A quantitative longitudinal study to explore factors which influence maternal self-efficacy among Chinese primiparous women during the initial postpartum period

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ABSTRACT

Background: parenting during infancy is highly problematic for Chinese primiparous women. As an important determinant of good parenting, maternal self-efficacy (MSE) should be paid more attention by researchers. At present, the limitations of previous research about MSE during infancy are that the factors which influence MSE remained poorly explored, there were few studies with Chinese women, and the studies did not consider the effect of different cultures.

Objectives: to explore factors which influence MSE in primiparous women in China in the first three months postnatally.

Methods: a quantitative longitudinal study using questionnaires was conducted. In total, 420 Chinese primiparous women were recruited in obstetric wards at three hospitals in Xiamen City, Fujian Province of China. Initial baseline questionnaires to measure socio-demographic and clinical characteristics were distributed to participants face-to-face by the researcher on the postnatal ward at three days postnatally. Follow-up questionnaires at six and 12 weeks postnatally were sent via e-mail by the researcher to participants, including the Self-efficacy in Infant Care Scale (SICS), the Edinburgh Postnatal Depression Scale (EPDS) and the Postpartum Social Support Scale (PSSS) to measure MSE, postnatal depression symptoms and social support, respectively. These were returned by participants via e-mail. Quantitative data were analysed using SPSS.

Results: the variables: social support, women's satisfaction with 'Doing the month', postnatal depression, maternal education, baby health, and maternal occupation had an influence on MSE at six weeks postnatally (Adjusted $R^2 = 0.510$, $F = 46.084$, $P < 0.01$); and the variables: postnatal depression, social support, baby health, women's satisfaction with 'Doing the month', and baby fussiness were the factors influencing MSE at 12 weeks postnatally (Adjusted $R^2 = 0.485$, $F = 41.082$, $P < 0.01$).

Conclusions: obstetric nurses and women's family members need to be aware of the significant contribution of social support, women's satisfaction with 'Doing the month' in positively influencing primiparous women's MSE, and the significant effect of postnatal depression symptoms in negatively impacting on first-time mothers' MSE; they should pay more attention to primiparous women with less education, unemployed mothers, women with unskilled occupations, women with an unhealthy baby, and women with a baby with a difficult temperament to improve their comparatively lower MSE levels during the initial postnatal period.

Introduction

With its huge total population, 1.40 billion (WHO, 2015), China has 860 million women and children, the largest number in the world. Since the implementation of the one-child policy during the past three decade, more than half of Chinese parturient women are primiparous and lack previous parenting experience. Researchers have found that there are many parenting problems during infancy for Chinese primiparous women, including negative mother–infant interactions and difficulty with parenting tasks (Pan and Bao, 2006). Competent
parenting is extremely important for infants during this early stage of childhood. If appropriate and positive parenting cannot be provided during infancy, children may experience intellectual, behavioral, and emotional problems, which may negatively affect their wellbeing in the future (Çalsır and Karaçam, 2011).

Maternal self-efficacy (MSE) is the belief a mother holds about her capabilities to organise and execute a set of tasks related to parenting a child (Montigny and Lacharite, 2005). Strong evidence highlights that MSE is a significant determinant of good parenting, and is associated with a variety of outcomes for mothers' wellbeing and their children's development (Haslam et al., 2006). Therefore, as an important predictor of parenting, MSE should be paid more attention by researchers. However, the critical limitations of previous international research on MSE during infancy are that most studies were conducted with a homogeneous sample, and there was a lack of consideration for the effect of different cultures (Zheng et al., 2015). Furthermore, the factors influencing MSE have still been poorly explored. For example, some research had a small sample size (Porter and Hsu, 2003; Kohlhoff and Barnett, 2013), only focused on one time point (Shorey et al., 2015; Azmoude et al., 2015) and only related to a few characteristics of mothers or their children (Biehle and Mickelson, 2011; Shorey et al., 2015).

According to the process model of parenting by Belsky (1984) and the results of a literature review (Salonen et al., 2009; Denis et al., 2012; Shorey et al., 2014, 2015), the potential factors influencing MSE could be divided into maternal variables, infant variables and social contextual variables. The maternal variables which may influence MSE included maternal age (Tarikka, 2003), educational level (Jackson, 2002), employment status (Koniak-Griffin et al., 2006), mode of birth (Loto et al., 2010), postnatal depression (Salonen et al., 2009), parenting experience (Ngai et al., 2011), and the number of children (Shorey et al., 2014). Infant variables included infant gender (Kohlhoff and Barnett, 2013), infant health (Salonen et al., 2009) and infant temperament (Denis et al., 2012). Social contextual variables included social support (Leaky-Warren et al., 2012) and family income (Shorey et al., 2015). Furthermore, Ngai et al. (2011) recommended that it was necessary to consider the effect of culture on MSE, such as the traditional practice of ‘Doing the month’ in China. However, conflicting evidence about whether these factors affected MSE or how they affected MSE has been presented in the literature (Zheng et al., 2015).

It was noted that ‘Doing the month’ has derived from Chinese Traditional Medicine beliefs of the Yin-Yang principle. If Yin and Yang are in balance, one will be in good health; otherwise an imbalance will result in poor health. During the postnatal period, it is acknowledged that a woman is in a state of extreme imbalance towards Yin, a weakened condition (Chu, 2005). Consequently, she should avoid adding more Yin into her body, such as contact with wind, cold water and eating cold food. On contrast, she needs to eat more Yang-related, hot protein-rich foods that help to strengthen her body, such as fish soup and sesame oil chicken. Apart from dietary measures, in order to recover energy lost from childbirth and reduce the likelihood of developing illness, women are asked to have complete rest at home, avoid any physical work and are usually accompanied by mother-in-law or their mother for support (Zheng et al., 2013).

There was one paper published in Chinese which related to the factors influencing MSE for Chinese women in mainland China (Zang and Shen, 2010). However, its sample only focused on well-educated, high-income women in Beijing, and the factors influencing MSE were not explored thoroughly. Furthermore, it did not refer to the Chinese postnatal culture of ‘Doing the month’ with potential effects on Chinese primiparous women’s MSE (Ngai et al., 2011). Therefore, this quantitative longitudinal study was conducted to thoroughly explore the factors influencing MSE among Chinese primiparous women in mainland China, taking into consideration of ‘Doing the month’ during the first three months postnatally.

**Method**

**Design**

The quantitative longitudinal study was conducted to thoroughly explore the factors which influence MSE in primiparous women at six and 12 weeks postnatally in China.

**Setting and recruitment**

This study took place on the obstetric wards of three hospitals, located in Xiamen City, Fujian Province in South-East China. There were 90–100 beds and approximately 2000 annual live births in the obstetric wards in each study hospital.

Recruitment was conducted from June to July 2013. After obtaining all of the research permissions, an introductory presentation of this study was offered to all nurses in the three hospitals. Posters and leaflets were strategically distributed within the obstetric wards to inform all women and their family members once they were admitted to the three hospitals. All potentially eligible women were invited to participate if they fulfilled the inclusion criteria, which were: 1. Being postnatal women, aged 18 years or over; 2. Having a healthy full-term live infant (37–42 weeks gestation at birth, weight 2500 g or more, Apgar score > 7, without any deformity and disease); 3. Living in the Xiamen area; 4. Having the ability to speak, read and write in Mandarin. Exclusion criteria were: 1. Women whose baby was seriously ill or died; 2. Women with a severe physical or mental illness. The researcher contacted and approached eligible postnatal women as early as possible after childbirth, gave them an information sheet, and answered their questions about the research. The researcher acquired participants’ written informed consent before data collection.

It is recommended that five to 10 participants per independent variable would be a suitable size to ensure stable test parameters in a multivariate analysis (Wang, 2003). This study used multivariate analysis, and the numbers of the independent variables that potentially influence MSE were estimated up to 20. Therefore, the maximum sample size of this study could be 200. Evidence from previous studies undertaken in China showed that an average attrition rate at one time point was approximately 27% when using email or mail (Zang and Shen, 2010). Since at six weeks and 12 weeks postnatally, collecting data was by e-mail or mail in this study, it was conservatively estimated to be at a 30% loss to the follow up at every time point (70% response rate at the first time point of follow up and 49% response rate at the second time point of follow up), so the predetermined recruited sample size was 200/49% = 410.

**Data collection**

**Instruments and variables**

A baseline questionnaire was designed by the researcher to gather participants’ socio-demographic and clinical data on maternal age, educational level, occupation, marital status, family income, mode of birth, whether women attended parenting training, baby gender, baby health scores (baby health status by their mothers’ self-report), baby fussiness scores (a baby with a difficult temperament such as irritability and low soothability and manageable by their mothers’ self-report), and how satisfied women were with the experience of ‘Doing the month’.

MSE was measured by the Self-efficacy in Infant Care Scale (SICS) (Prasopkittikun and Tilokskulchai, 2010). The revised version of SICS is composed of 46 items and four dimensions of self-efficacy in infant care: developmental promotion, general health care, safety, and diet. The response scale representing the strength of self-efficacy uses the 0–100 confidence continuum. The scale is scored by summing the numerical ratings for each task and dividing by the number of tasks.
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