

## Profil Perubahan Kandungan Nutrisi dan Zat Besi pada ASI Bayi Sangat Prematur dan atau Berat Lahir Sangat Rendah = Changes in Nutritional and Iron Contents in Breast Milk of Very Premature Infants and or Very Low Birth Weight Infants

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### Abstrak

Latar belakang. Air susu ibu ASI merupakan nutrisi ideal bagi seorang bayi, namun komposisi ASI bervariasi dan sangat individual. Human milk fortifier HMF direkomendasikan oleh WHO untuk diberikan pada bayi sangat prematur dan/atau bayi berat lahir sangat rendah BBLSR, namun belum terdapat kesepakatan kapan waktu memulainya. Selain itu kelompok ini berisiko mengalami kekurangan atau kelebihan zat besi akibat pemberian suplementasi besi rutin. Objektif. Mendapatkan profil perubahan kandungan energi makronutrien dan zat besi dari ASI bayi sangat prematur dan/atau BBLSR, serta kecukupan kandungan nutrisi dan zat besi pada ASI untuk memenuhi kebutuhan yang direkomendasikan. Metode. Studi deskriptif analitik dengan desain multiple measurement pada studi longitudinal. Sampel penelitian adalah ASI ibu yang melahirkan bayi sangat prematur dan/atau BBLSR periode bulan Juli-Oktober 2017 di unit perinatologi RSCM. Pemeriksaan ASI menggunakan MIRIS dilakukan secara serial selama 4 minggu dan pada minggu 4 dilakukan pemeriksaan kadar besi ASI menggunakan ICP-MS. Sebanyak 30 ibu yang memiliki data lengkap hingga minggu 4 dilakukan analisis. Hasil. Terdapat penurunan kandungan protein di ASI  $p=0,0003$  disertai peningkatan lemak  $p=0,0004$  dan kalori  $p=0,0006$  setiap minggunya, namun tidak demikian dengan karbohidrat  $p=0,447$ . Kekurangan protein di ASI didapatkan sejak minggu II pascakelahiran walaupun kalori lemak ASI masih mencukupi. Kadar zat besi ASI pada hari 28 ditemukan lebih rendah dari nilai rekomendasi ESPGHAN dan AAP-Con ditemukan pada pemeriksaan hari ke 28. Kesimpulan. Terdapat perubahan kandungan makronutrien setiap minggunya pada ASI bayi sangat prematur dan/atau BBLSR dan tidak mencukupi kebutuhan yang direkomendasikan. Pemberian HMF dapat dipertimbangkan untuk diberikan sejak minggu II untuk mencukupi kebutuhan tumbuh kejar.

.....Background. Mother's own milk MOM is an ideal nutrition for a baby, but the composition is varied and highly individualized. Human milk fortifier HMF is recommended by WHO for very premature infants and or very low birth weight VLBW infants, yet no agreement when to start. In addition, this group is at risk of iron deficiency or excess due to routine iron supplementation. Objective. To find the changes in macronutrient and iron contents from MOM in very premature infants and or VLBW infants, as well as the adequacy of nutrients and iron contents in MOM to conform recommended needs. Method. Analytical descriptive study with multiple measurement design in longitudinal study. Subjects were mothers who delivered very premature infants and or VLBW infants from July to October 2017. Breast milk was serialized with MIRIS for 4 weeks and iron content was researched with ICP MS at 4th week. The study took place in neonatology unit in Cipto Mangunkusumo Hospital. A total of 30 mothers who had complete data for 4 weeks were analyzed. Results. There was a decrease in protein content in breast milk  $p=0.0003$  and increased fat  $p=0.0004$  and calories  $p=0.0006$  per week, but not in carbohydrates  $p=0.447$ . Although this result is higher than the study of systematic review in Australia in 2016. Protein deficiency in breast milk was

found from the first week after birth and iron content is lower than the value of recommendation of ESPGHAN and AAP Con at 28 day examination. Conclusion. Macronutrient content changes each week in breast milk of very premature and or VLBW infants and not enough from dietary recommendation. Giving HMF may be considered at 1st week after birth.