OBJECTIVE: The objective was to analyze interrelationships among plasma zinc (PZ), plasma prolactin (PRL), milk transfer, and milk zinc from a longitudinal study of lactating women with a range of zinc intakes.

METHODS: Sixteen of 26 women received a 15 mg/d zinc supplement, resulting in a significant increase in total zinc intake compared with nonsupplemented participants (P<.001).

RESULTS: No significant differences in key variables were observed between the zinc-supplemented and non-zinc-supplemented women; data were thus combined. An inverse trend between PRL and PZ was observed at 0.5 (r=-.36, P=.08) and 7 months (r=-.38, P=.06). Correlations between PRL at 0.5 months and at 3, 5, and 7 months were significant (r>.50, P<.01). PRL concentrations and milk transfer were positively correlated at 5 (r=.67, P<.001) and 7 months (r=.53, P<.01), consistent with PRL role in lactation maintenance.

CONCLUSION: Studies including zinc-deficient lactating women are required to clarify the interrelationships between zinc status and PRL secretion.

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