

## PERBANDINGAN ALAT SKRINING GIZI STRONGKIDS DAN PYMS DALAM MENDETEKSI RISIKO MALNUTRISI PADA PASIEN KANKER ANAK DI RUMAH SAKIT DR. SARDJITO

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### INTISARI

**Latar Belakang:** Terapi intensif pada pasien anak dengan kanker menyebabkan gangguan saluran pencernaan yang akhirnya menyebabkan penurunan tingkat asupan makan. Padahal pada anak-anak kebutuhan gizi mereka jauh lebih tinggi untuk mendukung pertumbuhan, perkembangan dan pengobatan kanker. Di negara berkembang, prevalensi malnutrisi pada anak-anak dengan diagnosis kanker mencapai 8–43%. Di sisi lain, malnutrisi dikaitkan dengan penurunan toleransi pada kemoterapi, keterlambatan pengobatan, peningkatan laju infeksi, penurunan prognosis dan menurunkan tingkat kualitas hidup.

**Metode:** Studi diagnostik ini melibatkan 54 pasien dengan kanker berusia 1-16 tahun yang dirawat di Rumah Sakit Umum Pusat Dr. Sardjito. Setiap subjek dilakukan evaluasi menggunakan alat skrining STRONGkids, PYMS dan SCAN. Analisis statistik dilakukan untuk menghitung sensitivitas, spesifisitas dan *area under curve* (AUC) dari masing-masing alat skrining dalam mendeteksi risiko malnutrisi terhadap SCAN sebagai baku emas.

**Hasil:** Secara keseluruhan, 61,1% pasien memiliki diagnosis *Acute Lymphoblastic Leukemia*. Berdasarkan alat skrining STRONGkids, didapatkan 44,4% subjek memiliki risiko sedang malnutrisi dan 55,6% memiliki risiko tinggi malnutrisi. Sementara PYMS mendapatkan 35,2% pasien memiliki risiko rendah malnutrisi dan 64,8% berisiko tinggi malnutrisi. Selain itu didapatkan tingkat kesepakatan moderat dan substansial masing-masing alat skrining dengan SCAN. PYMS menunjukkan nilai sensitivitas, spesifisitas dan AUC yang lebih tinggi dibandingkan STRONGkids (89,1%, 88,2%, 0,925(0,885-0,996) secara berurutan). Dalam penelitian ini juga didapatkan 31,5% pasien tidak berisiko malnutrisi dan 68,5% pasien berisiko malnutrisi berdasarkan alat skrining SCAN sebagai baku emas.

**Kesimpulan:** Hasil dari studi ini menunjukkan bahwa PYMS memiliki nilai sensitivitas, spesifisitas dan AUC yang lebih tinggi dalam mendeteksi risiko malnutrisi pada pasien anak dengan kanker. Namun baik keduanya STRONGkids dan PYMS memiliki spesifisitas dan AUC yang baik terhadap SCAN.

**Kata kunci:** Malnutrisi, Pediatri, Kanker, STRONGkids, PYMS, SCAN

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## COMPARISON OF NUTRITIONAL SCREENING TOOLS STRONGKIDS AND PYMS IN DETECTING THE RISK OF MALNUTRITION IN PEDIATRIC CANCER PATIENTS AT DR. SARDJITO HOSPITAL

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### ABSTRACT

**Background:** Intensive therapy in child with cancer results in gastrointestinal disruptions, which consequently lead to reduced intake levels. However, these children have significantly high nutrition requirements to support their growth, development and the treatment of their cancer. In developing country, prevalence malnutrition in children diagnosed with cancer reaches 8–43%. On the other hand, malnutrition has been associated with reduced tolerance to chemotherapy, treatment delays, increase infection rated, compromised prognosis and a decreased quality of life.

**Method:** This diagnostic study involved 54 patients with cancer between the ages 1–16 years who were admitted to Dr. Sardjito General Hospital. Each participant underwent an evaluation using the STRONGkids, PYMS and SCAN screening tools. Statistical analysis was performed to calculate the sensitivity, specificity and area under curve (AUC) of the screening tools in identifying low and high risk of malnutrition, using the results from SCAN as the gold standard.

**Results:** Overall, 61.1% of the patients were diagnosed with Acute Lymphoblastic Leukemia. According to the STRONGkids screening tool, 44.4% had a moderate risk of malnutrition, while 55.6% had a high risk. The PYMS indicated that 35.2% of patients had a moderate risk, and 64.8% had a high risk of malnutrition. There was moderate and substantial agreement between each screening tool and the SCAN. The PYMS demonstrated higher sensitivity, specificity, and AUC compared to STRONGkids (89.1%, 88.2%, 0.925(0.885-0.996) respectively). In total, 31.5% of the patient had no risk of malnutrition and 68.5% had a risk of malnutrition based on SCAN as a gold standard.

**Conclusion:** The results of this study indicate that PYMS had higher sensitivity, specificity, and AUC in identifying malnutrition risk among pediatric oncology patients. But both STRONGkids and PYMS had good specificity and AUC against SCAN.

**Key words:** Malnutrition, Pediatric, Cancer, STRONGkids, PYMS, SCAN

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