



## Ethnic differences in duration of pregnancy

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## LETTER TO THE EDITOR

### **Ethnic differences in duration of pregnancy**

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I was interested to read the paper by Papiernik, Cohen, Richard, De Oca and Feingold (1986). The authors find significant differences in gestational ages at delivery between European and African and between European and Antillean pregnancies. The paper raises two statistical points which the authors do not appear to have considered.

First, on account of the possibility that the observed differences in their unmatched samples are due to differences in parity, the authors calculate correlation coefficients, within ethnic groups, between parity and length of gestation. Finding these to be small, although significant, they conclude that parity differences fail to explain gestation differences between groups. This approach is mistaken. The marginal association between parity and gestation within ethnic group does not inform us about the effect on gestation of ethnic group in addition to that of parity. The correct approach would be to test for an effect of ethnic group adjusting for parity, as the authors did, quite rightly, in the case of socio-economic class.

The second point relates to the magnitude of the differences observed. Although in the unmatched samples gestational ages at birth differed significantly among ethnic groups for three out of four socio-economic classes, the differences are very small in absolute terms. None is more than 0.8 weeks, that is 5 or 6 days. This illustrates the point that any difference, however small or variable, can be rendered statistically significant by taking a large enough sample size. This is not an argument against large sample sizes, but its corollary is that when we find a *statistically* significant result our next step should be to ask what is its *practical* significance. Clearly, absolute differences of this size are unlikely to have practical implications in terms of neonatal outcome, but they are of interest of the authors in other respects. It is stated that research is under way to try to establish whether the differences have an environmental or inherent physiological cause. It should be borne in mind that the causes of such small differences may themselves be small, and may be equally variable. In such a case similar sample sizes to those used in this research would be required.

The statistical points above are of general relevance, and apply to much social and medical research.

#### **Reference**

PAPIERNIK, E., COHEN, H., RICHARD, A., DE OCA, M.M., and FEINGOLD, J., 1986, Ethnic difference in duration of pregnancy. *Annals of Human Biology*, **13**, 259-165.

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