

Perceived social support and its relationship with sociodemographic and late-pregnancy factors in the immediate postpartum period

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Research Article

Keywords: Social Support, Pregnancy Complications, Sociodemographic Factors, Pregnancy, Health Behavior

Posted Date: October 5th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10751249/v1>

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Additional Declarations: No competing interests reported.

Abstract

Objective

To examine perceived social support among women in the immediate postpartum period and to identify sociodemographic and pregnancy-related factors associated with perceived social support, with the aim of informing psychosocial assessment in maternity care.

Methods

A multicentre cross-sectional study was conducted in three public hospitals in Castellón (Spain), between November 2024 and March 2025. A total of 173 adult women in the immediate postpartum period were included. Sociodemographic, obstetric, health behaviour, and perceived social support variables were collected. Descriptive and bivariate analyses, together with binary logistic regression, were performed to identify factors associated with high perceived social support.

Results

Mean perceived social support was high (77.9 ± 11.1). Overall, 56.1% of participants reported high support, 11.6% moderate support, and 32.4% low support. Significant associations were found between perceived social support and continent of birth, educational level, income level, intended pregnancy, and complications or interventions during labour ($p < 0.05$). In the multivariable model, intended pregnancy was associated with higher odds of high perceived social support, whereas income level remained independently associated with perceived social support. No significant associations were found between perceived social support and health behaviours, mode of birth, or postpartum complications.

Conclusions

Perceived social support was generally high among women in the immediate postpartum period, although it varied according to sociodemographic and pregnancy-related factors. These findings highlight the importance of incorporating psychosocial assessment into antenatal and postnatal care. Midwives are well placed to identify women with lower perceived support, particularly those experiencing social or reproductive vulnerability, and to facilitate timely support and referral.

INTRODUCTION

METHODS

Pregnancy and the postpartum period are characterised by profound physiological, psychological and social changes that require substantial maternal adaptation. Beyond the well-established anatomical

and hormonal changes associated with pregnancy, this period is also accompanied by dynamic emotional and neurobiological adaptations that influence maternal behaviour, caregiving and mental health (1, 2). Although these changes are considered part of the normal transition to motherhood, they also represent a period of increased vulnerability to psychological distress and perinatal mental health disorders (3, 4).

Perceived social support is widely recognised as an important determinant of maternal wellbeing during pregnancy and the postpartum period. Recent evidence suggests that women reporting lower levels of social support are more likely to experience anxiety, depressive symptoms and psychological distress during the perinatal period (5, 6). Support from partners, family members and broader social networks may facilitate women's emotional adjustment to pregnancy and early motherhood, whereas inadequate support has been associated with poorer psychological wellbeing (6–8).

Beyond its relationship with maternal mental health, social support has also been associated with broader aspects of maternal adaptation during the transition to motherhood, including maternal functioning, confidence in the parenting role and mother–infant attachment (9–12). These findings highlight the potential contribution of social support to women's overall experience of pregnancy and the postpartum period, although the mechanisms underlying these relationships remain incompletely understood.

Perceived social support is influenced by a range of psychosocial and sociodemographic factors. Previous studies have suggested associations between lower perceived support and socioeconomic disadvantage, limited educational attainment, migration background and other indicators of psychosocial vulnerability (13, 14). However, findings remain heterogeneous across populations and healthcare settings, reflecting differences in social contexts, maternity care systems and the instruments used to assess social support. Consequently, further research is needed to better understand which women are more likely to perceive lower levels of support during the perinatal period.

Recognising psychosocial vulnerability has become an increasingly important component of maternity care. International recommendations from the American College of Obstetricians and Gynecologists and the National Institute for Health and Care Excellence advocate routine assessment of psychosocial factors, including social support, mental health, socioeconomic circumstances and previous adverse experiences during pregnancy and the postpartum period (15, 16). Likewise, recent research has highlighted the role of psychosocial screening tools and the central contribution of midwives in identifying women requiring additional support and facilitating appropriate referral pathways (17–20).

Although the importance of social support during the perinatal period is well recognised, much of the existing literature has focused on its association with maternal mental health outcomes, particularly during pregnancy. Comparatively fewer studies have examined perceived social support during the immediate postpartum period and the sociodemographic and pregnancy-related factors associated with it within routine maternity care, particularly in European public healthcare settings. Identifying women at

greater risk of low perceived social support may facilitate earlier psychosocial assessment and contribute to more individualised, woman-centred maternity care.

Against this background, the present study aimed to examine perceived social support among women in the immediate postpartum period and to identify sociodemographic and pregnancy-related factors associated with perceived social support, with the aim of informing psychosocial assessment in maternity care.

Study desing and setting

This was a multicentre cross-sectional study with consecutive recruitment of women admitted after childbirth to the maternity wards of the three public hospitals in the province of Castellón, Spain.

Population and samble

The study population comprised women who gave birth in the three public hospitals in the province of Castellón, Spain, between November 2024 and March 2025. These hospitals serve a total population of 615,188 inhabitants and include Hospital Comarcal de Vinaròs (HCV), Hospital General Universitario de Castellón (HGUCS), and Hospital Universitario de La Plana (HULP). Women were eligible if they were aged 18 years or over, had their maternal health records available, and agreed to participate voluntarily by providing written informed consent. Women were excluded if the newborn had been stillborn.

The required sample size was estimated at 173 women, assuming a 95% confidence level, a precision of ± 5 percentage points, and an estimated population proportion of 10%. An additional 20% was added to account for potential losses, based on the GRANMO sample size calculator. The sample was stratified according to the number of births recorded in each hospital in 2023. Consecutive sampling was then undertaken until the target sample size for each hospital was reached.

Variables and instruments

Sociodemographic variables included maternal age, age grouped according to Nyongesa et al. (< 20, 20–24, 25–29, 30–35, > 35 years) (21), continent of birth (Europe, rest of the world), educational level (no formal education, primary education, secondary education, vocational training, university education), employment status (self-employed, employed, unemployed, homemaker, student), work schedule (continuous shift, split shift, rotating shift, no paid employment), marital status (single mother, partnered mother), and income level (lower-middle income < 19.000€; upper-middle income $\geq$ 19.000€) (22).

Pregnancy-, childbirth- and postpartum-related variables were also collected, including parity (primiparous: yes/no); intended pregnancy (yes/no); substance use during pregnancy (yes/no), including smoking, alcohol use and illicit drug use; pregnancy complications (yes/no); labour interventions or complications (yes/no), including the Kristeller manoeuvre, epidural analgesia, episiotomy, perineal tear, labour dilation lasting < 12 hours, second stage of labour lasting < 4 hours, and abnormalities in the

cardiotocographic trace (CTG); mode of birth (spontaneous vaginal birth, instrumental birth, caesarean section); and postpartum complications (yes/no), including Apgar score < 8 at 1 minute, Apgar score $\leq$ 8 at 5 minutes, maternal intensive care unit admission, neonatal intensive care unit admission, and neonatal resuscitation.

Finally, perceived social support was assessed using the Multidimensional Scale of Perceived Social Support (MSPSS). This is a 12-item instrument scored on a 7-point Likert scale (1 = very strongly disagree; 7 = very strongly agree), with a total score ranging from 12 to 84. The scale showed an internal consistency of Cronbach's $\alpha = 0.934$ and McDonald's $\omega = 0.918$ (23).

Data collection

Participant recruitment and data collection were carried out during the women's postpartum hospital stay over a five-month period (2 November 2024 to 25 March 2025). The recruitment procedure was standardised across the three participating hospitals. The nursing staff involved in the study were responsible for informing eligible women about the study and obtaining written informed consent. Data were collected using Research Electronic Data Capture (REDCap) software.

Data analysis

A descriptive analysis was performed for all variables included in the study. Quantitative variables were summarised using means and standard deviations, whereas categorical variables were described using absolute and relative frequencies.

Perceived social support was categorised into tertiles representing low, medium and high levels of perceived social support in order to facilitate interpretation in the absence of established cut-off points. This categorisation was based on a distributional approach, dividing the sample into three groups of similar size (24, 25).

Bivariate analyses were then conducted to explore the association between perceived social support level and the sociodemographic and obstetric variables included in the study. Chi-square tests or Fisher's exact tests were used, as appropriate.

Finally, a binary logistic regression model was constructed to identify factors associated with high perceived social support. The dependent variable was high perceived social support, defined as the upper tertile of the perceived social support score, compared with the combined medium and low tertiles. Independent variables included sociodemographic variables considered theoretically relevant, as well as those showing an association at $p < 0.20$ in the bivariate analysis (26), in order to avoid the premature exclusion of potentially relevant factors.

Specifically, the model included income level, educational level, place of birth, and intended pregnancy. Given the sample size, the number of variables included in the model was restricted to avoid overfitting

and to ensure the stability of the estimates, in line with methodological recommendations for regression models with a limited number of events (27, 28). Model fit was assessed using Nagelkerke's pseudo- R^2 (29). Results are presented as odds ratios (OR) with their corresponding 95% confidence intervals (95% CI). Potential collinearity between independent variables was assessed by examining variance inflation factors (VIF).

Given the cross-sectional design and the limitations related to sample size, these analyses should be interpreted as exploratory. Statistical significance was set at $p < 0.05$. Statistical analyses were performed using SPSS version 26 and Jamovi version 2.3.21.0.

Ethical considerations

The project received favourable opinions from the Research and Ethics Committees of the participating hospitals (HUGCS [versión 1.0, code EFPCE] and HULP [code EFPCE]. Approval from the management board of the HCV was also obtained, as the institution does not have its own ethics committee. The referral hospital for this institution is the HGUCS. All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the participating institutions and with the 1964 Declaration of Helsinki and its later amendments. The study was also conducted in accordance with Spanish Organic Law 3/2018 of 5 December on the Protection of Personal Data and Guarantee of Digital Rights, as well as Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (General Data Protection Regulation). The database did not contain any personal information that could be used to identify participants.

RESULTS

Sample characteristics and distribution of perceived social support

A total of 173 women were included in the study [HGUCS ($n = 74$; 42.8%), HULP ($n = 73$; 42.2%), and HCV ($n = 26$; 15.0%)]. The age distribution showed that the largest proportion of participants were aged 30–35 years (42.2%; $n = 73$), with a mean age of 31.9 (± 5.49) years. Most participants were born in Europe (82.7%; $n = 143$). Regarding educational level, 41.6% ($n = 72$) had completed university education, making this the most frequent category. In terms of employment status, 64.7% ($n = 112$) were salaried employees. With respect to work schedule, the most common arrangement was a continuous working day (39.9%; $n = 69$). Regarding income level, most women were in the upper-middle income group (52.0%; $n = 90$). Finally, almost all participants had a partner (98.3%; $n = 170$).

In relation to obstetric history, 23.7% of participants were primiparous. The vast majority of pregnancies were intended (91.3%; $n = 158$). Regarding substance use during pregnancy, 23.7% ($n = 41$) reported at least one such behaviour, and 79.8% ($n = 138$) experienced at least one complication during pregnancy.

With regard to labour and birth, 88.4% (n = 153) of women experienced at least one complication or intervention during labour, whereas 16.8% (n = 29) experienced postpartum complications. In terms of mode of birth, spontaneous vaginal birth was the most frequent (57.8%; n = 100), followed by instrumental birth (19.7%; n = 34) and caesarean section (20.2%; n = 35) (Table 1).

Table 1
Characteristics of the sample

% (n)		% (n)	
Age		Educational level	
< 20	0.6(1)	No education	1.7(3)
20–24	11.0(19)	Primary education	17.9(31)
25–29	19.1(33)	High school	16.8(29)
30–35	42.2(73)	Vocational training	22.0(38)
> 35	27.1(47)	University education	41.6(72)
Continent of birth		Income level	
Europe	82.7(143)	Lower income (< 19.000€)	35.8(62)
Other regions	17.3(30)	Higher income (≥ 19.000€)	52.0(90)
Employment status		Work shedule	
Self-employed	7.5(13)	Continuous shift	39.9(69)
Employee	64.7(112)	Split shift	19.6(34)
Unemployed	6.9(12)	Rotating shift	15.6(27)
Homemaker	19.1(33)	Unpaid	24.9(43)
Student	1.7(3)		
Marital status		Parity	
Single	1.7(3)	Yes	23.7(41)
With partner	98.3(170)	No	76.3(132)
Intended pregnancy		Substance use during pregnancy	
Yes	91.3(158)	Sí	23.7(41)
No	8.7(15)	No	76.3(132)
Pregnancy complications		Labour interventions or complications	
Yes	79.8(138)	Yes	88.4(153)
No	20.2(35)	No	11.6(20)
Mode of birth		Postpartum complications	
% (n): frequency			

	%(<i>n</i>)		%(<i>n</i>)
Age		Educational level	
Spontaneous vaginal	57.8(100)	Yes	16.8(29)
Instrumental	19.7(34)	No	82.7(143)
Cesarean section	20.2(35)		
%(<i>n</i>): frequency			

The mean perceived social support score was (± 11.1) out of a maximum possible score of 84. When participants were categorised into tertiles based on score ranges, the distribution was uneven: 32.4% of women ($n = 56$) were classified as having low perceived social support, 11.6% ($n = 20$) as having medium perceived social support, and 56.1% ($n = 97$) as having high perceived social support.

Women in the low perceived social support group had a mean score of 66.3 (± 13.3), with scores ranging from 12 to 78. The medium perceived social support group had a mean score of 80.8 (± 1.4), with scores between 79 and 83. By contrast, all women in the high perceived social support group scored 84 points ($m = 84.0$; ± 0), indicating a marked clustering of scores at the upper end of the scale.

Association between perceived social support and sociodemographic and obstetric characteristics

Bivariate analysis revealed statistically significant associations between perceived social support and several sociodemographic and obstetric characteristics. Specifically, significant differences were observed according to continent of birth, educational attainment, income level, pregnancy intention, and the presence of complications or interventions during labour ($p < 0.05$).

Women born in Europe were more likely to report high levels of perceived social support than those born in other regions of the world (60.8%; $n = 87$). Similarly, higher educational attainment was associated with greater perceived social support, with women who had completed vocational training showing the highest proportion of high support levels (71.1%; $n = 27$). With regard to income, women with medium-to-high income levels were more likely to report high perceived social support (66.7%; $n = 60$). Likewise, women with intended pregnancies reported higher levels of perceived social support than those with unintended pregnancies (58.9%; $n = 93$ vs. 26.7%; $n = 4$, respectively). The presence of complications or interventions during labour was also significantly associated with perceived social support, with a higher proportion of women in this group reporting high support levels (59.5%; $n = 91$).

No statistically significant associations were found between perceived social support and age, employment status, work schedule, marital status, primiparity, substance use during pregnancy, mode of birth, or postpartum complications ($p > 0.05$) (Table 2).

Table 2
Sociodemographic and obstetric differences according to the level of
perceived social support.

	Perceived social support			
	Low	Medium	High	
	%(n) ¹	%(n) ¹	%(n) ¹	p ²
Age				
< 20	100(1)	-	-	0.149**
20–24	26.3(5)	10.5(2)	63.2(12)	
25–29	39.4(13)	18.2(6)	42.4(14)	
30–35	26.0(19)	6.8(5)	67.1(49)	
> 35	38.3(18)	14.9(7)	46.8(22)	
Continent of birth				
Europe	27.3(39)	11.9(17)	60.8(87)	0.007*
Other regions	56.7(17)	10.0(3)	33.3(10)	
Educational level				
No education	33.3(1)	-	66.7(2)	0.005**
Primary education	35.5(11)	16.1(5)	48.4(15)	
High school	62.1(18)	3.4(1)	34.5(10)	
Vocational training	23.7(9)	5.3(2)	71.1(27)	
University education	23.6(17)	16.7(12)	59.7(43)	
Employment status				
Self-employed	38.5(5)	15.4(2)	46.2(6)	0.144**
Employee	25.9(29)	13.4(15)	60.7(68)	
Unemployed	41.7(5)	-	58.3(7)	
Homemaker	51.5(17)	9.1(3)	39.4(13)	
Student	-	-	100(3)	
Work shedule				
¹ %(n): frecuency; ² p-value; *chi-squared; **Fisher				

	Perceived social support			
	Low	Medium	High	
	%(n) ¹	%(n) ¹	%(n) ¹	p ²
Continuous shift	20.3(14)	14.5(10)	65.2(45)	0.066**
Split shift	44.1(15)	8.8(3)	47.1(16)	
Rotating shift	25.9(7)	14.8(4)	59.3(16)	
Unpaid	46.5(20)	7.0(3)	46.5(20)	
Marital status				
Single	33.3(1)	-	66.7(2)	1.000**
With partner	32.4(55)	11.8(20)	55.9(95)	
Income level				
Lower income (< 19.000€)	41.9(26)	17.7(11)	40.3(25)	0.005*
Higher income (≥ 19.000€)	25.6(23)	7.8(7)	66.7(60)	
Parity				
Yes	30.3(40)	11.4(15)	58.3(77)	0.532*
No	39.0(16)	12.2(5)	48.8(20)	
Intended pregnancy				
Yes	29.1(46)	12.0(19)	58.9(93)	0.012**
No	66.7(10)	6.7(1)	26.7(4)	
Substance use during pregnancy				
Yes	31.1(41)	13.6(18)	55.3(73)	0.297*
No	26.6(15)	4.9(2)	58.5(24)	
Pregnancy complications				
Yes	34.1(47)	10.9(15)	55.1(76)	0.606*
No	25.7(9)	14.3(5)	60.0(21)	
Labour interventions or complications				
Yes	29.4(45)	11.1(17)	59.5(91)	0.038*
¹ %(n): frecuency; ² p-value; *chi-squared; **Fisher				

	Perceived social support			p ²
	Low	Medium	High	
	%(n) ¹	%(n) ¹	%(n) ¹	
No	55.0(11)	15.0(3)	30.0(6)	
Mode of birth				
Spontaneous vaginal	29.0(29)	13.0(13)	58.0(58)	0.336*
Instrumental	29.4(10)	5.9(2)	64.7(22)	
Cesarean section	42.9(15)	14.3(5)	42.9(15)	
Postpartum complications				
Yes	34.5(10)	10.3(3)	55.2(16)	0.938*
No	31.5(45)	11.9(17)	56.6(81)	
¹ %(n): frequency; ² p-value; *chi-squared; **Fisher				

Factors associated with high social support

The logistic regression model showed a statistically significant overall fit ($\chi^2=29.800$; $p = 0.001$), with good explanatory power (Nagelkerke $R^2=0.239$). No collinearity problems were identified among the independent variables included in the model ($VIF < 1.2$).

In the multivariable logistic regression model, intended pregnancy was significantly associated with a higher likelihood of reporting high social support (OR = 9.282; 95% CI = 1.908–45.169; $p = 0.005$). By contrast, participants with a medium-to-high income level were less likely to report high social support than those with a medium-to-low income level (OR = 0.276; 95% CI = 0.120–0.637; $p = 0.002$). No significant associations were found for continent of origin or educational level (Table 3).

Table 3
Binary logistic regression model.

Predictor	Coefficient	EE ¹	p ²	OR ³ (IC95% ⁴)
Constant	-0.314	1.640	0.848	0.730 (0.029–18.173)
Educational level				
Primary education – No education	0.916	1.626	0.573	2.499 (0.103–60.538)
High school – No education	1.585	1.607	0.323	4.881 (0.209–113.760)
Vocational training – No education	-0.560	1.646	0.733	0.571 (0.023–14.386)
University education – No education	0.854	1.601	0.593	2.349 (0.102–54.201)
Intended pregnancy				
No - Yes	2.228	0.807	0.005	9.282 (1.908–45.169)
Continent of birth				
Other regions – Europe	-0.156	0.609	0.797	0.855 (0.259–2.824)
Income level				
Higher income – Lower income	-1.287	0.427	0.002	0.276 (0.120–637)
¹ Standard error; ² p-value; ³ Odds Ratio; ⁴ 95% Confidence interval				

The model showed acceptable discriminatory ability, with an area under the curve (AUC) of 0.723, a sensitivity of 62.7%, and a specificity of 74.1%.

DISCUSSION

The aim of this study was to examine perceived social support among women in the immediate postpartum period and to identify sociodemographic and pregnancy-related factors associated with perceived social support, with the aim of informing psychosocial assessment in maternity care.

Sociodemographic characteristics in relation to social support

In the present study, a significant association was observed between perceived social support and several sociodemographic variables. Specifically, women born in Europe, those with higher educational attainment, and those with medium-to-high income levels reported higher levels of perceived social support.

Social support is not distributed randomly or uniformly; rather, it appears to be shaped, at least in part, by social and structural determinants, including migration background. In our sample, women born outside Europe were more likely to report lower levels of perceived social support than those born in Europe. Although this study did not directly examine whether lower social support translated into poorer obstetric outcomes, this pattern may reflect broader social vulnerability that has been linked to adverse perinatal experiences in previous research. In line with these findings, a recent review on social inequalities and perinatal outcomes described how maternal education, socioeconomic position, and residential context shape pathways of risk and protection that influence both the pregnancy experience and fetal and neonatal outcomes (30). Population-based studies conducted in countries with universal healthcare systems have also shown that low socioeconomic status is associated with poorer obstetric outcomes, even where financial barriers to prenatal care are theoretically minimised (31). However, Janaki and Prabakar (32) emphasised that although social support may enhance emotional coping, self-efficacy, and continuity of antenatal care, it is not sufficient on its own to offset the effects of socioeconomic inequalities and structural factors such as job insecurity, poor housing conditions, or discrimination.

Taken together, the findings of the present study suggest a relationship between perceived social support and socioeconomic position. Rather than interpreting social support as an isolated protective factor, it may be more appropriate to understand it as one component within a broader social context that shapes women's experiences during pregnancy and the postpartum period. In this sense, social support may operate as a potential intermediary mechanism through which socioeconomic inequalities are reflected in more or less favourable perinatal experiences.

Beyond the bivariate findings, the multivariable model showed that intended pregnancy remained independently associated with a higher likelihood of high perceived social support. By contrast, continent of origin and educational level were no longer significantly associated with high social support after adjustment. The finding for income should be interpreted cautiously, as the direction of the association differed between the bivariate and multivariable analyses, suggesting a more complex relationship once other sociodemographic and reproductive factors were taken into account.

Social support and obstetric characteristics

A relevant finding of this study was the significant association between perceived social support and pregnancy intention. Women reporting higher levels of perceived social support were more likely to have had an intended pregnancy. This finding is consistent with previous literature suggesting a relationship between social support, reproductive planning, and emotional wellbeing (30). However, given the cross-sectional nature of the study, the direction of this relationship cannot be established. It is possible that women with greater social support are better able to plan and navigate pregnancy, but it is also plausible that intended pregnancies are experienced within more stable relational and social contexts that facilitate higher perceived support.

In contrast, no significant association was found between perceived social support and complications during pregnancy. This finding differs from that reported by Mane et al. (33), who, in a study of 344 pregnant women in India, found that poor social support during the first trimester was associated with a higher frequency of pregnancy complications and fewer gestational weeks at birth. Their results suggest that adequate psychosocial support in early pregnancy may contribute to longer gestational duration and more favourable perinatal outcomes. The discrepancy with our findings may be related to differences in study design, timing of social support assessment, sample characteristics, or the definition of obstetric complications. In the present study, social support was assessed in the immediate postpartum period, which may not fully capture the support available earlier in pregnancy, when some complications develop or become clinically relevant.

By contrast, complications or interventions during labour were associated with differences in perceived social support, with a higher proportion of women in this group reporting high levels of support. This finding should be interpreted cautiously. Rather than suggesting that social support increases the likelihood of labour complications or interventions, it may reflect the possibility that women with greater support are more likely to have a companion present, to communicate their preferences, or to remain engaged in decision-making during labour. It is also possible that this association is confounded by unmeasured clinical or contextual factors. The current data do not allow conclusions to be drawn about the mechanisms underlying this relationship.

Regarding mode of birth, no significant association was found with perceived social support. Although the proportion of women undergoing caesarean birth was similar in the low and high social support groups, these descriptive differences should be interpreted with caution in the absence of statistically significant associations. In this respect, the literature has focused more on the impact of continuous support during labour—usually provided by midwives or birth companions—than on perceived social support measured during pregnancy or the postpartum period. Bohren et al. (34), in their review, reported that continuous support during labour was associated with lower use of neuraxial analgesia, lower rates of caesarean and instrumental birth, and greater maternal satisfaction, although findings regarding episiotomy were mixed. However, the type of support examined in that review differs from that measured in the present study, which focused on women's overall perception of social support rather than the presence of continuous intrapartum support. This distinction is important when comparing findings across studies.

Simoncic et al. (30) linked low social support and high stress burden to poorer neonatal outcomes, including preterm birth, low birthweight, and increased perinatal morbidity. In the postpartum period, however, the present study found no significant association between perceived social support and neonatal resuscitation, neonatal intensive care unit admission, or maternal intensive care unit admission. The relatively small sample size and the low frequency of severe events, particularly maternal and neonatal ICU admissions, may have limited the statistical power to detect such associations. In addition, these outcomes are likely to be influenced by multiple clinical factors beyond the psychosocial variables examined here.

Clinical implications

The findings of this study highlight the importance of incorporating systematic assessment of social support into both antenatal and postpartum care. Early identification of women with low perceived social support may facilitate the implementation of individualised psychosocial interventions aimed at improving maternal wellbeing, strengthening coping strategies, and potentially contributing to better perinatal outcomes (33).

These findings also reinforce the need to integrate the social determinants of health into obstetric assessment. Factors such as socioeconomic position, employment status, educational level, available support networks, and mental health status may shape women's experiences during pregnancy and should be considered within risk stratification and the planning of antenatal follow-up. In this regard, recommendations from organisations such as the American College of Obstetricians and Gynecologists and clinical guidelines such as those issued by the National Institute for Health and Care Excellence emphasise the value of a comprehensive assessment that includes both clinical and psychosocial dimensions of care.

In addition, the association observed between higher perceived social support and intended pregnancy highlights the relevance of strengthening reproductive planning strategies. The promotion of comprehensive sexual and reproductive health education, access to effective contraception, and support during reproductive decision-making may contribute to more positive pregnancy experiences and reduce psychosocial vulnerability during pregnancy.

Strengths and limitations

This study has several strengths. These include its multicentre design, the inclusion of all births attended in three public hospitals within the same province, and the use of a standardised and validated instrument to assess perceived social support. In addition, the collection of a broad range of sociodemographic, health history, lifestyle, pregnancy, birth, and postpartum variables provides a comprehensive view of the gestational and postpartum experience.

However, the findings should be interpreted in light of several limitations. First, the categorisation of perceived social support into tertiles reflects the presence of a ceiling effect, with limited discriminatory capacity at the upper end of the scale. Although categorisation into tertiles is a common strategy and is supported by previous literature, the distribution observed in this study was not entirely homogeneous. Second, although the sample size was adequate for the primary objective, it may have been insufficient to examine infrequent events such as maternal or neonatal intensive care unit admission. Finally, data were collected in the immediate postpartum period, which may have influenced women's responses, as this is a particularly sensitive time both physically and emotionally.

Future studies should explore these associations in populations experiencing greater social vulnerability and use longitudinal designs to capture changes in perceived social support across pregnancy and the

postpartum period. Incorporating measures of perceived stress, mental health, and healthcare utilisation may also help to clarify the pathways through which social support influences maternal and perinatal outcomes. In addition, intervention studies are needed to evaluate strategies aimed at strengthening social and community support, and to assess their potential impact on maternal wellbeing and perinatal outcomes.

CONCLUSIONS

Taken together, the findings of this study suggest that perceived social support in the immediate postpartum period is closely associated with sociodemographic characteristics—particularly socioeconomic position, educational attainment, and continent of birth—as well as with pregnancy intention. By contrast, perceived social support was not consistently associated with most of the obstetric, intrapartum, and postpartum complications examined.

Current evidence positions social and family support as an intermediate determinant within the broader framework of the social determinants of health, with a potential role in shaping stress, health behaviours, and engagement with antenatal care. The present findings are consistent with this conceptual framework, suggesting that social support represents a relevant psychosocial resource, but one that is unlikely to modify complex clinical outcomes on its own in the absence of broader structural and social interventions.

Declarations

Ethics approval and consent to participate

The project received ethical approval from the Research and Ethics Committees of the participating hospitals: Hospital General Universitari de Castelló (HGUCS [version 1.0, code EFPCE]) and Hospital Universitari de La Plana (HULP [code EFPCE]). Approval from the management board of the Hospital Comarcal de Vinaròs (HCV) was also obtained, as the institution does not have an independent ethics committee and its referral hospital is HGUCS. All procedures involving human participants were conducted in accordance with the ethical standards of the institutional research committees and with the 1964 Declaration of Helsinki and its later amendments, as well as Spanish Organic Law 3/2018 on the Protection of Personal Data and Regulation (EU) 2016/679 (GDPR). Written informed consent was obtained from all individual participants included in the study.

Consent for publication

Not applicable. (The manuscript does not contain any individual person's identifiable data, images, or details).

Competing interests

The authors declare that they have no competing interests.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Availability of data and materials

The dataset supporting the conclusions of this article (“Social support and physical exercise during pregnancy”, 2026) is deposited and publicly available in the institutional repository Repositori UJI at: <http://hdl.handle.net/10234/806575>.

Acknowledgements

The authors thank all the participating women for their time and collaboration during the early stages of motherhood, as well as the healthcare staff across the participating maternity units in Castellón.

Authors' contributions

Conceptualization: ASB, PRP; Methodology: ILR, PRP; Software: ILR; Validation: PRP, ASB, ILR; Formal analysis: ASB, ILR; Project administration: ASB, PRP, OLR; Resources: ASB, ILR, PRP; Data curation: ASB, ILR; Writing – original draft: ASB, PRP, ILR; Writing – review & editing: All authors; Supervision: All authors. All authors read and approved the final manuscript.

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