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Relationship quality for mothers of very preterm infants



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ARTICLE INFO

Article history:
Received 24 June 2015
Received in revised form 21 October 2015
Accepted 22 October 2015

Keywords: Couple relationship quality Parenting stress Preterm Term

ABSTRACT

There is a paucity of information on couple relationship quality in mothers of preterm infants during the first year of life. Aim: To determine couple relationship quality in mothers of very preterm infants in comparison to mothers of term infants and to examine maternal and infant factors associated with impaired couple relationship for the preterm mothers. Methods: At 4 and 12 months (corrected for prematurity for the preterm cohort), the mothers completed the Dyadic Adjustment Scale, the Edinburgh Postnatal Depression Scale, the Parenting Stress Index and the Short Temperament Scale. At 12 months, the infants had a neurodevelopmental assessment. Results: 86 mothers of preterm infants and 97 term mothers participated at 4 months, with 101 mothers of the preterm infants and 98 term mothers participating at 12 months. Comparisons of the two groups revealed no differences in Dyadic Adjustment or for any of the subscales. For the preterm mothers at 4 months, the independent variables associated with poor dyadic adjustment were ethnicity and higher levels of parenting stress. At 12 months, parenting stress was also an independent variable associated with impaired couple relationship. Conclusions: No differences in the incidence of poor quality couple relationship was found between mothers of very preterm and term infants. For preterm mothers, impaired couple relationship was associated with parenting stress.

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1. Introduction

The quality of the relationship between a mother and a father is of great significance for the outcome of a child, with marital satisfaction being associated with increased maternal sensitivity and attachment [1]. Stress in the relationship often relates to an accumulation of difficulties including lack of communication, difficulty in resolving conflicts and difficulty in accepting each other and may affect the quality of parenting [2]. Becoming a parent, especially for the first time, results in a major upheaval in family dynamics. This is likely to occur to a greater extent following the birth of an infant preterm. It is not uncommon when a baby is receiving care in a neonatal intensive care unit some distance from the parents' home, that the parents are separated for a large proportion of the baby's hospitalisation which may lead to further stresses in the relationship. In the immediate period after birth, it has been reported that mothers of preterm infants had negative perceptions of their infants if they had a difficult relationship with the father [3]. Conversely, it has been noted that mothers of both term and preterm babies who have positive relationships with their partners have greater general life satisfaction, more positive attitudes towards parenting and are more sensitive to infant cues [4]. Zelkowitz et al. [5] in a study undertaken two weeks after delivery of very preterm infants born

<1500 g birthweight found that marital quality in the mothers and fathers was similar to that expected for a term population, though higher levels of maternal anxiety affected the relationship between the parents.

There is scant information on couple relationship for parents of typically developing children. During early infancy, however, Elek et al. [6] found that marital satisfaction for both mothers and fathers of term infants decreased significantly from four to 12 months after the birth of their first child. Furthermore marital satisfaction was related to their satisfaction with parenting together with measures of infant care self-efficacy including infant feeding, health and safety. Ahlborg et al. [7], however reported that most first-time parents were happy in their relationship six months after delivery of their infant, though were discontented with their dyadic sexuality. Of interest and perhaps surprisingly, parents of infants with sleep problems did not appear to have problems with marital satisfaction, even though the children had slightly higher behaviour problems [8].

During infancy and later, the quality of the relationship between the mother and father has been demonstrated to be poorer for parents of children with developmental disabilities than for couples in the general population [2], though no analysis was performed according to the severity of the disability. It has been acknowledged, however that there is little information on relationship quality specifically for mothers of preterm infants beyond the neonatal period [9]. In the 1970s, Leifer et al. [10] indicated that the relationship of preterm mothers were more likely to end in divorce than for mothers of full term infants. The

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mothers of the preterm infants who divorced however were part of a group of mothers who were separated from their infants during hospitalisation for up to 12 weeks, having only visual contact during that time, which may have resulted in additional stresses in couple relationships. This situation is markedly different to current neonatal practices.

In more recent years, Harrison and Magill-Evans [11] found no significant differences in couple relationship for mothers and fathers of preterm (gestational age 30–36 weeks) and term infants. Carter et al. [14] examined parental responses in a neonatal intensive care unit (NICU). No differences between NICU and control groups were found in terms of the perceived quality of couple relationship, even when gestational age was taken into consideration. However, the EPIP AGE study that included infants of 26–32 weeks gestation and provided family centred care found higher levels of marital dissatisfaction for parents of preterm infants two months after hospital discharge [13].

Less marital satisfaction has been reported by Milgrom and McCloud [14] for mothers who had postnatal depression. However, there are little data on the association of impaired relationship quality and maternal or infant characteristics following the birth of a preterm infant, though Evans et al. [15] found a link between relationship satisfaction and maternal psychological symptoms.

Impaired couple relationship may be associated with parenting stress and may influence the temperament of a child. Importantly, however, poor marital quality at 12 months in a group of mothers of preterm infants predicted behaviour problems when the child was of preschool age [16].

As there is a paucity of information on marital quality and satisfaction in both mothers and fathers of preterm infants during the first year of life, it is important that this should be investigated further. The aim of the present study was to assess couple relationship quality in mothers of very preterm infants in comparison to mothers of term infants. Additionally the study aimed to examine the association of maternal factors including parenting stress and depression as well as infant temperament and development with impaired couple relationship for the preterm mothers.

2. Methods

2.1. Participants

The mothers in the present study were part of a prospective longitudinal observational study of parenting stress in mothers of both term and preterm infants [17,18]. The original sample consisted of 105 mothers who delivered 124 preterm infants born ≤30 weeks gestation and 105 control mothers who delivered 120 infants at term at the Mater Mothers' Hospital, Brisbane. Mothers with twins where one twin died and mothers who were not English speaking were excluded from the study. The study received approval from the Mater Health Services Human Research Ethics Committee, Brisbane with written consent for participation given by all mothers.

2.2. Procedures

Sociodemographic data and neonatal variables were obtained following enrolment into the study for the preterm and term cohorts (Table 1). The principal difference between the two groups was that the term mothers had achieved a higher level of education. The Clinical Risk Index for Babies (CRIB) [19] score as a measure of the severity of neonatal morbidity was calculated for each baby, with the mean CRIB score being 2.89 (standard deviation, 3.05).

At 4 and 12 months of age (corrected for prematurity for the mothers of the preterm group) the mothers completed questionnaires on couple relationship quality, depression, parenting stress and the temperament of their infant. At 12 months of age, the infants were examined by paediatricians with the assessment including a neurological

Table 1Maternal sociodemographic and infant variables for the preterm and term groups.

	Preterm	Term	
	n = 105	n = 105	p value
Maternal age-mean (SD)	29.7 (5.4)	30.5 (5.3)	0.28
Paternal age-mean (SD)	31.4 (6.2)	32.1 (5.10)	0.37
Multiple pregnancy, n (%)	19 (18)	15 (14)	0.57
Assisted reproduction, n (%)	17 (16)	9 (9)	0.14
Caesarean section, n (%)	60 (57)	52 (50)	0.33
Parity, 1st baby n (%)	63 (60)	52 (50)	0.33
Marital status, n (%)			
Married/defacto relationship n (%)	103 (98)	101 (96)	1.0
Ethnicity, White/Caucasian n (%)	89 (85)	98 (93)	0.07
Public insurance status, n (%)	56 (53)	55 (52)	1.0
Educational level n (%)			
Schooling complete	81 (77)	93 (88)	0.04
Tertiary qualification	31 (30)	61 (58)	0.0001
	N = 124	N = 120	
Male infant, n (%)	66 (53)	66 (53)	
Birth weight (g)—mean (SD)	1114 (342)	3331 (527)	
Weight < 1000 g, n (%)	52 (42)		
Gestation (weeks)—mean (SD)	27.7 (2.0)	38.8 (1.4)	
Born <28 weeks, n (%)	50 (40)	. ,	

examination. Infants with cerebral palsy had a Gross Motor Functional Classification System (GMFCS) assessment [20]. Development was investigated using the Griffiths Mental Development Scales (GMDS) [21]. Information on hearing and vision was obtained from the mother. Neurodevelopmental disability was diagnosed on the basis of developmental delay (a score on the GMDS of >1 standard deviation [SD] below the standardised mean [mean 100, SD 12]), blindness, hearing impairment requiring amplification or cerebral palsy [22].

2.3. Questionnaires

2.3.1. Dyadic adjustment scale (DAS) [23]

The DAS is a 32 item self-report measure of relationship quality that is simple to administer. It has been used extensively for married and cohabiting couples [5,11]. Raw scores that are derived from responses to the individual items in the questionnaire are converted to T-scores for analysis. The T-scores have a mean of 50 and a standard deviation of 10. Four sub-scales are reported: Dyadic Consensus (the extent of agreement between partners on matters such as money, household chores and time spent together), Dyadic Satisfaction (the degree of tension and stress in the relationship), Affectional Expression (satisfaction with the expression of affection in the relationship) and Dyadic Cohesion (common interests and activities shared by the couple). A total Dyadic Adjustment (DA) score is calculated by combining the scores of the four sub-scales. Higher scores suggest better adjustment with low scores indicative of general distress and dysfunction in the relationship. T-scores < 40 indicate significant problems [19]. The total score has an internal consistency reliability of 0.96 with the reliability for the subscales ranging from 0.73 to 0.94.

2.3.2. Edinburgh postnatal depression scale (EPDS) [24]

The 10-item EPDS is a well validated and widely used screening tool for depression after childbirth. Scores range from 0–30, with a score > 12 indicating probable depression. A sensitivity rate of 95% with a specificity of 93% has been previously demonstrated with this cut-off point.

2.3.3. Parenting stress index (PSI) short form [25]

The PSI Short Form consists of 36 items and produces a Total Stress score indicating the overall level of parenting stress that a person is experiencing. High scores are considered to be scores at or above the 85th percentile. The PSI also has three subscales: Parental Distress (PSI-PD) which measures distress that is experienced in the role of a

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