Perbedaan Kadar Zat Besi, Zinc, Vitamin A dalam Kolostrum dan ASI Matur antara Ibu Bayi Kurang Bulan Berat Lahir Rendah dan Cukup Bulan Berat Lahir Rendah

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Latar Belakang: Kandungan ASI bervariasi antar ibu. Mengingat pemberian ASI eksklusif dianjurkan sampai usia 6 bulan, maka penting untuk memiliki data yang akurat mengenai komposisi ASI. Masa laktasi dan kelahiran kurang bulan diketahui merupakan faktor utama yang berpengaruh terhadap komposisi ASI, termasuk mikronutien, khususnya zat besi, zinc dan vitamin A. Studi terdahulu tidak secara spesifik meneliti perbedaan nutrisi ASI terkait berat lahir bayi. Tujuan studi ini untuk menganalisis perbedaan kadar zat besi, zinc, vitamin A dalam kolostrum dan ASI matur antara ibu bayi berat lahir rendah baik kurang bulan maupun cukup bulan.

Metode: Studi potong lintang ini dilakukan pada bulan Juli 2019 hingga April 2020 dengan mengambil sampel ASI ibu bayi berat lahir rendah yang melahirkan secara kurang bulan dan cukup bulan di RSUD Dr. Soetomo. Sebanyak 17 sampel diikutsertakan pada masing-masing kelompok. Kolostrum dan ASI matur masing-masing diambil antara hari ke-2 dan ke-4, serta antara hari ke-15 dan 20 paska lahir. Kadar zat besi dan zinc diukur menggunakan alat ICP-MS, sedangkan HPLC untuk mengukur vitamin A.

Hasil : Rerata kadar zat besi dalam kolostrum dan ASI matur tidak berbeda secara signifikan antara ke-2 kelompok ($p=0,266$ dan $p=0,845$). Rerata kadar zinc dalam kolostrum (789,12 ± 358,67 mcg/dL vs 529,65 ± 171,80 mcg/dL) dan ASI matur (527,29 ± 122,07 mcg/dL vs 367,76 ± 114,91 mcg/dL) ibu BBLR kurang bulan lebih tinggi secara signifikan ($p<0,05$), begitu juga dengan kadar vitamin A dalam kolostrum (100,24 ± 15,55 mcg/dL vs 87,76 ± 15,95 mcg/dL) ($p<0,05$).

Kesimpulan: Kadar zinc dalam kolostrum dan ASI matur didapatkan lebih tinggi secara signifikan pada kelompok BBLR kurang bulan, begitu juga dengan vitamin A dalam kolostrum. Sebaliknya, kadar zat besi tidak berbeda secara signifikan pada ke-2 kelompok.

Kata kunci: Kolostrum, ASI matur, berat lahir rendah, kurang bulan, cukup bulan

The Difference of Iron, Zinc, Vitamin A Composition Within Colostrum and Mature Milk Among Mothers of Low Birth Weight Infant Born at Preterm and Term

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Background: Breast milk content varies among women. Considering that exclusive breastfeeding is recommended through 6 months of age, it is important to have accurate data on its composition. Duration of lactation and preterm delivery were noticed as dominant factors affecting breast milk composition, including its micronutrient particularly iron, zinc and vitamin A. Previous studies did not specifically investigate breast milk nutrient difference related to infant's birth weight. This study was aimed to analyze the difference of iron, zinc, vitamin A composition within colostrum and mature milk among mothers of low birth weight (LBW) infant born at preterm and term.

Methods: This cross-sectional study was conducted between July 2019 and April 2020 among mothers of LBW infant delivered at preterm and term at Dr. Soetomo hospital. Seventeen samples of breast milk from LBW infant's mother were enrolled on each group. Respectively, colostrum and mature milk were collected between day 2 and 4, between day 15 and 20 after delivery. Iron and zinc were measured using ICP-MS, HPLC for vitamin A measurement.

Result : The iron composition within colostrum and mature milk among groups did not differ significantly (respectively p=0,266 and p=0,845). Zinc composition in colostrum (789,12 ± 358,67 mcg/dL vs 529,65 ± 171,80 mcg/dL) and mature milk (527,29 ± 122,07 mcg/dL vs 367,76 ± 114,91 mcg/ dL) was reported significantly higher in preterm group, as well as vitamin A composition within colostrum in low birth weight group (100,24 ± 15,55 mcg/dL vs 87,76 ± 15,95 mcg/dL) ($p<0,05$).

Conclusion: Zinc composition within colostrum and mature milk were found significantly higher in LBW preterm group, similar to vitamin A within colostrum. In contrast, iron did not differ significantly during lactation period between two groups.

Key words: Colostrum, Mature milk, Low birth weight, Preterm, Term