

THE RELATIONSHIPS BETWEEN THE PREGNANT MOTHER'S CONSUMPTION OF SEAFOOD AND THE COGNITIVE DEVELOPMENT AND BEHAVIOUR OF THE CHILD: RESULTS FROM THE ALSPAC SURVEY

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The Avon Longitudinal Survey of Parents and Children (ALSPAC) is based in the county of Avon, population 1 million, about 120 miles west of London in the UK. Pregnant women resident in the area who had an expected date of delivery between 1st April 1991 and 31st December 1992 were eligible and about 80% took part in the study. The mothers and their children have been followed up to the present day.

Information has been collected in a variety of ways including – (i) from self-completion questionnaires completed by the parents, teachers and the children themselves; (ii) from hands-on examinations and assessments; (iii) from assays of biological samples; (iv) from results of specially designed paper and pencil tests carried out in school; and (v) from linkage to statutory information e.g. school examination results. Information was collected on the maternal diet at 32 weeks gestation, including details of frequency of intake of each of white fish, oily fish and shellfish. From this the amount of omega-3 fatty acids consumed as fish was estimated and shown to be statistically significantly associated with the mothers prenatal levels of red cell omega-3 fatty acid levels.

A variety of multivariable analyses have been carried out to assess the relationships between fish intake and the cognitive and behavioural development of the child, taking account of socioeconomic and other variables that are associated with fish consumption. Positive associations were found with a number of outcomes (i.e. the mothers eating fish had children with better outcomes). In order to ensure that these results were not due to residual confounding we will present the results using SNPs in the FADS genes using a Mendelian randomisation approach.