

NUTRIENT INTAKE AND PLASMA PROLACTIN IN WOMEN

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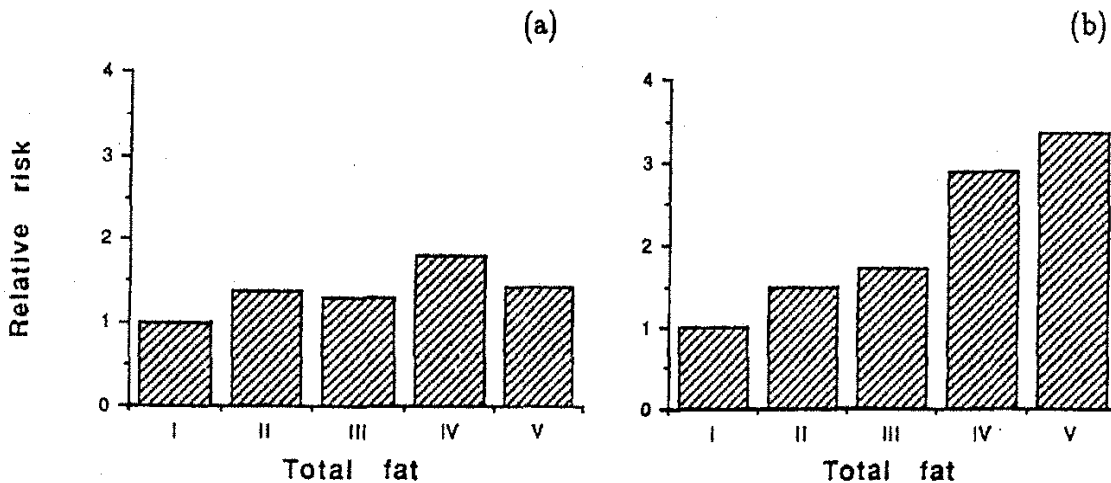
The hormone prolactin has mitogenic effects which may increase the risk of both breast and prostate cancer. Indirect support for this hypothesis comes from claims that groups of women considered to be at higher risk of breast cancer (eg nulliparous women, and women with a family history of breast cancer) also exhibit elevated plasma prolactin concentrations.

Since dietary factors (especially high fat and low fibre intake) have been implicated in the aetiology of breast cancer, it is natural to ask whether dietary effects on the risk of breast cancer may be partly mediated by their effect on prolactin concentrations.

Plasma prolactin concentrations were measured in 250 volunteer high-risk women who responded to a newspaper advertisement. Two blood samples approximately 30 minutes apart were drawn from fasted subjects two to four hours after waking. Subjects who were pre-menopausal were sampled during the post-luteal phase of their cycle.

Usual dietary intake of each subject was estimated using a quantitative food frequency questionnaire, and the previous day's intake was assessed by means of a 24-hour recall, administered by an interviewer.

After controlling for menopausal status, number of children, and smoking habits, a positive association between elevated prolactin (where 'elevated' is defined as 'above the median') and previous day's fat intake was observed, and there was a statistically significant negative association between prolactin concentration and previous day's vitamin C intake. The association between prolactin and usual fat intake (as assessed by the quantitative food frequency questionnaire) was very weak but became much stronger ($p=0.06$) after controlling for salt density in the diet.



Relative risk of elevated plasma prolactin by quintile of usual total fat intake. (a) Ignoring salt density. (b) Controlling for salt density. Both plots are adjusted for menopausal status, parity and smoking habit.