

**Title:**

**Prevalence and risk factors of relationship dissatisfaction in women during the first year after childbirth: Implications for family and relationship counseling**

**Running head:** Relationship dissatisfaction in women after childbirth

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**Abstract:**

The aim of this study was to investigate the rate of relationship dissatisfaction among Australian women during the first year after childbirth and to uncover factors affecting their relationships.

Postnatal women who had given birth during past 12 months were invited to participate in a cross-sectional online study. A comprehensive multi-section questionnaire in addition to Relationship Assessment Scale, Female Sexual Function Index and Patient Health Questionnaire were used to collect data. Responses were analysed using SPSS for windows.

Results showed that 37.2% of the participants experienced relationship dissatisfaction. Results of the multiple logistic regression revealed that the following were significant risk factors for relationship dissatisfaction during the first postpartum year: annual income less than \$50,000, sexual dysfunction, being clinically diagnosed with depression and having symptoms of depression according to the PHQ scores ( $p < 0.05$ ). Compared to heterosexual relationships, women who were in a same-sex relationship were less likely to have relationship dissatisfaction. In addition, during 6-12 months postpartum women were less likely to have relationship dissatisfaction compared to 0-5 months postpartum ( $p < 0.05$ ).

**Keywords:** Pregnancy; Childbirth; Postpartum; Relationship satisfaction, Relationship dissatisfaction

## **Introduction**

Parenthood is a rewarding as well as a potentially stressful event for many couples as it brings many changes as well as challenges to their lives (Chang, Chang, Chen, & Lin, 2010). The negative impact of childbirth on the parent's quality of relationships has been suggested to be due to various hormonal, physical, physiological and psychosocial changes such as having young children at home, number of children, coping with postpartum physical and emotional changes, adapting to new life and difficulties with adjusting to a new role, coping with new responsibilities, lack of sleep, feeding, cuddling, the wellness of the baby and taking care of the baby (Giallo, Rose, & Vittorino, 2011). The interplay of all these factors alters parental norms and results in low level of parenting confidence, negative changes in mental health status and impaired intimate relationship (Zarra Nezhad & Moazami Goodarzi, 2011). Disturbed parents' relationship following childbirth and lower levels of relationship satisfaction in women during early months after childbirth have been documented in the literature (Doss, Rhoades, Stanley, & Markman, 2009).

In addition to the alterations in couple's quality of relationship caused by the newborn, the couple's mental health and sexual interactions can also be influenced after childbirth (Kirsten, 1999). Women, who report low relationship satisfaction, have less desire for and frequency of sex than those who have marital satisfaction at 3 months postpartum (De Judicibus & McCabe, 2002). The experience of marital and relationship dissatisfaction and sexual difficulties during postnatal period can in turn result in emotional distress (Goyal, Gay, & Lee, 2009).

Nowadays, parents expect to be perfect mothers and fathers and tend to spend large amounts of time, attention and care to look after their children, sacrificing the amount of 'childfree' time that they spend with their partners (Edwards, 2009). Research has reported that many women have concerns about their intimate relationships after childbirth and need information

and guidance. Nevertheless, they rarely express these issues during their clinical visits and only 7-13% of them seek assistance and advice from health care professionals, which may be mainly due to their shyness and modesty (Shojaa, Jouybari, & Sanagoo, 2009).

With regard to the significance of the issue, a comprehensive search of databases was conducted and a lack of research on the quality of relationship of postnatal women in Australia was identified. Hence, this research was set out to investigate the level of relationship satisfaction among Australian women during the first year after childbirth and to explore the distribution of relationship dissatisfaction among them. In addition, the study aimed to investigate risk factors that can be associated with low relationship satisfaction during the first postnatal year.

## **Material and Methods**

This was an online cross-sectional study, in which Australian postpartum women who had given birth during 0-12 months ago were invited to participate.

From power calculation, a total number of 295 postpartum women were required to participate in the study. Postpartum women across Australia were invited to participate in this online study. Responses from the participants were included for further analysis if they aged between 16 and 40 years old, had given birth to an alive baby at 37th week or later of pregnancy, had given birth 0-12 months ago, were in a relationship, were not pregnant, did not use any kinds of antipsychotic medicines and were not clinically diagnosed with any kinds of psychiatric illnesses, including obsessive compulsive disorders, anorexia nervosa, etc.

Responses from the participants who did not meet the inclusion criteria were excluded from the study.

The quantitative questionnaire used in this study consisted of four sections. The first section, contained questions requesting information about sociodemographics (age, education, ethnicity, career, annual income), obstetrics and gynaecological history (current menstrual cycles, current pregnancy, contraception, hormonal use, gravida, parity, miscarriage/abortion, method of delivery, place of the delivery, week of pregnancy at which the delivery occurred), baby's characteristics (gender, age, particular illness, single/twin or more, feeding), medical history (mental health problems, medication, medical operation, illness during pregnancy, cigarette smoking, alcohol consumption, sleep hours) and sexual life (relationship status, sexual orientation, resumption of sexual activity after childbirth, type and frequency of sexual activity, initiator of the sexual activity). The face and content validity of the designed

questionnaire were reviewed and confirmed by 15 researchers, who had previously conducted online studies.

The second, third and fourth sections contained the Relationship Assessment Scale, the Female Sexual Function Index and the Patient Health Questionnaire. These tools are described as follows.

The level of relationship satisfaction among participants was assessed by using the Relationship Assessment Scale (Hendrick, 1988). The RAS has been used in many studies and has shown high levels of reliability varying from 0.86 to 0.91 (Hendrick, Dicke, & Hendrick, 1998; Vaughn & Matyastik Baier, 1999). RAS contains seven multiple-choice questions asking for the level of relationship satisfaction. A total score of 4 or higher indicates relationship satisfaction and a total score of less than 4 indicates dissatisfaction with the relationship.

The Female Sexual Function Index (FSFI) was applied to investigate sexual function of the participants. Its reliability has been reported to vary from 0.76 to 0.93 in different studies (Burri, Cherkas, & Spector, 2010; Rivalta, Sighinolfi, Micali, De Stefani, & Bianchi, 2010). The tool contains 19 multiple-choice questions that explore six main domains of female sexual function including desire, arousal, lubrication, orgasm, satisfaction and pain. A cut-off score of 26 or less is used to identify women with a sexual dysfunction (Meston, 2003; Wiegel, Meston, & Rosen, 2005).

Symptoms of depression in the participants were investigated by using the Patient Health Questionnaire (PHQ-8) (Kroenke et al., 2009; Skopp, Luxton, Bush, & Sirotin, 2011). Depressive symptoms are identified as acquiring a total score of 10 or greater (Smith, Gotman, Lin, & Yonkers, 2010).

The Human Research Ethics Committee at Curtin University (Approval HR171/2011) approved the study protocol. After receiving institutional Ethics approval for the research, all postpartum women across Australia were invited to participate by means of distributing flyers in public places, snowball sampling and posting invitation letter on social media such as Facebook pages and community newspapers. The information about the study and the link to the questionnaire were also submitted to the 123 Submit and Dream submission programs.

All participants were asked to provide passive consent to participate before answering any of the questions. The study website was available for a period of four months, from May to August 2012, until the expected numbers of responses were acquired.

The data were analysed using the Statistical Package for Social Science, Advanced Statistics, Release 18.0 (SPSS for windows, SPSS Inc., Chicago, IL, USA).

Descriptive statistics were calculated for variables of interest. Continuous variables (such as relationship dissatisfaction) were presented as mean  $\pm$  standard deviation. Categorical variables (such as parity) were presented as frequency (%). A Chi-square was used to investigate the frequency distribution of all variable between women with and without relationship satisfaction.

An Independent Samples *t* test was used to assess mean scores on the PHQ-8 and the FSFI among women with and without relationship satisfaction. The independent samples *t* test was also used to investigate the mean score and standard deviation of the RAS and each item score among primiparous and multiparous postpartum women.

Multiple logistic regression analysis (backward Wald) identified the factors that significantly affected the relationship satisfaction of postpartum women. In this analysis, the dependent variable was measured on a dichotomous scale with mutually exclusive categories (women

with relationship satisfaction and women without relationship satisfaction). The independent categorical variables were also dichotomous such as sexual function (women with sexual dysfunction and women without sexual dysfunction) and depression (depressed women and non-depressed women). Differences were considered significant when the  $p$  value was less than 0.05 ( $p < 0.05$ ).

## Results

A total of 489 responses were received. Among them 164 responses were excluded due to non-compliance with the inclusion criteria. Therefore, responses from 325 participants were considered for analysis. Nevertheless, there was no significant difference in the demographics of those who were excluded and those whose data were analysed. The mean age of participants was  $29.8 \pm 5.3$  years (ranged 18-40 years). Table 1 shows the demographic characteristics of the participants.

As shown in Table 2, using the Independent Samples *t* test, the mean score for the RAS was higher among primiparous women than multiparous ones ( $4.08 \pm 0.71$  vs.  $3.95 \pm 0.9$ , respectively) indicating a higher level of relationship satisfaction among primiparous women. However, the difference between the two groups was not statistically significant ( $p=0.238$ ). Regarding the seven items included in the RAS, primiparous women reported higher scores on all items. Nevertheless, the differences between the two groups were not statistically significant in these regards ( $p>0.05$ ) (Table 2).

One hundred and twenty one women (37.2%) experienced relationship dissatisfaction after childbirth. There were no significant differences in age group, educational level, occupation, parity (primiparous or multiparous), method of delivery of baby (vaginal delivery or caesarean section), place in which the delivery took place (home or hospital), gender of the baby, breastfeeding, cigarette smoking, alcohol consumption, late resumption of sexual activity after childbirth and less frequent sexual activity after childbirth between women with and without relationship dissatisfaction ( $p>0.05$ ). Details of these variables have not been reported in Tables due to non-significant *p* value.

Women with relationship dissatisfaction were more likely than women with relationship satisfaction to have annual income less than \$50,000 ( $p=0.03$ ), to sleep less than 7 hours in a

24-hour period ( $p=0.039$ ), to give birth to small babies (less than 2,500 grams) ( $p=0.012$ ), to be clinically diagnosed with postnatal depression ( $p=0.002$ ), to acquire higher score on the PHQ indicating their moderate to severe depression ( $p<0.001$ ) and to have sexual dysfunction ( $p<0.001$ ) (Table 3).

These findings were supported by the Independent Samples  $t$  test results, as shown in Table 4. The mean scores on the FSFI and the PHQ-8 showed that women with relationship dissatisfaction were at a greater risk of sexual dysfunction and postnatal depression than women with relationship satisfaction ( $p<0.001$ ) (Table 4).

Results of the multiple logistic regression revealed that the following were significant risk factors for relationship dissatisfaction during the first postpartum year: annual income less than \$50000 (OR = 1.796, 95% CI = 1.046 – 3.086,  $p=0.03$ ), sexual dysfunction (OR = 2.725, 95% CI = 1.54 – 4.189,  $p=0.001$ ), being clinically diagnosed with depression (OR = 2.168, 95% CI = 1.042 – 4.512,  $p=0.038$ ) and having symptoms of depression according to the PHQ scores (OR = 3.961, 95% CI = 2.186 – 7.177,  $p<0.001$ ). Compared to heterosexual relationships, women who were in a same-sex relationship were less likely to have relationship dissatisfaction (OR = 0.228, 95% CI = 0.054 – 0.967,  $p=0.045$ ). In addition, during 6-12 months postpartum women were less likely to have relationship dissatisfaction (OR = 0.529, 95% CI = 0.3 – 0.931,  $p=0.027$ ) compared to 0-5 months postpartum (Table 7).

## Discussion

According to the Australian Bureau of Statistics (ABS) (Australian Bureau of Statistics, 2012), 309,582 births were registered in Australia in 2012. We received 489 responses in our study. Since we did not have access to the data on the number of births from May to August 2012 in Australia, and because the participants in our study were not selected randomly from the population of the women who gave birth in 2012 in Australia, the results of our study may not be generalised to the entire population of Australian postpartum women. However, we believe that our results operate as an informative aspect within the greater body of knowledge.

The results showed that 0-5 months after childbirth was a risk factor for relationship dissatisfaction, compared to 6-12 months postpartum. This finding supports results of an earlier study (Doss et al., 2009) in which couples' relationship was reported to deteriorate following childbirth. This can be attributed to the remarkable changes during the first few months following childbirth, especially in the first time parents. Indeed, infants are more likely to be unsettled and tend to cry more often during first few months of life. This may in turn result in higher levels of parental frustration, higher parenting stress and lower marriage satisfaction specially when the parents share their bed with the infant as a reaction to infant night-time problems (Messmer, Miller, & Yu, 2012).

The present study showed that having sexual problems and dysfunction is a significant risk factor for relationship dissatisfaction which supports reports of earlier research. Both intrapersonal and interpersonal factors (including 'partners interaction' and 'societal forces') as well as being still in love can affect parents' sexual interest and behaviour and can significantly affect the quality of couples' relationships (Papaharitou et al., 2008). It has been shown that women with hypoactive sexual desire disorder report higher rate of relationship dissatisfaction and more negative feeling for their partners (De Judicibus & McCabe, 2002).

The results of the present research also demonstrated an association between depression and relationship dissatisfaction, which is in accordance with those of previous studies by Moel et al. (Moel, Buttner, O'Hara, Stuart, & Gorman, 2010), Forman, O'hara, Stuart, Gorman, Larsen, and Coy (Forman et al., 2007) and Clavarino et al. (Clavarino et al., 2011) in which the postpartum depressive symptoms were reported to have negative impacts on various aspects of interpersonal interactions.

The present study showed that low annual income of the family was a risk factor of relationship dissatisfaction during the first postpartum year. This is in accordance with the results of the study by Vemuri, Morgan, Wilson and Burch (2011) and Dion (Dion, 2005) indicating an association between lower income and couple's relationship dissatisfaction

Similar to other studies, the present study had some limitations that need to be addressed. One limitation is that due to the online nature of the study those women who had no access to a computer were excluded from participating. Additionally, the study failed to include fathers and investigate their relationship satisfaction during their parenthood. Moreover, this was a cross sectional study and the researcher was unable to track the changes in relationship satisfaction from pregnancy until after childbirth.

The relationship satisfaction was shown to be higher during 6-12 months after delivery. However, due to the cross-sectional nature of the study we cannot determine if the relationship issues would have resolved in time without professional intervention. Further randomised research are needed to explore relationship satisfaction of parents in a longitudinal study in which all elements of the parents' life such as their sexual function, relationship satisfaction and mental health are investigated during pregnancy and are then followed up until after childbirth. In addition, since we were unable to include fathers in the present study, further future studies are required to investigate the impacts of pregnancy and childbirth on fathers' sexual function, relationship satisfaction and mental health.

Parenthood can make some women “feel isolated, alone and depleted rather than nurtured and supported” (Barclay, Everitt, Rogan, Schmied, & Wyllie, 1997 p. 727). This can be the case for many young couples and new parents as they may not be ready for alterations in their relationships during transition to parenthood (Salim & Gualda, 2010).

Despite the significance of the issue, the majority of women choose not to discuss it during postnatal visits. Health care professionals are also reluctant to talk about these issues due to potential barriers such as cultural factors, embarrassment, lack of knowledge and time limitation in each visit (Pauleta, Pereira, & Graça, 2010).

It is pivotal to include the assessment of quality of relationships during postnatal visits and strive to strengthen the relationships through education, counselling and support. Postpartum women and healthcare providers should be encouraged to include relationship difficulties in their discussions. Considerable attention need be paid to this sensitive issue and parents’ relationship dissatisfaction should be addressed during medical visits.

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**Table 1: Demographic characteristics of the participants**

<b>Demographic</b>	<b>Participants (n=325)</b>	
	<b>Number</b>	<b>Percent</b>
Age		
18-20	13	4
21-30	170	52.3
31-40	142	43.7
Education		
Diploma or lower	115	35.4
Associate's degree	73	22.5
Bachelor's degree	99	30.5
Master's degree or higher	38	11.7
Career		
Student	26	8
No formal occupation	138	42.5
Casual work	25	7.7
Permanent work (full-time or part-time)	136	41.9
Annual income of family		
Less than \$ 50000	110	50.5
\$ 50000 +	161	49.5
Ethnicity		
Australian and New Zealander	149	45.5
Other	176	54.5

**Table 2: Mean score and standard deviation of the RAS and each item score among primiparous and multiparous postpartum women**

Measure	Parity		Parity		t (df=323)	P value
	Primiparous (n=87)	Multiparous (n=238)	M	SD		
RAS	4.08	0.7	3.9	0.9	1.18	0.238
Items (in order)						
Met needs	3.8	0.8	3.6	1.05	1.11	0.265
General satisfaction	3.8	0.8	3.8	1.07	0.53	0.594
Compared to others' relationship	4.05	0.8	4	1.06	0.41	0.678
Regret of being in the relationship	4.4	0.8	4.3	1.04	0.93	0.352
Met expectations	3.8	1.09	3.6	1.1	1.22	0.222
To love the partner	4.6	0.6	4.5	0.8	0.99	0.323
Problems in the relationship	3.9	0.8	3.7	1.1	1.73	0.083

\*\*M: Mean

\*\*\*SD: Standard deviation

**Table 3: Birth-related factors among postpartum women with and without relationship satisfaction**

Factor	Relationships		Relationship dissatisfaction (n=121)		Relationship satisfaction (n=204)		$\chi^2$
	N	%	N	%	N	%	
Annual income of family							
Less than \$ 50000	50	41.3	60	29.4			0.03*
\$ 50000 +	71	58.7	144	70.6			
Sleep hours in a 24-hour period							
Less than 7 hours	63	52.1	82	40.2			0.039*
7 hours or more	58	47.9	122	59.8			
Baby's birth weight							
Less than 2500 grams	28	23.1	24	11.8			0.012*
2500–4000 grams	74	61.2	154	75.5			
More than 4000 grams	19	15.7	26	12.7			
Being clinically diagnosed with postnatal depression							
Yes	25	20.7	17	8.3			0.002*
No	96	79.3	187	91.7			
PHQ-8							
0–9 (non-depressed or mild depression)	70	57.9	177	86.8			<0.001*
10+ (moderate to severe depression)	51	42.1	27	13.2			
FSFI							
≤ 26 (with sexual dysfunction)	96	79.3	113	55.4			<0.001*
> 26 (without sexual dysfunction)	25	20.7	91	44.6			

\* $p < 0.05$

**Table 4: Mean score and standard deviation of the FSFI and PHQ among postpartum women with and without relationship satisfaction**

Factor	Relationship dissatisfaction (n=121)		Relationship satisfaction (n=204)		t (df=323)	$\chi^2$
	M**	SD***	M	SD		
FSFI	19	8.27	23.19	9.14	-4.14	<0.001*
PHQ-8	9.35	6.22	4.8	4.37	7.712	<0.001*

\* $p < 0.05$

\*\*M: Mean

\*\*\*SD: Standard deviation

**Table 5: Results of multiple logistic regression analysis revealing variables that predicted relationship dissatisfaction in the postpartum women**

Variable	Crude OR	Adjusted OR	95% CI for OR	P value
Smoking status				
Non-smoker	1	1		0.096
Smoker	1.92	2.051	0.881 – 4.775	
Alcohol consumption				
No alcohol consumption	1	1		0.066
Alcohol drinking	0.633	0.609	0.359 – 1.034	
Sleep hours				
7 hours or more	1	1		0.084
4 – 6 hours	1.616	1.574	0.941 – 2.633	
Annual income				
\$ 50000+	1	1		0.034*
Less than \$ 50000	1.69	1.796	1.046 – 3.086	
Sexual orientation				
Heterosexual	1	1		0.045*
Lesbian	0.374	0.228	0.054 – 0.967	
Postpartum time periods				
0 – 5 months	1	1		0.027*
6 - 12 months	0.716	0.529	0.3 – 0.931	
Sexual dysfunction				
No	1	1		0.001*
Yes	3.092	2.725	1.54 – 4.189	
Clinical diagnosis of depression				
No	1	1		0.038*
Yes	2.865	2.168	1.042 – 4.512	
Depression				
No	1	1		<0.001*
Yes	4.776	3.961	2.186 – 7.177	

\* $p < 0.05$