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Franca Tani & Valeria Castagna

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Franca Tani

University of Florence, Italy

Valeria Castagna

Local Health Unit 4 (USL 4) Prato, Italy

Author Note

Prof. Franca Tani, Department of Health Sciences, University of Florence, Via San Salvi, 12, Pad. 26 – 50135, Florence, Italy. Tel. +39-055-2755000; fax +39-055-2751093; e-mail: franca.tani@psico.unifi.it

Dott. Valeria Castagna, Maternal and Child Health, Obstetrics and Gynecology Unit, Local Health Unit 4 (USL 4) Prato , Piazza dell'Ospedale 5 - 59100 Prato; Tel. :+39-0574-807707; fax +39- 0574 802885 ; e-mail: vcastagna@uslcentro.toscana.it

Correspondence concerning this article should be addressed to:

Prof. Franca Tani, Department of Health Sciences, University of Florence, Via San Salvi, 12, Pad. 26 – 50135, Florence, Italy. Tel. +39-055-2755000; fax +39-055-2751093; e-mail: franca.tani@psico.unifi.it

Abstract

Background. Social relationships provide individuals with a general sense of self-worth, psychological wellbeing, as well as allowing them access to resources during stressful periods and transitions in life. Pregnancy is a time of significant life change for every woman. The aim of this study was to verify the influence of social support perceived by mothers during pregnancy on the quality of their birth experience and post-partum depression.

Method. A longitudinal study at three different times was carried out on 179 nulliparous pregnant women. Women completed a Maternal Social Support Questionnaire during the third trimester of their pregnancy. Then, on the first day after childbirth, clinical birth indices were collected. Finally, a month after childbirth, the Edinburgh Postnatal Depression Scale was administered.

Results. Post-partum depression was influenced negatively by maternal perceived social support and positively by negative clinical birth indices. In addiction to these direct effects, analyses revealed a significant effect of maternal perceived social support on post-partum depression, mediated by the clinical indices considered.

Conclusions. Social support perceived by mothers during pregnancy plays a significant role as a protection factor against post-partum depression, both directly and indirectly, reducing the negative clinical aspects of the birth experience.

Key Words*: post-partum depression, maternal social support, prenatal attachment, delivery clinical aspects*

Maternal social support, quality of birth experience, and post-partum depression in primiparous women

A growing body of literature demonstrates that social relationships have a positive impact on physical health and psychological wellbeing (1,2). Social relationships are thought to be supportive to the extent that they provide individuals with access to resources, overall during times of stress and transition, including role and life changes (3,4).

Pregnancy is a time of significant life change for every woman and her partner. The psychological consequences of such stress may be amplified by hormonal changes that occur during the course of pregnancy. Research has found that negative life events are associated with increased risk of premature birth, low birth weight, and emotional distress in the mother (5,6).

During pregnancy, emotional support and self-efficacy contribute meaningfully to a positive perception of birth experience for women, and makes the birth process easier by reducing medical practices, such as the use of synthetic oxytocin and epidural analgesia. Actually, if abnormal labor progress occurs (after epidural analgesia or for other causes), sometime oxytocin infusion is required to increase uterus activity. This procedure makes labor much more painful and difficult, increases the risk of operative birth, and has consequences for neonatal outcomes.

Epidural analgesia is the most efficacious method of labor pain relief (7), and although it is effective and safe for mother and fetus, obstetric epidural analgesia may be associated with longer second stage labor, more frequent decrease of natural oxytocin, increase of instrumental deliveries and caesarian section for dystocia (8,9)

The postpartum period is recognized as a time of vulnerability to affective disorder, particularly postpartum depression, that is the most common complication of childbearing, occurring in 13% - 15% of women after delivery (10). Depressive symptoms, including lack of energy and capacity to concentrate, may impair the woman's ability to be involved in her child's physical care and her maternal role, and may increase her level of irritability and self-preoccupation, resulting in an inability to meet her child's normal needs for attention (11).

Although the importance of the contribution of hormonal decline has been proven (12), several other factors may predispose women to this clinical condition. Among these factors, stressful life events (13) past episode of depression (not necessarily related to childbearing), and a family history of mood disorders (14) are significant predictors of postpartum depression. Moreover, also the social support women perceive from their family, partner and friends has found to be a positive moderator factor for this affective disorder (15).

Therefore, from a clinical and developmental point of view, it is important to put into place protection factors that can reduce the impact of post-partum depressive symptoms on the health of the child.

Aims and hypotheses

Starting with these considerations, the main purpose of this study was to explore the role of maternal social support women perceive during pregnancy on post-partum depression. In particular, our intent was to verify the relationship between maternal perceived social support and the mother's depressive post- partum symptoms, both direct and indirect, through the mediate effect of clinical delivery characteristics.

We expected that the social support mothers perceive during pregnancy from family, friends, and partner have a significant protective influence against post-partum depression, both directly and indirectly, promoting a more positive experience of childbirth, and reducing negative clinical aspects of delivery *(long time of labor stages, prolonged use of oxytocin and epidural analgesia)*.

The hypothesized tested model is graphically described in Figure 1.

Method

The study was conducted at the Maternity Ward of the Misericordia e Dolce Hospital in Prato, Italy, a second-level unit with about 2800 deliveries a year. The Ethical Committee of the Azienda Sanitaria Prato approved the study. The research was conducted in accordance with the guidelines for the ethical treatment of human participants of the Italian Psychological Association.

All participants were previously informed about the study aims, and their written informed consent was obtained to include them in the study. They could withdraw from participation at any time during the study.

Procedure

The study was carried out according to a longitudinal design. Data were collected at

three different times: 1. 31°- 32° week of pregnancy; 2. the first day after childbirth; 3.

one month after birth.

At the time of the first data collection, all participants were requested to fill out a card

with their own socio-registry data (age, educational level, and occupational status), and

information about the length in years of their couple relationship, and whether or not

they had had previous pregnancies. Only nulliparous were included in this study. They

were then asked to complete the Maternal Social Support Scale.

At the second data collection, clinical data on childbirth (duration of labor, duration of

administration of oxytocin and epidural analgesia) were registered.

At the third data collection, data on maternal post-partum depressive symptoms were

collected.

Participants

A total of 179 Italian women were recruited for this study. The selection criteria were as

follows: nulliparous women, uncomplicated pregnancy, and single fetus.

Instruments

To collect sociodemographic data and clinical birth factors, we used two forms

specifically created for the study.

The Italian validated version (16) of the Maternal Social Support Scale (MSSS), devised

by Webster, Linnane, Dibley, Hinson, Starrenburg, and Roberts, was used to measure

the social support perceived by pregnant women. The MSS is a self-report

questionnaire, consisting of 6 items, that allows the assessment of the amount of care

and love women perceive from their family, partner, and friends. Participants were

asked to report how much they felt their significant others' support on a 5-point

frequency scale, from 1 (never) to 5 (very much). Scores were obtained by summing the

response categories selected by the participants. Scores ranged from 6 to 30. For the

current sample, Cronbach's alpha was .76.

The Italian validated version of the Edinburgh Postnatal Depression Scale (EPDS) (17),

devised by Cox and colleagues was used to assess depressive post-partum symptoms.

The EPDS is a self-reporting screening instrument used for postpartum depression,

consisting of ten short statements with four possible responses. The patient circles the

response that is closest to how she has been feeling in less than five minutes. Each

question is scored with a 0,1,2 or 3. The higher a score is, the more likely the woman is

experiencing some level of perinatal depression. Cox and colleagues recommend a total

score of 12 or greater as an indicator of possible depression. A cut-off score of 9 or 10

has been recommended in the UK for first stage screening. It has been used

internationally and translated into more than 20 languages. The predictive value of

EPDS is 73%. For the current sample, Cronbach's alpha was .87.

Data Analysis

Structural Equation Modeling (SEM), using MPLUS was employed to investigate the

hypothesized model. The robust procedures with maximum likelihood parameter

estimators (MLR) were used to account for the multivariate non-normality of variables.

The model fit was evaluated using the χ^2, the Comparative Fit Index (CFI) and Tucker

& Lewis Index (TLI) and the Standardized Root Mean Square Residual (SRMR)

Results

Table 1 reports descriptive statistics of personal and clinical characteristics of the study population.

INSERT ABOUT HERE TABLE 1

As the table shows, our sample revealed a good range of maternal social support during pregnancy and a level of postpartum depression far from clinical cut off. The birth experience, assessed by clinical variables, is in line with the typical clinical indices of nulliparous childbirth.

SEM analyses showed that the model tested has a good fit to the data (χ^2 = 380.93, df =10, p < .001, robust CFI = .98, TLI =. 96, SRMR =. 03).

Figure 1 presents the standardized parameters estimate; total, direct and indirect effects; and R^2 values of the hypnotized model.. As the figure shows, post-partum depression was influenced negatively by maternal perceived social support, and positively by the clinical variables of delivery. In addition to these direct effects, analyses revealed a significant effect of Maternal Perceived Social Support on post-partum depression, mediated by the quality of birth clinical aspects evaluated.

INSERT ABOUT HERE FIGURE 1

Discussion

The focus of this study was to explore the influence that maternal social support women perceive during pregnancy plays on post-partum depression outset, both directly and indirectly, through the mediate effect of clinical delivery characteristics.

Firstly, our results verified that the social support constitutes a significant protection factor against a long, difficult, and painful childbirth experience. In fact, women who during pregnancy perceive a broader social support from their families, friends, and partner use less chemical methods for pain relief, need less oxytocin to increase uterine contraction and, thus, have a normal labor length.

This result significantly confirm data from previous experimental studies that found a significant relationship between the social support perceived by women during pregnancy and many clinical factors, such as birth weight, five-minute Apgar, and abnormal labor progress (7).

Moreover, our results showed that social support represents a significant protective factor also against post-partum depression, both directly and indirectly through the mediate effect of good clinical delivery characteristics. The easier childbirth experience plays a significant protective role for the onset of postpartum depressive symptoms outset. This result is clinically relevant because depressed mothers experiencing a lack of affection toward their children can lead to feelings of guilt or worthlessness, and they often feel anxious about doing psychological or physical harm to their children. Moreover, the social portrayal of an idealized motherhood, along with the stigma of mental illness, frequently add to this problem, which is often underreported by new mothers who attempt to hide their distress, and struggle alone.

Therefore, post-partum depression can impact a woman's capacity for parenting, which in turn can decrease her sense of competence in the mothering role, potentially exacerbating her depression (17).

Taken together, our data significantly confirm that childbirth represents a crucial experience in a woman's life; an experience in which physical, psychological and social dimensions are highly connected and influenced by one another.

Despite the fact that our findings are of interest, there are a number of limitations to this study.

First of all, we have considered only the social support offered by partner, family, and friends. Future research could explore the social support given by gynecologists, midwives, and medical and nursing staff during pregnancy and childbirth, and evaluate the influence of this kind of support on the mothers' delivery experience and post-partum depression outcomes.

A second limitation is that the sample included only nulliparous women with no complications and a single fetus. An important direction for the future could be to extend this research to samples of women who already had one or more births, or with a problematic or medically assisted pregnancy, or, finally, with a twin pregnancy. Additional data from new studies might give greater validity to our results

Conclusions

Despite the limitations of the study, these results have a relevant clinical value and suggest the opportunity to improve health policies that support not only the medical aspects connected to pregnancy and birth, but also involve complete care for a woman's well-being, both from a social and psychological point of view.

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Reprint Address: Prof. Franca Tani, Department of Health Sciences, University of Florence, Via San Salvi, 12, Pad. 26 – 50135, Florence, Italy

Table 1 - Descriptive statistics of personal and clinical characteristics of the study

population.

	Range	*Mean ± SD*	*Skewnes*	*Kurtosis*
Age	18-42	31.75 ± 4.89	-.26	-.21
Length of couple relationship (years)	1-22	6.45 ± 3.98	.97	.79
Maternal social perceived support	11-25	19.93 ± 2.90	-.43	.10
Post-partum Depression	1-24	8.31 ± 5.59	.64	-.39
Duration of labor (hours)	2-18	7.63 ± 2.43	.75	1.42
Duration of oxytocin (hours)	0-18	1.36 ± 1.99	1.51	1.63
Epidural analgesia (hours)	0-12	2.24 ± 3.14	.92	-.64

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Figure 1 – Theoretical hypothesized tested model
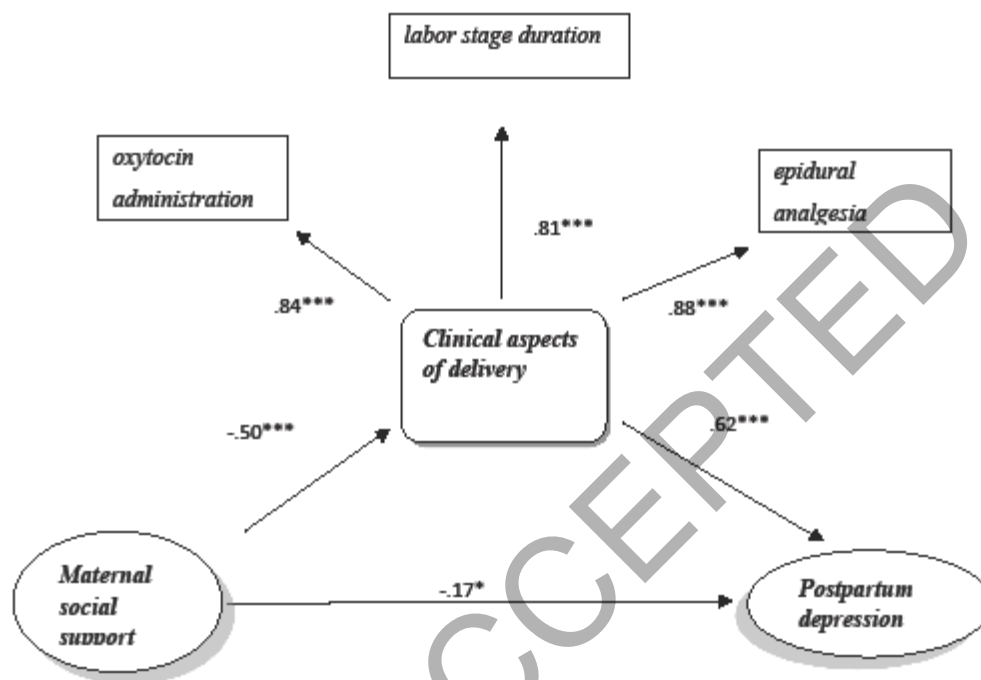
Total effect: $\beta = -.48$, p<.001; Total indirect: $\beta = -.31$, p<.001; Direct: $\beta = -.17$, p<.01

R^2 values: Post-partum depression = .52; Labor stage duration = .66; Oxytocin administration =.71;

Epidural analgesia =.78; Clinical variables of delivery =.25