

## ABSTRACT

### PROFILE AND FACTORS RELATED TO NUTRITIONAL STATUS IN CHILDREN UNDER FIVE WITH DOWN SYNDROME AT

RSUP DR. SARDJITO IN 2016-2018

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**Background:** Down syndrome (DS) is a genetic disorder of chromosome 21 due to failure of chromosome separation called non-disjunction during fetal growth resulting trisomy 21. DS occurs every 1 in 1000-1100 live births worldwide. Incidence in Indonesia reaches 1,24 in 1000 live births. Nutritional status is a description of the adequacy of nutrients to assess child development and health in general. Lack of nutrition in children with DS can inhibit their physical and cognitive development.

**Objective:** To determine nutritional profile and correlation of age, gender, hypothyroidism, and congenital heart disease to nutritional status of children under five with DS in RSUP Dr. Sardjito.

**Method:** This observational analytic study using cross sectional design conducted on 36 DS patients in RSUP Dr. Sardjito from January 2016 to December 2018. The data used in this study are medical record. Nutritional profile of the subject was assessed using WHO Growth Chart 2006 and DS Growth Chart. The correlation of these factors with nutritional status was analyzed using the chi-square test.

**Results:** From 36 subjects, 17 males and 19 females, nutritional status was obtained based on the weight for age index of WHO chart, 20 were severely underweight and underweight, and 1 was overweight, according to DS chart 11 were severely underweight and underweight, and 2 were overweight. Based on the height for age WHO chart, 11 were severely stunted, 10 were stunted, and 1 was high, whereas on DS chart 3 were severely stunted, 4 were stunted, and 2 were high. In the weight for height WHO chart, there were 2 severely wasted, 12 wasted, 1 overweight and 1 obese, while on DS chart there were 3 severely wasted, 6 wasted, 2 overweight and 1 obese. There were 11 patients with hypothyroidism and 16 patients with congenital heart disease, but there was no correlation between age ( $p = 0.627$ ), gender ( $p = 0.706$ ), hypothyroidism ( $p = 1,000$ ), and congenital heart disease ( $p = 0.470$ ), with subjects' nutritional status.

**Conclusion:** The nutritional status of children under five with DS at RSUP Dr. Sardjito in 2016-2018 showed that 11 of 36 patients were severely underweight and underweight, 7 of 36 patients were severely stunted and stunted, 9 of 36 patients were severely wasted and wasted, 2 of 36 patients were overweight, and 1 of 36 patient was obese. There is no correlation between age, gender, hypothyroidism, and congenital heart disease with nutritional status of children under five with DS at RSUP Dr. Sardjito

**Keyword (s):** Down syndrome; nutritional status

## INTISARI

### PROFIL DAN FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN STATUS NUTRISI BALITA SINDROM DOWN DI RSUP DR. SARDJITO TAHUN 2016-2018

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**Latar Belakang:** Sindrom Down (DS) merupakan kelainan genetik kromosom 21 akibat kegagalan kromosom untuk berpisah yang disebut *non-disjunction* saat masa pertumbuhan janin sehingga terjadi trisomi 21. DS terjadi pada 1 dari 1000-1100 kelahiran hidup di seluruh dunia. Insidensi di Indonesia sendiri mencapai 1,24 dari 1000 kelahiran hidup. Status nutrisi merupakan gambaran kecukupan zat nutrisi untuk menilai tumbuh kembang anak dan kesehatan anak pada umumnya. Kurangnya nutrisi pada anak dengan DS dapat menghambat perkembangan fisik dan kognitif.

**Tujuan:** Untuk mengetahui gambaran umum serta hubungan usia, jenis kelamin, kondisi hipotiroid, dan penyakit jantung bawaan terhadap status nutrisi balita DS di RSUP Dr. Sardjito.

**Metode:** Penelitian ini merupakan penelitian observasional analitik menggunakan rancangan *cross sectional* yang dilakukan pada 36 pasien balita DS di RSUP Dr. Sardjito periode Januari 2016 hingga Desember 2018. Data yang digunakan berupa rekam medis. Profil status nutrisi subjek dinilai menggunakan kurva pertumbuhan WHO tahun 2006 dan kurva spesifik DS. Hubungan faktor-faktor tersebut dengan status nutrisi dianalisis menggunakan uji *chi-square*.

**Hasil:** Dari 36 subjek penelitian didapatkan 17 laki-laki dan 19 perempuan dengan status nutrisi berdasarkan indeks BB/U kurva WHO 20 pasien *severely underweight* dan *underweight*, serta 1 *overweight* sedangkan menurut kurva DS 11 pasien *severely underweight* dan *underweight*, serta 2 *overweight*. Berdasarkan indeks TB/U kurva WHO didapatkan 11 pasien *severely stunted*, 10 *stunted*, dan 1 tinggi, sedangkan menurut kurva DS 3 pasien *severely stunted*, 4 *stunted*, dan 2 tinggi. Pada indeks BB/TB kurva WHO didapatkan 2 pasien *severely wasted*, 12 *wasted*, 1 *overweight* dan 1 *obese* sedangkan pada kurva DS 3 pasien *severely wasted*, 6 *wasted*, 2 *overweight* dan 1 *obese*. Terdapat 11 pasien dengan hipotiroid dan 16 pasien dengan penyakit jantung bawaan, namun tidak terdapat adanya hubungan antara usia ( $p=0,627$ ), jenis kelamin ( $p=0,706$ ), kondisi hipotiroid ( $p=1,000$ ), dan penyakit jantung bawaan ( $p=0,470$ ), dengan status nutrisi subjek.

**Kesimpulan:** Status nutrisi balita DS di RSUP Dr Sardjito tahun 2016-2018 didapatkan 11 dari 36 pasien *severely underweight* dan *underweight*, 7 dari 36 pasien *severely stunted* dan *stunted*, 9 dari 36 pasien *severely wasted* dan *wasted*, 2 dari 36 pasien *overweight*, serta 1 dari 36 pasien *obese*. Tidak terdapat hubungan antara usia, jenis kelamin, kondisi hipotiroid, dan penyakit jantung bawaan dengan status nutrisi balita DS di RSUP Dr. Sardjito.

**Keyword(s):** Sindrom Down; status nutrisi.