

## Diminished luteinizing hormone biopotency in breastfeeding women

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### Abstract

The effect of nursing on plasma luteinizing hormone bioactivity (B-LH) and immunoactivity (I-LH) was assessed at 4 and 6 months *post partum* in fully nursing women who experienced their first bleeding between months 5 and 6 *post partum* ( $n = 6$ , short amenorrhoea) or after the month 6 ( $n = 10$ , long amenorrhoea). Controls were 10 nonnursing fertile women. Blood samples were drawn twice weekly at month 4 *post partum* and at month 6 *post partum*. In the nursing women who were cycling at month 6 and in non-nursing women samples were drawn during the follicular phase. I-LH was measured by a time resolved immunofluorometric assay (DELFI) and B-LH by the mouse Leydig cell assay. Nursing decreased B-LH more than I-LH resulting in a relationship between B-LH and I-LH different to that of non-nursing women ( $B-LH=2.84 \times I-LH-0.16$  and  $B-LH=4.27 \times I-LH-3.11$  respectively,  $P < 0.05$ , by likelihood test). Plasma B-LH or I-LH were similar in nursing women with short or long amenorrhoea. In conclusion, nursing alters the quality of circulating LH, however, the decreased LH steroidogenic potency does not play a role in determining the duration of lactational amenorrhoea.