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Relationship between complementary and alternative medicine use and incidence of adverse birth outcomes: An examination of a nationally representative sample of 1835 Australian women

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ABSTRACT

Objective: there is evidence of high use of complementary and alternative medicine (CAM) by pregnant women. Despite debate and controversy regarding CAM use in pregnancy there has been little research focus upon the impacts of CAM use on birth outcomes. This paper reports findings outlining the incidence of adverse birth outcomes among women accessing CAM during pregnancy.

Design: a survey-based cohort sub-study from the nationally-representative Australian Longitudinal Study on Women's Health (ALSWH) was undertaken in 2010.

Participants: women (aged 31–36 years) who identified in 2009 as pregnant or recently given birth (n=2445) from the younger cohort (n=8012) of ALSWH were recruited for the study.

Measurements and findings: participants' responses were analysed to examine the relationship between use of CAM and adverse birth outcomes from their most recent pregnancy. Of the respondents (n=1835; 79.2%), there were variations in birth outcomes for the women who used different CAM. Notably, the outcome which was most commonly associated with CAM use was emotional distress. This was found to occur more commonly in women who practised meditation/yoga at home, used flower essences, or consulted with a chiropractor. In contrast, women who consulted with a chiropractor or consumed herbal teas were less likely to report a premature birth, whilst participation in yoga classes was associated with an increased incidence of post partum/intrapartum haemorrhage.

Key conclusions: the results emphasise the necessity for further research evaluating the safety and effectiveness of CAM for pregnant women, with a particular focus on birth outcomes.

Implications for practice: health professionals providing care need to be aware of the potential birth outcomes associated with CAM use during pregnancy to enable the provision of accurate information to women in their care, and to assist in safely supporting women accessing CAM to assist with pregnancy, labour and birth.

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Introduction

Prevention of adverse birth outcomes in modern maternity care

Low maternal mortality rates in high income countries (Betran et al., 2005; Lang and King, 2008; Cantwell et al., 2011; Statistics Canada, 2012) have enabled maternity care research and practice to concentrate upon reducing adverse birth events such as post

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partum haemorrhage (Kavle et al., 2008; Oyelese and Ananth, 2010; Ribot et al., 2012), infants born small-for-gestational-age (Hack and Fanaroff, 1999), and placental abnormalities (Balat et al., 2003). There is also increasing interest regarding the rates of caesarean sections (MacDorman et al., 2008; Declercq et al., 2011; Kottmel et al., 2012) and other obstetric interventions (Parant et al., 2010; Klein, 2011) and whether these rates are appropriate to the population (Zwelling, 2008; Gottvall et al., 2011). Likewise, dietary recommendations for pregnant women in high-income countries encompass more than fundamental nutritional requirements (Wood and Ronnenberg, 2006; Black et al., 2008; Mellor, 2009) to include broader dietary recommendations (American Dietetic Association, 2008: Bakker et al., 2010), and there have also been calls from maternity care professionals to address women's psychological well-being in addition to attending to physical concerns in maternity care (Tennen and Affleck, 1987; Lobel et al., 2002; Miller and LaRusso, 2011).

Complementary and alternative medicine in modern maternity care

It has been identified that women are making an active choice to incorporate complementary and alternative medicine (CAM) – a range of products and treatments not traditionally associated with the medical profession or medical curriculum (Adams et al., 2003; Sibbritt et al., 2005) – within their pregnancy and birth care regimes (Forster et al., 2006; Adams and Tovey, 2008; Adams et al., 2009; Adams et al., 2011a, 2011b; Steel et al., 2012). The use of CAM within pregnancy is considerable, with prevalence rates reported between 20% and 60% (Adams et al., 2009), and an emerging body of literature highlights a range of CAM practitioners (Adams et al., 2009; Bishop et al., 2011; Sibbritt et al., 2011; Steel et al., 2012) as contributing to the support of women throughout pregnancy and birth. The reason for this pattern of use has been linked to attempts to minimise obstetric interventions (Lane, 2008) or to replace lifestyle behaviours discouraged during pregnancy (Furber et al., 2009).

Outcomes of CAM use in pregnancy

A recent Australian study identified two of the most dominant CAM practitioner groups consulted by women for pregnancyrelated health conditions were chiropractors (16.3%) and meditation/yoga teachers (13.6%) (Steel et al., 2012). Practitioners from both of these groups make claims of clinical effectiveness and safety of their treatments regarding the provision of care to pregnant women which are based upon their practice philosophy. Chiropractic practitioners propose chiropractice during pregnancy enhances the nervous system function of the mother and that this promotes the health potential for both mother and infant. It is also claimed that by establishing balance through the pelvis via chiropractic manipulation, the birth canal becomes optimised. Proponents of chiropractice for pregnant women argue that women who receive chiropractic treatment during pregnancy should avoid pregnancy complications and labour difficulties (e.g. breech position, intrauterine constraint, dystocia) (Ohm, 2001).

Yoga represents a number of diverse approaches and traditions originating from India but as a whole it is reported to assist individuals to manage their health using a number of therapeutic tools. These include asanas (postures), pranayama (breath work), mudras, relaxation, dietary advice (including vegetarian dietary choices), and lifestyle counselling and self-development guidance (Yoga Australia, 2012). Yoga proponents argue that the mind-body element of yoga surpasses other forms of exercise for pregnant women to bring focus to the woman's breath, energy and self and that this promotes health for the woman (Collins, 1998). Practitioners providing antenatal yoga classes claim women who practise antenatal yoga have a more positive pregnancy and birth

experience and are more equipped to cope with the challenges of labour (Swann, 2004). The recommended postures used in antenatal yoga are argued to promote optimum birth positioning and reduce labour pain in early labour (Swann, 2004).

Despite the claims made by CAM practitioners, there is limited clinical evidence for the effectiveness of CAM in pregnancy (Phillips and Meyer, 1995; Mantle, 1997; Parsons et al., 1999; Simpson et al., 2001; Halberstein et al., 2007; Beddoe et al., 2009; Drobbin and Welsh, 2009; Ensiyeh and Sakineh, 2009; Furber et al., 2009; Reis, 2011; Adams et al., 2012), and non-CAM clinicians have outlined concerns regarding the safety of some CAM use by pregnant women (Gaffney and Smith, 2004: Adams, 2011: Adams et al., 2011a. 2011b). A number of these safety concerns are supported by available research (Tiran, 1996; Borrelli et al., 2005; Mills and Bone, 2005; Narendran et al., 2005; Borggren, 2007; Dugoua et al., 2008; Smith and Cochrane, 2009; Bornhoft and Mattheissen, 2012). Given the prevalence of CAM use by pregnant women, the potential safety issues, and the debate surrounding the integration of these medicines in maternity care, rigorous research identifying potential effects of CAM use on women's birth outcomes is required (Adams, 2011). Unfortunately, previous research has focused primarily upon health conditions associated with pregnancy, and there is very little indication of the impact of the use of CAM in pregnancy on birth outcomes. In response to this important gap, the study presented here provides the first examination of CAM use and birth outcomes drawing upon a large nationally representative sample.

Methods

The study sample was obtained via the Australian Longitudinal Survey on Women's Health (ALSWH). The ALSWH is a longitudinal study of women in three age groups ('young', 'mid age' and 'older') who were randomly selected from the national Medicare database. Respondents have been shown to be broadly representative of the national population of women in the target age groups (Brown et al., 1999). The present study is based on the 'young' cohort, comprising 8012 women who were aged 31-36 years in 2009. The study sampled a sub-group of women from the 'young cohort' who indicated in the general ALSWH survey for that cohort administered in 2009 (called 'Survey 5') that they were pregnant or had recently given birth (n=2445). These women were invited to participate in the sub-study by completing an additional survey which was administered in 2010. Women were asked to report their use of CAM without identifying the purpose for their use in Survey 5. However, the sub-study survey specifically requested details of CAM use for pregnancy-related health conditions and included a more extensive list of CAMs. This study presents the findings from the analysis of data from both Survey 5 and the additional sub-study survey. Ethics approval or the sub-study was gained from all institutions involved (see Details of Ethics Approval).

Demographic characteristics

The women were asked about their age, area of residence, number of children, marital status, highest educational qualification attained, health insurance cover and financial situation.

Medical history

The women were asked details of their birth outcomes from previous pregnancies, diagnosed health conditions and health symptoms (both general and pregnancy-related). Women were also asked to provide details of their use of pharmaceutical pain relief in labour for their most recent pregnancy.

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