

Ketidakmampuan Minum Bayi Prematur: Faktor Risiko dan Efektivitas Tata Laksana Therapeutic Positioning serta Intervensi Oromotor = Oral Feeding Inability in Premature Infants: Influencing Factors and the Effectiveness of Therapeutic Positioning with Oromotor Intervention

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Abstrak

Minum merupakan tantangan bagi bayi prematur karena imaturitas dan penyakit yang menyertainya. Bayi prematur yang dinyatakan siap minum seringkali tidak mampu minum. Saat ini belum terdapat tata laksana yang konsisten dan mempertimbangkan kompleksitas proses minum secara komprehensif. Tujuan penelitian ini adalah menentukan berbagai faktor yang memengaruhi ketidakmampuan minum dan membuktikan efektivitas tata laksana metode baru terhadap kemampuan minum bayi prematur.

Penelitian dilakukan di lima rumah sakit di Jakarta pada bulan Agustus–November 2021. Studi potong lintang meneliti faktor yang memengaruhi ketidakmampuan minum 120 bayi prematur siap minum usia kehamilan 28–34 minggu, yaitu tonus postural fleksi fisiologis, stabilitas fisiologis, refleks rooting, kemampuan regulasi diri, morbiditas, dan behavioral state. Selanjutnya dilakukan randomized controlled trial (RCT) membandingkan tata laksana metode baru dan konvensional 70 bayi prematur belum mampu minum dari studi potong lintang. Metode baru mencakup therapeutic positioning fleksi fisiologis melalui pembedongan dan intervensi oromotor berupa stimulasi oral, gerakan sinergis three finger jaw control, dan isapan non-nutritif menggunakan empeng khusus. Metode konvensional mencakup pembedongan tradisional, stimulasi oral, dan isapan non-nutritif menggunakan empeng yang biasa digunakan di ruang perawatan. Analisis data studi potong lintang dilakukan dengan uji bivariat menghitung prevalence ratio (PR) dan nilai p; uji multivariat, penentuan titik potong skor faktor risiko ketidakmampuan minum melalui kurva Receiving Operating Characteristic (ROC), serta penentuan sensitivitas dan spesifisitasnya. Uji klinis membandingkan rentang waktu tercapainya kemampuan minum bayi yang diberikan kedua jenis metode. Data dianalisis dengan program STATA versi 14.2 (tingkat kemaknaan $p < 0,05$).

Hasil studi potong lintang menunjukkan regulasi diri sebagai faktor utama yang memengaruhi ketidakmampuan minum bayi prematur dengan PR 1,96 (1,61–3,34; IK 95%) dan $p = 0,012$, diikuti tonus postural, behavioral state, dan morbiditas (PR 1,91; 1,59; 1,56). Skor faktor risiko ketidakmampuan minum memiliki area under the curve (AUC) sebesar 0,698, titik potong optimal pada skor 7 dengan sensitivitas 71,4% dan spesifisitas 54%. Hasil uji klinis membuktikan metode baru lebih efektif dibandingkan metode konvensional (4 vs. 7 hari; $p = 0,02$).

Berbagai faktor yang memengaruhi ketidakmampuan minum bayi prematur siap minum adalah regulasi diri, tonus postural, behavioral state, dan morbiditas. Metode baru lebih efektif dibandingkan metode konvensional.

.....Feeding for premature infants is a challenge because of their immaturity and comorbidities. Premature infants who are ready to feed are often not able to feed. Current managements have not been consistent and consider the complexity of the feeding process comprehensively. The purpose of this study was to determine various factors influencing feeding inability of premature infants and to verify the effectiveness of a new method management on the premature infants' feeding ability.

The study was conducted in five hospitals in Jakarta in August–November 2021. A cross-sectional study examined factors influencing the oral feeding inability on 120 ready to feed premature infants born at 28–34 weeks of gestation. Evaluation of feeding inability risk factors included physiological flexion postural tone, physiological stability, rooting reflex, self-regulation ability, morbidity, and behavioral state. Subsequently, a randomized controlled trial (RCT) comparing the new and conventional method was conducted in 70 premature infants who were not able to feed from the cross-sectional study participants. The new method encompasses physiological flexion therapeutic positioning swaddling, and oromotor intervention consisting of oral stimulation, synergic three finger jaw control, and non-nutritive sucking by using a specific pacifier. The conventional method consists of traditional swaddling, oral stimulation, and non-nutritive sucking using the usual pacifier in the nursery room. In the cross-sectional study, bivariate analysis was done to determine the prevalence ratio (PR) and p value; multivariate analysis, Receiving Operating Characteristic (ROC) curve to determine the scoring system cut-off point, as well as its sensitivity and specificity. Clinical trial data analysis compared the new and conventional method effectivity in terms of duration needed to achieve feeding ability in premature infants. STATA version 14.2 was used for data analysis (level of significance $p < 0,05$).

The results from the cross-sectional study showed that self-regulation had the highest influence of feeding inability with PR 1,96 (1,61–3,34; IK 95%) and $p = 0,012$, followed by postural tone, behavioral state, and morbidity (PR 1,91; 1,59; 1,56). The feeding inability risk score had an area under the curve (AUC) of 0.698, an optimal cut-off point of 7, as well as sensitivity of 71,4%, and specificity of 54%. In clinical trials, it was proven that the new method was more effective than the conventional method (4 vs. 7 days; $p = 0,02$).

Factors influencing feeding inability in premature infants were self-regulation, postural tone, behavioral state, and morbidity. The new method management was more effective than the conventional method.