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Nutrient intakes during early pregnancy of women living in Ireland

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At no point in the life cycle is nutrition more important than before and during pregnancy. Diet is one of the major environmental factors influencing the development of the embryo and fetus, while maintaining maternal health⁽¹⁾. Certain micronutrient deficiencies during pregnancy have been significantly associated with reproductive risks, including infertility and fetal structural anomalies^(2–5). Impaired growth and development in utero may 'programme' the fetus for developing metabolic diseases in adulthood⁽⁶⁾. Specific micronutrients also protect the mother from developing pregnancy-related disorders: sufficient calcium and magnesium reduces the risk of hypertensive disorders; adequate zinc reduces the risk of prematurity; increasing folic acid intakes prior to conception prevents neural tube defects, while increasing vitamin B₁₂ alongside folic acid prevents megaloblastic anaemia^(7,8). There is paucity in the literature surrounding the usual nutrient intakes of pregnant women in Ireland. The aim of the present study was to examine maternal nutrient intakes during early pregnancy of women in Ireland.

Two hundred and forty eight women were recruited from the antenatal clinic at the National Maternity Hospital in Dublin. Participants were considered for this study if they were between 10 and 18 weeks gestation, with a singleton pregnancy and adequate English. All participants completed a 3-d food diary in early pregnancy. It was requested that participants record in as much detail as possible their food and beverage intakes. Collected data were entered into NetWISP version 3.0 (Tinuviel Software, Llanfechell, Anglesey, UK) and statistical analysis was carried out in SPSS version 15.0 (SPSS Inc., Chicago, IL, USA).

Descriptive statistics showed that the mean daily intake of certain micronutrients were insufficient and did not meet current recommendations for pregnancy. The mean intake of folate was 272.9 µg (SD 111.7), vitamin D was 2.6 µg (SD 2.1), calcium was 880.6 mg (SD 310.4) and iron was 11.1 mg (SD 3.6). It was noted that only 2 (0.8%) women met vitamin D recommendations, while only 20 (8.1%) women met folate recommendations from diet alone. In contrast, the mean Na intake was 2671.8 mg (SD 803.8) which is above the recommended allowance for the general adult population.

These data highlight the urgent need for public health interventions amongst pregnant women in Ireland. Fortification of foods with folic acid should be considered to increase maternal intakes and advocating peri-natal supplementation, particularly for vitamin D may be warranted.

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