

## Proceedings of the Society for the Study of Human Biology

Abstracts of papers presented at a symposium on 'Seasonality and Human Ecology' held at the University of Cambridge, Cambridge, UK, on 9-10 April, 1992

### Seasonality and human biology

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X **Seasonal variation in nutritional status of mothers and infants in two different ecological areas in Senegal: relationships with diet, morbidity and mortality**

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The reason for seasonal variations in nutritional status and their relative importance in different ecological areas are still not fully explained.

In the Senegal River Valley of Northern Senegal, one-third of 7000 inhabitants were monitored in 1991, 2 years after the onset of modern irrigation agriculture (rice and cash crops) in three villages. Nutritional status was assessed on five occasions and diet on two occasions.

In the Peanut Basin of Central Senegal, a population of 25000 has been followed since 1987. Mortality and morbidity data on all infants are collected weekly, while anthropometric data on infants aged 1, 4, 6 and 9 months and their mothers are collected monthly.

Major differences have been observed in the seasonality of women's nutritional status in the two areas. In the Senegal River Valley, maximal seasonal weight change was estimated to be 1.7 kg, while it is estimated to have been 3.7 kg in 1990 and 3.0 kg in 1991 in the Peanut Basin. In the former, mean weight was highest in December and lowest in April, while it was highest in April-May and lowest in September-November in the latter. Seasonality of nutritional status in infants was very similar in both areas, however. Weight for height was highest in December-April and lowest in October. The decline during the rainy season was more severe for older infants (age >5.9 months) than for younger infants (0.7-0.9 z-scores and 0-0.5 z-scores, respectively).

The relationship between seasonality in nutritional status, adult diet and morbidity and mortality during infancy will be discussed.

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