Pregnancy and diet

Midwives are in an ideal position to advise women on nutrition during pregnancy, but, as George Winter writes, time constraints and conflicting information can make this difficult

The midwife is uniquely placed to promote the benefits of a healthy lifestyle, and to provide evidence-based nutritional advice to pregnant women. Englund-Ögge et al (2014) reported on a prospective cohort study of 66 000 pregnant women in Norway, finding that women were at a lower risk of preterm delivery if they adhered to a 'traditional' dietary pattern during pregnancy, which they stated supported the advice for pregnant women to drink water and to eat a balanced diet.

In an Australian study, however, although midwives acknowledged their role in giving pregnant women nutritional advice, this was not reflected in the advice they actually gave, 'which in many accounts was passive and medically directed' (Arrish et al, 2017: 1).

Lee et al (2012: 185) found that while lack of time was the main obstacle to good advice, '[h]ealth promotion for weight, diet and physical activity were reported as particularly lacking.' The authors suggested that post-registration training in public health needed reviewing and updating, with particular emphasis on aspects such as weight management and diet.

A further study of 205 pregnant women and 146 health professionals (Soltani et al, 2017) found that although women indicated high levels of satisfaction and trust in their care, they sensed that midwives had insufficient time and resources to provide appropriate support during pregnancy. In the survey, all family nurse practitioners (FNPs) and 85% of midwives felt that they adequately covered nutrition during pregnancy, while the remaining 15% cited time constraints and lack of clear guidelines.

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Of particular interest that only 56% of midwives (compared with 62% of FNPs) felt confident about discussing the dietary role of omega-3 polyunsaturated fatty acids (PUFAs) with pregnant women. Of these, 35% of midwives (25% of FNPs) were not confident; and 9% of midwives (15% of FNPs) said they would like training on the topic (Soltani et al, 2017).

This is significant, given that Lin et al (2017) cite evidence to show that patients with major depressive disorders have lower blood concentrations of omega-3 PUFAs (Lin et al, 2010) and that the prevalence of clinical depression ranges from 6.5% to 12.9% during pregnancy and in the first year postpartum (Bennett et al, 2004).

In their meta-analysis of 12 studies, Lin et al (2017) found that postnatal depression was associated with lower concentrations of omega-3 PUFA. The authors explained that the brain is enriched with antioxidative and anti-inflammatory omega-3 PUFAs and their derivatives, all of which are involved in the regulation of several biological processes, including neurotransmission, neuroplasticity and neuroinflammation; these, in turn can influence mood and cognitive function.

However, in a prospective cohort study of 172 pregnant Brazilian women, Pinto et al (2017) found an inverse relationship between blood concentrations of omega-3 PUFAs and longitudinal changes in depressive symptoms during pregnancy. They concluded that further studies were essential to guide public health policies focusing on prevention and treatment strategies for maternal depression.

The importance of nutritional advice in pregnancy to clinical outcomes—in this case depression—is also highlighted by a report from Roomruangwong et al (2017), who found that lowered zinc concentrations during pregnancy was associated with symptoms of pre- and postnatal depression.

The advice to pregnant women to eat a well-balanced diet is useful, but whether advice focuses on a pregnant woman's intake of folic acid, omega-3 PUFAs, zinc, or other nutrients, a midwife's grasp of nutrition should also include those dietary subtleties that may have important implications for pregnancy. **BJM**

Arrish J, Yeatman H, Williamson M. Midwives' role in providing nutrition advice during pregnancy: meeting the challenges? A qualitative study. Nurs Res Pract. 2017; 2017:7698510

Bennett HA, Einarson A, Taddio A, Koren G, Einarson TR. Prevalence of depression during pregnancy: Systematic review. Obstet Gynecol. 2004; 103(4): 698–709

Englund-Ögge L, Brantsaeter AL, Sengpiel V et al. Maternal dietary patterns and preterm delivery: results from large prospective cohort study. BMJ. 2014; 348: g1446

Lee DJ, Haynes CL, Garrod D. Exploring the midwife's role in health promotion practice. British Journal of Midwifery. 2012; 20(3): 178–86

Lin PY, Huang SY, Su KP. (2010) A meta-analytic review of polyunsaturated fatty acid compositions in patients with depression. Biol Psychiatry. 2010; 68(2): 140-7

Lin PY, Chang CH, Chong MFF, Chen H, Su KP. Polyunsaturated fatty acids in perinatal depression: a systematic review and meta-analysis. Biol Psychiatry. 2017; 82(8): 560-9

Pinto TJP, Vilela AAF, Farias DR et al. Serum n-3 polyunsaturated fatty acids are inversely associated with longitudinal changes in depressive symptoms during pregnancy. Epidemiol Psychiatr Sci. 2017; 26(2): 157-68

Roomruangwong C, Kanchanatawan B, Sirivichayakul S, Mahieu B, Nowak G, Maes M. Lower serum zinc and higher CRP strongly predict prenatal depression and physio-somatic symptoms, which all together predict postnatal depressive symptoms. Mol Neurobiol. 2017; 54(2): 1500-12

Soltani H, Duxbury A, Rundle R, Marvin-Dowles K (2017) Dietary habits and supplementation practices of young women during pregnancy: an online cross-sectional survey of young mothers and health care professionals. BMC Nutrition. 2017; 3: 19