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Lactoferrin association with maternal nutritional status and lactation stages (Article) (Open Access)

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Abstract

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Background: Previous research has not been consistently found that Lactoferrin (LF) is influenced by maternal factors, during pregnancy and postpartum. In Indonesia, the effect of mother's nutritional status to their milk quality has rarely been studied. Objective: This study aimed to determine how the mother's nutritional status during pregnancy and the lactation period is associated with LF. Methods: This cross sectional study was performed from September to November 2017 at three primary health care centres working area in Semarang, Indonesia. Seventy-nine lactating mothers were recruited. LF was analysed from about 5 ml of human milk. Data on the mother's general characteristics and anthropometry (weight, height, and mid-upper-arm-circumference (MUAC)) were collected. Results: Mother's average age was 28±5 years old, mostly multipara and non-working. Average haemoglobin concentration at the third trimester pregnancy was 11.3±1.09 mg/dL MUAC at the third trimester pregnancy and postpartum was 25 cm and 26.4 cm, respectively. Body mass index at postpartum was 23.74 kg/m2. Median human milk LF was 1.52 g/L. Milk was collected from mothers with ten-day-old infants (median), at 10.00 a.m. and stored 73 days before analysed. Median LF in colostrum (1.60 g/L) did not differ significantly from transition (1.99 g/L), but did with mature milk (1.07 g/L). Conclusion: Better nutritional statuses of mothers during pregnancy (as indicated by MUAC) and early stages of lactation resulted in significantly higher LF concentration in human milk. © 2020 The Author(s). Published by Enviro Research Publishers.

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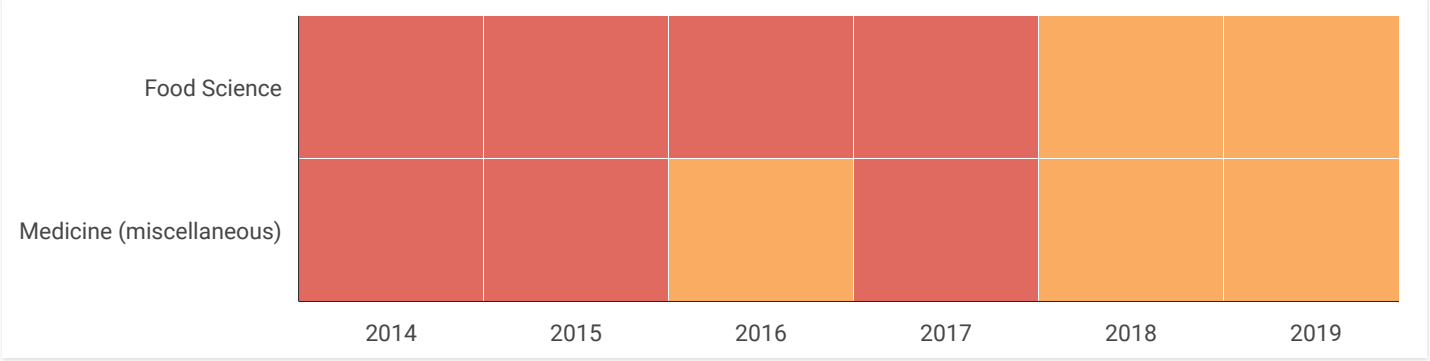

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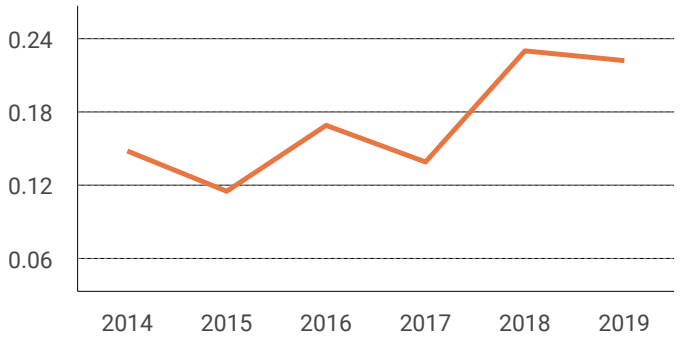

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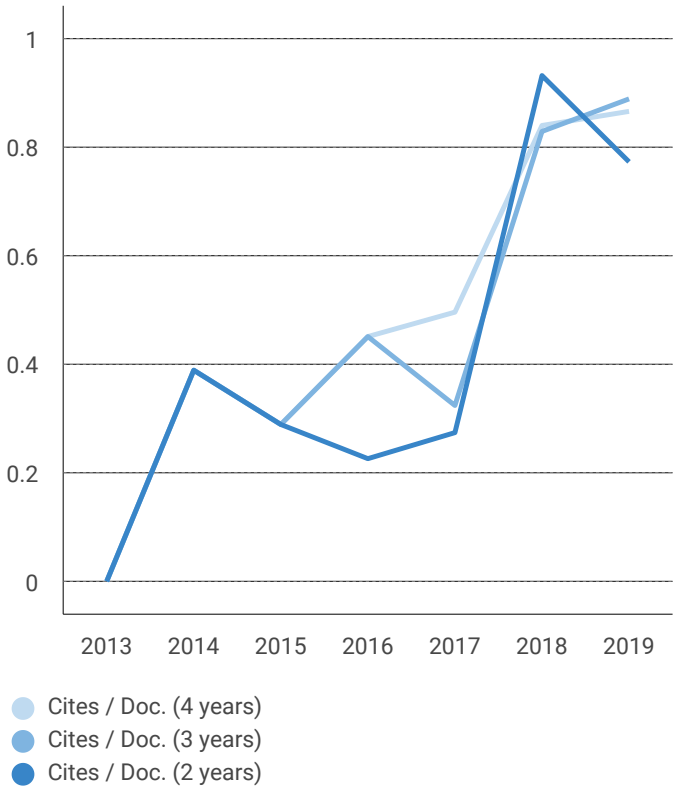

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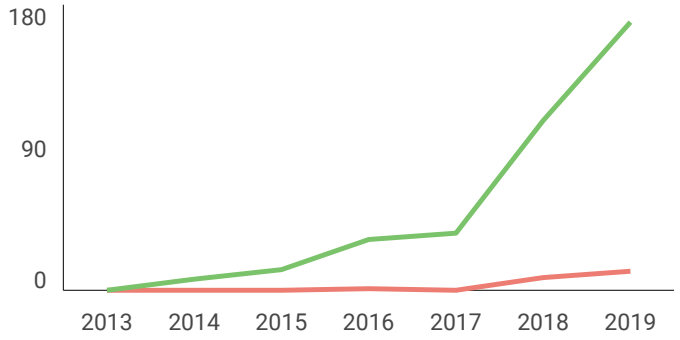

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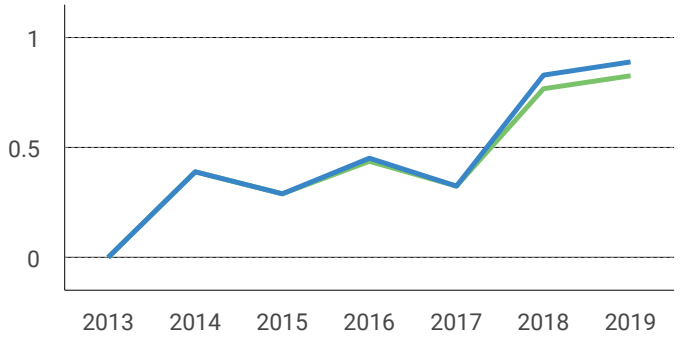

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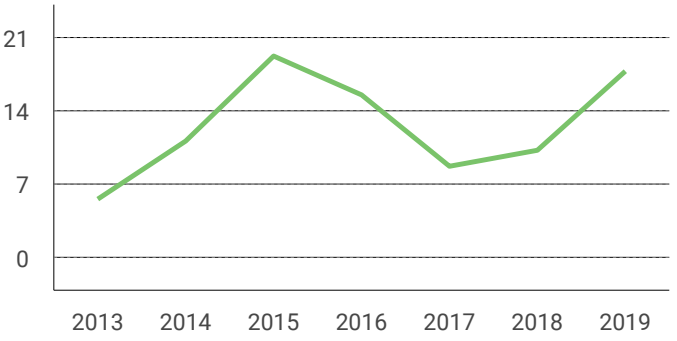

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Lactoferrin Association with Maternal Nutritional Status and Lactation Stages

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Previous research has not been consistently found that Lactoferrin (LF) is influenced by maternal factors, during pregnancy and postpartum. In Indonesia, the effect of mother's nutritional status to their milk quality has rarely been studied. This study aimed to determine how the mother's nutritional status during pregnancy and the lactation period is associated with LF. This cross sectional study was performed from September to November 2017 at three primary health care centres working area in Semarang, Indonesia. Seventy-nine lactating mothers were recruited. LF was analysed from about 5 ml of human milk. Data on the mother's general characteristics and anthropometry (weight, height, and mid-upper-arm-circumference (MUAC)) were collected. Mother's average age was 28±5 years old, mostly multipara and non-working. Average haemoglobin concentration at the third trimester pregnancy was 11.3±1.09 mg/dL MUAC at the third trimester pregnancy and postpartum was 25 cm and 26.4 cm, respectively. Body mass index at postpartum was 23.74 kg/m2. Median human milk LF was 1.52 g/L. Milk was collected from mothers with ten-day-old infants (median), at 10.00 a.m. and stored 73 days before analysed. Median LF in colostrum (1.60 g/L) did not differ significantly from transition (1.99 g/L), but did with mature milk (1.07 g/L). Better nutritional statuses of mothers during pregnancy (as indicated by MUAC) and early stages of lactation resulted in significantly higher LF concentration in human milk.

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