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DEPRESSIVE SYMPTOMS POSTPARTUM: A STUDY ON WOMEN WITH NAUSEA/VOMITING DURING PREGNANCY

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Abstract

Several studies have found that persistent nausea and vomiting during pregnancy (NVP) was associated with unplanned and unwanted pregnancy and increased depressive and anxious symptoms after childbirth. Some authors stated that persistent NVP could represent somatic symptoms of intrapsychic difficulty in acquiring the maternal role. The present research aimed to assess the associations between NVP during pregnancy and presence of post-partum depressive and anxious symptoms, when children aged between 3 and 6 months. N=50 mothers of children aged between 3 and 6 months were recruited. Self-report questionnaires to assess postpartum depression and anxiety were administered. Furthermore, a sociodemographic questionnaire assessing also pregnancy variables (such as the presence of nausea and vomiting in the three trimesters of pregnancy) was administered. In line with literature, results show an association between the persistence of vomiting during pregnancy and postpartum depressive and anxious symptoms. However, no associations between the persistence of nausea and postpartum psychopathological symptoms were found. We assume that vomiting is a psychosomatic manifestation of intrapsychic malaise, which can lead to subsequent anxious/depressive symptoms. Indeed, these results allow us to evaluate possible risk factors and to activate prevention programs for postpartum depression during pregnancy.

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Keywords: Anxiety, depression, nausea, postpartum, pregnancy, vomiting



1. Introduction

The birth of a child leads to a change of identity from "woman" to "mother". In this difficult phase, women could show psychopathological symptoms that vary in frequency and intensity, and short and long-term effects on the health of the mother and/or the child. Often these are mild anxiety-depression symptoms, but in some cases they can reach higher severity levels. Anxious or depressive states in pregnancy persist in a high number of cases of postpartum depression (Bell et al., 2016; Falah-Hassani et al., 2016), whose negative effects on child psychic development have been widely documented (Mandl et al., 1999; Murray et al., 1999). It is important to be able to detect symptoms of psychological distress that arise in the prenatal period at an early stage. In recent years, particular attention has been paid to the study of possible risk factors associated with the postpartum depression (Ghaedrahmati et al., 2017; Smorti et al., 2019) and on postpartum anxiety (Dennis et al., 2016). In this field, recent studies have shown the association between some physical symptoms during pregnancy, such as nausea, vomiting, sleepiness and increased psychopathological symptoms in mothers (Beyazit & Sahin, 2018; Iliadis et al., 2018; Leeners et al., 2000). In particular, Leeners et al. (2000) stated that feelings of ambivalence towards pregnancy, with an unconscious rejection of pregnancy, could predict the development of the nausea and vomiting in pregnant.

2. Problem Statement

Nausea and vomiting are frequent during the early weeks of pregnancy, and the 50-80% of pregnant women have shown these symptoms extending until childbirth (Einarson et al., 2013; Gadsby et al., 1993; Jarvis & Nelson-Piercy, 2011; Lee & Saha, 2011; McCarthy et al., 2014; Nazik & Eryilmaz, 2014). These symptoms begin in the first trimester, with a peak at around nine gestational weeks and usually decrease at 20th gestational weeks (Einarson et al., 2013). However, sometimes the symptoms are persistent.

Persistent nausea and vomiting during pregnancy (NVP) occurs in 5–22% of all pregnancies (Colodro-Conde et al., 2016; Hasler et al., 1995; Ismail & Kenny, 2007). In 0.3–2.3% of cases it evolves to a more severe disease, the hyperemesis gravidarum (HG) (Einarson et al., 2013; Munch et al., 2011), the most severe form of NVP, that require hospitalisation and/or parenteral nutrition.

Furthermore, little is known about the persistent form of NVP (during the second and third trimester of pregnancy), that no progressed to HG. Beyazit and Sahin (2018) found that pregnant women with severe NVP experienced a higher level of anxiety and depression during pregnancy and Iliadis et al. (2018) found that women with prolonged nausea have increased risk of depressive symptoms when their children were 2 months.

Moreover, several studies have found that persistent nausea and vomiting during pregnancy (NVP) was associated with unplanned and unwanted pregnancy and increased depressive and anxious symptoms after childbirth (Beyazit, & Sahin, 2018; Bozzo et al., 2011; FitzGerald, 1984; Iliadis et al., 2018; Kramer et al., 2013).

3. Research Questions

Some authors stated that persistent NVP could represent somatic symptoms of intrapsychic difficulty in acquiring the maternal role (FitzGerald, 1984). The difficulty in acquiring one's maternal role

can lead to post-partum depression. However, there are no studies that have investigated a possible association between nausea and vomiting during pregnancy and subsequent anxious and depressive symptoms.

4. Purpose of the Study

Based on previous literature, the present study aimed to assess the associations between NVP during pregnancy and presence of post-partum depressive and anxious symptoms, when children aged between 3 and 6 months.

Specifically, we assumed that nausea and vomiting during all three trimesters of pregnancy were associated with both anxiety and depression during postpartum.

5. Research Methods

5.1. Participants and procedure

Thanks to the collaboration with public and private health centers and hospitals, N=50 mothers of children aged between 3 and 6 months were recruited.

Exclusion criteria were been: fetal congenital malformations, a systemic or hormonal disease that can cause nausea and vomiting, diabetes mellitus, previous psychiatric disorders, and known obstetric complications.

Mothers of the present study aged between 22 and 42 years, with average age= 31.48 (sd = 5.93). Mothers have stated that they have a relationship with the child's father from a minimum of 2 years up to 21 years (average years = 8.08; sd = 4.71). 56% of mothers were married, 36 % were living together and the 8% were separated/divorced.

N= 20 mothers (40%) had other children. Regard the level of education, 24% of sample had a university degree and 56% had high school diploma.

5.2. Measures

- A sociodemographic questionnaire assessing also pregnancy variables: mothers' age, levels of education, comorbidities, history of psychiatric disorders, sleeping habits before pregnancy, alcohol and drug consumption, smoking during pregnancy, planned or unplanned pregnancy and eventual pregnancy complications.
- *State Trait Anxiety Inventory* (STAI; Pedrabissi & Santinello, 1989; Spielberger, 1983), a validated questionnaire, composed by 40 items grouped in two scales: State anxiety (STAI-S), conceiving anxiety as a particular experience, a feeling of insecurity; Trait anxiety (STAI-T), conceiving as a more stable tendency to perceive stressful situations as dangerous and to respond to the various situations with different intensities.
- *Edinburgh Postnatal Depression Scale* (Cox et al., 1987), a 10-item questionnaire developed to assist in identifying possible symptoms of depression in the postpartum period. Moreover, it has adequate sensitivity and specificity to identify depression symptoms in the antenatal period (Bergink et al., 2011).

5.3. Data Analysis

Preliminary statistical analyses have been carried out. The qualitative analyses were carried out using descriptive statistics. Then, after verifying the correlations between the measured dimensions, multiple regression analyses were conducted to investigate the association between the presence of persistent nausea and vomiting during pregnancy and anxious and depressive symptoms post partum. All statistical analysis were performed with SPSS software (Version 25.0).

6. Findings

6.1. Descriptive statistics

Descriptive analyses were carried out in order to analyze the information obtained on the health of mothers and pregnancies. Table 01 show the information about pregnancy and mothers' history.

Table 1. Information about pregnancy and mothers' history

Pregnancy and mothers' history	Sample percentage
Unwanted pregnancy	16%
High risk pregnancy	24%
Gestational diabetes (presence)	20%
Hypertension during pregnancy (presence)	20%
Preeclampsia during pregnancy (presence)	8%
Previous miscarriages	28%
Bereavement or trauma in the last year	24%
Previous anxious symptoms	20%
Previous depression symptoms	4%
Previous eating disorders	16%
Alcohol consumption during pregnancy (twice a month)	12%
Smoking during pregnancy (less than 5 sigarettes per day)	12%
Drug use during pregnancy	4%

6.2. Correlation analysis

In order to verify the presence of correlations between nausea and vomiting symptoms during pregnancy and anxious and depression symptoms post partum, Pearson correlation analysis were carried out. As shown in Table 02, Vomiting was associated with State Anxiety ($r = .50$; $p < .001$), Trait Anxiety ($r = .61$; $p < .001$) and with EPDS Total Score ($r = .55$; $p < .001$).

Table 2. Correlation analysis between nausea and vomiting symptoms during pregnancy and anxious and depression symptoms post partum

	Nausea	Vomiting
STAI-S	.22	.50*
STAI-T	.14	.61*
EPDS Total Score	.26	.55*

* <.001

6.3. Regression analysis

Finally, based on the significant correlations found, regression analyses have been carried out. Results showed that Vomiting during pregnancy was associated with State Anxiety postpartum ($R^2 = .25$; $t = 4.02$; $\beta = .50$; $p < .001$), Trait Anxiety postpartum ($R^2 = .37$; $t = 5.35$; $\beta = .61$; $p < .001$) and EPDS Total Score ($R^2 = .30$; $t = 4.58$; $\beta = .55$; $p < .001$).

7. Conclusion

The present study aimed to assess the associations between NVP during pregnancy and presence of post-partum depressive and anxious symptoms, when children aged between 3 and 6 months.

In line with studies founding that persistent nausea and vomiting during pregnancy was associated with increased depressive and anxious symptoms after childbirth (Beyazit & Sahin, 2018; Iliadis et al., 2018), our results showed that persistent vomiting during pregnancy was associated with post-partum depression and with both state and trait anxiety. On the other hand, persistent nausea was not associated with anxiety and depression symptoms.

We assume that vomiting is a psychosomatic manifestation of intrapsychic malaise, which can lead to subsequent anxious/depressive symptoms. Indeed These results allow us to evaluate possible risk factors and to activate prevention programs for postpartum depression during pregnancy.

References

- Bell, A. F., Carter, C. S., Davis, J. M., Golding, J., Adejumo, O., Pyra, M., Connelly, J. J., & Rubin, L. H. (2016). Childbirth and symptoms of postpartum depression and anxiety: a prospective birth cohort study. *Archives of women's mental health, 19*(2), 219-227.
- Bergink, V., Kooistra, L., Lambregtse-van den Berg, M. P., Wijnen, H., Bunevicius, R., Van Baar, A., & Pop, V. (2011). Validation of the Edinburgh Depression Scale during pregnancy. *Journal of psychosomatic research, 70*(4), 385-389.
- Beyazit, F., & Sahin, B. (2018). Effect of nausea and vomiting on anxiety and depression levels in early pregnancy. *The Eurasian Journal of Medicine, 50*(2), 111.
- Bozzo, P., Einarson, T. R., Koren, G., & Einarson, A. (2011). Nausea and vomiting of pregnancy (NVP) and depression: cause or effect? Clinical and investigative medicine. *Medecine clinique et experimentale 34*, E245.
- Colodro-Conde, L., Jern, P., Johansson, A., Sánchez-Romera, J. F., Lind, P. A., Painter, J. N., ... & Medland, S. E. (2016). Nausea and vomiting during pregnancy is highly heritable. *Behavior genetics, 46*(4), 481-491.
- Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Edinburgh postnatal depression scale (EPDS). *The British Journal of Psychiatry, 150*, 782-786.
- Dennis, C. L., Falah-Hassani, K., Brown, H. K., & Vigod, S. N. (2016). Identifying women at risk for postpartum anxiety: a prospective population-based study. *Acta Psychiatrica Scandinavica, 134*(6), 485-493.
- Einarson, T. R., Piwko, C., & Koren, G. (2013). Quantifying the global rates of nausea and vomiting of pregnancy: a meta analysis. *Journal of population therapeutics and clinical pharmacology, 20*, e171-183 (2013).
- Falah-Hassani, K., Shiri, R., & Dennis, C. L. (2016). Prevalence and risk factors for comorbid postpartum depressive symptomatology and anxiety. *Journal of affective disorders, 198*, 142-147.
- FitzGerald, C. M. (1984). Nausea and vomiting in pregnancy. *British journal of medical psychology, 57*(2), 159-165.

- Gadsby, R., Barnie-Adshead, A. M., & Jagger, C. (1993). A prospective study of nausea and vomiting during pregnancy. *The British journal of general practice: the journal of the Royal College of General Practitioners* 43, 245–248.
- Ghaedrahmati, M., Kazemi, A., Kheirabadi, G., Ebrahimi, A., & Bahrami, M. (2017). Postpartum depression risk factors: A narrative review. *Journal of education and health promotion*, 6.
- Hasler, W. L., Soudah, H. C., Dulai, G., & Owyang, C. (1995). Mediation of hyperglycemia-evoked gastric slow-wave dysrhythmias by endogenous prostaglandins. *Gastroenterology*, 108, 727–736.
- Iliadis, S. I., Axfors, C., Johansson, S., Skalkidou, A., & Mulic-Lutvica, A. (2018). Women with prolonged nausea in pregnancy have increased risk for depressive symptoms postpartum. *Scientific reports*, 8(1), 1-9.
- Ismail, S. K., & Kenny, L. (2007). Review on hyperemesis gravidarum. Best practice & research. *Clinical gastroenterology*, 21, 755–769, <https://doi.org/10.1016/j.bpg.2007.05.008> (2007).
- Jarvis, S., & Nelson-Piercy, C. (2011). Management of nausea and vomiting in pregnancy. *BMJ (Clinical research ed.)* 342, d3606, <https://doi.org/10.1136/bmj.d3606>
- Kramer, J., Bowen, A., Stewart, N., & Muhajarine, N. (2013). Nausea and vomiting of pregnancy: prevalence, severity and relation to psychosocial health. MCN. *The American journal of maternal child nursing* 38, 21–27, <https://doi.org/10.1097/NMC.0b013e3182748489>
- Lee, N. M., & Saha, S. (2011). Nausea and vomiting of pregnancy. *Gastroenterology Clinics of North America*, 40, 309-34.
- Leeners, B., Sauer, I., & Rath, W. (2000). Nausea and vomiting in early pregnancy/hyperemesis gravidarum. Current status of psychosomatic factors. *Zeitschrift für Geburtshilfe und Neonatologie*, 204(4), 128-134.
- Mandl, K. D., Tronick, E. Z., Brennan, T. A., Alpert, H. R., & Homer, C. J. (1999). Infant health care use and maternal depression. *Archives of pediatrics & adolescent medicine*, 153(8), 808-813.
- McCarthy, F. P., Lutomski, J. E., & Greene, R. A. (2014). Hyperemesis gravidarum: current perspectives. *International Journal of Womens Health*, 6, 719-25
- Munch, S., Korst, L. M., Hernandez, G. D., Romero, R., & Goodwin, T. M. (2011). Health-related quality of life in women with nausea and vomiting of pregnancy: the importance of psychosocial context. *Journal of perinatology: ofcial journal of the California Perinatal Association* 31, 10–20, <https://doi.org/10.1038/jp.2010.54>
- Murray, L., Sinclair, D., Cooper, P., Ducournau, P., Turner, P., & Stein, A. (1999). The socioemotional development of 5-year-old children of postnatally depressed mothers. *Journal of Child Psychology and Psychiatry*, 40(8), 1259-1271.
- Nazik, E., & Eryilmaz, G. (2014). Incidence of pregnancy related discomforts and management approaches to relieve them among pregnant women. *Journal of Clinical Nursing*, 23, 1736-50.
- Pedrabissi, L., & Santinello, M. (1989). *Verifica della validità dello STAI forma Y di Spielberger*. Giunti Organizzazioni Speciali.
- Smorti, M., Ponti, L., & Pancetti, F. (2019). A comprehensive analysis of post-partum depression risk factors: The role of socio-demographic, individual, relational, and delivery characteristics. *Frontiers in public health*, 7, 295.
- Spielberger, C. D. (1983). *Manual for the State - Trait Anxiety Inventory (Form Y)*. Palo Alto: Consulting Psychologist Press.