European Journal of Obstetrics & Gynecology and Reproductive Biology 181 (2014) 251–255

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

Complementary and alternative medicine use during early pregnancy

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ARTICLE INFO

Article history:
Received 24 June 2014
Received in revised form 23 July 2014
Accepted 7 August 2014

Keywords:
Antenatal
Complementary therapies
Herbal medicine
Pregnancy
Views and experiences

ABSTRACT

Objective: To determine the prevalence and explore predictors of Complementary and Alternative Medicine (CAM) use during early pregnancy.
Study design: A questionnaire survey of pregnant women (500) attending for mid trimester scan at the maternity services in Grampian, North-East Scotland. Outcome measures included; CAM used; vitamins and minerals used; independent predictors of use; views and experiences. Descriptive and inferential statistical analysis.
Results: The response rate was 66%. Two thirds of respondents (63%) reported using CAM, excluding vitamins and minerals, during early pregnancy. Respondents reported using a total of 28 different CAM modalities, of which oral herbal products were the most common (37% of respondents, 25 different products). The independent predictors of CAM use identified were: use by family and friends (OR 4.1, 95% CI 2.3–7.3, $p < 0.001$); ethnicity (non-white British) (OR 3.4, 95% CI 1.8–6.8, $p < 0.001$); and use prior to pregnancy (OR 2.4, 95% CI 1.2–4.8, $p = 0.014$). In comparison to prescribed medicines, most users were uncertain if CAM were safer (63%), more effective (66%), free from possible adverse effects (46%) or drug-CAM interactions (50%).
Conclusions: Despite the majority of respondents being uncertain about their safety and effectiveness, CAM modalities and CAM products are widely used during the early stages of pregnancy in this study population. The role of family and friends rather than health professionals in the decision to use CAM may be of concern and requires further investigation.

Introduction

The World Health Organisation defines complementary and alternative medicine (CAM) as a 'broad set of health care practices that are not part of that country's own tradition and are not integrated into the dominant health care system' [1]. CAM approaches are diverse and include modalities such as herbal and homeopathic therapies, acupuncture, aromatherapy, Reiki, Shiatsu and yoga [2]. While few CAM approaches are supported by robust efficacy, effectiveness or safety data [3–5] use is widespread, with women reportedly the major users both in health and disease [6]. Although CAM modalities have been used for centuries and exponents of CAM cite this as evidence of safety, there is a real lack of scientifically valid safety and efficacy data. These issues may be of a particular concern during the early stages of pregnancy and fetogenesis, a time during which several herbal products have been associated with both maternal and foetal harm [7–9]. In the UK the precautionary approach to the use of CAM during pregnancy was reinforced in 2008 following guidance from the National Institute for Clinical Excellence (NICE Recommendation ID 195, CG62), which stated "Pregnant women should be informed that few complementary therapies have been established as being safe and effective during pregnancy. Women should not assume that such therapies are safe and they should be used as little as possible during pregnancy".

Since 2008, over 20 surveys from Europe, the Americas, Asia, Australia and Oceania, and Africa have reported on the prevalence of CAM use by pregnant women, (10–33) as highlighted in a recent

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http://dx.doi.org/10.1016/j.ejogrb.2014.08.017
0301-2115/

systematic review [34]. Thirteen of these studies reported on more than one CAM modality, a further nine studies focused on herbals only and the remaining two on herbals and vitamins. Reported prevalence rates ranged from 5.8% to 74.2% in two separate studies conducted in the USA [20,23]. This wide variation is attributed to many factors including lack of or inconsistent CAM definition, differences in culture and ethnicity, and study design. Although all studies assessed CAM use during pregnancy, only nine reported on CAM usage and stage of pregnancy [11,12,16,18,19,22,23,27–30]. The link between stage of pregnancy and CAM use remains unclear, with five studies [11,12,19,21,30] reporting highest use during the latter stages, and three highest use during the early stages of pregnancy [16,18,24].

While the majority of studies quantified associations between demographic variables and CAM use during pregnancy, [11,13–21,23–25,27–31] less than half used a multivariate approach to identify independent predictors [13,18,23,25,27–30,33]. Predictors included: use of CAM prior to pregnancy [13,21,28,33], higher educational attainment [18,19,21,32,33], presence of chronic disease/prescribed medication [21,25,29], ethnic background/nationality [14,21], higher income [14] and age [28]. A major limitation of the majority published studies is the use of postnatal data collection to assess CAM use throughout the whole of pregnancy. There is a lack of UK data describing CAM use during early pregnancy, and a number of reasons limiting the generalizability of published data to UK populations and practice. These include: inconsistency in CAM definition and scope of CAM, clear cultural influences on CAM use and the dynamic nature of popular CAM use. Therefore the aim of this study was to determine the prevalence and explore predictors of CAM use during early pregnancy in a UK population.

Materials and methods

The subjects were women attending for their mid-trimester (18–21 weeks) scan at the Royal Aberdeen Maternity Hospital, North-East Scotland. With an expected response rate of 40%, 500 questionnaires were distributed over a two month period during 2012 to achieve a minimum of 217 responses, calculated to be the appropriate sample size with a margin of error of 5% and a confidence interval of 95%.

A pilot questionnaire was developed from the published literature reporting the use of CAM by pregnant women [10–33]. CAM in our study was defined as the diagnosis, treatment and prevention of illness by various practitioners using therapies such as herbal and homeopathic products, acupuncture, aromatherapy, chiropracty, vitamins and minerals and certain food products. Furthermore as a prompt the questionnaire contained an extensive list of specific CAM modalities and products. The questionnaire content and structure was reviewed for face and content validity by four individuals with experience in the care of pregnant women and associated research, followed by piloting in a random sample of 20 pregnant women, who were excluded from the full study. Minor modifications were made to the questionnaire post piloting.

The final questionnaire contained four sections comprising: health and medication use during pregnancy (4 items); personal use of CAM therapies (7 items, extensive checklist of CAM modalities and products); attitudes toward CAM use during pregnancy (6 items); and demographics (5 items). Questions were a mix of closed and Likert statements. The questionnaire, together with a study invitation letter, information leaflet and reply paid envelope, was distributed at the screening clinics. As the questionnaire was anonymous no reminders were issued.

Data were coded and entered into an SPSS database (SPSS Inc., Cary, NC version 21.0) and analysed using descriptive statistics to profile respondents. Chi-square was used to test association between variables (e.g. age, level of education, ethnic origin etc.) and CAM use in pregnancy. Variables identified as significant in univariate analysis were entered into binary logistic regression. p Values <0.05 were considered statistically significant.

This research was approved by NHS North of Scotland Research Ethics Committee and NHS Grampian Research and Development Committee on 27th June 2011(REC 11/AL/0094).

Results

Of the 500 questionnaires distributed, 332 were returned, giving an overall response rate of 66%. Respondent demographics are reported in Table 1. The majority were Caucasian, aged over 25 years, and reported a university education.

Two thirds of respondents (63%) reported using CAM (excluding vitamins and minerals) during the early stage of pregnancy. Vitamins and minerals were also used by 73% of respondents. Almost one quarter of respondents (23%) reported using CAM prior to becoming pregnant, of whom one third (37%) stopped on becoming pregnant. Respondents reported using a total of 28 different CAM modalities of which herbal products were the most commonly used by over a third of respondents.

The CAM modalities used, the proportion using, recommender (e.g. health professional, family, friend) and the medical indications for use are reported in Table 2. The specific herbal products, recommenders and medical indications for use are reported in Table 3. Twenty-five different herbal products were reported, of which the six most frequently used were: ginger (beyond cooking), cranberry, chamomile, raspberry tea/capsules, tea tree oil and senna.

The recommendations to use CAM modalities and products during the early stage of pregnancy were principally made by family and friends and midwives. Midwives were more frequently cited by respondents as recommending approaches such as massage, reflexology and homeopathy, while family and friends were more frequently cited for herbals, yoga, reiki and hypnosis.

CAM users were significantly more likely to have used CAM prior to becoming pregnant ($p < 0.0001$), have family and friends who use CAM ($p < 0.0001$), to have a university education ($p < 0.001$), and to be non-white British ($p < 0.001$). However in

Table 1
Respondent demographics ($n = 332$), *missing values, percentages rounded up or down to two significant figures.

	% (n)
Age (years)	
15–24	13 (43)
25–34	66 (220)
≥35	21 (69)
Living circumstances	
With spouse, partner	83 (277)
Other	17 (55)
Education	
University	52 (172)
College	29 (97)
Secondary school	19 (63)
Ethnic origin*	
White British	80 (260)
Other	20 (64)
First pregnancy	46 (151)
Existing medical conditions	27 (91)
Asthma	12 (39)
Diabetes	3.9 (13)
Hypertension	3.6 (12)
Depression	3.0 (10)
Epilepsy	0.3 (1)
Others	11 (36)
Concurrent prescribed medication	45 (150)