

Maternity Social Support

**Francesca Dabrassi, Antonio Imbasciati, and
Anna Maria Della Vedova**

Discipline of Psychology, University of New England, NSW, Australia

ABSTRACT: Most literature suggests the importance of social support during the pregnancy. This research utilized the Spearman's rho coefficient, which was calculated between the Maternity Social Support Scale (MSSS) score and the Center for Epidemiologic Studies Depression Scale (CES-D) score, as well as Prenatal Attachment Inventory (PAI) score. The results confirm that during the pregnancy a high social support level is associated with a low depression level and a high social support level is associated with a high prenatal attachment level. Therefore, these results are significant, especially for maternity wellbeing promotion programmes.

KEY WORDS: Maternity social support, Pregnancy, Prenatal Attachment, Depression, Psychosocial factors.

INTRODUCTION

Since the 1970s some epidemiological contributions have highlighted the importance of social relationships and social support on health maintenance (Caplan, 1974; Cassel, 1976). Several reviews illustrate the effects of support and social networks in areas like coronary disease, cancer, HIV, depression and senile dementia, chronic disease in the elderly, and in families with a disabled member. In addition to these conditions pregnancy has been investigated, showing that a lack of social support constitutes an important risk factor for maternal well-being during pregnancy and has adverse effects on the outcomes of the pregnancy (Kitamura, Sugawara, Sugawara, Toda, & Shima, 1996; Elsenbruch, et al., 2006).

Maternity is a period of significant life change requiring major

Psychology Division, Faculty of Medicine, University of Brescia, viale Europa 11, 25123 Brescia, Italy. Address for correspondence: Francesca Dabrassi, Clinical Psychology Division, Faculty of Medicine, viale Europa 11 – 25123 Brescia, Italy. Email: dabrassi@med.unibs.it

psychological adjustment (Da Costa, Larouche, Dritsa, & Brender, 1999). One important risk factor affecting maternal wellbeing during and after the pregnancy is the lack of, or a low level of, social support. From a welfare point of view, the hospital period has become shorter, resulting in fewer services to sustain women in the postpartum period, while from a family welfare point of view, women today often live far from their families and frequently have to face a family break-up, even in this sensitive moment. The lack of a social network able to support the psychic process of maternity could lead to a disturbed parental function (Dabrassi & Imbasciati, 2008).

During pregnancy the woman needs to create a “physical and mental space” for the foetus: this is promoted if she has a good couple relationship and she is supported by a social network (Cardinali & Guidi, 1992). In these conditions she can feel the representations of herself as a mother and her partner as a father, as well as her future child. In particular, the father is considered the first “motherhood facilitating element” (Delassus, 1995) because he is the primary person to sustain the process of the pregnancy in order to facilitate “the unique affectionate relationship which develops between a woman and her foetus” (Müller, 1993, 1996; Della Vedova, 2005) and continues with her child after birth. Some studies have shown that social support is one of the factors that influence the degree of maternal sensitivity (Teti & Gelfand, 1991; Broom, 1994; Goldstein, Diener, & Mangelsdorf, 1996; Kivijarvi, Raiha, Virtanen, Lertola, & Piha, 2004; Shin, Park, & Kim, 2006). The mother needs close relationships and social support in order to face maternity. In every day life a mother benefits from a support network, enabling her to care for her child and sustain the development of the socio-emotional tuning process (Stern, 1995).

Broom (1994) has found that the mother’s perception of her husband’s participation in family life was a significant predictor of maternal sensitivity. Han (2002) also suggested that mothers who received physical and psychological support from someone in the postpartum period showed a higher maternal sensitivity than mothers who did not have any help, although the difference was not statistically significant. Kivijarvi and colleagues (2004) found that mothers who showed higher maternal sensitivity scores experienced less difficulty with their infants and this was associated with more support from their partner and best friends than mothers who showed lower sensitivity scores. Stern (1995) described the peculiar organization of the psychic life a woman faces with the birth of a child, which he termed a “motherhood constellation.” Stern underlined the need of the mother to create and regulate a protective support network

that, we are convinced, is sought beginning from conception. Several studies (Cranley, 1981, 1984; Condon & Corkindale, 1997) showed a positive correlation between the social support perceived and the development of the maternal-fetal attachment, even if the parental role is still not well specified (Della Vedova, 2005).

It is, therefore, important that research studies investigating the factors of protection in maternity concentrate on the levels of emotional and physical support the mother-foetus diade has available (Della Vedova et al., 2007; Imbasciati, Dabrassi, & Cena, 2007).

Webster and colleagues (Webster et al., 2000) noted that, despite there having been a recognition from the scientific community of the role of some psychosocial factors like abuse and low social support on the negative outcomes of pregnancy and the postpartum period (Nuckolls, Cassel, & Kaplan, 1972; Collins, 1993; Wilson, Reid, Midmer, Biringer, Carroll, & Stewart, 1996; Barnet, Joffe, Duggan, Wilson, & Repke, 1996), similar factors are rarely considered in the screenings at the prenatal booking-in visit. Their interest, therefore, has been to develop a new brief instrument, the Maternity Social Support Scale (MSSS), for use in planning preventive prenatal interventions and, thereby, reduce the incidence of postnatal depression. Their results (Webster et al., 2000) revealed that women with low social support in pregnancy were more likely to report poorer health during pregnancy ($p=.006$) and postnatally ($p<.001$), to book later in pregnancy for prenatal care ($p=.000$), to seek medical help more frequently ($p=.004$), and to be more depressed postnatally ($p=.0001$) than well-supported women.

Considering such important results from a preventive point of view, it seemed important and useful to assess: 1) the relationship between the level of social support and the level of depression in the prenatal period, and 2) the relationship between the level of social support and the level of prenatal attachment during pregnancy. We decided to use the Center for Epidemiologic Studies Depression Scale, Italian version CES-D (Fava, 1981), to assess the presence of the depressive symptomatology because we agree with Mosack and Schore (2006) that this last instrument is the most reliable to identify women with depression during pregnancy and the postpartum period. We have also considered the relationship between Maternity Social Support scores (Webster et al., 2000) and prenatal attachment scores measured by the Italian version of the PAI (Della Vedova, Dabrassi, & Imbasciati, 2008).

As social support is correlated to prenatal maternal attachment (Cranley, 1984; Condon & Corkindale, 1997), which is considered a predictor of the early mother-child relationship (Fuller, 1990; Siddiqui

& Hagglof, 2000) and of postpartum depression (Webster et al., 2000), we hypothesize that a high level of social support could be associated to a high level of prenatal attachment and, contemporarily, to a low level of depression.

With this intention we have conducted a cross-sectional survey on a sample of Italian pregnant women.

METHOD

Participants

A sample of 274 pregnant women was recruited from prenatal education classes of two Northern Italian cities: Brescia (S. Orsola Hospital, N=108) and Verona (ULSS20, a district of the public medical service of Verona, N=166). The only criterion for eligibility was that women had to be able to read and to write Italian. The sample is considered "consecutive" because all subjects are chosen on a strict "first come, first chosen" basis, coherent with the definition of the Glossary of methodological terms of the Journal of the American Medical Association. All women agreed to participate in this study; the response rate was 100%. Thirteen subjects were excluded from the analysis due to missing data (listwise deletion procedure). A total of 261 subjects (95.3%) remained in the sample for data analysis. The sample size consisted of adequate subjects for factor analysis according to Nunnally's recommendation (Nunnally & Bernstein, 1994) of 10 scores per variable/item.

The age of the women ranged from 18 to 42 (mean=31.7, std. deviation=4.154 years). The majority of the women (95.4%) were Italian, married (79.7%), had a high school qualification (57.9%) and were employed (38.6%). The majority of the women (60.6%) were between the 28th and the 32nd gestational week (mean=29.52±3.289; range=17-39) and 78.1% were primipara. A high percentage of the women (86.4%) said that the pregnancy was desired and planned (56%), and low risk (97.3%). A few of the women (3.5%) reported having had a previous abortion, 16.5% of the women reported having had a miscarriage. The sociodemographic characteristics and the descriptive data of pregnancy variables are shown in Tables 1 and 2.

The Maternity Social Support Scale, an Italian translation of the MSSS (Webster et al., 2000; Dabrassi, Imbasciati, & Della Vedova, 2009) was developed using a translation-backtranslation procedure (Van der Vijver & Leung, 1997). The MSSS is a self-report scale consisting of 6 Likert-type items, of which two are reverse scored,

Table 1: Sociodemographic characteristics sample

<i>Site of recruitment</i>	<i>BRESCIA</i>	<i>VERONA</i>	<i>TOTAL</i>
	<i>(N=101)</i>	<i>(N=160)</i>	<i>(N=261)</i>
<i>Age</i>			N=258
< 26	8 (7.9%)	8 (5.1%)	16 (15.8%)
26-35	72 (71.3%)	119 (75.8%)	191 (74.0%)
>35	21 (20.8%)	30 (19.1%)	51 (19.8%)
<i>Nationality</i>			N=261
Italian	99 (98.02%)	150 (93.75 %)	249 (95.4%)
Not Italian	2 (1.98%)	10 (6.25%)	12 (4.6%)
<i>Educational level</i>			N=261
Midle School	18 (17.8%)	15 (9.4%)	33 (12.6%)
High School	46 (45.5%)	105 (65.6%)	151 (57.9%)
University	37 (36.6%)	40 (25%)	77 (29.5%)
<i>Occupation</i>			N=259
Unemployed	3 (3%)	11 (7%)	14 (5.4%)
Factory worker	10 (9.9%)	28 (17.7%)	38 (14.7%)
Clerical Worker	40 (39.6%)	60 (38.0%)	100 (38.6%)
Free-lance worker	17 (16.8%)	12 (7.6%)	29 (11.2%)
Part-time worker	3 (3%)	12 (7.6%)	15 (5.8%)
Student	3 (3%)	2 (1.3%)	5 (1.9%)
Other	25 (24.8%)	33 (20.9%)	58 (22.4%)
<i>Marital status</i>			N=261
Married	74 (73.3%)	134 (83.8%)	208 (79.7%)
Cohabitant	18 (17.8%)	20 (12.5%)	38 (14.6%)
Single, with stable relationship	5 (5%)	4 (2.5%)	9 (3.4%)
Single, alone	2 (2%)	1 (0.6%)	3 (1.1%)
Other	2 (2%)	1 (0.6%)	3 (1.1%)
<i>Years of marriage</i>			N=260
Mean (std. deviation)	2.44 (\pm 2.636)	3.41 (\pm 3.58)	3.03 (\pm 3.275)
Range	0-12	0-20	0-20
<i>Years of relationship</i>			N=249
Mean (std. deviation)	8.04 (\pm 4.306)	8.72 (\pm 4.788)	8.45 (\pm 4.602)
Range	0-20	0-25	0-25

NOTE Numbers may not add up to 261 because missing data.

Table 2: Descriptive Data of pregnancy variables

<i>Site of recruitment</i>	BRESCIA (N=101)	VERONA (N=160)	TOTALE (N=261)
<i>Gestational week</i>			N=259
< 24	16 (16.2%)	4 (2.5%)	20 (7.7%)
25-27	22 (22.2%)	22 (13.8%)	44 (17%)
28-32	50 (50.5%)	107 (66.9%)	157 (60.6%)
> 33	13 (12.9%)	27 (16.9%)	40 (15.3%)
<i>Parity</i>			N=260
Primipara	88 (87.1%)	115 (72.3%)	203 (78.1%)
Multipara	13 (12.9%)	44 (27.7%)	57 (21.9%)
<i>Desired pregnancy</i>			N=258
Yes	88 (88%)	135 (85.4%)	223 (86.4%)
No	12 (12%)	23 (14%)	35 (13.6%)
<i>Planned pregnancy</i>			N=259
Yes	57 (56.4%)	88 (55.7%)	145 (56%)
No	44 (43.6%)	70 (44.3%)	114 (44%)
<i>Pregnancy risk</i>			N=256
High	2 (2%)	5 (3.2%)	7 (2.7%)
Low	98 (98%)	151 (96.8%)	249 (97.3%)
<i>Miscarriage</i>			N=260
Yes	15 (14.9%)	28 (7.6%)	43 (16.5%)
No	86 (85.1%)	131 (82.4%)	217 (83.5%)
<i>Abortion</i>			N=260
Yes	5 (5%)	4 (2.5%)	9 (3.5%)
No	96 (95%)	155 (97.5%)	251 (96.5%)

NOTE Numbers may not add up to 261 because missing data.

ranging from 1 (never) to 5 (always). The total score can range from 6 to 30, with higher scores indicating higher levels of maternity social support. Based on results of an unreported pilot study, the authors indicated cut-off points to distinguish the different levels of maternity social support: The subjects obtaining a score inferior to 18 have a low level of support, the subjects obtaining a score between 19 and 24 have a medium level of support and, finally, the subjects obtaining a score superior to 24 have an adequate level of support.

The Center for Epidemiologic Studies Depression Scale, Italian version CES-D (Fava, 1981) is a self-report scale which assesses the depressive symptoms. It consists of 20 Likert-type items ranging from 0 (it has never happened to me or almost) to 3 (it has always happened to me or almost always); 4 items are reverse scored. The total score of the CES-D, which can range from 0 to 30, assesses the depression level; a cut-off of 23 is normally used to discriminate the subjects with a higher risk of depression. The instrument showed a good internal consistency in a non-clinical sample (Cronbach's $\alpha = .85$).

The Prenatal Attachment Inventory, Italian PAI version (Della Vedova, Debrassi, & Imbasciati, 2008) is a self-report scale consisting of 21 Likert-type items ranging from 1 (almost never) to 4 (almost always). Total scores can range from 21 to 84 with higher scores indicating higher levels of prenatal attachment. The Italian version of the instrument showed a good internal consistency (Cronbach's $\alpha = .87$).

The sociodemographic and anamnestic questionnaire investigates age, nationality, level of education, occupation, marital status, years of marriage and years of couple relationship, gestational week, parity, pregnancy risks, desired and planned pregnancy, miscarriage, stillbirth, and abortion.

Procedure

The study was presented to the women participating in childbirth education classes at St. Orsola Hospital (Brescia) and at district 3 of the public medical service (Ulss 20 Verona). The women, who agreed to signing the consent form, filled in the research sheets in the childbirth education classroom in the presence of a psychologist and a midwife. The study was presented to the women on the first day of the childbirth education class so that the answers were not influenced by the information they obtained during the course; the participation in the investigation was voluntary and anonymous. The

time period for data collection was six months.

Data analysis

The analysis was carried-out with the SPSS 14.0 version of Windows. To evaluate the internal consistency of the MSSS scale, Cronbach's Alpha coefficient was calculated. The Kolmogorov-Smirnov test was applied to examine the distribution of the MSSS scores. Kruskal-Wallis and Mann-Whitney tests were used to compare sociodemographic and pregnancy characteristics in the sample concerning recruitment sites. The Mann-Whitney test was used to determine if MSSS scores varied according to the site of recruitment, nationality, parity, desired and planned pregnancy, pregnancy risk, and previous miscarriage. The Kruskal-Wallis test was applied to determine if MSSS scores varied according to the education level, occupation, and marital status. The Spearman's rho coefficient was calculated for the quantitative characteristics, such as women's age, years of marriage and couple relationship, number of previous children, and gestational age.

To evaluate the relationship between the level of social support and the level of depression and between the level of social support and the level of prenatal attachment, the Spearman's rho coefficient was also calculated between the MSSS score and the CES-D score as well as the PAI score.

RESULTS

The mean MSSS score was 25.93 (std. deviation=2.849); scores ranged from 15 to 30 (possible range = 6 to 30). The values of the MSSS total score were not normally distributed ($z=2.352$, $p=.000$). The internal consistency was calculated by the Cronbach's alpha coefficient, which was .516 (Table 3). Both these results are discussed below in the discussion.

According to the Webster cut-off criterion (Webster et al., 2000), 4 women (1.5%) were classified with a low level of social support, 62 (23.8%) with a medium level, and 195 (74.7%) with an adequate level of social support.

The Mann-Whitney test provided no significant statistical difference with the MSSS score concerning socioanamnestic characteristics of the sample with regards to recruitment sites ($p=.110$), nationality ($p=.238$), desired ($p=.106$) and planned pregnancy ($p=.257$), miscarriage ($p=.051$), pregnancy risk ($p=.825$); while it

showed significant difference with regards to parity ($p=.008$) and abortion ($p=.044$). The Kruskal-Wallis test provided no significant statistical difference with the MSSS score due to the marital status ($p=.055$), while there was a difference with regards to the education level ($p=.023$) and occupation ($p=.022$). Moreover, in this sample, the MSSS total score showed no correlation with the women's age ($p=.589$), the years of marriage ($p=.522$) and the years of couple relationship ($p=.335$), or with the number of previous children ($p=.060$) and the gestational week ($p=.056$).

The CES-D and the PAI were correctly completed, respectively, by 211 (80.84%) and 245 (93.87%) women, that obtained a CES-D mean of 11.39 (std. deviation= 7.398) and a PAI mean of 60.73 (std. deviation=9.148). the Cronbach's alpha coefficient was .835 for the CES-D and .866 for the PAI (Table 3). According to the depression cut-off criterion (CES-D) suggested by Fava (33), 15 women (7.1%) showed depressive symptoms.

Finally, the MSSS total score negatively correlated with the total CES-D score ($\rho=-.343$, $p=.000$) and positively with the total PAI score ($\rho=.168$, $p=.028$).

Table 3: Cronbach's alpha Coefficient, mean, std. deviation, median and range of MSSS, PAI and CES-D scores.

	<i>MSSS</i>	<i>PAI</i>	<i>CES-D</i>
	(<i>N=261</i>)	(<i>N=245</i>)	(<i>N=211</i>)
Cronbach's α	.516	.866	.835
Mean	25.93	60.73	11.39
Std. Deviation	2.849	9.148	7.398
Range	15-30	37-83	0-40

DISCUSSION

The main purpose of the present study was to assess: 1) the relationship between the level of social support and the level of prenatal attachment, and 2) the relationship between the level of social support and the level of depression, in 261 pregnant women.

MSSS total scores of our sample women were not normally distributed. The high value of the total score indicated that most of the subjects of this study were inclined to have a high level of social support. First of all, this tendency could be tied to the peculiar characteristics of our sample: it mainly consisted of young Italian women, with a good education level and a stable working occupation, mostly married or with a stable relationship, and participating in a prenatal education course. This result is not surprising because other studies found that women recruited from childbirth classrooms were inclined to show the highest response rate with regards to social support perceived as well as other indexes, like the attachment to their foetus (Mercer & Ferketich, 1990; Fuller, Moore, & Lester, 1993; Dabrassi, Della Vedova, & Imbasciati, 2007). It is not clear if this disposition was due to the peculiarity of the characteristics of our recruited sample, which may have been women who really enjoy a positive, supportive situation, or it might have resulted from social desirability influencing the choice of answers.

The tendency to have the highest response scores, in a dimension similar to our dimension, has also been found by another research study (Prezza & Principato, 2002). That study was conducted on a more heterogeneous Italian subject sample than what we had considered (not only pregnant women): The sample was composed of men and women between 18 and 77 years of age, residents in centre-southern Italy, and subjects were contacted in different residential and cultural areas, as well as recreational circles and universities. The authors found that the total score of social support varied with regards to the women's age and marital status; our data did not confirm that result.

Our analysis reveals, in fact, that the level of social support showed statistical significant differences with regards to education level and occupation: women with a higher level of education and that have a clerical or a free-lance job may have more potential sources of social support. The primipara women seem to have more social support than women who have had previous pregnancies. This was true as well for women who had never had an abortion in comparison to those who had. This data confirmed the diffused idea that women who cannot

count on the help of their own partner and who show risk characteristics, also have less support.

A negative correlation emerges from the analysis between the level of social support perceived by the women and the level of depressive symptomatology ($\rho = -.343$) during the pregnancy. This result confirms the negative relationship ($\rho = -.24$) which emerged from the Collins' study (1993) underlining social support, particularly that of the child's father, is to be considered a factor of prevention of possible depression, as has been highlighted by other studies (Cramer, 1999). It also emerges that a good level of social support is connected to a good level of prenatal attachment ($\rho = .168$). This result seems to confirm the idea that a family climate in which there is support among the family members is positively correlated with the maternal attachment to the foetus (Cranley, 1984; Fuller et al., 1993; Condon & Corkindale, 1997; Wilson et al., 2000; Salisbury, Law, LaGasse, & Lester., 2003; Della Vedova, 2005).

Considering the value of the Cronbach's alpha ($\alpha = .516$), the questionnaire doesn't show a good internal consistence; in fact also eliminating item 5, with which the Cronbach's alpha would reach .543, the value would not reach the $\alpha > .70$ threshold, pointed out by the scientific community as an index of good reliability (Nunnally & Bernstein, 1994). A hypothesis could be that the Italian translation is not adequate, but our translation was developed by a translation-backtranslation procedure and so it is more probable that the problem could be due to cultural differences (language, sociocultural context, etc.) between the Italian and Australian population. The two cultures may give different "emotional" meanings to different items, even if they were correctly translated. Despite the six items with clarity in the Italian version (verified with the use of the back-translation procedure), it is possible that these items are considered not very significant by the women of our sample or that they explore such different aspects of social support, that they do not have coherent results among themselves (internal consistency). The last hypothesis could be that the questionnaire has a low level of validity even in the original version. It will be interesting to build an ex-novo questionnaire that is not spoiled initially by these cultural biases and by the structural defects of the scale, based on the above mentioned considerations.

CONCLUSION AND IMPLICATIONS FOR PERINATAL CARE

Social relationships play a central role in shaping the quality of a person's life, particularly on health and wellbeing. Although there is fairly strong evidence that social support is beneficial to wellbeing, it is not always taken into consideration in health research studies. This may be due, partially, to the difficulty of assessing and of operationalizing the social support construct in order to create reliable measuring instruments. As a result, there are sometimes gaps present in the literature. We also had some problems choosing the instrument in our study.

The present research aimed at studying social support in a group of women experiencing a significant life change, i.e. pregnancy, which may increase the importance of social support.

As has emerged from previous studies (Raynor, 2006), our results confirm that low levels of support during the prenatal period are associated with low levels of prenatal attachment and high levels of depression. This could have harmful effects on the pregnancy outcome or on the development of the child. Women for whom social isolation or a low level of support from the child's father or their parents, especially in the case of young mothers, should have available further support from the socio-clinical and professional personnel (Norbeck, DeJoseph, & Smith, 1996). It is, therefore, important to have a reliable indicator to assess maternity social support in clinical interviews and to identify women at-risk. By doing this, it is possible to verify the low level of social support of these subjects in order to plan focused intervention (for instance, insertion in support groups or direct services).

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