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Descriptive title: Maternal role development following childbirth

Short title: Maternal role development

Abstract

Aim

This paper is a report on the examination of demographic, birthing and social correlates of maternal role development in childbearing women.

Background

Successful adaptation to the maternal role provides a mother with confidence and satisfaction in her ability to nurture and care for her infant. Despite the importance of this developmental process for maternal well-being, little attention has been given to social and demographic predictors of positive role development in recent years.

Methods

A prospective study was undertaken at three publicly-funded metropolitan antenatal clinics in Queensland, Australia between March and November 2003. A total of 605 women completed a survey at 36 weeks gestation and 12 weeks postpartum, with a response rate of 78% (n = 473). A self-report questionnaire was used to collect data about personal and birth variables, domestic violence, social support and maternal role development.

Findings

The majority of women (81%) were of White ethnic background, modal age was 30-45 years (40%, n = 189) and 66 percent (n = 312) were in paid employment. Bivariate analysis identified age, marital status, length of relationship and social support to be statistically significantly associated with maternal role development. Optimal scaling showed social support to be the most important factor in maternal role development.

Conclusion

Maternal role development following childbirth is complex and can be adversely affected by older maternal age, married status, inadequate social support and short

partner relationships. A deeper understanding of this process is needed if healthcare

professionals are to assist mothers in making a smooth transition to motherhood.

SUMMARY STATEMENT

What is already known about this topic

- Maternal role development is an important and progressive learning process for childbearing women that starts during pregnancy and continues after childbirth, when the infant plays a pivotal role.

- Maternal role development was investigated extensively several decades ago, but its validity in today's context has not been evaluated, despite many social changes in Western countries.

- There is little known about factors influencing the maternal role experience for women today.

What this paper adds

- Maternal role development can be adversely affected by older maternal age, married status, inadequate social support and short partner relationships.

- Social support is the most important factor influencing maternal role development in childbearing women.

- Maternal role development for many women is not a trouble-free process but an intensive activity that has psychological, physiological and relational effects.

INTRODUCTION

Transition to motherhood is an important process in the lives of women. During this time a woman makes physical, psychological and social changes while integrating her sense of self as a mother, and in relationship to her new infant. The concept of maternal role development (MRD) was first proposed by Rubin (1967a, 1967b) and has now become established in midwifery literature. MRD involves conceptualisation and enactment of a responsive mothering role and is demonstrated through the establishment of a new identity and maternal behaviours (Rubin 1984, Mercer 1985a). Role development in relation to motherhood is progressive, commencing during pregnancy and continuing after childbirth when the infant plays a pivotal role (Rubin 1967a, Rubin 1967b). According to Rubin (1984), successful adaptation to the role provides a mother with confidence in her ability to nurture and ensure her infant's physical, emotional, behavioural and social development.

Drawing on related theory and research in the last 30 years, a recent review identified evolution in the MRD process (Mercer 2004). Trends in childbearing have changed, together with the social profile (cross-section of social structure) of childbearing women particularly in developed Western countries (Ronsen and Sundstrom 2002, Australian Bureau of Statistics 2003b, US Census Bureau 2005). However, there is limited knowledge on how these social changes have affected MRD.

Most women look forward to their new role as mother, despite knowing that it will change their lives dramatically. Successful adjustment leads to satisfaction in the mothering role that can be expressed through self-confidence, self-esteem,

competence, mastery and role gratification (Mercer 1985b, Mercer and Ferketich 1994, Kiehl and White 2003). Dissatisfaction occurs when there is difficulty in maternal functioning (Tulman and Fawcett 1991, Troy 1999), role strain (Ehrmin 2001) and depression (Fowles 1998). Children of women who experience difficulties adjusting to motherhood may experience failure to thrive, abuse, neglect and impaired cognitive development (Murray and Cooper 1997, Logsdon et al. 2006). For healthcare professionals to better assist mothers in their MRD, there is a need for greater understanding of influencing factors within the changing social profile of childbearing women and the effect of social factors on maternal role in current contexts.

BACKGROUND

Extensive studies from the late 1960s to 1980s have informed our conceptualisation of MRD (Rubin 1984, Mercer 1995). This time period, however, reflects social conditions when traditional family units were the norm and women predominantly stayed at home, and were responsible for childcare and the household (de Vaus 2004). However, the social profile of childbearing women has changed, with postponement of first births (Ronsen and Sundstrom 2002, US Census Bureau 2005), increased participation in the workforce (Australian Bureau of Statistics 2003b), and variation in family patterns with more women raising families as single mothers or in cohabiting relationships than as married couples (de Vaus 2004). Investigations into how these changes may have an effect on women's MRD experiences today are scant. In two studies it has been identified that the current MRD experience is somewhat different from that reported a few decades ago. Martell (2001) demonstrated that, in the very early postpartum, primiparous women were pre-occupied with re-orientating their lives as mothers, appreciating their bodies, settling in and establishing the new family

rather than focusing on their infants, as suggested by Rubin's (1984) concepts of 'holding on' and 'holding to'. In the second study, Mercer (2004) reviewed MRD during the transition to motherhood, and proposed replacing the term 'maternal role attainment' with 'becoming a mother' to reflect new insights into the dynamic transformation and evolution of the woman's persona during the adaptation process. This new awareness is important as it takes into consideration individual circumstances, which then shape maternal role experience. Although these two papers reported changes to the MRD experience, further exploration of MRD development in the light of social and birthing variables has not taken place.

Current understanding of MRD is based predominantly on studies from the United States of America (USA). While there have been some similarities in the experience of MRD for North American women compared with other studies in Western countries with similar socio-economic standards and cultures, there have also been differences. For instance, Kiehl and White (2003) examined adaptation in the third trimester and 6 weeks postpartum among primiparous women (n = 147) in Norway, Sweden and the USA. They found some national differences, with Norwegian and US women reporting greater satisfaction with their life situations and circumstances compared with Swedish women. In a Finnish study, Tarkka (2003) sought to ascertain factors contributing to maternal competence among primiparous women (n = 248) at 8 months postpartum. The mother's state of mind, acceptance of the child, success with childcare, temperament of the child, social support and maternal age contributed to maternal competence.

In 1981, Mercer's theoretical framework provided a way of examining influencing factors associated with MRD. Factors such as age (Mercer 1985b), parity (Mercer and Ferketich 1995), obstetric risk (Mercer and Ferketich 1994) and maternal functioning (Mercer and Ferketich 1990) were identified, but changes in social trends and healthcare systems raises doubt as to the validity of these findings today (Dobrzykowski and Stern 2003). Formerly, age was found to be an important predictor of MRD, with greater gratification in the maternal role among teenage mothers (n = 43) compared to mothers in the 20-29 year old (n = 119) and 30 years and above (n = 88) groups (Mercer 1985b). However, satisfaction with mothering may have altered, as women now spend a longer time pursuing an education, career or personal life goals. Healthcare services have also changed, with higher levels of obstetric intervention in childbirth and shorter hospital postnatal stays (Roberts et al. 2000, Laws and Sullivan 2004). These changes, however, have been associated with an increased likelihood of adverse emotional outcomes for some mothers (Hickey et al. 1997, Gamble and Creedy 2005).

Mothers with limited social support are likely to have more difficulty adapting to new motherhood (Kearns et al. 1997, Willinck and Cotton 2004). Social support provides essential resources and facilitates change for new mothers (Meleis et al. 2000). Those most at risk of poor social support include women without partners and those from low income, ethnic minority and recent immigrant groups (Barclay and Kent 1998, Logsdon et al. 2000). Certain social circumstances (such as social isolation, limited financial resources, and short unstable relationships) may place some women at greater risk of intimate partner violence during pregnancy and following childbirth (Webster et al. 1994, Gielen et al. 1994, Hedin and Olafson 2000). Understanding the

effect of these factors is critical to MRD if midwives and other professionals are to provide support and promote confidence in mothers (Warren 2005).

THE STUDY

Aim

The aim of the study was to examine demographic, birthing and social correlates of maternal role development in childbearing women.

Design

A prospective correlational design was adopted, using questionnaires for data collection.

Participants

The participants were pregnant women attending one of three publicly-funded antenatal clinics in Queensland, Australia. The majority of women in Australia (60%-70%) receive care in the public sector (Australian Bureau of Statistics 2003a). The predominant model involves shared care between the woman's general practitioner and hospital maternity team (obstetricians and midwives) (Lombardo and Golding 2003). The aim of shared care is to provide improved continuity, quality and coordination of antenatal and postnatal care. Women generally receive care at monthly intervals until 28 weeks gestation, after which they attend fortnightly. At 36 weeks gestation (or sooner if complications arise) women attend a hospital clinic for weekly visits until they give birth. Postnatal hospital stays are usually short (3.0 days) (Australian Bureau of Statistics 2003a), with home visits from community midwives

in some places (1-2 visits) (Thompson et al. 2000), and subsequent follow-up by maternity and child health nurses or general practitioners.

Data were collected between March and November 2003. All women attending the antenatal clinics of three major public sector metropolitan hospitals in Queensland over a 4-month period were approached by the midwife researcher (E.E.) to participate in the study. Based on Rubin's (1984) notion that the responsive mothering role is different for each child, parity was not used as an inclusion /exclusion criterion. Women anticipating a full-term healthy infant and who were 18 years or older and could speak, read and write English were included in the study. Using Table 2 from Cohen (1992), with $\alpha = 0.05$, power of 0.8 and a large standardized effect size (0.8) and extrapolating from the given values, the required sample size for a multiple regression with nine independent variables was 52. A total of 605 women completed the questionnaire at 36 weeks gestation, with 12 not completing it and 14 declining to participate. At 12 weeks postpartum, a repeat postal questionnaire resulted in a response rate of 78% (n = 473). Thus, the sample size was well within the required size to perform multivariate analyses.

Data collection

The questionnaire, together with a cover letter and stamped addressed return envelope, was distributed at 36 weeks gestation and again at 12 weeks postpartum, which are customary milestones during childbearing, denoting adaptation and recovery respectively (Mercer 2004). The questionnaire sought:

- *Demographic and birthing information* were collected, including age, ethnicity, employment status, parity, marital status, length of relationship,

education level, attendance at first antenatal visit, attendance at childbirth education classes, mode of birth, length of postnatal hospital stay, intentions to breastfeed and expected duration of breastfeeding.

- The *Screening for domestic violence* instrument (Queensland Health 1999) comprises six items relating to domestic violence experiences including fear, humiliation, physical harm and feeling threatened and was included in the survey. The questions included 'Are you afraid of your husband?' and 'Has your partner hurt you?'. The instrument was tested with several women and members of a reference group for validity and relevance.

- The *Maternal Social Support Scale (MSSS)* (Webster et al. 2000) was used to assess the extent of family support; friendship network; the nature of the partner relationship regarding helpfulness, feeling loved, control and conflict. Cronbach's alpha reliability has been reported as 0.82 (Webster et al. 2000). Scores ranged from 0 to 30 with cut-off points at 0-18 (low support), 19-24 (medium support) and > 24 (high support) to establish levels of support. The variable was recoded as low, medium and high support.

- Dependent variable. The *What Being the Parent of a Baby is Like (WPL-R)* instrument (Pridham and Chang 1989) was used to measure maternal perceptions of role development. This 25-item tool assesses mothers' appraisals of their care-giving, including how well they are meeting expectations of caregiving performance; quality of relationship with the infant; and accommodating to changes that a new baby brings. This appraisal is measured by three subscales: evaluation (11 items on satisfaction), centrality (8 items on how much is the infant and its care and health on the parent's mind) and life changes (6 items of changes in the parent's life). The scores for

each item within the subscale are summed up to obtain a total subscale score, and then divided by the number of items to obtain a mean subscale score. Thus, the possible scores on each subscale is 1-10. The three components portray how a mother sees herself in the adjustment to her new role. Internal consistency has been found to be high, with α coefficients as follows: 'evaluation' (.87), 'centrality' (.88), and 'life change' (.81) at three months postpartum (Pridham and Chang 1989). All items use a 9-point rating scale of 0 = 'not at all' to 9 = 'a great deal'.

Most independent variables were collected in categorical format. Independent variables which did not have yes/no responses were categorised according to Queensland Health (2004), e.g. length of hospital stay. The continuous independent variable of age was grouped according to Queensland Health (2004) (see Table 1). The continuous independent variable MSSS score was categorised as "low", "medium" and "high" support, using the cut-offs reported by the original authors (Webster et al. 2000).

Ethical considerations

The study was approved by human research ethics committees at the university and participating hospitals. Participants received information about the nature of the study and were informed of their right to decline participation; withdraw at any time without explanation or penalty; and omit answering any questions if they wished. Face-to-face contact gave an opportunity to assess English competency, answer any concerns directly, establish rapport and obtain written consent.

Data analysis

For the purposes of this paper, analysis of data included independent variables measured at 36 weeks gestation and the dependent variable measured at 12 weeks postpartum. Data were analysed using the Statistical Package for the Social Sciences (SPSS 2005) version 14.0. The data were reviewed for completeness and consistency. Missing data were dealt with by multiple imputations for participants with less than 20% of missing data, whilst those with more than 20% of missing data were excluded (SPSS 2004). One hundred and thirty-one (21.6%) women were lost to the study after recruitment. This level of attrition was not unexpected in a project involving women already under some degree of strain coping with the demands of a new baby (Creedy et al. 2000).

Accuracy of data and computer entry was assured by comparing computerized data with the original data for a random sample (10%) of the database. Errors (<2%) were found and corrected. Univariate analysis consisted of determining the frequencies for the independent variables. Bivariate analysis with MRD involved T-tests for those independent variables that were binomial or ANOVA for multi-category independent variables.

Any independent variables statistically significantly associated in bivariate analysis with MRD at 12 weeks postpartum were entered into an optimal scaling model (Van de Geer 1993). This allowed inclusion of ordinal (maternal age groups, length of postnatal hospital stay, length of relationship, level of maternal social support) and nominal (marital status, previous birth, mode of birth, childbirth classes) independent variables in a regression model with a continuous dependent variable. A process of

manual, backward, step-wise elimination, whereby the variable with a statistical significance level closest to 1 was eliminated at each step, was carried out to construct the most parsimonious model with all variables exhibiting $p \leq 0.05$. Optimal scaling was done for each dependent variable subscale. As no pair of independent variables included in the models had a Pearson's correlation coefficient > 0.8, multicollinearity was not a problem.

RESULTS

Participant characteristics

The modal age of participants was 30-45 years (40%, n = 189). Sixty-six percent (n = 312) were in paid employment. The majority of women (81%) were of White ethnic background. Although 22 percent (n = 104) had completed ten years or less of schooling, 43 percent (n = 203) had some form of post-secondary education.

Eighty-eight percent (n =378) of women were either married or in a cohabiting relationship. Fourteen (3%) were in an 'other' relationship, where they considered themselves partnered but did not cohabit. Modal length of primary relationship was six to ten years. Ten percent (n = 47) of women had experienced some form of domestic violence in their current relationship.

Two thirds (65%) of women were multiparous and 44 percent had attended childbirth education classes. Types of delivery were spontaneous vaginal birth (63.5%), assisted vaginal birth (11.2%) and caesarean section (25.3%). Modal length of stay in hospital following the birth was 24-48 hours (41%). As can be seen in Table 1, participant

characteristics were largely consistent with population norms for the Queensland birthing population in 2003 (Queensland Health 2004).

Maternal role development

The total mean score for MRD was 23 and the subscale mean score for 'evaluation' was 8.16, 'centrality' 6.63 and 'life change' 5.5, which were all higher than that reported previously (e.g., Pridham and Chang 1989). Reliability using Cronbach's α was 0.77 for 'evaluation', 0.70 for 'centrality' and 0.76 for 'life change'.

Variables not statistically significantly associated with any MRD subscale included mother's education, ethnicity, intention to breastfeed, duration of breastfeeding, and timing of first antenatal visit.

Life change

Age was statistically significantly ($p = 0.001$) associated with 'life change', with post hoc analysis showing that those in the youngest age group (18-24 years) had statistically significantly ($p < 0.05$) higher scores (MRD = 6.7) than those in either the 25-29 years (MRD = 6.4) or the 30-45 years (MRD = 5.9) age groups. Marital status was statistically significantly associated with life change scores ($p = 0.05$), although post hoc analysis showed no differences between groups. This suggests that any difference between life change scores between groups was not high. Analysis of variance showed that length of relationship was statistically significantly ($p = 0.001$) related to 'life change' at 12 weeks postpartum. Post hoc tests showed that those in a two year or less relationship scored statistically significantly ($p \leq 0.05$) higher than those in a 6-10 year (MRD = 6.1) and more than those in the 10 year group (MRD =

5.9) relationship. Attendance at childbirth education classes was also statistically significantly (p < 0.001) related to 'life change'. Mode of birth was statistically significant (p = 0.05), with post hoc analysis not showing any statistically significant difference between groups. Length of postnatal hospital stay showed that women who stayed 3-4 days reported statistically significantly (p < 0.05) higher scores (MRD = 6.6) than those who were discharged in less than 24 hours (MRD = 5.3). Social support was statistically significantly (p = 0.001) related to 'life change', with post hoc analysis showing that those women with low social support (MRD = 6.8) scored statistically significantly (p ≤ 0.05) higher than those with high social support (MRD = 6.1). Finally, domestic violence (p = 0.02) and previous birth (p < 0.001) were statistically significantly related.

The nine variables found to be statistically statistically significant in bivariate analysis were included in an optimal scaling model: marital status (three categories-cohabiting, single and other), maternal age (3 categories), length of relationship (5 categories), previous birth (yes/no), mode of birth (four categories), childbirth education classes (yes/no), length of postnatal hospital stay (4 categories), domestic violence (yes/no), and social support (3 categories). Four of the variables were eliminated, leaving a final model for 'life change' with an adjusted R square of 0.135 as shown in Table 2.

Centrality

Age was statistically significantly (p = 0.008) related to 'centrality', with post hoc Bonferroni showing that women in the 18-24 age group had statistically significantly (p ≤ 0.05) higher scores than either the 25-29 or 30-45 age groups. Marital status was

statistically significantly related with centrality (p = 0.001). Single women (MRD = 8.0) had statistically significantly higher scores (p < 0.05) compared to married /cohabiting women (MRD = 7.4). Those with a previous birth (MRD = 7.4) had statistically significantly (p = 0.03) lower scores compared to those with no previous birth (MRD = 7.7). Analysis of variance showed a statistically significant (p = 0.004) association between 'centrality' and length of relationship. Post hoc analysis showed that women in a relationship of two years or less (MRD = 7.9) had statistically significantly (p ≤ 0.05) higher 'centrality' scores than women in relationships of 10 years or more (MRD = 7.1). Mode of birth was statistically significantly (p = 0.003) related to 'centrality'. Post hoc analysis showed that women with an assisted vaginal birth (MRD = 7.5) had statistically significantly (p ≤ 0.05) higher MRD scores than those having spontaneous vaginal birth (MRD = 7.3), or emergency cesarean section (MRD = 6.9). Social support was statistically significantly (p < 0.001) associated with 'centrality', with post hoc analysis demonstrating that scores for women with low social support (MRD = 8.1) were statistically significantly (p ≤ 0.05) higher than either for women with moderate (MRD = 7.5) or high (MRD = 7.4) social support.

The six statistically significant variables in the bivariate analysis in the second optimal scaling equation were: maternal age, length of relationship, marital status, previous birth, mode of birth and social support. Elimination of variables as a result of analysis is shown in Table 3 and resulted in a final model for 'centrality' with an adjusted R square of 0.084.

'Evaluation' was not statistically significantly related with any of the independent variables.

DISCUSSION

While the sample profile was consistent with Queensland data, only women who used the public healthcare system were recruited. It could be that privately-insured women find the transition to motherhood easier because of better support, higher levels of education, and financial resources at their disposal (Buist et al. 2004). In addition, we did not investigate possible influencing factors such as geographical location and income. Mothers from rural areas (Boyce et al. 2000) and those with low incomes may experience difficulties with MRD in the early postpartum (Logsdon et al. 2000).

The results indicate that women in shorter relationships and those with low social support reported experiencing greater changes in their lives, whilst older women reported fewer changes. In terms of health service delivery, those who had longer postnatal hospital stays (3-4 days) and those who attended childbirth education classes reported the most life changes. Women in relationships of short duration and with low social support had the highest 'centrality' scores, thus focussing more on their babies as the central point in their lives. This suggests that these women may be less able to move past preoccupation with their infants. Alternatively, it could mean that they have fewer competing demands for their attention.

The study was guided by the conceptual model developed by Rubin (1984) and Mercer (1981). Selected variables were similar to earlier studies by Mercer on influences within the social context for childbearing women. Results from the present study add to the body of knowledge on MRD largely developed in the USA. This is the first MRD study with Australian childbearing women and complements Australian

qualitative studies by Barclay and colleagues (1996, 1997) exploring maternal experiences. Our findings demonstrate positive adjustments by women, and can be seen as an adaptational response during the transition to motherhood and are consistent with other findings (Kiehl et al. 2003). Detailed comparison with other recent studies could not be made, however, because of the lack of demographic information on the different samples, focus on primiparous women, and differences in maternity leave benefits in the various countries involved. However, one can speculate that MRD for many women is not a trouble-free process (Squire 2003) but an intensive activity that has psychological, physiological and relational effects. In the present study, a wide range of demographic variables were included antenatally and postnatally, and the representativeness of the sample to the Queensland population of childbearing women was established (Queensland Health 2004). More importantly, the findings identified statistically significant relationships between MRD and variables relevant to the Australian context, such as maternal age, mode of birth, social support, length of hospital stay, length of relationship and childbirth education classes.

Comparison of MRD studies over the past 30 years is difficult because of differences in tools used to measure MRD, such as 'Myself as mother; my baby' (Walker et al. 1986). However, the MRD tool used in the present study was also used by Pridham and Chang (1989), who demonstrated lower subscale mean scores for 'life change', 'centrality' and 'evaluation'. Similarly, mean scores for MRD were higher in the present study when compared to the findings of Reece (1995), except for 'life change' scores, which were lower. It is possible that the generally higher scores in the present study may be due to women having to make greater changes in their lives compared

to mothers from previous decades. Another possible explanation for our higher scores could be related to group differences. Reece (1995) focused on primiparous women over 35 years who were, therefore, more likely to be well-established and have less need for changes in their lives. In our study, all childbearing women were included, giving a broad representation of women. It is also possible that higher scores in this study could be the result of language and cultural differences, as the MRD tool was specifically designed for women in the USA. For example, one item was phrased 'How in tune with your baby do you feel?', which is not colloquial in the Australian context and could have been interpreted as how aware the mother was of the baby.

Important factors reported in the present study were consistent with earlier MRD findings with regard to age (Mercer 1985b) and parity (Mercer and Ferketich 1995). Few researchers, however, have documented the influence of social support on MRD. Mercer and Ferketich (1994, 1995) measured social support according to obstetric risk status and parity, but omitted to mention any associations with MRD. Given the social context of childbearing women today, with financial pressures, work commitments, sense of isolation and lack of quality childcare options (Logsdon et al. 2006), evaluation of social support in the present study was considered essential. According to Rubin (1984) and Mercer (1985a, 2006), understanding the social context is key to working with and supporting childbearing women.

Inclusion of a range of variables in the present study allowed understanding of the effect of current social trends on MRD. Length of relationship, which was not identified as an important variable in previous studies, was considered essential when taking into account the less stable nature of marital relationships today (Bateson

2001). Although the majority of our participants came from relationships longer than six years, many were from relationships of less than two years. The findings demonstrated that women in short relationships worked harder at making changes in their new role as mother, compared to women in longer relationships. Shorter length of relationship may imply less readiness for pregnancy and motherhood and, therefore, require greater life changes. Lack of preparedness has been shown to make the transition to motherhood difficult (George 2005).

Length of postnatal hospital stay was associated with MRD, with mothers who stayed in hospital 3-4 days needing to make more life changes than those who stayed for less than 24 hours or 24-48 hours. This finding is inconsistent with the results reported by Hickey et al. (1997) of an increased likelihood for developing postnatal depression among mothers who stayed less than 72 hours. However, Thompson et al. (2000) found no relationship between length of stay and postnatal depression, although women who went home early were reported to be less satisfied with their length of stay.

Even with statistically significant differences reported in this study, the amount of variance accounted for in MRD ('life change' = 13.5% and 'centrality' = 8.4%) suggests that multiple other factors influence MRD. Our final models of analysis are consistent with assumptions about multiple factors influencing childbearing women's early postpartum experience (Barclay and Lloyd 1996). The amount of variance indicates that other variables not investigated in this study have a further influence.

CONCLUSION

The findings suggest that MRD is an important adaptation process in the transition to motherhood and that personal, birthing and social factors can threaten the process. They have implications for the practice of healthcare professionals by providing better understanding of factors that influence new mothers' developing maternal role within their particular social contexts. Healthcare professionals must demonstrate understanding when addressing the expectations and needs of women in their care (Mercer 2006). Women want to engage in dialogue that shows appreciation for their concerns and support (Emmanuel et al. 2001). Continuing education that includes new knowledge on MRD is important so that sensitivity to individual circumstances can take place, and women at risk of poor MRD identified, such as mothers in unstable relationships, violent relationships or with limited social support. With regard to further research, work with other cultural groups is needed to explore possible differences in MRD.

Table 1: Demographic characteristics

	Sample n (%)	Queensland data
Maternal Age		
18-24 years	118 (24.9)	23.8†
25-29 years	166 (35.1)	29.7†
30-45 years	189 (40.0)	46.3†
Marital status		
Married /cohabiting	417 (88.2)	87.4†
Single	42 (8.9)	11.1†
Other	14 (3)	1.4†
Parity		
Primiparous	166 (34.9)	40.5†
Multiparous	307 (64.9)	59.4†

†Queensland Health (2004)

Table 2: Final model for 'life change' explaining variances

Variable	Significance	Std β
Social support	p < 0.001	-0.238
Length of hospital stay	p < 0.001	0.161
Childbirth classes	p = 0.004	-0.136
Maternal age	p = 0.006	-0.128
Length of relationship	p = 0.023	-0.093

Table 3: Final model for 'centrality' explaining variances

Variable	Significance	Std β
Social support	p < 0.001	0.187
Length of relationship	p < 0.001	-0.174
Delivery mode	p < 0.001	-0.173

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