

## Prevalens dan faktor risiko terjadinya osteopenia pada bayi prematur = Prevalence and risk factors of osteopenia in premature infants

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### Abstrak

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Latar Belakang. Kemajuan dalam penanganan bayi prematur menyebabkan angka kesintasan meningkat. Akibatnya, angka kesakitan bayi prematur juga meningkat, salah satunya adalah osteopenia of prematurity (OOP). Pemeriksaan kadar kalsium, fosfat, dan fosfatase alkali serum saat usia kronologis 4 minggu digunakan sebagai indikator awal sebelum osteopenia tampak secara klinis. Diagnosis sedini mungkin dan pengendalian faktor risiko perlu dilakukan sehingga komplikasi dapat dicegah.

Tujuan. Mengetahui prevalens dan faktor risiko terjadinya OOP.

Desain Penelitian. Penelitian dengan desain potong lintang ini dilaksanakan pada bayi prematur dengan usia gestasi <math>\geq 32</math> minggu di Divisi Perinatalogi RS Dr. Cipto Mangunkusumo. Subyek diperiksa kadar kalsium serum, fosfat inorganik serum, dan fosfatase alkali serum. Pada subyek dilakukan pencatatan faktor risiko OOP untuk menilai hubungan antar variabel dan dilakukan analisis bivariat dengan uji chi square.

Hasil Penelitian. Terdapat 80 subyek yang memenuhi kriteria penelitian. Delapan dari 80 subyek (10%) ditemukan menderita OOP. Faktor risiko yang dianalisis dalam penelitian ini ditemukan tidak memiliki hubungan bermakna dengan kejadian OOP, yakni lama penggunaan nutrisi parenteral total ( $p=0,457$ ), lama penggunaan metilsantin ( $p=1,000$ ), berat lahir ( $p=0,459$ ), preeklampsia berat pada ibu ( $p=0,344$ ), korioamnionitis pada ibu ( $p=0,261$ ), dan pemberian nutrisi enteral ( $p=0,797$ ).

Simpulan. Prevalens OOP di RS Dr. Cipto Mangunkusumo adalah 10%. Faktor lama penggunaan nutrisi parenteral total, penggunaan metilsantin, berat lahir, preeklampsia berat pada ibu, korioamnionitis, dan pemberian nutrisi enteral tidak memiliki hubungan bermakna dengan kejadian OOP.

**ABSTRACT**  
Background. Advances in management of premature infants had increased the survival rate of these infants. However there is also increase of morbidity such as osteopenia of prematurity (OOP). Laboratory examination of serum calcium, phosphate, and alkaline phosphatase at the chronological age of 4 weeks is used as early indicator before osteopenia become clinically appearant. Early diagnosis

and risk control are needed to prevent complication.

**Objective.** To evaluate the prevalence and risk factors of OOP.

**Methods.** A cross sectional study was done in premature infants <32 weeks of gestational age in Perinatology Division of Cipto Mangunkusumo Hospital. Laboratory examination of serum calcium, phosphate, and alkaline phosphatase were conducted toward these subjects. Risk factors of OOP were also evaluated. Bivariate analysis was analysed by chi square test.

**Results.** There are 80 subjects who meet the study criteria. Eight of 80 subjects (10%) was diagnosed as OOP. No risk factors have significant relationship with OOP incidence, which include duration of total parenteral nutrition ( $p=0,457$ ), duration of methylxanthine usage ( $p=1,000$ ), birth weight ( $p=0,459$ ), severe preeclampsia in the mother ( $p=0,344$ ), chorioamnionitis in the mother ( $p=0,261$ ), and enteral nutrition ( $p=0,797$ ).

**Conclusion.** Prevalence of OOP in Cipto Mangunkusumo Hospital is 10%. There are no significant relationship between OOP incidence and duration of total parenteral nutrition, methylxanthine usage, birth weight, severe preeclampsia in the mother, chorioamnionitis, and enteral nutrition.

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