

Title: Quality of life and depression following childbirth: impact of social support.

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ABSTRACT:

Background: Positive social networks may provide a modifying affect on pregnancy outcomes, however, knowledge about the relative contribution of family, friends and partner support to postpartum emotional health and quality of life remains scant. Consequently, the objective of the present study was to evaluate the impact of social support on postnatal depression and on health related quality of life (HRQoL).

Methods: In a prospective cohort study, 320 women were recruited before leaving hospital and asked to complete a survey, to be posted 6-weeks after the birth of their infant. The survey contained measures of social support, postnatal depression and HRQoL.

Results: Of the 320 women recruited, 222 (69.4%) returned their 6-week questionnaire. Women with low social support had significantly higher scores on the Edinburgh Postnatal Depression Scale (EPDS) than those who reported adequate support ($p = 0.007$). There was also a significant effect of social support on health related quality of life. Women with low family or partner support scored lower in all domains with the greatest mean difference in the 'social health domain' ($p = < 0.000$). Awareness possible postnatal depression was high with 75.5% of the women who scored > 10 on the EPDS seeking professional help.

Conclusions: Women with low social support are more likely than well supported women to suffer from depression after childbirth and to report lower quality of life.

KEYWORDS: (MeSH terms) Social Support; Depression, Postpartum; Quality of Life, Patient Acceptance of Health Care.

INTRODUCTION:

The physical health of women following childbirth has been extensively studied (1-3) and recently summarised in a focused review (4). Sleep deprivation is the most frequently reported symptom, with a prevalence of between 15 – 76%. However, a constellation of symptoms is not uncommon, including fatigue, breast discomfort, bowel problems, prolonged bleeding and painful perineum (5). These symptoms, particularly fatigue, have also been linked with emotional problems, such as postpartum depression (6, 7).

It is possible that these physical and emotional symptoms contribute to a broader concept of well-being; health related quality of life (HRQoL). However, although there is now a body of literature investigating the effects of recent motherhood on HRQoL (8-10), there is little information about the relationship between specific postpartum symptoms, particularly postpartum depression and quality of life (11, 12). In one study, the modifying effect of infant gender on postpartum depression and HRQoL was explored. As expected, quality of life was negatively affected by postpartum depression but, unexpectedly, a higher incidence of severe depression and a lower quality of life was found among women who bore a male child (11). The only other study focusing on the relationship between postpartum health, postpartum depression and perceived quality of life involved 78 women who scored ≥ 10 on the Edinburgh Postnatal Depression Scale (EPDS). Again, depressed women scored lower on all sub-scales of the quality of life measure when compared to normative Canadian data. HRQoL in both of these studies was measured using the SF36 (13), a generic questionnaire, which has not been validated for use with postpartum women.

Choosing a quality of life instrument for use in research studies may be dictated by availability, cost, ease of use or the desire to use a disease specific instrument. One HRQoL instrument that has been validated for use with postpartum women is the Mother-Generated Index, which asks women to identify positive and negative issues important to her (14). Administration requires the involvement of a second person to ask questions and responses are qualitative, making it expensive to administer and difficult to use in a large study. In addition, women may require significant prompting by the person administering the instrument, to elicit aspects of their life that were affected by the pregnancy (15). An alternative to using a condition-specific instrument is to use a generic quality of life assessment but these require validation among members of the group in which it will be used. We have recently validated the short version, World Health Organization Quality of Life assessment (WHOQOL-BREF) (16) among a cohort of new mothers. We chose the WHOQOL-BREF because it was free, readily available and able to be administered in self report format.

During the study, we also collected information about social support. Studies published to date suggest that positive social networks may provide a modifying effect on pregnancy outcomes, including postpartum depression (17-20) but it remains unclear if such support is also associated with quality of life in the postpartum period. For example, when postpartum support is provided through targeted programs, there is no evidence of effect on quality of life (21); however, the relative contribution of family and partner support to quality of life in the postpartum period remains unknown. Consequently, the purpose of the present study was to evaluate the impact of social support on postpartum depression and on HRQoL.

METHODS

Design

We used a prospective, longitudinal cohort design to assess relationships between social support, postpartum depression and quality of life.

Participants

Participants were consenting women who gave birth to a live infant or infants ≥ 36 weeks gestation, who was not admitted to a neonatal intensive nursery. The study was approved by the hospital's Human Research Ethics Committee.

Instruments

WHOQOL-BREF

The WHOQOL-BREF is a self-report questionnaire that contains 26 items, and each item represents one facet. The facets are defined as those aspects of life that are considered to have contributed to a person's quality of life. Among the 26 items, 24 of them make up the 4 domains of physical health (7 items), psychological health (6 items), social relationships (3 items), and environment (8 items). The other 2 items measure overall quality of life and general health (16). In our validation study the instrument was well accepted by women and all domains of the WHOQOL-BREF met reliability standards (alpha coefficient exceeding 0.70). The questionnaire discriminated well between known groups (depressed and non-depressed women. $P = <0.000$) and the domain structure of the WHOQOL-BREF was also valid in our population of new mothers.

Edinburgh Postnatal Depression Scale (EPDS)

The EPDS is a simple, well-validated self-report questionnaire with 10 items designed to screen for depression (22). Women are asked to underline one of four possible responses to each question in terms of how they have felt in the previous week. A cut

off score of 10 has been shown to have a sensitivity of 59 to 100 and specificity of 47 to 97 for major and minor depression in the postpartum period when compared to a diagnosis of minor or major depression using a psychiatric interview (23).

Maternity Social Support Scale (MSSS)

The MSSS measures social support in pregnancy (family support, friendship network, help from spouse/partner, conflict with spouse/partner, feeling controlled by spouse/partner and feeling loved by spouse/partner) using a 6-item, self-report, 5 point Likert scale. The total possible score for the scale is 30, with higher scores indicating increased support (17).

Satisfaction with birth experience

In self-report format, women were asked “How would you rate you overall birth experience” on a 5-point line with ‘low’ at one end and ‘high’ on the other.

Procedure

Women, while still in hospital, were recruited in the first two days postpartum by a research nurse. Baseline demographic and obstetric data was collected at this time; women were also asked to rate their overall experience of their birth process.

Participants were contacted, by mail, six weeks after discharge and asked to complete a questionnaire, which included the WHOQOL-BREF, Maternity Social Support Scale and the EPDS. There was also one full page of free text space, which led with the words “Please use this section to add anything else you would like to say”. If questionnaires were not returned within two weeks, phone contact was attempted and, if requested, a second questionnaire sent. A nurse with counselling skills made immediate contact with the woman if the EPDS score was > 10 at the 6-week follow-up. The EPDS score was discussed with the woman and options for management explored.

Statistical analysis

Sample characteristics were determined using frequencies, means and standard deviations. The cut-off point for the Maternity Social Support Scale was set at the recommended >24 for adequate support, and the EPDS at >10 for minor and major depression. The WHOQOL-BREF was first summarised to a 4-domain construct (physical health, psychological health, social relationships & environment) and WHOQOL-BREF guidelines were followed to calculate mean domain scores and to deal with missing data. Raw domain scores were then transformed to a 0-100 scale, for ease of comparison with other data sets (24). Independent t-tests were used to consider differences in social support for the domains of quality of life and postpartum depression. All levels of significance are 2-tailed. SPSS version 17.0 (SPSS Inc., Australasia, Chatswood, NSW 2008) was used for all analyses.

RESULTS

Sample characteristics

Of the 320 women recruited, 222 (69.4%) returned their 6-week questionnaire. Women who did not return their questionnaire had more children (mean 2.1, SD 1.22 vs mean 1.8, SD 0.93; $p = 0.012$) and were younger (mean 28.8, SD 5.5 vs 30.6, SD 5.7; $p = 0.011$) but were similar in terms of marital status; type of delivery and level of satisfaction with their birth experience. Characteristics of the final sample are shown in Table 1.

Effect of social support on postpartum depression

The EPDS was completed by 216 women, the mean score was 7.1 (SD 4.89); 47 (21.8%) women scored >10 and (13.9%) scored > 12. Women with low social support

had significantly higher scores on the EPDS than those who reported adequate support ($p = 0.007$). Results are shown in Table 2. Forty nine women were contacted by phone, either because their EPDS Score was over 10 or the research nurse had been concerned about something they had written in the free text area. Of these, 37 (75.5%) had been aware that they had a problem and had sought help, 12 (24.5%) said that they were no longer feeling 'down' so did not believe help was required.

Effect of social support on quality of life

There was also a significant effect of social support on health related quality of life. Women with low family or partner support scored lower in all domains with the greatest mean difference in the 'social health domain' ($p = < 0.000$). Table 2 contains full results.

DISCUSSION

In this cohort of postpartum women we found that low social support, specifically, from their family, friends and partner were associated with higher levels of depression following childbirth and poorer health related quality of life than well supported women. Our findings provide the first evidence for the importance of close relationships on maternal quality of life in the first months following childbirth and are consistent with previous reports that show a mediating effect of social support in other areas of women's lives, such as survivors of domestic violence (25) and following still birth (26).

Women with 'adequate' social support scored above 70 for each of the HRQoL domains; Physical, Psychological, Social and Environment. Overall, these scores were

similar to Australian population norms (24) but ranking of scores was marginally different. Well-supported women in the current study rated the Environmental domain highest and the Psychological domain lowest; whereas in the Australian sample, the Physical domain was ranked highest and the Social domain lowest. These differences seem logical, with items in the Psychological domain including phrases such as “body image” and “appearance and thinking, learning, memory and concentration”, facets of life where postpartum women may feel vulnerable. On the other hand, items in the Environment domain included “physical safety and security”, “opportunities for acquiring new information and skills” and “home environment”; these are areas consistent with ‘making a family’ and demonstrate the usefulness of the WHOQoL instrument in this population.

The overall rate of major postpartum depression (14.0%), measured by a score > 12 on the EPDS, was similar to a rate of 13.6% that we found in an earlier sample of women, who we screened at this hospital (27). However, the rate was higher than that found in a meta-analysis of 12 studies (n = 3,121), in which the average prevalence rate was 12%, when the same instrument was used (28). We measured depression 6-weeks after hospital discharge and there is some evidence that early measurement may result in higher prevalence rates than if assessment is made within a more extended time frame (28). Irrespective of the overall rate, our study adds to other evidence that demonstrates strong associations between low social support and depression (17-20).

One finding of particular interest was high rate of help-seeking among those who returned high scores on the EPDS. Three quarters of these women had been in contact

with a health care professional regarding their emotional state and the remaining women indicated that, although they had been feeling ‘down’ earlier in the postpartum period, they were now ‘back to normal’. This represents a considerable shift in behaviour and conflicts with results from a recent review, which suggested that approximately only 18% of women, who meet the criteria for major depression after childbirth, seek treatment (29). Our results may reflect the demystifying and normalising of depression through the high profile program in Australia, the ‘Beyond Blue National Depression Initiative’. This is an ongoing program, led by prominent individuals, which is funded by the Commonwealth and Victorian Governments (30). The primary aim of the initiative is to facilitate attitudinal change on depression, anxiety and related disorders; our study seems to provide some evidence of its effectiveness. In addition, our own hospital has had a continued clinical and research focus on identifying and supporting women at risk for postpartum depression for many years (27, 31-34), which may also help to explain the high rate of help-seeking behaviour in this population.

Free text comments from women with low social support scores were insightful and provide a more detailed picture of the importance of such support from the woman’s partner and her close relatives. Although we did not conduct a formal analysis of written comments, living away from family was an issue for many of the low-scoring respondents; the following extract was typical: “I have been living in Australia now for 3 months, so I often get home sick and suffer from anxiety. I miss my family support and my old life, it hasn’t been easy”. The other issue for women with low social support scores was related to the partner being abusive. For example “I did have self-harming thoughts. I think it was due to my personal situation, I was in a

domestic violence relationship, which he is getting counselling for now”; another woman said “I am in a domestic violence relationship induced by abuse of alcohol and pot”. Alternatively the partner simply was ‘not there’: “My husband works 12 hour shifts so he is gone from 5am to 7pm up to 12 days a fortnight. All in all I feel like a single parent”.

These issues are not easily solved; however, raising the question of social support during the pre-natal period may have some beneficial flow on effects for quality of life in the postpartum period, particularly in the area of partner abuse. For example, quality of life among a cohort of Norwegian women who were in abusive relationships was up to 2.5 standard deviations lower than the norm for women in that country; this was considered clinically as well as statistically significant (35). For this reason, early identification and referral by health care professionals may be vital. We know that straight forward questions about abuse are acceptable to pregnant women (36) and they may provide an opportunity for women to reflect on their domestic relationships and to seek community support before the baby is born. There is limited evidence about the efficacy of some of these interventions but, what there is, suggests that advocacy support following domestic abuse may significantly improve quality of life for at least 12 months (37).

LIMITATIONS

Our study sample was drawn from only one centre, a large tertiary, inner-city hospital where care is provided free of charge. Compared with national data, women in our study were of similar age and parity but our caesarean section rate was much higher than the national average; 45.5% compared to 30.8% (38). Our sample size was also

relatively small, so it may be useful for future studies to use larger samples, particularly if regression analysis is planned. However, the sample was adequate to show clear differences in quality of life and postpartum depression between those with low and adequate support from family, friends and partner.

CONCLUSION

Women with low social support are more likely than well supported women to suffer from depression after childbirth and to report lower quality of life.

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Table 1. Characteristics of study participants

	Mean (SD)*	Number (%)
Age	30.6 (5.68)	
Satisfaction with the birth experience	3.9 (1.16)	
Maternal Social Support score	27.7 (3.09)	
Total Health Related Quality of Life score	101.0 (13.10)	
Edinburgh Postnatal Depression score	7.1 (4.89)	
Marital status		
Single/separated/divorced		22 (9.9)
Married		136 (61.3)
Living as married		64 (28.8)
Primipara		101 (45.5)
Delivery type		
Unassisted vaginal		99 (44.6)
Assisted vaginal		22 (9.9)
Caesarean section		101 (45.5)
Education level		
Primary		1 (0.5)
Secondary		78 (35.1)
Tertiary		137 (61.7)
Missing		6 (2.7)

* Standard Deviation

Table 2. Relationship between social support and the Health Related Quality of Life (HRQoL) domains and the Edinburgh Postnatal Depression Scale (EPDS).

MSSS*	Mean (SD)†	Mean difference	95% Confidence intervals	Sig (2-tailed) P*
Physical health				
0 – 24	62.9 (15.74)	-11.32	- 16.66 to - 5.98	< 0.000
> 24	74.2 (13.03)			
Psychological health				
0 – 24	58.2 (16.01)	- 12.30	-17.99 to - 6.62	< 0.000
> 24	70.5 (13.10)			
Social health				
0 – 24	50.3 (23.95)	- 22.45	-29.46 to -15.56	< 0.000
> 24	72.8 (16.47)			
Environmental health				
0 – 24	63.1 (15.48)	- 12.6	- 17.72 to -7.18	< 0.000
> 24	75.5 (12.87)			
6-week EPDS score				
0 – 24	9.41 (5.00)	2.67	0.72 to 4.61	0.007
> 24	6.74 (4.76)			

* *Maternity Social Support Score*

† *Standard deviation*

‡ *The p value refers to difference between poor and adequate social support for all variables, using the Student's t-test*