

THE INFLUENCE OF DIETARY VARIABLES ON BLOOD LEAD CONCENTRATIONS IN PREGNANCY

P.A. BAGHURST*, E.F. ROBERTSON**, A.J. McMICHAEL*, P.D. CLARK# AND G.V. VIMPANI#

During the period May 1979 to May 1982, 831 pregnant women living in the lead smelting town of Port Pirie, and surrounding areas were recruited into a prospective study of body lead burden and its association with pregnancy outcome and subsequent childhood development. Blood lead concentration was measured in the second and third trimester of pregnancy and at delivery.

A detailed, standardised questionnaire-interview was administered by an experienced community health nurse to obtain demographic, residential, occupational and educational information together with medical and reproductive history and information on smoking and drinking habits. An assessment was also made of the usual consumption levels of locally grown vegetables, of dairy food and calcium consumption and of supplementation during pregnancy with iron, folate and calcium.

After allowing for a number of social and demographic correlates (e.g. age, years lived in Port Pirie, area of residence within the town, employment and educational status) there was a statistically significantly higher blood lead concentration in women who reported that they did not supplement their diet with folic acid and in those that did not supplement with calcium.

Women who reported frequent consumption of home grown fruit and vegetables did not appear to have higher blood lead concentrations than women who consumed only imported produce.

*CSIRO Division of Human Nutrition, Adelaide, South Australia 5000

**Department of Chemical Pathology, Adelaide Children's Hospital, North Adelaide, South Australia 5006

#Child, Adolescent and Family Health Service, South Australian Health Commission, South Terrace, Adelaide, South Australia 5000