Women and Birth 28 (2015) 54–59

Contents lists available at ScienceDirect

Women and Birth

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

ORIGINAL RESEARCH – QUANTITATIVE

How pregnant women learn about foetal movements: Sources and preferences for information

Annie McArdle [a,b,*], Vicki Flenady [b], Jocelyn Toohill [a], Jenny Gamble [a], Debra Creedy [a]

[a] Griffith Health Institute, School of Nursing & Midwifery, Griffith University, University Drive, Meadowbank, Queensland 4131, Australia
[b] Mater Research Institute, University of Queensland, Aubigny Place, Mater Health Services, Raymond Tce, South Brisbane, Queensland 4101, Australia

ARTICLE INFO

Article history:
Received 22 August 2014
Received in revised form 3 October 2014
Accepted 7 October 2014

Keywords:
Antenatal care
Antenatal education
Maternal knowledge
Foetal movement
Stillbirth

ABSTRACT

Background: Unexplained late gestation stillbirth is a significant health issue. Antenatal information about foetal movements has been demonstrated to reduce the stillbirth rate in women with decreased foetal movements. Midwives are ideally placed to provide this information to women.
Aim: To investigate pregnant women's perceptions of information about foetal movements and preferences for receiving information.
Methods: This prospective, descriptive study was conducted in the antenatal clinic of a large metropolitan maternity hospital.
Findings: Pregnant women (n = 526) at 34 weeks gestation or later were recruited. Only 67% of women reported receiving information about foetal movements. Women reported that midwives (80%), family (57%), friends (48%) and own mother (48%) provided this information. Midwives were the most preferred source of information. Around half (52%) of the women used the internet for information but only 11% nominated the web as their preferred information source.
Conclusion: Women prefer to be given as much information about foetal movements as possible. Women favour information from health professionals, mainly from a midwife. Midwives are well-placed to partner with pregnant women and give them unbiased and evidenced based information enabling them to make decisions and choices regarding their health and well-being. While the internet is a prevalent information source, women want to be reassured that it is trustworthy and want direction to reliable pregnancy related websites.

1. Introduction

Stillbirth continues to be a prevalent health issue for families, midwives, and other health professionals with 1:130 women of 20 weeks gestation or more having a stillborn baby.[1] Stillbirth is devastating for parents and their families and is associated with psychological, physical, social short and long term adverse effects including depression, anxiety, increased maternal morbidity, suicidal ideation, family disorientation, and social isolation.[2] Stillbirth is difficult to predict or prevent.[3] Maternal perception of a change in her baby's movements is associated with an increased risk of stillbirth and therefore could potentially alert women to seek care to reduce the risk.[4,5] Research into decreased foetal movements has been identified as a priority area for the prevention of stillbirth.[6] General antenatal education about foetal movements reduces the time from recognising a decrease in foetal movement to seeking healthcare advice and preliminary data suggests that it may reduce stillbirth rates.[7,8]

There is relatively little information about the role of health professionals in educating women about foetal movements. Midwives, obstetricians and other health professionals should routinely provide pregnant women with advice and information about pregnancy related issues including foetal movements, and that this topic should be revisited in the third trimester of pregnancy.[9,10] However, the effectiveness of this education and advice is rarely documented. There are few reports on the extent to

* Corresponding author at: Mater Research Institute, University of Queensland, Aubigny Place, Mater Health Services, Raymond Tce, South Brisbane, 4101, Australia. Tel.: +61 07 3163 8638; fax: +61 07 3163 2549; mobile: +61 0410 194 366.
E-mail addresses: annie.mcardle@mater.org.au (A. McArdle), vicki.flenady@mater.uq.edu.au (V. Flenady), J.Toohill@griffith.edu.au (J. Toohill), J.Gamble@griffith.edu.au (J. Gamble), D.Creedy@griffith.edu.au (D. Creedy).

http://dx.doi.org/10.1016/j.wombi.2014.10.002
1871-5192/

which mothers' perception of decreased foetal movements is emphasised or if women assimilate the information and recognise foetal movements as important. Levy suggested that some midwives judge if women are capable of assimilating certain knowledge about events that may or may not occur in the pregnancy and withhold or trivialise the information if they consider that it may cause concern for a particular woman.[11]

As part of a study exploring pregnant women's knowledge of foetal movements our aim was to investigate sources pregnant women used to acquire information about foetal movements and their preferences for receiving this information.

2. Method

2.1. Design and setting

This prospective, descriptive study used a self-report survey. The study site was a large urban tertiary hospital. Governance and ethics approval was obtained from the Human Research Ethics Committees of the study hospital and Griffith University.

2.2. Participants

A sample size calculation was undertaken prior to study recruitment, resulting in a requirement for 404 participants assuming a 95% confidence interval (CI) would be used to present the results of the primary analysis (proportion of women with some knowledge of foetal movements and decreased foetal movements) with a minimum correct proportion of 50% and CI width of 10%. Women who were 16 years of age or older, at least 34 weeks gestation, able to understand/read English or had access to an interpreter, and able to give informed consent were invited to participate. From December 2011 to March 2012, a total of 648 women attending the antenatal clinics for their routine pregnancy care were approached to participate in the study. Of these, 526 women were recruited yielding an overall response rate of 81.2%.

2.3. Survey content and development

The survey was developed from a review of the literature on studies that explored women's knowledge of foetal movements.[12,13] Some studies asked women about where or how they prefer to obtain their information, but not in relation to foetal activity specifically.[12,14–17] The survey form included multiple choice options for sources of information and preferences, with some open ended questions to allow women to voice their opinions or make comments important to them. Specific demographic information was collected to analyse the effect, if any, of these characteristics on sources of information and preferences.

The survey was reviewed by an expert panel comprising of a research midwife, two obstetricians (from the Australian and New Zealand Stillbirth Alliance), and representatives from two maternity consumer groups – SANDS and Maternity Coalition. The expert panel commented on the appropriateness, length and clarity of questions. The survey was piloted with 10 pregnant women and proved to be understandable and easy to complete.

2.4. Procedure

Health records of women attending the antenatal clinic were reviewed for potential eligibility before being approached by the researcher and invited to participate. Participants were given written information and a verbal description of the study and asked to provide written consent. Participants completed the written survey while waiting for their clinic appointment. Although it is commonly assumed that completing a survey implies consent, it was a requirement of the Ethics Committee that each participant provide written consent.

2.5. Data analysis

The commercial product Remark Office OMR (65) was used to export raw data from the survey into the Statistical Package for the Social Sciences (SPSS)[18] via a purpose built Access database minimising data entry errors. No identifiable details (such as patient hospital identification number, name, address or birth date) were collected on the survey; however a study identification code was used to enable the collection of demographic and descriptive characteristics from the electronic data collection tool used at the hospital.

Data analysis was undertaken using SPSS (version 15.0) statistical software obtaining descriptive statistical analyses of the variables. Categorical variables were described as percentages and frequencies, and continuous variables were calculated using mean, mode and standard deviations. Relationships between maternal demographics were examined using chi-square analyses. Statistical significance was set at $\alpha = 0.05$. Content analysis was used to categorise written comments provided by women.

3. Findings

The demographic characteristics of the 526 participants are presented in Table 1. In comparison to the Queensland and Australian populations of pregnant women there were fewer young women in the study group probably because the hospital has a specialised Young Women's Clinic that is conducted off site and therefore not accessible to the research team. As well almost one fifth of the sample were women from diverse cultures (such as Pacific Islanders, Maori, Afghani, Middle Eastern, African, Indian, South American, Nepalese and Pakistan) in both the study and hospital populations because of a dedicated Refugee Clinic conducted at the hospital.

The mean age of participants was 30.5 years (SD 5.4). There were approximately equal proportions of nulliparous ($n = 246$, 46.8%) and multiparous women ($n = 280$, 53.2%). Two-thirds of women were Caucasian ($n = 357$, 67.9%). Most women had completed 12 years or more of education ($n = 442$, 84.0%). Because of the small numbers in some groups, education levels were collapsed into three categories – less than or equal to 10 years of education ($n = 56$, 10.6%), 11 and 12 years of education ($n = 161$, 30.6%) and tertiary education ($n = 308$, 58.6%).

3.1. Information about foetal movements

Around two-thirds of women ($n = 327$, 62.2%) recalled receiving information about normal foetal movements from their main healthcare provider. Women receiving midwifery group practice care or midwifery model of antenatal care were more likely to report receipt of information on foetal movements from their caregiver than women using GP shared care or an obstetrician/midwife care at the MMH antenatal clinic (see Table 2). Nulliparas were more likely to report receiving information than multiparas. Other maternal characteristics showed no significant differences within or between groups.

3.2. Sources of information

Most study participants received their information about foetal movements from their midwife (79.8%), while 55.1% of participants also received information from their GP, the internet (51.9%), their mother (47.9%) and other family and friends (54.7%).