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ORIGINAL

Protective factors and mental health in couples who expect a child in confinement



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Abstract

Objective: Adverse situations can affect the mental health and support of pregnant women and their partners, such as the COVID-19 pandemic and the resulting confinement periods. The main objective of this study was to evaluate the protective factors in the mental health of pregnant women and their partners, as well as the interrelationships of these factors, in an adverse situation, through the assessment of resilience, perceived support, anxiety, depression and stress.

Methods: The sample consisted of 38 women with no pregnancy risk and 25 partners evaluated between gestation weeks 24 and 31. This is a cross-sectional, descriptive, correlational study.

Results: The pregnant women presented lower resilience, greater social support (especially family support), and greater intensity of depression, anxiety and stress than their partners. Moreover, a mutual relationship was found, both in depression and general support, between the members of the couple.

Conclusion: During the confinement, pregnant women have presented greater vulnerability in mental health, despite perceiving greater social support than their partners. Greater resilience in the partners could be a relevant factor to cope with situation of adversity during pregnancy, as indicated by the relationship detected between the risk and protective factors. It would be desirable to improve the attention and care of pregnant women during prolonged periods of adversity, including the couple, and to strengthen mutual support.

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PALABRAS CLAVE

Embarazo;
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COVID-19

Factores protectores y salud mental en parejas que esperan un hijo durante el confinamiento**Resumen**

Objetivo: La salud mental de las mujeres embarazadas se ve afectada fundamentalmente por sintomatología ansiosa-depresiva. Situaciones de adversidad pueden afectar en la capacidad de afrontamiento y en los apoyos, también en sus parejas. El objetivo principal fue evaluar los factores de protección en la salud mental de gestantes y sus parejas, así como la interrelación entre ellos en una situación de adversidad. Para ello se evaluó la resiliencia, la percepción de apoyo, la sintomatología ansiosa y depresiva y el nivel de estrés de mujeres embarazadas y sus parejas durante un periodo de confinamiento cerrado.

Método: Estudio trasversal descriptivo correlacional. La muestra estuvo constituida por 38 gestantes sin riesgo en el embarazo y 25 parejas. Fueron evaluados entre la semana 24 y 31 de embarazo.

Resultados: Las gestantes presentaban menor capacidad de resiliencia, mayor percepción de apoyo social, especialmente apoyo familiar, y mayor intensidad de síntomas depresivos, ansiosos y de estrés que sus parejas. Además, se encontró una relación mutua, tanto en sintomatología depresiva como en apoyo general, entre los miembros de la pareja.

Conclusiones: Durante el confinamiento, las gestantes han presentado mayor vulnerabilidad en salud mental, a pesar de percibir mayor apoyo social que sus parejas. Una mayor resiliencia en las parejas podría ser un factor relevante para afrontar situaciones de adversidad durante el embarazo, como indica la relación detectada con los factores de riesgo. Sería deseable mejorar la atención y el cuidado a las mujeres embarazadas durante periodos prolongados de adversidad, incluyendo a la pareja, para reforzar el apoyo mutuo.

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Introduction

Physical and mental health in pregnant women is especially relevant, as it affects their emotional well-being, their bond with their child, and the future development of the latter. This is a psychologically vulnerable population, with greater risk of presenting stress, anxiety and depression.^{1,2} More specifically, stressful life events have been reported as risk factors for mental health in pregnant women.³

The COVID-19 pandemic had an emotional impact on the entire population,⁴ especially in vulnerable groups. Thus, most of the research in this topic agrees that the emotional vulnerability of pregnant women increased during the COVID-19 pandemic, with higher levels of depression being reported (25.3–57.1%),^{5–9} as well as anxiety (30–64%).^{6–9} In a Dutch study, it was found that the percentages with clinical levels of depression and anxiety were doubled (from 6% to 12% and from 24% to 52%, respectively).¹⁰ Most of the studies show depression levels above the expected in pregnant women, as well as above the usual in the general population, during the pandemic.⁴

Regarding anxiety, pregnancy can be a stressful experience, with such risk increasing during the pandemic,¹¹ especially in the second and third trimesters.¹² During the confinement period, studies have also identified an increase in fear and anxiety,^{5,13} and that anxiety is significantly related to mental health^{7,14,15} and quality of life.¹⁶

Although not with the same frequency, different factors that could protect the emotional well-being of women during pregnancy have been studied, such as social support,^{17–21} partner support,^{19,20,22} and resilience.²³ Despite the small number of studies that evaluate the partner, it has been pointed out that the lack of social support in both the woman and her partner influenced depression, showing a relationship between support and depression.²⁴

Without a doubt, the social, personal and professional support of pregnant women has been affected by the situation of confinement and isolation, which may have had an impact on their emotional health. A positive and moderate–strong relationship has been found between anxiety and depression, and a negative relationship has been identified between these two and perceived social support.⁸ In the case of depression, a negative relationship has been established with partner support and healthy behaviours.²⁵ This situation also affects partners, with family support being a relevant factor with respect to depression in the perinatal period during the pandemic.²⁶

In regard to the protective factors of mental health in pregnant women during the confinement, healthy behaviors and social support have been pointed out.^{8,25} Other studies have also highlighted the importance of social support and interpersonal relationships,²⁷ and emotional coping skills.⁷ Vacaru et al.¹⁰ stated that women perceived greater partner support, but lower social and healthcare support; moreover, the three support systems (partner, social network

and prenatal healthcare support) influenced their emotional well-being, and the stress perceived by the partner during the pandemic has been associated with instability in the partner relationship.²⁸

Numerous studies have been focused on the emotional state of pregnant women, although only a few works address perceived support, and there are scarce data about other protective variables, such as resilience during the COVID-19 pandemic. Few studies have tackled the emotional state of the partner and their perception of support in this complex and shared situation.

Thus, the main objective of the present research was to assess the protective factors in the mental health of pregnant women and their partners, and the interrelationship between them in a situation of adversity. This was specified in three objectives: (1) determine the perception of the protective factors and mental health of pregnant women and their partners in a situation of adversity such as confinement, as well as the differences between them; (2) analyse the relationship between protective factors and mental health, also considering the parental role; and (3) analyse the relationship between these variables in the members of the couple.

Material and methods

Design

This is a cross-sectional, descriptive and correlational study evaluating protective factors and emotional health.

Population

The participants visited a public health centre in a city of Southern Spain for a pregnancy revision. The sample was selected by convenience sampling, including women who were at gestation week 26. Those who presented gynecological risk factors were excluded from the study.

At the 20-week ultrasound visit, nursing staff introduced the women and their partners to the research. Subsequently, those who agreed to participate were contacted via telephone call to explain and specify the collaboration. A link was sent via email to each member of the couple, where they could find the informed consent and the sociodemographic and psychological questionnaires. The email was sent to 55 pregnant women and their partners, of whom 44 and 29 responded, respectively. Six women and four men were excluded due to the detection of uninformed risk factors, obtaining a final sample of 38 women and 25 partners.

Information collected

The pregnant women and their partners completed the following scales and questionnaires related to protective factors and emotional health, which have been widely used in the clinical and research scopes with similar populations:

Connor-Davidson Resilience Scale (CD-RISC 10).²⁹ The results are grouped in low *resilience* (0–29 points), medium *resilience* (30–35 points) and high *resilience* (36–40 points).³⁰ Cronbach's alpha was .87.

Multidimensional Scale of Perceived Social Support (MSPSS).³¹ This questionnaire evaluates *social support* in general, and it contains three subscales: *family*, *friends* and *other significant people*, with the latter being usually considered as partners. The results are categorised as low *social support* (1–2.9 points), moderate *social support* (3–5 points) and high *social support* (5.1–7 points). Cronbach's alpha was .89, .96, .95 and .83, respectively.

Edinburgh Postnatal Depression Scale (EPDS).³² A cut-off point of 8 or higher indicates *depression*.³³ Cronbach's alpha was .67. This scale was also used during the gestational period, demonstrating its usefulness.^{34,35}

Symptom Checklist-90-R (SCL-90-R).³⁶ Only the *anxiety* dimension was used, with an average interval of 40–60 points. Cronbach's alpha was .88.

Perceived Stress Scale (PSS).³⁷ The scores are grouped in: absence of *stress* (less than 19 points), mild *stress* (19–28 points), moderate *stress* (29–38 points), and *stress* (39–56 points). Cronbach's alpha was .377.

Temporisation

They were recruited between March and May 2020, during the confinement period in Spain due to the state of alert by COVID-19.

Ethical aspect

All the procedures were performed in accordance with the ethical standards of the institution and the Helsinki declaration. This study has been approved by the Research Ethics Committee correspondent (PC-0526-2016). Informed consent was obtained from all participants.

Statistical analysis

An incidental non-probabilistic sampling was conducted, resulting in a cross-sectional, descriptive-correlational study. The results were treated using statistical package IBM SPSS v26.

Internal consistency was calculated for all instruments (subscales and global scores) using Cronbach's α . The unbiased estimator of Cronbach's α was calculated. The following criteria were established for significance: excellent result (>0.9); good result ($.8-.9$); acceptable result ($.7-.8$); doubtful result ($.6-.7$); and poor result ($.5-.6$).

The variables showed normality, except anxiety and social support. However, non-parametric tests were used, due to the sample size. The descriptive data were obtained, and then Chi-squared, Mann-Whitney *U* or Kruskal-Wallis tests were applied accordingly. Spearman's correlation coefficient was calculated for the correlation analysis, and Wilcoxon signed-rank test was performed for the analyses of the members of one couple. The statistical significance level was established at $p < 0.05$.

The effect size for Mann-Whitney *U* was calculated with Hedge's *g*. For its interpretation, the values were considered as follows: $0.2 \leq d < 0.5$ (small effect size), $0.5 \leq d < 0.8$ (moderate effect size), $0.8 \leq d < 1.20$ (large effect size), and $d \geq 1.20$ (very large effect size). The effect

Table 1 Distribution of the sociodemographic and clinical characteristics of the sample.

Variables		Pregnant women M (SD)	Partners M (SD)
Age		32.68 (5.05)	34.80 (6.39)
Gestation week		26.97 (1.70)	
Variables	Categories	Pregnant women % (n)	Partners % (n)
Education level	Primary education	2.6 (1)	4 (1)
	Secondary education	36.8 (14)	52 (13)
	University	39.5 (15)	36 (9)
	Postgraduate	21.1 (8)	8 (2)
Employment situation	Unemployed	39.5 (15)	16 (4)
	Employed	60.5 (23)	84 (21)
Children	No children	73.7 (28)	
	With children	26.3 (10)	
Abortions	No	71.1 (27)	
	Yes	28.9 (11)	
Diseases	No	89.5 (34)	
	Yes	10.5 (4)	
Risk factors	Smoking	15.8 (6)	

Note. N = 63 (n pregnant women = 38, n partners = 25).

size for Chi-squared was calculated with Cramer's *V* and *Phi* for dichotomous variables. Lastly, the criteria for the effect size for Spearman's *r* were $r = 0.10$ (small), $r = 0.30$ (moderate) and $r > 0.50$ (large), which are also used for the interpretation of *V* and *Phi*.

Results

The sample was constituted by 63 people (38 pregnant women and 25 partners). The average age of the women was 32.68 years (SD = 5.05), and that of their partners was 34.80 years (SD = 6.39) (Table 1). The evaluation was conducted between weeks 24 and 31 of pregnancy (M = 26.97, SD = 1.70). All pregnancies were singleton and most of them were at the end of the second trimester of pregnancy (86.8%). A total of 73.7% of the women had no children, and 28.9% had had an abortion at some point.

In relation to the physical state of the participants, only 10.5% presented some disease, although without risk for the pregnancy. Of the total sample, 36.8% of the women and 52% of the partners presented an intermediate education level, and 60.5% of the women and 84% of the partners were professionally active.

The results of the protective factors showed that the partners presented moderate *resilience*, whereas the pregnant women presented low *resilience* ($p = 0.002$; Hedge's $g = 0.49$). In perceived support, both the women and their partners obtained high scores in all areas, with significant differences in *social* and *family support*, which were greater in the women ($p = 0.046$ and 0.010 ; Hedge's $g = 0.6$ and 0.61 , respectively) (Table 2).

Regarding the evaluation of mental health, the pregnant women showed high *depression* and *anxiety* levels, and mild

stress. On the contrary, the partners only presented a high level of *anxiety*, which was lower than that observed in the pregnant women. The differences between the women and the partners were significant in all three measures (Table 2).

According to the results categorised in the protective variables, a high percentage of both pregnant women and partners perceived *social support*, with no significant differences. On the other hand, 63.2% of the women obtained lower values in *resilience*, whereas 68% of the partners showed a medium or high level ($p = 0.008$; Cramer's $V = 0.394$). With regard to mental health, almost 58% of the women vs 28% of the partners showed *depression* ($p = 0.02$; Cramer's $V = 0.293$); similarly, a higher percentage of women presented *anxiety* (68.4%) compared to the partners (40%), although this difference was not significant. In relation to stress, the women reported mostly mild *stress* (55.3%), and 10.5% showed moderate *stress*, whereas 76% of the partners perceived no *stress* ($p = 0.04$; Cramer's $V = 0.461$).

In regard with the second objective of this study, i.e., to analyze the relationship between protective factors and mental health, the global sample obtained negative correlations between risk factors and the protective factor *resilience* ($r_{\text{depression-resilience}} = -.491$, $r_{\text{anxiety-resilience}} = -.397$ and $r_{\text{stress-resilience}} = -.484$). No relationship was observed between the risk factors and the support variables, although strong and positive correlations were detected between the different supports ($r_{\text{perceived social support-others support}} = .507$, $r_{\text{perceived social support-family support}} = .721$ and $r_{\text{perceived social support-friends support}} = .855$), and between the three risk factors *anxiety*, *depression*, and *stress* ($r_{\text{anxiety-depression}} = .770$, $r_{\text{anxiety-stress}} = .734$ and $r_{\text{depression-stress}} = .765$).

In the pregnant women, only *anxiety* showed a negative correlation with *resilience*. *Social support* was significant

Table 2 Comparison as a function of sex in means and effect size between pregnant women and partners in resilience, perceived support, depression, anxiety and perceived stress.

Variables ^a	Participant	Mean	SD	Mann-Whitney <i>U</i>	<i>p</i>	<i>g</i> ^b
Resilience (CD-RISC 10)	Women	27.94	4.65	257.00	.002	0.49
	Partners	31.20	8.76			
Social support (MSPSS)	Women	6.49	0.53	334.000	.046	0.6
	Partners	6.05	0.96			
Others support (MSPSS)	Women	6.84	0.33	382.500	.115	0.36
	Partners	6.67	0.61			
Family support (MSPSS)	Women	6.65	0.83	302.000	.010	0.61
	Partners	5.87	1.74			
Friends support (MSPSS)	Women	5.98	1.12	375.500	.157	0.316
	Partners	5.62	1.16			
Depression (EDPS)	Women	8.92	3.83	216.00	.000	0.68
	Partners	5.76	5.59			
Anxiety (SCL-90-R)	Women	5.72	5.92	263.500	.003	0.06
	Partners	9.52	6.66			
Stress (PSS)	Women	20.60	7.08	278.00	.006	0.58
	Partners	15.80	9.63			

^a CD-RISC 10: Connor-Davidson Resilience Scale; MSPSS: Multidimensional Scale of Perceived Social Support; EDPS: Edinburgh Postnatal Depression Scale; SCL-90-R: Symptom Checklist-90-R; PSS: Perceived Stress Scale.

^b Hedge's *g* effect size.

Bold: Significant.

tly and positively correlated with its three dimensions, and a significant and positive correlation was also identified between *family* and *friend support*. Regarding symptoms, the correlations between the risk factors were maintained.

In the partners, *resilience* was negatively correlated with perceived *stress* and positively correlated with other protective factors, such as the perception of *social*, *family* and *friend support* (large and moderate effect size). Moreover, negative relationships were found for *depression* with *social* and *family support*, and between *stress* and *family support*.

In the relationship between the different risk and protective factors, it was found that the perception of supports maintained the same significant and positive relationships as the group of women. Positive relationships were also detected between *family support* and *significant others*. In the case of the risk factors, the relationships were positive, with a large effect size (Table 3).

The third objective was to explore the relationship among the analysed variables (risk and protective factors) between the members of the couple.

With regard to the protective factors, relationships were found between the *social support* perceived by the pregnant women and that perceived by their partners, with a large effect size. Furthermore, in both members of the couple, *friend support* was related to the *social* and *family support* of the partner. There was also a correlation between the *social support* of the mother and the *family support* of the partners.

In the case of the risk factors, there was a positive correlation, with a large effect size, between the mother's *depression* and the partners' *depression* (Table 4).

Discussion and conclusions

Discussion

The pregnant women and their partners showed high levels of perceived social supports during the COVID-19 pandemic. However, these women showed depression and anxiety symptomatology, whereas the partners only showed anxiety, which makes pregnant women more vulnerable.

Thus, good supports were found, despite the situation that the participants experienced, especially social and family support in the pregnant women. Moreover, both the women and their partners considered each other as great support, which is in line with the results of Lebel et al.⁸ and Yirmiya et al.²⁵ However, the women presented lower resilience, whereas their partners showed better capacities to overcome adversity. They both obtained low support from friends, although instrumental and emotional support from friends and family in these circumstances could be especially significant for women²⁷ and their partners.

Despite the fact that they presented adequate supports, high percentage of women reaching depression and anxiety clinical levels. On the contrary, the partners presented good mental health. The levels obtained by the women were similar to those of Saccone et al.³⁸ and higher than most of those reported in previous studies.⁵⁻⁹ This points out the need to attend to these families even when they have a good support network, not only during the pregnancy but also during the upbringing. It is known that women with emotional difficulties during pregnancy are more likely to present psychological symptoms or disorders after delivery.³⁹ This poses a risk for the quality of life of women, as well as for the development of their children.

Table 3 Correlations between resilience, perceived support, depression, anxiety and perceived stress in pregnant women ($n=38$) and in partners ($n=25$).

Pregnant women	1	2	3	4	5	6	7	8
Partner								
1. Resilience		-.086	.115	.082	-.198	-.245	-.381	-.240
2. Social supp.	.577		.467	.535	.927	-.127	.067	.185
3. Others supp.	.293	.514		.129	.249	.003	.078	.184
4. Family supp.	.550	.888	.533		.360	-.304	-.266	-.228
5. Friends supp.	.441	.752	.370	.470		-.056	.125	.221
6. Depression	-.331	-.427	-.136	-.400	-.391		.667	.643
7. Anxiety	-.154	-.310	-.132	-.257	-.292	.717		.680
8. Stress	-.406	-.382	-.091	-.453	-.293	.711	.707	

Note: supp.: support.

Bold: Significant.

Table 4 Correlations between resilience, perceived support, depression, anxiety and perceived stress in couples ($n=50$).

Couples	1	2	3	4	5	6	7	8
1. Resilience	.151	.121	.128	.369	.052	-.141	.078	-.009
2. Social support	.162	.513	.200	.283	.427	-.203	-.015	.156
3. Others support	.156	.146	.111	.263	-.047	.063	-.079	-.045
4. Family support	.128	.488	.191	.081	.446	-.068	.146	.230
5. Friends support	.321	.454	.248	.488	.273	-.310	-.187	.045
6. Depression	.018	-.268	.293	-.307	-.292	.533	.365	.292
7. Anxiety	.067	-.100	.353	-.121	-.137	.321	.056	.105
8. Stress	.177	-.148	.134	-.119	-.242	.396	.047	.294

Bold: Significant.

On the other hand, the stress perceived by the pregnant women was lower than that reported in previous studies.⁷ This could be due to the fact that the situation of contagions by COVID-19 in the area was not high and the risk of contagion was low (prevalence data below the Spanish national average; <100/100,000 inhabitants).³⁹

Regarding the possible relationship between the protective and risk factors, resilience stood out in the mental health of the future parents. In the pregnant women, this protection with respect to anxiety was demonstrated, as well as in the stress perceived by the partners. This association has already been found in studies conducted before the pandemic.²³ In this way, it could be interpreted that the capacity to overcome adverse situations helps the future parents to improve their mental health. This capacity should be reinforced, especially in mothers during the COVID-19 pandemic, anxiety has been strongly related to mental health^{7,14,15} and quality of life.¹⁶

In the case of perceived support, there was no relationship between perceived social support and mental health in the pregnant women, although numerous studies highlight the importance and influence of the different types of support on the mental health of women.^{8,10,22,24,25,27} For Banker and LaCoursiere,¹⁸ the relationship with the partner can be a protective factor for women, especially for prenatal depression¹⁹; nevertheless, our data do not corroborate these results. On the contrary, this influence was present in the partners, fundamentally in depression.²⁶ Thus, although the perception of supports was high in both, the effect of the protective factors on emotional health was greater

in the partners. The women may have been influenced by resilience, as well as by cultural aspects such as differences in personal relationships, which are very present in the context of origin of the different studies. The women may have perceived social support, although without direct and close personal contact of family and friends, due to the confinement situation.

Furthermore, the pregnant women and their partners influenced each other, in both risk factors (e.g.: *depression*) and protective factors (e.g.: *social support*). Assessing the consequences of the different ways of coping with a situation of adversity for the family and the development of the child is, without a doubt, a research line that requires more attention.

This study has some limitations that must be pointed out. Firstly, the sample size was small, since the participants were contacted directly in a single health centre before the confinement situation. Moreover, although they were contacted from a public service that provides care to an area that is not considered to be of high sociodemographic level, the education level of the participants was medium-high, which does not allow generalising the results. This difficulty has also been highlighted by other researchers.^{24,40}

Conclusions

We could state that, even in areas where the rate of COVID-19 was not high during the confinement period, and in pregnant women with high social support, this situation

affected the mental health of the latter. This makes it necessary to pay attention to women in adverse situations, even when obvious risk factors are not observed during gestation. In their partners, the analysed protective factors (social support and resilience) seem to be more relevant in their mental health, although it is also affected.

Practice implications

The mutual influence of the couple is manifested in depression and the general perception of supports. Thus, it would be desirable to improve the attention and care to pregnant women during prolonged periods of adversity, including the partner to also improve their mental health and enhance mutual supports.

Ethical approval

The study was conducted in compliance with ethical standards.

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Declaration of competing interest

The authors declare no competing interests.

Data availability

Name: Depósito de Investigación de la Universidad de Sevilla. URL: <http://idus.us.es>.

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