CLINICAL ARTICLE

# Perinatal risk for common mental disorders and suicidal ideation among women in Paraguay

Kanako Ishida [a,*], Paul Stupp [a], Florina Serbanescu [a], Edgar Tullo [b]

[a] Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta Georgia, USA
[b] Department of Investigation and Evaluation, Paraguayan Center for Studies of Population, Asunción, Paraguay

## ARTICLE INFO

## ABSTRACT

*Objective:* To examine the association between mental health problems among pregnant women and those in the postpartum period using a nationally representative sample of 6538 women aged 15–49 years from the National Survey of Demography and Sexual and Reproductive Health in Paraguay. *Methods:* The predicted probabilities (PP) of common mental disorders (CMD) and suicidal ideation were assessed using the Self-Reporting Questionnaire (SRQ-20) and logistic regression models. *Results:* No evidence was found of an increased risk for mental health problems associated with being pregnant or in the postpartum period alone. The risk for CMD during pregnancy and the postpartum period and for suicidal ideation during pregnancy was significantly greater when the pregnancy was unintended. In addition, unintentionally pregnant women who had neither been in a union nor had a child were at a significantly higher risk for CMD and suicidal ideation compared with non-pregnant and non-postpartum women (PP: 0.54 versus 0.21 for CMD risk and 0.15 versus 0.02 for suicidal ideation). However, there were no significant differences by marital status among postpartum women. *Conclusion:* The significant effects of pregnancy intention and marital status highlight the importance of psychosocial, rather than physiological, contexts in which women experience pregnancy and childbirth.

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## 1. Introduction

Most studies on perinatal mental health problems are conducted in high-income countries and, despite the significant association between poor mental health and poverty [1], few similar studies have been conducted in low-income countries. However, our understanding of the perinatal risk for maternal mental health problems needs to be improved since evidence from low-income countries shows that mental disorders can compromise the physical health of the mother during pregnancy—resulting in higher risks for prolonged labor [2] and low birth weight [3]—and her ability to care for the infant after birth, resulting in malnutrition of the infant [4]. In addition, although pregnant women are generally at a lower risk for depression compared with postpartum women [5] or with the general population [6], mental health problems during pregnancy can be precursors of postpartum depression [7], and identifying and treating these problems during pregnancy are important for preventing depression beyond childbirth.

The lack of appropriate data on mental health status has been an obstacle to identifying a high-risk group in low-income countries in general and establishing the prevalence of mental health problems among women in the perinatal period in particular [8]. Previous studies have generally been based on small, non-representative samples, including special populations, such as those that have sought antenatal care or delivery assistance in hospitals. Because healthcare use is closely associated with characteristics such as high socioeconomic status of the woman [6], the ability to generalize the results has been limited.

The aim of the present study was to examine whether pregnancy and the postpartum period are significantly associated with poor mental health, using a nationally-representative sample of women aged 15–49 years in Paraguay. Two measures of mental health status were used: common mental disorders (CMD) and suicidal ideation. Psychosocial contexts and obstetric characteristics of pregnancy and childbirth, including marital status, pregnancy intention, gestational age, time since delivery, type of delivery, and breastfeeding practices, were taken into account to explore the relative importance of physiological versus psychosocial factors on mental health status and to help to develop effective prevention strategies.

## 2. Materials and methods

The data used were from the National Survey of Demography and Sexual and Reproductive Health (ENDSSR), which was conducted in 2008 by the Paraguayan Center for Studies of Population (CEPEP) with

* Corresponding author. Division of Reproductive Health, Centers for Disease Control and Prevention, 4770 Buford Hwy NE, Mail stop K-23, Atlanta GA 30341, USA. Tel.: +1 770 488 5981; fax: +1 770 488 6242.
E-mail address: kishida@cdc.gov (K. Ishida).

**Table 1**
Bivariate associations between selected obstetric, demographic, and socioeconomic variables and CMD risk and suicidal ideation among women in Paraguay aged 15–44 years, ENDSSR 2008 (n = 6538).

| Characteristics | Weighted percentage of women with CMD risk | | Weighted percentage of women with suicidal ideation | | Unweighted No. (weighted %) |
|---|---|---|---|---|---|
| | (95% CI) | | (95% CI) | | |
| **Pregnancy and its characteristics** | | | | | |
| Currently pregnant | | | | | |
| Yes | 33.6 [a] | (26.7–41.3) | 4.7 | (1.3–16.0) | 302 (3.9) |
| No | 25.8 [a] | (24.2–27.3) | 3.6 | (3.1–4.3) | 6236 (96.1) |
| | $P = 0.026$ | | $P = 0.680$ | | 6538 (100.0) |
| *Among pregnant women* | | | | | |
| Gestational age | | | | | |
| 1st trimester | 48.4 [a] | (35.0–62.0) | 9.5 | (1.6–4.0) | 94 (36.4) |
| 2nd trimester | 24.4 [a] | (15.8–35.6) | 2.6 | (1.0–6.8) | 125 (39.4) |
| 3rd trimester | 26.4 [a] | (16.6–39.2) | 1.1 | (0.2–7.7) | 83 (24.3) |
| | $P = 0.007$ | | $P = 0.112$ | | 302 (100.0) [b] |
| Pregnancy unintended | | | | | |
| Yes | 48.2 [a] | (34.5–62.1) | 11.6 [a] | (2.8–37.3) | 107 (36.9) |
| No | 25.1 [a] | (18.3–33.4) | 0.7 [a] | (0.2–2.9) | 195 (73.1) |
| | $P = 0.005$ | | $P < 0.001$ | | 302 (100.0) [b] |
| Marital status | | | | | |
| In a union | 28.1 [a] | (21.7–35.6) | 1.2 [a] | (0.4–3.2) | 261 (80.9) |
| Previously in a union | 43.2 [a] | (20.0–69.8) | 5.8 [a] | (0.9–32.6) | 16 (5.5 ) |
| Never in a union | 62.2 [a] | (34.4–83.8) | 25.2 [a] | (4.8–69.4) | 25 (13.7) |
| | $P = 0.019$ | | $P < 0.001$ | | 302 (100.0) [b] |
| **Postpartum and its characteristics** | | | | | |
| Currently postpartum | | | | | |
| Yes | 23.9 | (20.4–27.7) | 0.2 | (1.2–3.8) | 649 (9.0) |
| No | 26.3 | (24.7–27.9) | 3.8 | (3.2–4.6) | 5891 (91.0) |
| | $P = 0.224$ | | $P = 0.065$ | | 6 538 (100.0) |
| *Among postpartum women* | | | | | |
| Time since delivery, mo. | | | | | |
| 0–4 | 23.9 | (18.6–30.2) | 1.6 | (0.5–5.1) | 247 (37.3) |
| 5–9 | 21.5 | (15.8–28.6) | 2.4 | (0.9–5.9) | 201 (32.2) |
| 10–12 | 26.2 | (19.4–34.4) | 2.6 | (1.0–6.6) | 201 (30.5) |
| | $P = 0.634$ | | $P = 0.783$ | | 649 (100.0) [b] |
| Pregnancy unintended | | | | | |
| Yes | 33.5 [a] | (26.2–41.7) | 2.5 | (0.1–5.9) | 209 (33.8) |
| No | 18.9 [a] | (15.2–23.4) | 2.0 | (0.9–4.3) | 440 (75.2) |
| | $P < 0.001$ | | $P = 0.727$ | | 649 (100.0) [c] |
| Cesarean delivery | | | | | |
| Yes | 21.7 | (17.0–27.3) | 2.2 | (1.0–4.8) | 322 (50.7) |
| No | 26.1 | (20.8–32.1) | 2.1 | (0.9–4.9) | 327 (49.3) |
| | $P = 0.280$ | | $P = 0.958$ | | 649 (100.0) [c] |
| Low birth weight neonate | | | | | |
| Yes | 35.9 | (21.8–53.0) | 0.0 | (n/a) | 52 (8.5) |
| No | 22.7 | (19.2–26.7) | 2.4 | (1.3–4.2) | 597 (91.5) |
| | $P = 0.082$ | | $P = 0.286$ | | 649 (100.0) [c] |
| Currently breastfeeding | | | | | |
| Yes | 24.1 | (20.0–28.7) | 1.5 | (0.6–3.4) | 497 (73.5) |
| No | 23.2 | (15.9–32.6) | 4.1 | (1.9–8.6) | 152 (26.5) |
| | $P = 0.866$ | | $P = 0.066$ | | 649 (100.0) |
| Marital status | | | | | |
| In a union | 22.9 | (19.0–27.2) | 2.2 | (1.2–4.2) | 542 (80.1) |
| Previously in a union | 38.5 | (23.9–55.5) | 2.7 | (0.4–16.5) | 57 (9.1) |
| Never in a union | 19.0 | (9.2–35.2) | 10.7 | (0.2–7.5) | 52 (10.8) |
| | $P = 0.114$ | | $P = 0.795$ | | 649 (100.0) [c] |
| **Demographic/socioeconomic** | | | | | |
| Age, y | | | | | |
| 15–19 | 25.4 | (22.8–28.2) | 5.6 [a] | (4.3–7.1) | 1390 (22.9) |
| 20–24 | 25.9 | (22.7–29.3) | 5.1 [a] | (3.6–7.3) | 1259 (21.2) |
| 25–29 | 25.5 | (22.8–28.4) | 2.3 [a] | (1.4–3.5) | 1220 (18.2) |
| 30–34 | 23.8 | (20.7–27.3) | 2.3 [a] | (1.2–4.1) | 1030 (14.3) |
| 35–39 | 28.6 | (25.2–32.3) | 2.9 [a] | (1.8–4.6) | 896 (12.2) |
| 40–44 | 28.6 | (24.7–32.8) | 1.9 [a] | (0.8–4.3) | 743 (11.3) |
| | $P = 0.321$ | | $P < 0.001$ | | 6538 (100.0) |
| Marital status (total) | | | | | |
| In a union | 26.3 [a] | (24.6–28.0) | 2.6 [a] | (2.1–3.3) | 3947 (53.9) |
| Previously in a union | 36.5 [a] | (31.9–41.3) | 6.0 [a] | (4.0–8.9) | 669 (10.7) |
| Never in a union | 22.6 [a] | (20.2–25.1) | 4.5 [a] | (3.4–6.0) | 1922 (35.4) |
| | $P < 0.001$ | | $P < 0.001$ | | 6538 (100.0) |
| Educational attainment, y | | | | | |
| 0–5 | 34.2 [a] * | (30.6–37.9) | 4.0 | (2.7–5.8) | 1027 (13.0) |
| 6 | 29.1 [a] | (26.2–32.2) | 3.0 | (2.1–4.3) | 1302 (18.1) |
| 7–11 | 27.9 [a] | (25.5–30.4) | 4.7 | (3.6–6.0) | 1921 (29.8) |
| 12 | 24.2 [a] | (20.8–28.0) | 4.2 | (2.6–6.5) | 1032 (17.6) |