

Depressive symptoms and mental representations in a sample of pregnant Italian women during COVID-19: comparison of primipara and multipara

Lucia Ponti¹, Martina Smorti², Chiara Ionio³, Giulia Mauri², Alessia Carducci³

¹Department of Humanities, University of Urbino, Urbino, Italy

²Department of Surgical, Medical and Molecular Pathology and Critical Care Medicine, University of Pisa, Pisa, Italy

³Centre for Research in Developmental and Educational Dynamics (C.Ri.d.e.e.), Department of Psychology, Catholic University of Milan, Milan, Italy

“Pediatric Psychology and Related Issues” Section
(Sezione “*Psicologia Pediatrica e Dintorni*”)

by S.I.P.Ped.

(Italian Society of Pediatric Psychology,
Società Italiana di Psicologia Pediatrica)



Abstract

During the COVID-19 outbreak, the risk of depression has increased for pregnant women and especially for first-time mothers-to-be. Pre-COVID-19 literature showed that depression is negatively linked to mental representations during pregnancy. This pilot study explored the difference in depressive symptoms and maternal representations style in primiparous and multiparous pregnant women during the outbreak of COVID-19 (2020-2021). 25 women (14 primiparous, 11 multiparous) were recruited in their last trimester of pregnancy. Participants responded to the Edinburgh Postnatal Depression Scale (EPDS) and Interview for Maternal Representations during Pregnancy (*Intervista sulle Rappresentazioni Materne in Gravidanza* – IRMAG). Results showed that primiparous women presented higher depressive symptoms than

multiparous ones. Moreover, primiparous women reported lower richness of perception ($p = 0.008$), openness to change ($p = 0.035$) and dominance of fantasies ($p = 0.000$) in maternal representation and, globally, more restricted representations (71.4%) than multiparous ones (18.2%) ($p = 0.020$). Mental representations were related to the level of depression, with integrated representations being associated with lower depression than restricted and ambivalent ones ($p = 0.001$). A preventive intervention to support primiparous pregnant women during future pandemics would be necessary in particular to avoid negative repercussions also in the post-partum experience.

Keywords

Primiparous women, multiparous women, depressive symptoms, maternal representations, COVID-19.

Corresponding author

Martina Smorti, Department of Surgical, Medical and Molecular Pathology and Critical Care Medicine, University of Pisa, Pisa, Italy; ORCID: 0000-0002-5867-9859; tel.: +39 050992370; fax: +39 050993325; email: martina.smorti@unipi.it.

How to cite

Ponti L, Smorti M, Ionio C, Mauri G, Carducci A. Depressive symptoms and mental representations in a sample of pregnant Italian women during COVID-19: comparison of primipara and multipara. J Pediatr Neonat Individual Med. 2023;12(1):e120130. doi: 10.7363/120130.

Introduction

The COVID-19 pandemic and related restrictions have been associated with increased depressive symptoms in the general population [1-3] and specifically in pregnant women [4-7]. Moreover, hospital restrictive measures and reduction in health services for pregnancy (i.e., suspension of antenatal classes; reduction of non-essential visits; restriction to the presence of family members and partners during routine obstetric visits) have enhanced the sense of loneliness; decreased the presence of social support sources; increased worries and depressive symptoms in pregnant women [1, 6, 8, 9]. For the above reasons, the COVID-19 pandemic may be considered a potential depressive and psychosocial risk factor

for pregnant women. The impact of the pandemic on maternal health during pregnancy seemed to be different in relation to parity. Results in this area showed that primiparous women were at increased risk for reporting distress, depressive symptoms and weaker prenatal bond than multiparous ones [5, 10-12]. The increased vulnerability to stress of primiparous pregnant women found during the pandemic is in line with that found in the pre-pandemic period. In fact, primiparous women are more likely to show depressive symptoms, anxiety, and sadness than multiparous ones [13]. It has been widely recognized that depressive symptoms can make the transition to motherhood more difficult, meaning how pregnant women portray themselves as mothers and imagine their child, leading women to a lower adjustment after childbirth [14, 15]. Therefore, the higher vulnerability to depression of primiparous pregnant women could be due to the individual, couple and familiar changes related to the pregnancy of the first baby that may increase difficulties to adjust to the new maternal role [16]. One of the most relevant factors related to the adjustment after childbirth is the way a pregnant woman deals with motherhood and the relationship with her unborn child, that is the style of prenatal mental representations [17]. By means of the Interview for Maternal Representations during Pregnancy (*Intervista sulle Rappresentazioni Materne in Gravidanza* – IRMAG), literature identified 7 specific dimensions of maternal narratives that allow identifying 3 styles of mental representations: integrated/balanced, restricted/disengaged, not integrated/ambivalent [17]. Integrated representations are typical of women who establish a relationship with the unborn child, developing a real dialogue with the baby from the start of pregnancy; restricted representations are typical of women who do not get involved in the experience of pregnancy and who hardly imagine their baby; not integrated representations are typical of women who have ambivalent feelings between protection and rejection toward the unborn child [17]. Pre-COVID-19 literature suggested that integrated representations may allow a better perinatal adjustment, whereas restricted and ambivalent may increase negative parenting behavior, constituting a risk factor for mother-infant relationship [18-25]. Integrated representations are more common in primiparous women without risks (72% of the non-risk population), whereas restricted and integrated are less frequent (10% and 18%, respectively) [25]. However, depressive and psychosocial risks might

be an obstacle to the development of maternal integrated representations during pregnancy, leading to an increase of restricted and ambivalent representations [18-20].

Although not previously investigated, it seems to be relevant to analyze the depressive symptoms and maternal representations reported by pregnant women during COVID-19. Specifically, it could be relevant to analyze whether primipara and multipara presented a different risk of developing depressive symptoms and restricted or ambivalent representations during pregnancy. This aspect seems particularly relevant because, to our knowledge, no study has analyzed how primiparous and multiparous pregnant women differ in maternal representation style. Otherwise, the identification of a group at risk for a poor mother-infant relationship may allow to plan adequate preventive intervention in a future pandemic or healthcare system restriction.

Objectives

This research aims: 1) to explore the relationship between maternal mental representation and the level of depression; 2) to compare the level of depressive symptoms and the dimensions and style of maternal mental representations expressed by pregnant primiparous and multiparous women during COVID-19. Given the mixed findings on depressive symptoms and the lack of knowledge on mental representation during COVID-19, we did not formulate any hypothesis, and this study has a merely explorative nature.

Method

Participants and procedure

This pilot study was part of a larger research project on perinatal well-being carried out in a third-level University Hospital in Pisa, Italy, since 2018. Participants were recruited from December 2020 to April 2021 during the COVID-19 pandemic according to the following inclusion criteria: a) age > 18 years old; b) able to speak and read Italian language; c) low-risk gestation; d) > 24 weeks of gestation. Exclusion criteria were: a) established psychiatric diagnosis; b) fetal congenital abnormalities. The inclusion and exclusion criteria were defined and agreed upon with clinicians.

Participants were invited to participate in the study while they were waiting for the second-

trimester routine obstetric visit in the Hospital's Obstetric Unit. The study responsible approached the eligible participants and informed them about the study objectives and procedure; that their participation included an in-person interview in the last trimester of pregnancy; that participation was voluntary, with no monetary incentive. Once signed the informed consent, participants were contacted, and an appointment was arranged in the last trimester of pregnancy for the questionnaire and the interview administration. IRMAG [17], lasting about 45 minutes, was administered, recorded, transcribed verbatim and analyzed by experienced research psychologists. Each recording had a unique identification code to preserve participants' anonymity and was uploaded to a password-protected folder known only to the researchers involved.

Measures

Participants completed a questionnaire to collect sociodemographic data (age, education, employment status, employment status during pregnancy and marital status) and obstetric clinical data (parity, week of gestation, previous miscarriage).

To explore the presence of depressive symptoms, the Edinburgh Postnatal Depression Scale (EPDS) was used [21] in the Italian adaptation [22, 23]. Respondents are required to indicate, on a 10-item Likert scale (from 0 to 3), how often they experienced depressive symptoms in the last week. The total EPDS score ranges from 0 to 30, with higher scores indicating higher levels of depressive symptoms. In agreement with previous studies, we used the cut-off EPDS score ≥ 9 as a measure for perinatal depression [25]. In the present study, Cronbach's alpha was 0.82.

To explore the maternal representations, IRMAG [17] was administered between the 28th and the 32nd weeks of gestation. It is a semi-structured interview composed of 41 questions relating to the pregnancy experience and transition to motherhood specifically focused on 6 areas: a) the desire for motherhood in the personal and couple's history; b) announcement of pregnancy (personal, couple and family emotions); c) emotions and changes during pregnancy (personal life, couple and family relations); d) perceptions, emotions and fantasies related to the "internal child"; e) future expectations regarding the characteristics of oneself as a mother and the characteristics of

the child; f) the maternal historical perspective regarding her present and past role as a daughter.

The interview evaluated 7 specific dimensions related to the representations of self as a mother and of the future child: 1) richness of perceptions, referred to the degree of poverty or richness of perceptions about herself and the baby; 2) openness to change, that indicates the woman's ability to integrate new information about herself/the baby during pregnancy; 3) intensity of investment, that is the extent to which the woman expresses affective engagement in describing both herself as mother and her child; 4) coherence, defined by the organization of thoughts and feelings in the woman's representation of herself and the child; 5) differentiation, that is the similarity or difference between the woman's characteristics and her mother's, partner's, and family's, and the differentiation between herself and her baby; 6) social dependency, constituted by the level of dependence of the woman's representation of herself and her baby from others' judgment, attitudes and ideas; 7) dominance of fantasies, expressed by the level of colored or distorted fantasies about herself as a mother and her child [17].

The above 7 dimensions allow classifying the interview in one of 3 styles of representations [17]:

1. integrated/balanced: the woman is able to adjust herself to pregnancy's changes and is emotionally involved in pregnancy, and motherhood is perceived as a fulfillment of her personal identity. She can also express negative emotions within a coherent picture of motherhood;
2. restricted/disengaged: the experience of motherhood within the narrative is rational and poor in emotional aspects. Impersonality, poor fantasies, and abstractness prevail by narrative and the woman appears not involved in the experience of pregnancy and in the relationship with her child;
3. not integrated/ambivalent: the representation of the mother within the narrative is often incoherent and confused; ambivalent feelings toward motherhood are reported oscillating between excessive involvement and struggles to take distances.

Two independent, trained, and certified professionals coded the interview transcripts and a third trained coder rated the transcript. The percentage of joint coding with respect to the representation style was 94%, Cohen's $\kappa = 0.83$, $p < 0.001$.

Data analysis

Data analysis was conducted by using SPSS® version, version 24. Descriptive statistics of quantitative data were performed for all dimensions. Kruskal-Wallis tests were performed to explore the relationship between the 3 maternal representations and the level of depression, with a significance level of $p < 0.05$. In order to determine if the groups were significantly different, pairwise comparisons with the Mann-Whitney test were carried out. The 2 groups (primiparous and multiparous) were compared with Student's t-test for independent sample or Chi-square analysis in sociodemographic and obstetrics data, depending on the dichotomous or continuous nature of variables. To verify whether primiparous and multiparous groups significantly differ in EPDS score and IRMAG 7 dimensions, we conducted Student's t-test for the independent sample, inserting the EPDS score and IRMAG dimensions as dependent variables and group (primiparous/multiparous) as factor. To verify whether the primiparous and multiparous group significantly differ in maternal representations' style, we conducted a Chi-square test. The alpha level was set to $p = 0.05$ for all tests with confidence interval at 95%.

Results

The entire sample consisted of 25 pregnant women (gestational weeks between 27 and 34; mean gestational weeks = 30.84; SD = 1.70). On the basis of parity, the sample was divided into 2 groups: 1) primiparous: 14 pregnant women aged between 27 and 44 (mean age = 34.14; SD = 4.35); and 2) multiparous: 11 pregnant women aged between 33 and 38 (mean age = 35.82; SD = 1.94). **Tab. 1** reported the demographic and obstetric data of the 2 groups (primiparous and multiparous women).

No difference between groups was found with respect to sociodemographic and obstetric clinical data (mean age, educational level, employment status, marital status, mean gestational age, previous miscarriage, employment status during pregnancy).

The 3 maternal mental representations were related to the level of depression ($p = 0.001$, Kruskal-Wallis test). Specifically, the Mann-Whitney U tests highlighted significant differences between women with integrated/balanced and restricted/disengaged representations (mean ranks

5.83 and 14.88, respectively; $p = 0.001$) and between women with integrated/balanced and not integrated/ambivalent representations (mean ranks 5.06 and 11.38, respectively; $p = 0.007$). On the contrary, no significant difference emerged

between women with restricted/disengaged and not integrated/ambivalent representations (mean ranks 8.17 and 9.50, respectively; $p = 0.626$).

Tab. 2 reported depressive symptoms, IRMAG dimensions and representations in the 2 groups.

Table 1. Demographic, obstetric and clinical characteristics of sample.

		Primiparous group (n = 14)	Multiparous group (n = 11)	Statistics	p
Age (years), mean (SD)		34.14 (4.35)	35.82 (1.94)	$t_{(23)} = -1.19$	0.25
Educational level, n (%)	High school	3 (21.4%)	2 (18.2%)	$\chi^2_{(3)} = 2.88$	0.41
	First level degree	4 (28.6%)	4 (36.4%)		
	Master degree	6 (42.9%)	2 (18.2%)		
	Post-degree specialization/PhD	1 (7.1%)	3 (27.3%)		
Employment status, n (%)	Precarious	3 (21.4%)	6 (54.5%)	$\chi^2_{(2)} = 4.40$	0.11
	Housewife	8 (57.1%)	5 (45.5%)		
	Permanent	3 (21.4%)	0 (0.0%)		
Employment status during pregnancy, n (%)	Maternity	7 (50.0%)	6 (54.5%)	$\chi^2_{(2)} = 1.07$	0.59
	Dismissal	1 (7.1%)	2 (18.2%)		
	No changes	6 (42.9%)	3 (27.3%)		
Marital status, n (%)	Married/cohabiting	14 (100%)	11 (100%)	-	-
Gestational weeks, mean (SD)		30.57 (2.03)	31.18 (1.17)	$t_{(23)} = -0.887$	0.38
Previous miscarriage n (%)	No	14 (100%)	11 (100%)	$\chi^2_{(1)} = 0.37$	0.53
	Yes	0	0		

Table 2. Comparison between primiparous and multiparous group in Edinburgh Postnatal Depression Scale (EPDS) and maternal representations' dimensions and style according to the Interview for Maternal Representations during Pregnancy (*Intervista sulle Rappresentazioni Materne in Gravidanza* – IRMAG).

		Primiparous group (n = 14)	Multiparous group (n = 11)	Statistics	p
EPDS, mean (SD)		9.93 (3.42)	5.91 (3.64)	$t_{(23)} = 2.83$	0.009
IRMAG representation dimensions, mean (SD)	Richness of perceptions	2.70 (0.57)	3.22 (0.19)	$t_{(23)} = -2.91$	0.008
	Openness to change	2.61 (0.53)	2.73 (0.48)	$t_{(23)} = -0.601$	0.035
	Intensity of investment	2.60 (0.50)	2.86 (0.58)	$t_{(23)} = -1.116$	0.276
	Coherence	2.67 (0.57)	3.06 (0.53)	$t_{(23)} = -1.625$	0.118
	Differentiation	2.66 (0.35)	2.91 (0.60)	$t_{(23)} = -1.289$	0.210
	Social dependency	2.50 (0.71)	2.45 (0.53)	$t_{(23)} = 0.191$	0.850
	Dominance of fantasies	1.91 (0.42)	2.78 (0.40)	$t_{(23)} = -5.24$	0.000
IRMAG representation styles, n (%)	Integrated/balanced	2 (14.3%)	7 (63.6%)	$\chi^2_{(2)} = 7.864$	0.020
	Restricted/disengaged	10 (71.4%)	2 (18.2%)		
	Not integrated/ambivalent	2 (14.3%)	2 (18.2%)		

EPDS: Edinburgh Postnatal Depression Scale; IRMAG: Interview for Maternal Representations during Pregnancy (*Intervista sulle Rappresentazioni Materne in Gravidanza*).

The primiparous group presented a higher level of depressive symptoms compared to the multiparous group ($p = 0.009$); in fact, in this group, the EPDS mean score is higher than the clinical cut-off (mean = 9.928) [25]. Moreover, the analysis of IRMAG dimensions showed that the multiparous group reported a higher level of richness of perception ($p = 0.008$), openness to change ($p = 0.035$) and dominance of fantasies ($p = 0.000$) than the primiparous group. No difference emerged between the 2 groups in the intensity of investment, coherence, differentiation and social dependency.

Finally, the comparison in mental representation styles showed a significant difference ($p = 0.020$) among groups. In particular, the multiparous group showed a higher prevalence of integrated/balanced respect to the primiparous one; the latter, on the contrary, presented a higher prevalence of restricted/disengaged representations. No significant differences emerged regarding the non-integrated/ambivalent representations (**Tab. 2**).

Discussion

Psychological studies conducted both before and during the COVID-19 pandemic showed that both the psychosocial and depressive risk factors can negatively impact the style of maternal mental representations during pregnancy [18, 20, 25, 26]. The results of our study conducted during the COVID-19 pandemic confirmed that depressive symptomatology during pregnancy is linked to maternal mental representations style, with women with clinical depression showing a higher level of restricted/disengaged and not integrated/ambivalent representations with respect to women with no clinical depression.

To our knowledge, no study analyzed both the depressive symptoms and the mental representations of pregnant women during COVID-19 comparing primipara and multipara. Concerning depressive symptoms, this study confirmed that primiparous women during COVID-19 had higher levels of depressive symptoms than multiparous ones [10, 11]. Several explanations may be given for the higher vulnerability of primipara to depressive symptoms. The fear-related childbirth, more common in the first pregnancy due to the lack of knowledge about the childbirth experience, not being contained in a pandemic period due to the suspension of antenatal classes, could worsen, leading to an increase of depressive symptoms [9, 26-28]. The absence of partner or relatives during

obstetric visits and childbirth due to the pandemic restrictions had probably reduced the source of support in the pivotal moments of transition to motherhood, thus increasing the vulnerability to depressive symptoms in primiparous more than in multiparous women.

Concerning maternal representation, this study showed that primiparous women reported less integrated representations than multiparous ones. On one hand, it is reasonable that the higher level of depressive symptoms reported by primipara could be linked to less integrated maternal representations [19]; on the other hand, it is reasonable to suppose that multiparous women, having previously built their maternal identity [29] (although they should revisit it [30]), are more prone to adjust themselves to pregnancy' changes and to be emotionally involved, thus developing integrated representations.

Differently from previous studies [25], our results showed a higher percentage of restricted representation and a lower percentage of integrated and ambivalent ones in depressed women. The increased level of restricted representations may be due to the specificity of pandemic conditions as reported by media and public messages from the authorities that – enhancing stress, concerns, fear of COVID-19 infection [1, 13] – have increased the tendency to engage in preventive behaviors. The tendency to control the virus, in addition to the great attention to physical health in spite of emotional one, may have led women with depressive symptoms to rationalize the experience of pregnancy, paying attention to the concrete aspects more than to the emotional ones, developing restricted maternal representations [25, 31]. The higher attention to physical health in spite of emotional one reported by the primiparous sample could also be confirmed by the lower level of richness of perception (indicating a tendency to focus on the physical more than on the emotional aspect of pregnancy), and dominance of fantasies in IRMAG dimensions. Thus, primiparous women, facing the transition to motherhood during the COVID-19 pandemic, seem to be less prone to be emotionally involved in pregnancy but, maybe due to the lack of information about pregnancy during the pandemic, they tend to be more focused on concrete aspects of pregnancy having higher difficulties to be open to changes of motherhood and to develop fantasies on their maternal role.

Conclusion

In conclusion, it seems appropriate, in a pandemic such as COVID-19, to promptly focus on the transition to motherhood in primiparous women to prevent the onset of depression and the development of restricted maternal representations. From a primary prevention perspective, it seems necessary to help primiparous women during COVID-19 to narrow the gap between imaginary and real transition to motherhood [32], so that realistic expectations instead of idealized ones can be promoted with positive consequences on maternal mood and representations.

Strengths

It is possible to underline as the strengths of the study the greater attention to primiparous women and the possibility of analyzing not only their narratives but also by giving a measure to what is expressed through the semi-structured interview (IRMAG), as well as the attention paid to their emotional state and the levels of depressive symptoms a first-time mother might have during a pandemic, never analyzed before.

Limitations

Although interesting, the results of this study should be taken with caution due to some limitations. This study has a small sample size compared to other investigations on maternal representations [19]. However, the sample size is justified by the use of interview that requires a long administration time and by the pandemic period in which the study was conducted. Moreover, sociodemographic characteristics of participants make this study sample representative of pregnant women cared for by the hospital during the pandemic. Moreover, for the same reason, this study did not investigate the relationship between depression and mental representations separately for primiparous and multiparous women but only in the COVID-19 period. Thus, future studies on larger samples should investigate this aspect in order to better understand the specific relationship between these two aspects.

Acknowledgements

Thanks to all the participants of the research.

Research involving human participants

All procedure performed in this study were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Declaration of Ethics

Ethical approval was gained from the Institute Ethics Committee (approval no. 12749/2018) of a third-level University Hospital in Tuscany, Italy, where study has been conducted.

Informed consent

Written informal consent was obtained from all individual participants included in the study.

Declaration of interest

The Authors declare no conflict of interest. The Authors declare that they did not received financial support for the research, authorship, and/or publication of this article.

References

1. Delmastro M, Zamariola G. Depressive symptoms in response to COVID-19 and lockdown: a cross-sectional study on the Italian population. *Sci Rep.* 2020;10(1):1-10.
2. Fiorillo A, Sampogna G, Giallonardo V, Del Vecchio V, Luciano M, Albert U, Carmassi C, Carrà G, Cirulli F, Dell'Osso B, Nanni MG, Pompili M, Sani G, Tortorella A, Volpe U. Effects of the lockdown on the mental health of the general population during the COVID-19 pandemic in Italy: Results from the COMET collaborative network. *Eur Psychiatry.* 2020;63(1):e87.
3. Talevi D, Socci V, Carai M, Carnaghi G, Faleri S, Trebbi E, Di Bernardo A, Capelli F, Pacitti F. Mental health outcomes of the Covid-19 pandemic. *Riv Psichiatria.* 2020;55(3):137-44.
4. Ceulemans M, Hompes T, Foulon V. Mental health status of pregnant and breastfeeding women during the COVID-19 pandemic: a call for action. *Int J Gynecol Obstet.* 2020;151(1):146-7.
5. Lebel C, MacKinnon A, Bagshawe M, Tomfohr-Madsen L, Giesbrecht G. Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *J Affect Disord.* 2020;277:5-13.
6. Smorti M, Gemignani A, Bonassi L, Mauri G, Carducci A, Ionio C, Smorti M. The impact of Covid-19 restrictions on depressive symptoms in low-risk and high-risk pregnant women: a cross-sectional study before and during pandemic. *BMC Pregnancy Childbirth.* 2022;22(1):1-9.
7. Sun F, Zhu J, Tao H, Ma Y, Jin W. A systematic review involving 11,187 participants evaluating the impact of COVID-19 on

- anxiety and depression in pregnant women. *J Psychosom Obst Gyn.* 2021;42(2):91-9.
8. Raval di C, Wilson A, Ricca V, Homer C, Vannacci A. Pregnant women voice their concerns and birth expectations during the COVID-19 pandemic in Italy. *Women Birth.* 2021;34(4):335-43.
 9. Hassanzadeh R, Abbas-Alizadeh F, Meedya S, Mohammad-Alizadeh-Charandabi S, Mirghafourvand M. Fear of childbirth, anxiety and depression in three groups of primiparous pregnant women not attending, irregularly attending and regularly attending childbirth preparation classes. *BMC Womens Health.* 2020;20(1):1-8.
 10. Durankuş F, Aksu E. Effects of the COVID-19 pandemic on anxiety and depressive symptoms in pregnant women: a preliminary study. *J Matern Fetal Neonatal Med.* 2022;35(2):205-11.
 11. Wu Y, Zhang C, Liu H, Duan C, Li C, Fan J, Li H, Chen L, Xu H, Li X, Guo Y, Wang Y, Li X, Li J, Zhang T, You Y, Li H, Yang S, Tao X, Xu Y, Lao H, Wen M, Zhou Y, Wang J, Chen Y, Meng D, Zhai J, Ye Y, Zhong Q, Yang X, Zhang D, Zhang J, Wu X, Chen W, Dennis CL, Huang HF. Perinatal depressive and anxiety symptoms of pregnant women during the coronavirus disease 2019 outbreak in China. *Am J Obstet Gynecol.* 2020;223(2):240-e1.
 12. Morris AR, Saxbe DE. Mental health and prenatal bonding in pregnant women during the COVID-19 pandemic: Evidence for heightened risk compared with a prepandemic sample. *Clin Psychol Sci.* 2022;10(5):846-55.
 13. Martínez-Galiano JM, Hernández-Martínez A, Rodríguez-Almagro J, Delgado-Rodríguez M, Gómez-Salgado J. Relationship between parity and the problems that appear in the postpartum period. *Sci Rep.* 2019;9(1):1-8.
 14. Allan HT, van den Akker O, Culley L, Mounce G, Odelius A, Symon A. An integrative literature review of psychosocial factors in the transition to parenthood following non-donor-assisted reproduction compared with spontaneously conceiving couples. *Hum Fertil.* 2019;24(4):249-66.
 15. Smorti M, Ponti L, Tani F. Maternal depressive symptomatology during pregnancy is a risk factor affecting newborn's health: a longitudinal study. *J Reprod Infant Psych.* 2019;37(4):444-52.
 16. Smorti M, Ponti L, Pancetti F. A Comprehensive Analysis of Post-partum Depression Risk Factors: The Role of Socio-Demographic, Individual, Relational, and Delivery Characteristics. *Front Public Health.* 2019;7:295.
 17. Ammaniti M, Candelori C, Pola M, Tambelli R. *Maternità e gravidanza. Studio delle rappresentazioni materne.* Milan: Raffaello Cortina Editore, 1995.
 18. Agostini F, Monti F, Fagandini P, Duncan De Pascalis LL, La Sala GB, Blickstein I. Parental mental representations during late pregnancy and early parenthood following assisted reproductive technology. *J Perinat Med.* 2009;37(4):320-7.
 19. Ammaniti M, Tambelli R, Odorisio F. Exploring maternal representations during pregnancy in normal and at-risk samples: The use of the interview of maternal representations during pregnancy. *Infant Ment Health J.* 2013;34(1):1-10.
 20. Smorti M, Benvenuti P, Vanni C, Valoriani V. Procreazione medicalmente assistita e rappresentazioni materne in gravidanza. *Psicologia Salute.* 2010;1:33-54.
 21. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh postnatal depression scale. *Brit J Psychiatry.* 1987;150:782-6.
 22. Benvenuti P, Ferrara M, Niccolai C, Valoriani V, Cox JL. The Edinburgh Postnatal Depression Scale: validation for an Italian sample. *J Affect Disorders.* 1999;53(2):137-41.
 23. Kozinszky Z, Dudas RB. Validation studies of the Edinburgh Postnatal Depression Scale for the antenatal period. *J Affect Disorders.* 2015;176:95-105.
 24. Suryawanshi O 4th, Pajai S. A Comprehensive Review on Postpartum Depression. *Cureus.* 2022;14(12):e32745.
 25. Ferrari B, Mesiano L, Benacchio L, Ciulli B, Donolato A, Riolo R. Prevalence and risk factors of postpartum depression and adjustment disorder during puerperium – a retrospective research. *J Reprod Infant Psych.* 2021;39(5):486-98.
 26. Smorti M, Mauri G, Carducci A, Andreol A, Bonassi L. Prenatal mental representations in Italian first-time mothers before and during the COVID-19 pandemic: a study with interviews on maternal representations during pregnancy. *Maternal Child Health J.* 2023;27(4):711-8.
 27. Tambelli R, Odorisio F, Lucarelli L. Prenatal and postnatal maternal representations in non-risk and at-risk parenting: exploring the influences on mother-infant feeding interactions. *Infant Ment Health J.* 2014;35(4):376-88.
 28. Morikawa M, Okada T, Ando M, Aleksic B, Kunimoto S, Nakamura Y, Kubota C, Uno Y, Tamaji A, Hayakawa N, Furumura K, Shiino T, Morita T, Ishikawa N, Ohoka H, Usui H, Banno N, Murase S, Goto S, Kanai A, Masuda T, Ozaki N. Relationship between social support during pregnancy and postpartum depressive state: a prospective cohort study. *Sci Rep.* 2015;5(1):1-9.
 29. Çankaya S, Şimşek B. Effects of Antenatal Education on Fear of Birth, Depression, Anxiety, Childbirth Self-Efficacy, and Mode of Delivery in Primiparous Pregnant Women: A Prospective Randomized Controlled Study. *Clin Nurs Res.* 2021;30(6):818-29.
 30. Raphael-Leff J. *La gravidanza vista dall'interno.* 3rd ed. Rome: Astrolabio-Ubaldini Editore, 2014.
 31. Riazuelo H. [Maternal representations during first and second pregnancy]. [Article in French]. *Neuropsychiatr Enfance Adolesc.* 2010;58(8):448-55.
 32. Smorti M, Ponti L, Ionio C, Gallese M, Andreol A, Bonassi L. Becoming a mother during the COVID-19 national lockdown in Italy: Issues linked to the wellbeing of pregnant women. *Int J Psychol.* 2022;57(1):146-52.