliputi jenis PJB, usia saat operasi, status gizi saat operasi, kadar Hb, hipertensi pulmonal, dan lama pemulihan pasca operasi. Peningkatan pertumbuhan (*catch-up growth*) dinilai dengan peningkatan skor *weight-for-age z-score* (WAZ) enam bulan pasca operasi dibandingkan dengan sebelum operasi. Analisis menggunakan uji X^2 atau *Fisher exact*, dilanjutkan dengan regresi logistik multivariat.

Hasil Penelitian: Median usia saat operasi adalah 84 bulan (27–214 bulan). Subjek yang mengalami *catch-up growth* sebesar 70,8%. Faktor risiko pada penelitian ini tidak terbukti berhubungan dengan terjadinya *catch-up growth* pada kelompok PJB sianotik. Status gizi kurang/buruk serta hipertensi pulmonal terbukti berhubungan dengan terjadinya *catch-up growth* pasca operasi pada kelompok PJB asianotik *left to right shunt* (RR 1,80; 95% CI 1,16–2,79; $p=0,027$ dan RR 2,85; 95% CI 1,24–9,71; $p=0,036$; secara berurutan).

Kesimpulan: Operasi korektif memperbaiki pertumbuhan anak dengan PJB asianotik dan sianotik. Faktor yang berhubungan dengan peningkatan pertumbuhan pasca operasi koreksi pada PJB asianotik *left to right shunt* adalah status gizi kurang/buruk dan hipertensi pulmonal.

Kata kunci: penyakit jantung bawaan, operasi korektif, pertumbuhan, *catch-up growth*, status gizi, hipertensi pulmonal

ABSTRACT

Factors Associated with Postoperative Growth Improvement in Children with Acyanotic and Cyanotic Congenital Heart Disease

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Background: Congenital heart disease (CHD) may impair growth in children. Corrective surgery is expected to improve hemodynamic status and facilitate catch-up growth.

Objective: To analyze factors associated with postoperative growth improvement in children with cyanotic and acyanotic CHD following corrective surgery.

Methods: A retrospective cohort study was conducted among 72 children aged 1–18 years with CHD who underwent corrective surgery at Dr. Kariadi General Hospital, Semarang, Indonesia, between 2021 and 2025, including 36 patients with cyanotic CHD and 36 with acyanotic CHD. Investigated factors included CHD type, age at surgery, nutritional status at surgery, hemoglobin level, pulmonary hypertension, and postoperative recovery duration. Catch-up growth was defined as an increase in weight-for-age z-score six months after surgery. Data were analyzed using the X^2 or Fisher's exact test, followed by multivariable logistic regression.

Results: The median age at surgery was 84 months (range, 27–214 months), and 70.8% of participants achieved catch-up growth. No investigated factors were significantly associated with catch-up growth among children with cyanotic CHD. Among children with acyanotic left-to-right shunt CHD, undernutrition/severe undernutrition and pulmonary hypertension were significantly associated with catch-up growth (RR 1.80; 95% CI 1.16–2.79; $p=0.027$ and RR 2.85; 95% CI 1.24–9.71; $p=0.036$, respectively).

Conclusion: Corrective surgery improves postoperative growth in children with cyanotic and acyanotic CHD. Undernutrition/severe undernutrition and pulmonary hypertension were associated with postoperative catch-up growth among children with acyanotic left-to-right shunt CHD.

Keywords: congenital heart disease, corrective surgery, growth, catch-up growth, nutritional status, pulmonary hypertension