How the Italian women perceived distress from their puerperal conditions during the COVID-19 outbreak

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SUMMARY

Background
The COVID-19 pandemic strongly influenced the habits of the puerperal in the usual management of the birth event. The present study aimed to evaluate how post-traumatic stress in puerperia varied during the COVID-19 pandemic. Specifically, it assessed any differences in the distress perception by considering some socio-demographic variables related to the birth event, as: the weeks of gestation of the birth, the partum typology and the breastfeeding typology.

Methods
An online questionnaire was administered to women who complete their pregnancies during the pandemic. The questionnaire included items relating to the characteristics of childbirth and the Impact of Event Scale-Revised.

Results
156 puerperal women were recruited, 36.54% of the participants registered a posttraumatic stress disorder (PTSD), 8.97% outlined a probable diagnosis of PTSD, 28.85% highlighted the presence of some symptoms related to PTSD and 25.64% were fine.

Conclusions
PTSD among puerperal women was intensely evident in the avoidance dimension, especially in participants who have given a pre-term birth, though the caesarean surgery and who had artificially breastfed their own unborn child in the puerperium.

Key words: *disease outbreak, postpartum period, posttraumatic stress disorder*

Introduction

The SARS-CoV-2 infection, known as Coronavirus Disease 2019 started in Wuhan, China, in December 2019 and quickly spread around the world, becoming a global pandemic from March 2020 [1]. This condition has strongly influenced the living conditions of the entire general population and workers, particularly healthcare professionals [2,3], students [4] and patients [5-7], especially pregnant [8,9] and puerperal [10] women. In this regard, literature reported a worsening in physiological conditions in puerperal women during the COVID-19 pandemic [11,12], as the pandemic determined particular emphasis on the isolation condition dictated by the high contagiousness of the infection itself [13]. This circumstance had therefore strongly influenced the puerperal habits in their usual management of the birth event, also connected to the ever increasing restrictions of the obstetrics wards regarding the visits of family members, including new fathers, to avoid any further source of contagion [14,15]. All of this resulted in a further worsening of the mental health condition of the puerperal during the COVID-19 era [16,17].

Aim

The present study aimed to evaluate how post-traumatic stress in puerperia varied during the COVID-19 pandemic. Specifically, it assessed any differences in the distress perception by considering some socio-demographic variables related to the birth event, as: the weeks of gestation of the birth, the partum typology and the breastfeeding typology.

Materials and methods

Strategy conception

Assuming that the pandemic condition was a particular stress-perceived condition for the whole general population, especially for puerperal women, who might cope further stressful circumstances, such as: the pregnancy, the birth event and the puerperium, the present study purposed to assess the existence of post traumatic stress disorder (PTSD), since literature reported that PTSD was the development of characteristic symptoms after exposure to one or more traumatic events. The presentation might include fear-based re-experiencing, emotional and behavioral changes, dysphoric moods, or negative cognitions [18]. Moreover, PTSD might include several factors in adapting to a disaster, such as: an increased sense of insecurity and vulnerability; a loss of sense of control and predictability; a need to reaffirm familiar relationships, attachments and routines; and to remain independent.

At the same time, the present study assessed the PTSD according to some socio-demographic variables both related to the birth event and the puerperium status, as:

- the number gestation weeks of the childbirth: whether the birth occurred at term (between the 37th and 41st week of gestation), pre-term (before the 37th week of gestation) or post-term (between 41st and 42nd week of gestation);
- if the birth took place in physiological conditions or in a surgical caesarean section;
- if during the puerperium the woman had breast-fed the unborn child naturally or using some artificial preparations.

The questionnaire

The questionnaire created ad hoc for this study was administered online through some web pages, such as: Facebook and Instagram internet pages. The questionnaire consisted of two parts. In the first part, some socio-demographic information were collected, as:

- age of puerperal women, dividing them into several age groups, as: up to 20 years, from 21 to 30 years, from 31 to 40 years and over 41 years;
- the instruction level, as: elementary or lower secondary school, diploma or degree;

- the weeks of gestation to childbirth, as: pre-term, term, or post term;
- the birth typology, as: natural or surgical caesarean;
- the breastfeeding typology, as: natural or artificial.

In the second part of the questionnaire the Impact of Event Scale-Revised (IES-R) was administered to assess the symptoms of PTSD. The IES-R contained 22 items, that each of them was associated to a Likert scale value ranging from 0, as "not at all", to 4 as "extremely". The sum of the scores of the 22 items provided a total value of the IES-R that identified a different level of the PTDS condition. Specifically, for values less than 23 any clinically relevant post-traumatic condition was identified, for values between 24 and 32, a PTDS condition with some mild symptoms was diagnosed, for values varied from 33 to 36, a clinical condition of PTDS was identified, and finally, for values higher than 37, a PTSD status was certainly diagnosed.

Furthermore, the 22 items were divided into the 3 sub-dimensions which explored:

- items no.1,2,3,6,9,14,16,20 the "Intrusion" dimension, as: intrusive thoughts, nightmares, intrusive feelings and imagery, dissociative-like re-experiencing;
- items no. 5,7,8,11,12,13,17,22, the "Avoidance" dimension, as: numbing of responsiveness, avoidance of feelings, situations, and ideas;
- items no. 4,10,15,18,19,21 explore the "Hyperousal" dimension, as: anger, irritability, hypervigilance, difficulty concentrating, heightened startle.

Participants

All women who gave birth in the Italian territory in the period between February 2020 and May 2020 could be voluntarily involved in this research. All women who did not answered the questionnaire in all its parts were excluded.

Ethical considerations

The study was evaluated and approved by the Ethics Committee of the University Hospital of the Policlinic of Bari (no.6492/2020). All the data reported in the questionnaires were handled independently. No form of return of the data provided was envisaged.

Data analysis

Data were collected in an Excel data sheet and then elaborated thanks to the Statistical Package for the Social Sciences (SPSS) version 20. Socio-demographic variables were considered as categorical and elaborated as frequencies and percentages, while the total IES-R values and their related sub dimensions' scores were presented as means and standard deviations. The Independent Samples t-test was performed to evaluate sampling differences according to socio-demographic variables collected. All values < 0.05 were considered as statistically significant.

Results

A total 156 puerperal women were enrolled in this survey (Tab. I). 36.54% of the participants reported a PTSD condition, while 25.64% were well.

By considering IES-R total scores, a significant difference (p = .046) was reported between "pre-term" and "complete" puerperal women, as "pre-term" women recorded higher IES-R total scores (38.50 ± 13.80) than "complete" ones (33.08 ± 14.30), respectively. As regards the IES-R intrusion sub dimension, any significant differences were recorded according to all sampling characteristics considered. On the other hand, concerning the Avoidance sub dimension, significantly differences were registered between "pre-term" and "complete" puerperal women (p = .022), as "pre-term women registered higher IES-R-scores (15.50 ± 4.23) than "complete" women (13.22 ± 5.40), respectively. Also, by considering the typology of partum, women who performed a caesarean section reported significantly (p = .004) higher IES-R values in the Avoidance sub dimension (14.95 ± 4.86) than women who delivered physiologically (12.51 ± 5.44). Finally, by considering the breastfeeding typology, a significant difference was reported (p = .016), as women who naturally breastfed (13.10 ± 5.14) recorded lower scores than women who artificially breastfed (15.33 ± 5.36) their newborns (Tab. II).

Discussion

The present study aimed to evaluate how post-traumatic stress in puerperia varied during the COVID-19 pandemic. Specifically, it assessed any differences in the distress perception by considering some socio-demographic variables related to the birth event, as: the weeks of gestation of the birth, the partum typology and the breastfeeding typology. Data highlighted the presence of the PTSD among puerperal women, especially in the avoidance sub dimension. Moreover, as regards the other two sub dimensions, there was no statistically significant difference between the IES-R values in relation to the characteristics of childbirth and breastfeeding. Current literature had already evaluated the anxious and depressive conditions [19,20] in pregnant women during the COVID-19 pandemic. For example, in the Saccone et al. [21] study the psychological impact of the COVID-19 pandemic in pregnant women was assessed also by using the Italian version of the IES-R. However, data referred only to the pandemic period, such as from March 2020 to April 2020, differentiating the IES-R scores according to pregnancy. In any case, the study reported high IES-R scores also linked to the high demand of cesarean surgery. The high IES-R scores in the pregnant woman reflected then in the puerperia with as

TABLE I. *Sampling characteristics (n = 156).*

Variables	N	%
Age:		
Under 20 years	18	11.5
21-30 years	62	39.7
31-40 years	64	41
> 41 years	12	7.7
Instruction level:		
Lower middle school	19	12.2
Diploma	51	32.7
Graduation	86	55.1
Weeks of gestation at the time of partum:		
Pre term	120	76.9
Complete	36	23.1
Post term	0	0
Type of partum		
Physiological	74	47.4
Caesarean section	81	51.9
Type of breastfeeding:		
Natural	111	71.2
Artificial	45	28.8
IES-R scores		
Values < 23	40	25.64
Values 24-32	45	28.85
Values 33-36	14	8.97
Values > 37	57	36.54

TABLE II. *Differences in PTSD in relation to of childbirth characteristics.*

	Means	Standard deviation	P-value
IES-R total	34.33	14.32	
Weeks of gestation at the time of partum:			
Pre term	38.50	13.80	0.046*
Complete	33.08	14.30	
Type of partum			
Physiological	33.72	14.39	0.569
Caesarean section	35.04	14.36	
Type of breastfeeding:			
Natural	34.35	14.21	0.980
Artificial	34.29	14.77	
IES-R intrusion	11.67	6.81	
Weeks of gestation at the time of partum:			
Pre term	12.89	7.35	0.224
Complete	11.31	6.64	
Type of partum			
Physiological	12.22	6.72	0.356
Caesarean section	11.20	6.95	
Type of breastfeeding:			
Breast	12.31	6.64	0.068
Artificial	10.11	7.08	
IES-R avoidance	13.74	5.28	
Weeks of gestation at the time of partum:			
Pre term	15.50	4.23	0.022*
Complete	13.22	5.40	
Type of partum			
Physiological	12.51	5.44	0.004*
Caesarean section	14.95	4.86	
Type of breastfeeding:			
Natural	13.10	5.14	0.016*
Artificial	15.33	5.36	
IES-R hyperarousal	8.92	5.01	
Weeks of gestation at the time of partum:			
Pre term	10.11	4.93	0.103
Complete	8.56	5.00	
Type of partum			
Physiological	8.99	4.83	0.904
Caesarean section	8.89	5.22	
Type of breastfeeding:			
Breast	8.95	5.06	0.980
Artificial	8.84	4.92	

$p < 0.05$ is statistically significant.

many high IES-R values, especially in the avoidance sub dimension as also demonstrated in this study. Certainly in the literature several studies were available by considering the pregnancy period, as pregnant periodically checked to routine clinical analysis so it was easier in recruiting in research studies [22-24].

The present findings showed a worsening of the PTSD condition during the COVID-19 pandemic and therefore appeared to be in agreement with the data reported in the literature which underlined a psychological condition both for pregnant and puerperal women not very encouraging during the pandemic. However, the present study

included a sufficient number of participants compared to that recruited in other studies on puerperal subjects as it was not easy to recruit in this particular historical period in which puerperal avoided to had contact with the world, but it was important to describe and know their psychological conditions to implement the network of psychological services, already available to them to improve their psychological well-being in a particular period of their life made even more difficult by the pandemic condition in which the whole world is currently pouring.

Conclusions

PTSD among puerperal women was intensely evident in the avoidance dimension, especially in participants who have given a pre-term birth, though the caesarean surgery and who had artificially breastfed their own unborn child in the puerperium. Further studies were desirable to better investigate the avoidance sub-dimension, perhaps correlating it with other evaluation scales such as the Edinburg Depression Scale [25] and perhaps gather an even more representative group of participants.

Ethical consideration
None.

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Conflict of interest
The Author declares to have no conflict of interest.

Author contributions
None.

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