



Duration of periconceptional folic acid supplementation in women booking for antenatal care

S. Cawley¹, L. Mullaney¹, R. Kennedy¹, M. Farren², D. McCartney¹ and M.J. Turner²

¹School of Biological Sciences and Environmental Sustainability and Health Institute (ESHI), Dublin Institute of Technology, Kevin Street, Dublin 8, Ireland and ²UCD Centre for Human Reproduction, Coombe Women and Infants University Hospital, Cork Street, Dublin 8, Ireland

National and international guidelines recommend that all women planning a pregnancy should take a 400µg supplement of folic acid (FA) each day, starting periconceptionally prior to the closure of the neural tube ^(1,2). In recent kinetic studies, it has been shown that it takes 12 weeks of daily supplementation with 400µg FA to achieve the level of red cell folate (RCF) associated with reduced risk of neural tube defects (NTDs) ⁽³⁾. The aim of this cross-sectional observational study was to analyse in detail the use of FA supplementation including timing of commencement and duration of usage; in women presenting for antenatal care in the first trimester of pregnancy.

Women were recruited at their convenience in the first trimester, and their clinical and sociodemographic details computerised. Maternal weight and height were measured and body mass index (BMI) calculated. Detailed FA supplementation questionnaires were completed under the supervision of a trained researcher. This study population was representative of the national obstetric population ⁽⁴⁾.

While almost all of the 856 women (96.7%) were taking FA at enrolment; only one in four women took FA for at least 12 weeks preconceptionally ($n = 208$, 24.5%). Amongst the women who supplemented with FA preconceptionally, 43.8% (162/370) reported taking FA for less than the required 12 weeks to achieve optimal red cell folate (RCF) levels for NTD prevention. Amongst women who only took FA post-conceptionally, almost two-thirds (61%) commenced it after day 28 of their pregnancy when the neural tube had already closed.

As the timing and duration of FA supplementation is suboptimal both before and after conception, we recommend that current national FA guidelines need to be reviewed and revised to address these important issues.

1. Department of Health, Republic of Ireland (1992). *Folic acid and the Prevention of Neural Tube Defects*.
2. Department of Health, United Kingdom (1992). *Folic acid and the Prevention of Neural Tube Defects: Report from the Expert Advisory Group*.
3. Crider KS, Devine O, Hao L *et al.* (2014) *BMJ* **349**, g4554.
4. Health Pricing Office & Health Service Executive. *Perinatal Statistics Report 2013, 2014*.