Determination of the Prevalence of Postpartum Depression and Risk Factors Among Postpartum Patients at a Tertiary Government Urban Hospital Using the Edinburgh Postnatal Depression Scale-Filipino Translation (EPDS-F): A Cross-Sectional Study

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Research article

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A Cross-Sectional Study

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ABSTRACT

Background

Postpartum depression (PPD) occurs in 10-15% of deliveries worldwide. Unfortunately there is a dearth of local studies on its exact prevalence.

Method

This cross-sectional study aimed to determine the prevalence of and risk factors for PPD among postpartum patients at a tertiary government hospital using the Edinburgh Postnatal Depression Scale-Filipino Translation (EPDS-F), a 10-point questionnaire translated into Filipino and previously validated. Four hundred patients within 8 weeks postpartum were recruited and their EPDS-F scores and sociodemographic, medical and personal history, and delivery and perinatal outcome data were obtained.

Results

The overall prevalence of PPD was 14.5%, which is within the known worldwide prevalence. Among those that had family incomes below PhP10,000, the proportion that had high EPDS-F scores was 68.8%, while those that had low EPDS-F scores was 48.8% (significant at p=0.001). Among those that finished below tertiary education, the proportion that had high EPDS-F scores was 81%, while those that had low EPDS-F scores was 59.9% (significant at p=0.002). Among those who delivered vaginally, 62.1% had high EPDS-F scores vs 44.2% low EPDS-F (p=0.03). Of those that had epidural anesthesia (106 or 26.5%), 44.8% had high EPDS scores and 26.0% had low EPDS-F scores

(p=0.04). Regression analysis showed that having an abdominal delivery is correlated with a lower EPDS-F score by 0.87% by logistic regression and 0.46 % by probit regression. Having a higher educational attainment and monthly income are associated with a lower EPDS-F score by regression analysis.

Conclusions

The prevalence may be skewed because a tertiary government institution caters to delicate pregnancies and those in low socioeconomic brackets. It may be worthwhile to compare responses from a public versus a private institution, also urban versus rural areas. It would be interesting also to evaluate the mode of delivery variable and how exactly it correlates with the development of postpartum depression.

KEYWORDS: Edinburgh Postnatal Depression Scale, Edinburgh Postnatal Depression Scale-Filipino Translation, postnatal depression, postpartum depression, Psychiatric Status Rating Scales

BACKGROUND

Postpartum depression (PPD) occurs in 10-15% of all deliveries worldwide[1]. Unfortunately there is a dearth of local studies on the exact prevalence of this disorder. It is estimated that there were 126,826 cases of PPD in the Philippines in 2004[2]. However very little research has been done on the development and prevention of this disorder, despite the fact that depression that has onset in the postpartum period has been shown to lead to persistence of depression after one year and even behavioral problems in the child[3].

Among patients with PPD, approximately 50 percent experience symptoms before or during pregnancy[4]. In a prospective study of 546 pregnant and postpartum women and diagnosed with postnatal depression, 20 percent had symptom onset prepregnancy, 38 percent antepartum, and 42 percent postpartum[5]. And in those whose symptoms begin after delivery, majority seem to have onset within the first few months postpartum[6]. A retrospective study of women with postpartum onset of major depression (n = 116) found that onset occurred as follows[7].

- Postpartum month 1 – 54 percent
- Postpartum month 2 to 4 – 40 percent
- Postpartum month 5 to 12 – 6 percent

The Edinburgh Postnatal Depression Scale (EPDS) is a ten-item questionnaire used to identify women who have postpartum depression. It was designed by Cox et al in 1987[8]; each item is assigned a score 0 to 3 and the test yields a

score of 0 to 30. The items ask about symptoms that the patient felt in the last week and the patient rates her mood, feelings of anxiety, guilt, anhedonia, self-harm, and suicidal ideation. Women with a score of 10-12 are said to be at risk for PPD.

The EPDS may be used within eight weeks postpartum. This tool was translated into the Filipino and validated in a 2005 study[9] (Edinburgh Postnatal Depression Scale-Filipino Translation or EPDS-F). It is proposed that this tool be used to determine the prevalence of postpartum depression in Filipinos and at the same time, determine the risk factors for this.

Critical review of past researches concerning research questions

The Diagnostic and Statistical Manual of Mental Disorders, 5th edition[10] defines postpartum depression as a major depressive episode with an onset in pregnancy or within four weeks of delivery. In the Philippines, there were an estimated 126,826 cases of postpartum depression in 2004, but a dearth of local studies on the disorder[2]. The late Senator Miriam Defensor-Santiago authored the Postpartum Depression Research Act in 2007, for the 13th Congress[2]. This act aimed to provide research on understanding the causes of, and to find a cure for, postpartum depression and psychosis. If approved, resources would be allocated for activities that include basic research concerning the etiology and causes of the conditions, epidemiological studies to address the frequency and natural history of the conditions, development of improved diagnostic techniques, clinical research for the development and

evaluation of new treatments, and information and education programs for health care professionals and the public. However, this bill is still currently pending in the senate.

A study conducted by De Chavez[11] at a tertiary hospital in Dasmariñas, Cavite, Philippines aimed to determine the prevalence of postpartum depression among postpartum patients. The authors determined the proportion of mothers experiencing postpartum depression on the basis of the following socio-demographic factors: age, marital status, employment status, manner of delivery, parity, age of gestation upon delivery, gender of the newborn and breastfeeding status. They used the Edinburgh Postnatal Depression Scale (EPDS) and found that of 115 patients, 89 had an EPDS score below 10 points corresponding to 77.39% of the total population studied, while 26 participants had a score of at least 10 points corresponding to 22.61%. There were 9 respondents who scored at least 1 point in question number 10 pertaining to 7.83% of the population. The prevalence of postpartum depression among them was 22.61%.

The development of postpartum depression is multifactorial. A meta-analysis by Beck[12] of 84 studies published in the decade of the 1990s was conducted to determine the magnitude of the relationships between postpartum depression and various risk factors. Thirteen significant predictors of postpartum depression were revealed: Prenatal depression, self-esteem, childcare stress, prenatal anxiety, life stress, social support, marital relationship, history of

previous depression, infant temperament, maternity blues, marital status, socioeconomic status, and unplanned/unwanted pregnancy. Ten of these 13 risk factors had moderate effect sizes while three predictors had small effect sizes.

A study by Miller[13] demonstrated that the following risk factors are strong predictors of postpartum depression: depression or anxiety during pregnancy, stressful recent life events, poor social support and a previous history of depression. Moderate predictors of postpartum depression are childcare stress, low self-esteem, maternal neuroticism and difficult infant temperament. Small predictors include obstetric and pregnancy complications, negative cognitive attributions, single marital status, poor relationship with partner, and lower socioeconomic status including income. No relationship was found for ethnicity, maternal age, level of education, parity, or gender of child.

The lack of research on this disorder is alarming, because of the burden of the disease not only on the mother but on the child as well. Studies show that 25 % of women with postpartum depression will be depressed 1 year later. And as the duration of depression increases, so too do the number of sequelae and their severity. Also, maternal depression during the first weeks and months after delivery can lead to insecure attachment and later behavioral problems in the child[3].

Philipps[14] conducted a 4.5-year prospective study of postpartum depression in 70 women. He found that women who had experienced a postpartum depression were predicted to be at increased risk for subsequent depression and poor adjustment of their child. Postpartum depression was directly related to subsequent depression but not child problems. Later depression was related to child problems at 4½ yrs. It was concluded that postpartum depression may increase risk for later maternal depression and in turn increases risk for child behavior problems. Intervening with women who have experienced a postpartum depression may reduce likelihood of future depressions and child behavior problems.

Early recognition is one of the most difficult challenges with postpartum depression because of how covertly it is suffered. Dennis[15] conducted a systematic review on help-seeking behavior among women diagnosed with postpartum depression. Forty articles were reviewed, and it was found that a common help-seeking barrier was women's inability to disclose their feelings, which was often reinforced by family members and health professionals' reluctance to respond to the mothers' emotional and practical needs. The lack of knowledge about postpartum depression or the acceptance of myths was a significant help-seeking barrier and rendered mothers unable to recognize the symptoms of depression.

According to the American College of Obstetricians and Gynecologists, there is currently insufficient evidence to make a recommendation for routine

depression screening, either during or after pregnancy[16]. At Parkland Hospital, all women are asked about depression and domestic violence at their first prenatal visit. They are also screened again during their first postpartum visit using the Edinburgh Postnatal Depression Scale (EPDS). In an analysis[17] of more than 17,000 of these questionnaires, 6% had scores that indicated either minor or major depressive symptoms. Twelve of these 1106 women also had thoughts of self-harm.

The Edinburgh Postnatal Depression Scale (EPDS), a 10-item questionnaire that was developed in Scottish health centers in Edinburgh and Livingston to identify women who have PPD[8]. Items of the scale correspond to various clinical depression symptoms, such as guilt feeling, sleep disturbance, low energy, anhedonia, and suicidal ideation. The EPDS may be used within 8 weeks postpartum and it also can be applied for depression screening during pregnancy.

The EPDS was validated among 191 women 1-6 weeks postpartum at the Philippine General Hospital[9]. They answered the Edinburgh Postnatal Depression Scale-Filipino Translation (EPDS-F) and underwent DSM-IV based psychiatric interview. They found that sensitivity was 71.4 %, specificity was 84.2 %, positive predictive value was 26.3 % and negative predictive value was 97.4 %. Their results confirm the validity of EPDS-F among postpartum Filipinas. This tool can therefore be used to determine the prevalence of the disease as well as the risk factors for its development.

Significance of the study

Currently there are only a few available local studies on postpartum depression. It is fortunate that we have available the Edinburgh Postnatal Depression Scale that has been translated into Filipino and validated in a 2005 study[13]. This study also recommended that future research would have a larger sample size in order to obtain a more accurate estimate of prevalence of PPD in the country.

Participation in the study may diagnose existing postpartum depression or identify patients at risk for its development. The results may be used for further research on postpartum depression and will thus also be beneficial for future generations of postpartum women. Also, answering the questionnaire will serve as screening for postpartum depression and should postpartum depression be detected, it can be managed immediately with referral to a psychiatrist.

OBJECTIVES

General objective: To determine the prevalence of and risk factors for the development of postpartum depression among postpartum patients at a tertiary government hospital using the Edinburgh Postnatal Depression Scale-Filipino Translation (EPDS-F).

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Specific objectives:

1. To describe the socio-demographic profile of the patients diagnosed with postpartum depression.

2. To determine the prevalence of postpartum depression among postpartum patients at a tertiary government hospital.

3. To determine the risk factors for developing postpartum depression.

METHODS

Study design

A cross-sectional study was conducted among postpartum patients at a tertiary government hospital using the Edinburgh Postnatal Depression Scale-Filipino Translation (EPDS-F).

Selection of subjects and sample size calculation

Based on the Annual Perinatology and Neonatology Statistics done at this tertiary government hospital, there were 5126 deliveries in the year 2016. This number was used as the population size. The worldwide estimated prevalence of depression among recently delivered women at 10-15%, and the prevalence found by Torres study 7.3%, though with a small sample size of 191. The prevalence was thus set at 50% and the confidence level at 95%, the computed sample size was 357. Ten percent was added to account for incomplete information and losses; hence the sample size was set at 400.

Inclusion criteria: Patients at least 18 years of age who have delivered a fetus of more than 20 weeks age of gestation, weighing more than 500 grams, within the last 8 weeks, whether vaginal or abdominal delivery, term or preterm, alive or dead.

Exclusion criteria:

- Cases of abortion, ectopic pregnancy, hydatidiform mole.

- Those who have previously been diagnosed with a depressive disorder.

- Those who cannot speak Filipino.

Data collection

In 2016, the tertiary government hospital had a total of 5126 deliveries. It is thus an ideal setting for research on postpartum women. It was decided that the data gathering be done on postpartum patients on follow up at the outpatient department instead of immediately postpartum to allow for adequate time for the patient to settle at home after the delivery. Also, postpartum depression typically manifests within the first 1-3 weeks postpartum, and the first postpartum visit is usually scheduled within the first 1-2 weeks after delivery.

The study was conducted at a tertiary government hospital of Obstetrics and Gynecology Outpatient Department (OPD) where postpartum patients come for their follow up. An average of 5 to 10 postpartum patients are seen at the OPD per day. A research assistant conducted the data collection over 5 months from April to October 2018. Four hundred participants were recruited and answered the self-administered questionnaire while waiting for their turn for checkup.

The Edinburgh Postnatal Depression Scale (**APPENDIX A)** was previously translated into the Filipino and validated. The Edinburgh Postnatal Depression

Scale-Filipino Translation **(APPENDIX B)** were answered by postpartum patients on follow up at the outpatient clinic. Each item of the EPDS is assigned a score 0 to 3 give a total score between 0 to 30. Women with a score of 10 are classified as at risk for development of PPD. For sociodemographic data, there was a separate sociodemographic data sheet in Filipino **(APPENDIX C,** English translation also provided, **APPENDIX D**, and other pertinent information (data on the delivery, course of hospital stay, among others) were retrieved from the patient's charts **(APPENDIX E)**, permission for which was included in the informed consent) **(APPENDIX F** in Filipino, **APPENDIX G** in English**)**.

Data processing and analysis

Analysis of the data from the actual survey included computation of prevalence and descriptive statistics to calculate the risk factors based on patient demographics and profile. Chi-square test was used to determine the association.

Once the data was extracted by the investigator from the charts of the patients, all the information was manually entered into an electronic spreadsheet for data processing and analysis. The socio-demographic and clinical variables were presented in frequencies and percentages for categorical variables such as sex, marital status, mode of delivery and reasons for removal; or mean, standard deviation or range for continuous variables such as age, gravidity and parity.

For the general objective, the prevalence of PPD were presented as frequency and percentage, the denominator being the total number of subjects

included in the study. A 95% confidence interval of the prevalence rate was computed.

For the first specific objective, independent t-test was used to compare variables such as age, number of pregnancies and children between those who were noted by the scale to have PPD and otherwise. Chi-square test of association was used to determine differences across categorical variables such as marital status, employment status, presence of co-morbidities, and use of contraception in terms of PPD status from the EPDS-F.

For the second specific objective, z-test of proportions was done to compare the prevalence and established risk factors in Filipinos to the general population of postpartum women if there are available data for the comparison.

Regression analysis was performed for all the variables, specifically multivariate regression estimated through ordinary least squares (OLS).

Analysis was performed using the software Stata 13. The level of significance for all sets of analysis was put at 0.05 using two-tailed comparisons.

RESULTS

Of the 400 participants, 58 had EPDS-F scores 10 and higher, classifying them as at risk for developing postpartum depression. All 58 were referred to Psychiatry for further evaluation and management.

The overall prevalence of PPD was thus computed to be at 14.5%. This is within the known worldwide prevalence of 10-15%[1] but higher than in the local study

done by Torres[13] in 2005 (7.3% in 191 women). The mean EPDS-F score of the depressed group was 13.1, as opposed to 3.0 in the non-depressed group.

Tables 1, 2, and **3** show the breakdown and percentages of the socio-demographic variables, medical and personal history variables, and delivery-related and perinatal outcome variables, respectively.

Socio-Demographic Variables (Table 1)

Characteristics	High EPDS score N=58 (%)	Low EPDS Score N=342 (%)	p-value
Age in years	28.3 ± 5.4	28.8 ± 6.4	
Obstetric score			
Multigravid	43.0 (74.1)	231.0 (67.5)	0.70
Primigravid	15.0 (25.9)	111.0 (32.5)	0.20
Marital status			
Single	33.0 (56.8)	191.0 (55.8)	0.46
Married	19.0 (32.7)	129.0 (37.7)	0.66
Live in partner	6.0 (10.3)	21.0 (6.1)	0.36
Highest level of education			
Elementary	5.0 (8.6)	14.0 (4.1)	0.35
Secondary	42.0 (72.4)	191.0 (55.8)	0.02*
***Elementary and secondary*	**47.0 (81.0)	**205.0 (59.9)	**0.002*
Tertiary	11.0 (18.9)	137.0 (40.1)	0.92
Employment status			
Employed	13.0 (22.4)	91.0 (26.6)	0.63
Unemployed	45.0 (77.6)	251.0 (73.3)	0.28
Monthly family income			
< 5,000	18.0 (31.0)	54.0 (15.8)	0.08*
5,000-10,000	22.0 (37.8)	110.0 (32.2)	0.30
***<10,000*	**40.0 (68.8)	**164.0 (48.0)	**0.001*
10,000-15,000	12.0 (20.7)	109.0 (31.8)	0.79
15,000-20,000	4.0 (6.9)	38.0 (11.1)	0.60
≥ 20,000	2.0 (3.4)	31.0 (9.1)	0.61

The mean age of all 400 respondents was 28.7 (SD ± 6.2) . Mean age for the high EPDS-F score group was 28.3 (SD ± 5.4) and 28.8 (SD ± 6.4) for the low EPDS-F score with no significant difference between groups. The majority or

68.5% of participants were multigravids (high EPDS-F 74% vs low EPDS-F 67.5%. Majority or 56% are single (high EPDS 56.8 % vs low EPDS 55.8 %), and unemployed (high EPDS-F 77.5% vs low EPDS-F 73.3%). The majority of those with high EPDS-F scores had a monthly family income below PhP10,000 or USD198 (high EPDS-F 69% vs low EPDS-F 48%). For education, 58% of respondents completed secondary education (high EPDS-F 72.4% vs low EPDS-F 55.8%). Of those who completed college, 18.9% had high EPDS-F scores vs 40% with low EPDS-F scores.

Of these, the only variables which reached statistical significance (p <0.05) were the monthly family income below PhP10,000 and completed secondary education. So these were further analyzed to include those with family income less than PhP5,000 or USD99, and those who completed only elementary education. Among those that had family monthly incomes below PhP10,000, the proportion that had high EPDS-F scores was 68.8%, while those that had low EPDS-F scores was 48.8%. This was significantly different at p=0.001. Similarly, among those that finished below tertiary education or only elementary or secondary, the proportion that had high EPDS-F scores was 81%, while those that had low EPDS scores was 59.9%. This was significantly at p=0.002.

Medical and Personal History Variables (Table 2)

Characteristics	High EPDS score N=58 (%)	Low EPDS Score N=342 (%)	p-value
Personal history of psychiatric condition			
Yes	0.0	1.0	-
No	-	-	
Family history of psychiatric condition			
Yes	5.0 (8.6)	28.0 (8.2)	0.49
No	53 (91.4)	314 (91.8)	0.54
Presence of medical comorbidities			
None	42 (72.4)	259.0 (75.5)	0.68
Hypertension	5.0 (8.6)	23.0 (6.7)	0.44
Diabetes mellitus	5.0 (8.6)	8.0 (2.3)	0.30
Heart disease	2.0 (3.4)	4.0 (1.2)	0.42
Thyroid disease	1.0 (1.7)	21.0 (6.1)	0.57
Bronchial asthma	1.0 (1.7)	16.0 (4.7)	0.55
Others	2.0 (3.4)	11.0 (3.2)	0.49
Currently smoking			
Yes	0.0 (0.0)	3.0 (0.9)	-
No	58.0 (100.0)	339.0 (99.1)	0.24
Currently with alcohol intake			
Yes	4.0 (6.9)	19.0 (5.5)	0.46
No	54.0 (93.1)	323.0 (94.4)	0.65
History of physical abuse			
Yes	0.0 (0.0)	7.0 (2.0)	-
No	58.0 (100.0)	335.0 (98.0)	0.14
History of sexual abuse			
Yes	1.0 (1.7)	4.0 (1.2)	0.48
No	57.0 (98.3)	338.0 (98.8)	0.64
Status of child			
Alive	58.0 (100.0)	340.0 (99.4)	0.28
Died	0.0 (0.0)	2.0 (0.6)	-
Child with congenital illness			
Yes	5.0 (8.6)	16.0 (4.7)	0.37
No	53.0 (91.4)	326.0 (95.9)	0.92

Only 1 of the 400 respondents reported a personal history of mental illness, and

she had a low EPDS-F score. Thirty-three participants reported having mental

illness in the family (high EPDS-F 8.6% vs low EPDS-F 8.2). Seven

respondents had a history of physical abuse, and all of them had low EPDS-F scores. Five had a history of sexual abuse of which one had a high EPDS-F score (1.7% vs Low EPDS-F 1.2%). Three respondents admitted to smoking, all had a low EPDS-F score while 23 were alcohol consumers (high EPDS-F-F 6.9% vs low EPDS 5.5%. Ninety-nine patients or 24.8 percent had medical comorbidities—28 hypertensive (high EPDS-F 8.6% vs low EPDS-F 6.7%), 13 diabetics (high EPDS-F 8.6% vs low EPDS-F 2.3%), 6 with heart disease (high EPDS-F 3.4% vs low EPDS-F 1.2%), 22 with thyroid disease (high EPDS-F 1.7% vs low EPDS-F 6.1%), 17 with bronchial asthma (high EPDS-F 1.7% vs low EPDS-F 4.7%), and 13 with other illnesses (high EPDS-F 3.4% vs low EPDS-F 3.2%). None of these were significantly different. Among those with children with congenital illness, majority had high EPDS-F scores (8.6%) as opposed to low EPDS-F scores (4.7%). All were live births. None of the medical and personal history variables were significantly different between the high and low EPDS score groups.

Delivery-related and Perinatal Outcome Variables (Table 3)

Characteristics	High EPDS score N=58 (%)	Low EPDS Score N=342 (%)	p-value
Planned pregnancy?			
Yes	22.0 (37.9)	137.0 (40.1)	0.58
No	36.0 (62.1)	205.0 (59.9)	0.40
Mode of delivery			
Vaginal	36.0 (62.1)	151 (44.2)	0.03*
Abdominal	22.0 (37.9)	191 (55.8)	0.94
Induction of labor			
Yes	24.0 (66.7)	89.0 (58.9)	0.25
No	12.0 (33.3)	62.0 (41.1)	0.69
Use of epidural?			
Yes	26.0 (72.2)	80.0 (53.0)	0.04*
No	10.0 (27.8)	71.0 (47.0)	0.87
Hours of labor			
< 8 hours	22.0 (61.1)	79.0 (52.3)	0.23
≥ 8 hours	1.0 (0.7)	1.0 (0.7)	0.50
Obstetric complications			
Yes	4.0 (11.1)	19.0 (12.6)	0.53
No	32.0 (88.9)	132.0 (87.4)	0.41
Child with congenital illness			
Yes	5.0 (8.6)	16.0 (4.7)	0.37
No	53.0 (91.4)	326 (95.9)	0.92
Breastfeeding			
Yes	55.0 (94.8)	323.0 (94.4)	0.45
No	3.0 (5.2)	19.0 (5.6)	0.51

A total of 159 or 39.8% had unplanned pregnancies. Thirty-eight percent had high EPDS-F scores vs 40% with low EPDS-F scores. Majority were breastfeeding (94.8% high EPDS vs 94.4% low EPDS-F). One hundred eighty-seven (46.8%) delivered vaginally (high EPDS-F 62.1% vs low EPDS-F 44.2%). Those who underwent vaginal delivery were further analyzed according to whether or not they underwent labor induction, whether or not epidural anesthesia was given, and the duration of their labor (less than or more than 8 hours. Of those that had labor induction, 24 (41.4%) were in the high

EPDS-F score group vs 89 (26%) in the low EPDS-F score group. Majority had labor lasting less than 8 hours (61.1% high EPDS-F vs 52.3% low EPDS-F). Of those that had epidural anesthesia (106 or 26.5%), 44.8% had high EPDS-F scores and 26.0% had low EPDS-F scores. Twenty-three patients (5.8%) developed obstetric complications. Four had wound dehiscence while 20 had surgical site infections. Among these, 4 were had high EPDS-F scores (6.9%) and 19 (5.6%) had low EPDS-F scores. Only 2 reported that their children had expired, both of whom had low EPDS scores. Among those with children with congenital illness, more mothers had high EPDS scores (8.6 % vs 4.7% low EPDS scores).

Among these, only the mode of delivery and use of epidural anesthesia were statistically significant. Among those who underwent vaginal delivery, 62.1% had high EPDS scores vs 44.2% low EPDS-F (p=0.03). Of those that had epidural anesthesia (106 or 26.5%), 44.8% had high EPDS scores and 26.0% had low EPDS scores (p=0.04).

Regression Analysis (Table 4)

Method	Ordinary Least Squares	Logistic Regression	Probit Regression
Dependent Variable	EPDS	PPD	PPD
Independent Variables			
C	10.17 [7.04]**	1.16 [1.08]	0.56 [0.95]
Age	-0.06 [-1.59]	-0.02 [-0.83]	-0.01 [-0.62]
Child with Congenital Illness	2.17 [1.81]	0.80 [1.41]	0.44 [1.37]
Medical Comorbidities		-0.04 [-0.43]	-0.03 [-0.53]
Obstetric Complications	1.73 [1.47]	0.74 [1.20]	0.40 [1.20]
Mode of Delivery	-1.60 [-3.42]**	-0.87 [-2.76]**	-0.46 [-2.72]**
Education	-1.23 [-3.39]**	-0.69 [-2.39]*	-0.4 [-2.54]*
Employment	-0.40 [-0.72]	-0.26 [-0.69]	-0.13 [-0.65]
History of Family Mental Illness	0.51 [0.67]	0.26 [0.49]	0.14 [0.49]
Family Income	-0.41 [-2.10]*	-0.44 [-2.84]**	-0.23 [-2.84]**
OB Score		0.48 [1.25]	0.22 [1.07]
Planned Pregnancy	0.43 [0.87]	0.04 [0.14]	-0.01 [-0.05]
Observations:	400	400	400
R-squared:	0.09	0.09	0.09

t-Statistic in brackets. Significance at 1 percent (***), 5 percent (**), and 10 percent (*) levels.

Regression analysis was performed for all the variables. Using the multivariate regression estimated through ordinary least squares (OLS), the mode of delivery, level of education, and monthly family income were found to be significant in determining the EPDS-F score. Women who underwent abdominal delivery had a lower EPDS-F score on average by 1.60 points. Meanwhile, women who have finished elementary, high school, and college education have EPDS-F scores lower by 1.23 points, 2.46 points, and 3.69 points, respectively, compared to women who have no educational attainment. In addition, having a higher level of family income was found to be associated with a lower EPDS-F score.

The same results were found to be robust using the logistic and probit regression approaches. Having an abdominal delivery is correlated with a lower EPDS-F score by 0.87% using the logistic regression and 0.46% using the probit regression. Similar to the results from the OLS approach, having a higher level of educational attainment and monthly family income are associated with a lower EPDS-F score.

DISCUSSION

The characteristics that were noted to be significant in the development of postpartum depression as determined by the Edinburgh Postnatal Depression Scale-Filipino Translation (EPDS-F) are low educational attainment (below tertiary education, $p < 0.01$) and lower family income (below PhP10,000 below family income, $p < 0.01$). Both are consistent with the Torres study[9]. Low family income was also a significant risk factor in an Indian study[18]. Interestingly, abdominal delivery was found to be correlated to a high EPDS-F score ($p < 0.05$). Previous studies showed no effect of route of delivery on the development of PPD. A meta-analysis in 2017[19] showed that caesarean section increases the risk for PPD. It is important to note that the rate of abdominal delivery for this study is quite high at 53.3% (the ideal rate according to the World Health Organization is only 10-15%[20]). This could be attributed to the fact that this study was conducted in a tertiary hospital that caters to more complicated pregnancies, many of which require delivery by caesarean section. In 2016, 43% of deliveries at this hospital were by caesarean section.

Among all of the above characteristics, based on the computed p-values and regression analysis, it appears that the ones that proved significant for having a high EPDS-F score are the following: having low educational attainment (below tertiary), having lower family income (less than PhP10,000), vaginal delivery, and use of epidural anesthesia. The finding that those with high EPDS-F scores are most likely to have had epidural anesthesia is contradictory to the finding that those with high EPDS scores are most likely to have undergone

abdominal rather than vaginal delivery, if decreased pain is the supposed rationale. Perhaps there are other factors associated with vaginal delivery that increases the EPDS-F score.

Comparing with the findings of the Torres study[9], the only common risk factors for developing postpartum depression are having low educational attainment and low family income. This can be explained by the growing inflation and the increased poverty rates. Additional factors that are frequently associated with postpartum depression include, stressful life events (e.g., marital conflict or emigration) during pregnancy or after delivery, as well as poor social and financial support in the puerperium[21].

LIMITATIONS

As this is a cross-sectional design, the data is reflective of the prevalence and risk factors of postpartum depression only at the point in time they were obtained. It is recommended that further studies using a cohort design to determine lifetime prevalence of postpartum depression be conducted. Causality cannot be established as well.

CONCLUSIONS

The Edinburgh Postnatal Depression Scale Filipino Translation (EPDS-F) is a useful screening tool for postpartum patients. It is an ideal tool because it consists of only ten items and is self-administered.

The prevalence of postpartum depression in this study was found to be 14.5%. The variables that were found to be significant in those who had high EPDS-F scores were monthly family income below PhP10,000, educational attainment below tertiary, and vaginal delivery.

The higher prevalence noted in this study may be due to risk factors present in the population—such as low socioeconomic status and low educational attainment. It may be worthwhile to compare responses from a public versus a private institution, as well as urban versus rural, non-hospital based areas. It would be interesting also to further evaluate the mode of delivery variable and how exactly it correlates with the development of PPD.

Obstetricians, midwives, and all those who care for pregnant women will do well to remember that the duty to each patient does not end with a safe delivery. It is imperative to ensure her complete physical and mental well-being even in the puerperium and beyond. Screening during a critical period of vulnerability such as in the puerperium will allow early detection, prevention and treatment.

ABBREVIATIONS

PPD – Postpartum depression

EPDS – Edinburgh Postnatal Depression Scale

EPDS-F – Edinburgh Postnatal Depression Scale-Filipino Translation

OPD – outpatient department

OLS – ordinary least squares

DECLARATIONS

Ethics approval and consent to participate

This study was conducted through survey. All patient information was kept confidential. No data or test result were used for any other purpose other than what it was intended. The study protocol was submitted for ethics review by the University of the Philippines Manila Research Ethics Board (UPMREB), which has the following reference numbers:

<div align="center">

UPMREB IRB Registration #: IRB00002908

IORG #: IORG0002365 - Expiry: 02/15/2021

FWA #: 00018728 - Expiry: 04/12/2022

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Data collection only ensued upon approval. This study was funded by the primary investigator only. Written consent was obtained from the participants and they were also given copies of the informed consent form. No conflict of interest was identified among the investigators, the patients and the institution.

It is important to note that answering items on the EPDS-F might cause participants to think about feelings of depression, worthlessness, and self-harm. Participants who were classified as at risk for developing PPD based on their EPDS-F score were referred to Psychiatry for further evaluation and management.

Consent for publication

Not applicable

Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

MS was responsible for the conception of the study; the acquisition, analysis, and interpretation of data, as well as drafting and revision of the work.

MH was likewise responsible for the conception of the study; the acquisition, analysis, and interpretation of data, as well as drafting and revision of the work.

All authors have read and approved the manuscript.

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ADDITIONAL FILES

APPENDIX A: EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

CODE _____

As you have recently had a baby, we would like to know how you are feeling. Please SHADE the answer which comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.
Here is an example, already completed.

      I have felt happy:
- ☐ Yes, all the time
- ■ Yes, most of the time
- ☐ No, not very often
- ☐ No, not at all

This would mean: "I have felt happy most of the time" during the past week. Please complete the other questions in the same way.

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - ☐ As much as I always could
   - ☐ Not quite so much now
   - ☐ Definitely not so much now
   - ☐ Not at all
2. I have looked forward with enjoyment to things
   - ☐ As much as I ever did
   - ☐ Rather less than I used to
   - ☐ Definitely less than I used to
   - ☐ Hardly at all
3. I have blamed myself unnecessarily when things went wrong
   - ☐ Yes, most of the time
   - ☐ Yes, some of the time
   - ☐ Not very often
   - ☐ No, never
4. I have been anxious or worried for no good reason
   - ☐ No, not at all
   - ☐ Hardly ever
   - ☐ Yes, sometimes
   - ☐ Yes, very often
5. I have felt scared or panicky for no very good reason
   - ☐ Yes, quite a lot
   - ☐ Yes, sometimes
   - ☐ No, not much
   - ☐ No, not at all
6. Things have been getting on top of me
   - ☐ Yes, most of the times I haven't been able to cope at all

       ☐ Yes, sometimes I haven't been coping as well as usual
       ☐ No, most of the time I have coped quite well
       ☐ No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping
       ☐ Yes, most of the time
       ☐ Yes, some of the time
       ☐ Not very often
       ☐ No, not at all

8. I have felt sad or miserable
       ☐ Yes, most of the time
       ☐ Yes, some of the time
       ☐ Not very often
       ☐ No, not at all

9. I have been so unhappy that I have been crying
       ☐ Yes, most of the time
       ☐ Yes, some of the time
       ☐ Only occasionally
       ☐ No, never

10. The thought of harming myself has occurred to me
       ☐ Yes, quite often
       ☐ Sometimes
       ☐ Hardly every
       ☐ Never

APPENDIX B: EDINBURGH POSTNATAL DEPRESSION SCALE-FILIPINO TRANSLATION (EPDS-F)

CODE _____
Kumusta na ang iyong pakiramdam?

Sa dahilang ikaw ay nanganak kamakailan lamang, nais naming malaman kung ano ang iyong pakiramdam sa ngayon. Mangyari lamang na guhitan ang sagot na pinakamalapit sa iyong naramdaman sa nakaraang 7 araw, hindi lamang ang iyong nararamdaman sa ngayon.

Narito ang isang halimbawa, na nasagutan na:

- ☐ Ako ay nakaramdam ng kaligayahan:
- ☐ Oo, kadalasan
- ☑ Oo, minsan
- ☐ Hindi, hindi gaano
- ☐ Hindi, hindi ni minsan

Nangangahulugan ito na: 'Minsan ako ay nakaramdam ng kaligayan sa nakaraang linggo.' Mangyari lamang na kumpletohin ang iba pang mga katanungan sa parehong paraan.

SA NAKARAANG 7 ARAW:

1. Nagawa kong tumawa at nakita ko ang nakakatuwang bahagi ng mga bagay:
   - ☐ Kasing dalas ng palagi kong ginagawa
   - ☐ Hindi na gaano kadalas sa ngayon
   - ☐ Talagang hindi na gaano kadalas sa ngayon
   - ☐ Hindi ni minsan

2. Umaasa ako na masisiyahan sa mga bagay:
   - ☐ Kasing dalas ng dati kong ginagawa
   - ☐ Hindi na gaano kadalas katulad ng dati kong ginagawa
   - ☐ Talagang di na gaano kadalas katulad ng dati kong ginagawa
   - ☐ Bibihirang mangyari

3. Sinisi ko ang aking sarili kapag may mga maling bagay na nangyari:
   - ☐ Oo, kadalasan
   - ☐ Oo, minsan
   - ☐ Hindi gaanong madalas
   - ☐ Hindi, hindi kailanman

4. Nag-alala ako o nabalisa nang walang magandang kadahilanan:
   - ☐ Hindi, hindi ni minsan
   - ☐ Bibihirang mangyari

     ☐ Oo, kung minsan
     ☐ Oo, napakadalas

5. Nakaramdam ako ng takot o biglang pagkatakot nang walang magandang dahilan:
     ☐ Oo, napakadalas
     ☐ Oo, paminsan-minsan
     ☐ Hindi, hindi gaanong madalas
     ☐ Hindi, hindi ni minsan

6. Nahihirapan akong makayanan ang mga bagay:
     ☐ Oo, kadalasan ay hindi ko nakakayanan ang mga bagay
     ☐ Oo, paminsan-minsan ay hindi ko nakakayanan ang mga bagay nang kasing husay ng dati
     ☐ Hindi, kadalasan ay nakayanan ko nang mahusay ang mga bagay
     ☐ Hindi, nakakayanan ko ang mga bagay katulad ng palagian

7. Naging sobrang malungkutin ako kaya nahirapan ako sa pagtulog:
     ☐ Oo, kadalasan
     ☐ Oo, napakadalas
     ☐ Hindi gaanong madalas
     ☐ Hindi, hindi kailanman

8. Nakaramdam ako ng lungkot at pagiging kahabag-habag:
     ☐ Oo, kadalasan
     ☐ Oo, napakadalas
     ☐ Hindi gaanong madalas
     ☐ Hindi, kailanma'y hindi

9. Naging malungkutin ako na naging dahilan ng aking pag-iyak:
     ☐ Oo, kadalasan
     ☐ Oo, napakadalas
     ☐ Paminsan-minsan lamang
     ☐ Hindi, kailanma'y hindi

10. Ang pag-iisip na saktan ang aking sarili ay nangyari sa akin:
     ☐ Oo, napakadalas
     ☐ Paminsan-minsan
     ☐ Bibihirang mangyari
     ☐ Hindi kailanman

APPENDIX C: SOCIODEMOGRAPHIC DATA SHEET (FILIPINO)

CODE: _____

1. Edad:
2. Estado:
   - ☐ Di-kasal
   - ☐ Kasal
   - ☐ Hiwalay
   - ☐ May kinakasama sa bahay
   - ☐ Biyuda
3. Natapos na pag-aaral
   - ☐ Elementary
   - ☐ High school
   - ☐ College
4. Nagtatrabaho
   - ☐ Oo (Trabaho: _____)
   - ☐ Hindi
5. Suweldo ng pamily kada buwan (Pesos)
   - ☐ < 5,000
   - ☐ 5,000-10,000
   - ☐ 10,000-15,000
   - ☐ 15,000-20,000
   - ☐ ≥ 20,000
6. Nagkaroon ng sakit sa pag-iisip?
   - ☐ Oo
   - ☐ Hindi
7. May kamag-anak na nagkaroon ng sakit sa pag-iisip?
   - ☐ Oo
   - ☐ Hindi
8. Kasalukuyang naninigarilyo?
   - ☐ Oo
   - ☐ Hindi
9. Kasalukuyang umiinom ng alak?
   - ☐ Oo
   - ☐ Hindi
10. Nakaranas ng pisikal na pang-aabuso?
    - ☐ Oo
    - ☐ Hindi
11. Nakaranas ng sekswal na pang-aabuso?
    - ☐ Oo
    - ☐ Hindi
12. Estado ng anak?
    - ☐ Buhay
    - ☐ Namatay
13. Pinlano ang pagbubuntis?
    - ☐ Oo

☐ Hindi

14. Kasalukuyang nagpapasuso sa anak?
  ☐ Oo
  ☐ Hindi

APPENDIX D: SOCIODEMOGRAPHIC DATA SHEET - English

15. Age:
16. Marital status
   - ☐ Single
   - ☐ Married
   - ☐ Separated
   - ☐ Common-law partner
   - ☐ Widowed
17. Educational attainment
   - ☐ Elementary school
   - ☐ High school
   - ☐ College
18. Employment status
   - ☐ Employed
   - ☐ Unemployed
19. Monthly family income (in Pesos)
   - ☐ < 5,000
   - ☐ 5,000-10,000
   - ☐ 10,000-15,000
   - ☐ 15,000-20,000
   - ☐ ≥ 20,000
20. Previously diagnosed with psychiatric condition?
   - ☐ Yes
   - ☐ No
21. Family history of psychiatric illness?
   - ☐ Yes
   - ☐ No
22. Currently smoking?
   - ☐ Yes
   - ☐ No
23. Currently with alcohol intake?
   - ☐ Yes
   - ☐ No
24. History of physical abuse
   - ☐ Yes
   - ☐ No
25. History of sexual abuse?
   - ☐ Yes
   - ☐ No
26. Status of child?
   - ☐ Alive
   - ☐ Died
27. Planned pregnancy?
   - ☐ Yes
   - ☐ No
28. Currently breastfeeding?

☐ Yes
☐ No

APPENDIX E: DATA OBTAINED FROM CHARTS

1. OB score:
2. With medical comorbidities?
   - ☐ Hypertension
   - ☐ Diabetes mellitus
   - ☐ Heart disease
   - ☐ Thyroid disease
   - ☐ Others: _____
3. Mode of delivery
   - ☐ Vaginal
   - ☐ Abdominal

   If vaginal delivery:
   a. Induction of labor?
   - ☐ Yes
   - ☐ No
   b. *Epidural anesthesia given?*
   - ☐ Yes
   - ☐ No
   b. Hours of labor
   - ☐ < 8 hours
   - ☐ ≥ 8 hours
4. Any obstetric complication?
   - ☐ Yes (Specify: _____)
   - ☐ No
5. Child with congenital illness?
   - ☐ Yes
   - ☐ No

APPENDIX F: INFORMED CONSENT (FILIPINO)

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Kaalamang pahintulot para sa mga bagong panganak sa Outpatient Department ng Philippine General Hospital Department of Obstetrics and Gynecology, na inaanyaya naming maging kalahok sa pananaliksik sa *postpartum depression* o PPD.

Ang pamagat ng pananaliksik na ito ay: *Determination of the Prevalence of Postpartum Depression and Risk Factors Among Postpartum Patients at a Tertiary Government Urban Hospital Using the Edinburgh Postnatal Depression Scale*

> **Pangunahing Imbestigador: Maria Carmina L. Santiago, M.D.**
> **Tagapatnubay na Imbestigador: Ma. Antoinette Habana, M.D.**
> **Department of Obstetrics and Gynecology, Philippine General Hospital**

Ang Kaalamang Pahintulot na ito ay may dalawang bahagi:
> **Impormasyon Tungkol sa Pananaliksik**
> **Patunay ng Pahintulot**

Kayo po ay bibigyan ng kopya ng buong kaalamang pahintulot.

<u>Unang Bahagi</u>: Impormasyon Tungkol sa Pananaliksik

Panimula
Ako po si Dr. Maria Carmina Santiago, residente po ng Department of Obstetrics and Gynecology ng Philippine General Hospital. Ako po ay kasalukuyang may isinasagawang pananaliksik tungkol sa depresyon sa mga bagong kapapanganak o POSTPARTUM DEPRESSION. Bibigyan ko po kayo ng impormasyon tungkol sa pananaliksik na ito at iniimbita ko po kayo maging kalahok. Kung mayroong pong hindi malinaw sa pananaliksik or kung nais ninyo nang karagdagang impormasyon, huwag po kayo mag-alinlangang magtanong.

Layunin ng pananaliksik
Ang depresyon sa mga bagong panganak o POSTPARTUM DEPRESSION (PPD) ay nararanasan ng 10-15% ng lahat ng bagong panganak na kababaihan. Ang PPD kapag hindi naagapan ay maaring magdulot ng patuloy

na depression sa ina o kaya problema sa kilos ng kanyang anak. Sa Pilipinas, kaunti pa lamang ang nagagawang pananaliksik tungkol sa kondisyong ito.

Uri ng pananaliksik
Ang *Edinburgh Postnatal Depression Scale (EPDS)* ay isang palatanungan na ginagamit upang malaman kung ang isang bagong panganak ay mayroong depresyon. Maari po lamang na sagutan niyo ito pati na rin ang data sheet tungkol sa inyong mga personal na detalye.

Pagpili ng mga kalahok
Kayo po ay inaanyayahang makilahok sa pag-aaral na ito kasama ng 400 na mga bagong panganak na babae.

Boluntaryong pakikilahok
Ang pagsali sa pananaliksik na ito ay hindi sapilitan. Kayo ay maaari tumanggi sa pagsali kung nais ninyo. Wala po magiging implikasyong ang pagtanggi niyo sa pakikilahok sa pag-aaral na ito. Makakatanggap pa rin kayo ng lahat ng serbisyo ng pasyente ng ospital na ito kahit piliin niyong hindi maging kalahok.

Paglalarawan ng proseso
Kayo po ay bibigyan ng dalawang palatanungan:
1. *Edinburgh Postnatal Depression Scale (Filipino)*
2. *Sociodemographic data sheet*

Maari po lamang na sagutin ninyo ito habang naghihintay na kayo ay tawagin sa Outpatient Department.
Maari din po na kumuha ng karagdagang impormasyon mula sa inyong tsart.

Mga posibleng panganib
Ang partisipasyon sa pag-aaral ay maaring magdulot ng mga di kanais-nais na damdamin dahil sa mga sensitibong tanong sa EPDS. Kung sakaling makaranas kayo ng mga ito, maaari po kayong komonsulta sa doktor ng pag-iisip o psychiatrist. Lahat po nang gastusin sa pagpapakonsulta at gamutan ay sasagutin ng Pangunahing Imbestigador.

Mga benepisyo
Ang pakikilahok ninyo sa pag-aaral na ito ay ang magiging napakahalagang kontribusyon sa pananaliksik sa PPD at makakatulong sa lahat ng kababaihang nakararanas at makakaranas pa nito. Bukod doon, ang pagsagot sa EPDS ay magsisilbing pagsuri kung mayroong PPD. At kung natuklasan na mayroong PPD, maagapan kaagad sa pamamagitan ng pagkonsulta sa espesyalista.

Kompensasyon
Walang dagdag na gastusin ang inaasahan sa inyo sa pagiging kalahok ninyo sa pag-aaral na ito. Wala rin kayong matatanggap na kabayaran o kompensasyon.

Kompidensyalidad

Ang lahat ng impormasyong makokolekta sa pananaliksik na ito ay magiging lihim o kompidensyal. Tanging ang mga imbestigador lamang ang makakahawak ng impormasyong ito. Ang impormasyon tungkol sa inyo ay itatago sa isang numero at hindi gamit ang inyong pangalan.

Pagbabahagi ng resulta

Maari po kayong makahingi ng kopya ng resulta ng pananaliksik na ito bago pa man mailabas sa publiko. Posible pong mailabas sa mga opisyal na pahayagan ang mga resulta ng pananaliksik na ito. Ang kompidensiyal na impormasyon ay hindi po ilalabas.

Karapatang tumanggi o bawiin ang pahintulot

Ang pakikilahok ninyo sa pananaliksik na ito ay boluntaryo at hindi sapilitan. Maari ninyong bawiin ang inyong pagsali sa kahit anong punto ng pananaliksik. Hindi po maapektuhan ang mga serbisyong matatanggap ninyo bilang pasyente ng institusyong ito.

Pakikipag-ugnayan

Kung kayo ay mayroong mga katanungan maaari po kayo magtanong ngayon o sa susunod kahit pagkatapos ninyo sagutin ang palatanungan. Kung may mga katanungan kayo sa susunod, maaari po kayo makipagugnayan sa mga sumusunod:

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Ang pag-aaral na ito ay inaprubahan ng University of the Philippines Manila Research Ethics Board (UPMREB) Panel, na ang tungkulin ay tumangkilik sa mga karapatan ng mga kalahok sa pananaliksik. Kung mayroon kayong mga katanungan tungkol sa UPMREB Panel, paki-kontak si:

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Ikalawang bahagi: Patunay ng Pahintulot

Nabasa ko ang impormasyon sa ibabaw o naibasa siya sa akin. Nakapagtanong na ako at nasagot nang sapat ang aking mga katanungan. Pumapayag akong maging kalahok sa pananaliksik na ito.

Buong pangalan ng kalahok_____

Lagda ng kalahok _____
Petsa _____
      Araw/buwan/taon
Kapag hindi nakakabasa o nakakasulat ang kalahok:

Ako ay naging saksi ng tamang pagbasa ng kaalamang pahintulot sa posibleng kalahok. Nabigyan siya ng pagkakataong magtanong. Pinapatunayan ko na kusang nagbigay siya ng kanyang pagsang-ayon sa pakikilahok.

Pangalan ng saksi _____ **AT Bakas-daliri ng hinlalaki ng kalahok**
Lagda ng saksi _____
Petsa _____
      Araw/buwan/taon

Pahayag ng Imbestigador/tagakuha ng pahintulot

Naibasa ko nang tama ang mga impormasyon sa posibleng kalahok at, sa lubos ng aking kakayanan, sinigurado na naintindihan ng kalahok na:
1. Sasagutan niya ang Edinburgh Postnatal Depression Scale (Filipino)
2. Sasagutan niya ang sociodemographic questionnaire
3. Maaring kumuha ng karagdagang impormasyon mula sa kanyang tsart

Pinapatunayan kong nabigyan ng sapat na pagkakataong magtanong tungkol sa pananaliksik, at lahat ng kanyang katanungan ay nasagot sa lubos ng aking kakayanan. Pinapatunayan ko na mwalang sapilitang naganap upang makuha ang pahintulot ng kalahok. Ang kalahok ang kusang nagbigay ng kanyang pahintulot.

Ang kalahok ay nabigyan ng kopya ng kaalamang pahintulot na ito.

Pangalan ng Imbestigador/tagakuha ng pahintulot _____

Lagda ng Imbestigador/tagakuha ng pahintulot_____

Petsa _____
          Araw/buwan/taon

APPENDIX G: INFORMED CONSENT (ENGLISH)

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PHIC – Accredited Health Care Provider

Informed Consent form for postpartum women on follow up at the Outpatient Department of the Philippine General Hospital Department of Obstetrics and Gynecology, whom we are inviting to participate in research on postpartum depression. The title of this research project is Determination of the Prevalence of Postpartum Depression and Risk Factors Among Postpartum Patients at a Tertiary Government Urban Hospital Using the Edinburgh Postnatal Depression Scale]

  ➢ **Principal Investigator: Maria Carmina L. Santiago, M.D.**
  ➢ **Supervising investigators: Ma. Antoinette Habana, M.D.**
  ➢ **Department of Obstetrics and Gynecology**

This Informed Consent Form has two parts:
  ➢ **Information Sheet (to share information about the research with you)**
  ➢ **Certificate of Consent (for signatures if you agree to take part)**

You will be given a copy of the full Informed Consent Form.

PART I: Information Sheet

Introduction

I am Dr. Maria Carmina Santiago, a resident of the Department of Obstetrics and Gynecology of the Philippine General Hospital. I am currently conducting research on postpartum depression (PPD). I will give you information on this research and invite you to participate. *You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.*
There may be some words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me.

Purpose of the research
Postpartum depression occurs in 10-15% of all deliveries. However very little research has been done on the development and prevention of this disorder in the Philippines. It is the goal of this research to establish the prevalence of PPD among Filipina women and evaluate the possible risk factors for its development.

Type of Research Intervention

The Edinburgh Postnatal Depression Scale (EPDS) is a 10-item questionnaire used to identify women who have postpartum depression. It consists of a ten-item self-report scale. You will be asked to answer this questionnaire along with a personal data sheet.

Participant selection
We are inviting you, along with 400 other postpartum women, to participate in this research on postpartum depression.

> ➢ **Voluntary Participation**

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Whether you choose to participate or not, all the services you receive at this institution will continue and nothing will change. You may change your mind later and stop participating even if you agreed earlier.

B. Description of the Process
You will be given two forms to fill up:
1. The Edinburgh Postnatal Depression Scale (translated in Filipino)
2. Sociodemographic data sheet.

You can accomplish these two sheets while waiting for your turn at the Outpatient Department.
We are also requesting your permission to access additional data in your hospital chart.

Risks
Your participation in this research may evoke negative emotions due to the sensitive nature of the questions in the EDPS. If you do develop any of these, please let us know right away and we can arrange for proper counseling with a psychiatrist. Rest assured that any and all expenses incurred for consultation and/or treatment will be shouldered by the Primary Investigator.

Benefits
You participation in this research will benefit those currently suffering from postpartum depression as well as future generations of women who are at risk for developing PPD.

Reimbursement
You will not be asked to spend for anything for this study. Likewise, you will also not receive any compensation for your participation.

Confidentiality
The information that we collect from this research project will be kept confidential. Information about you that will be collected during the research will be put away and no one but the researchers will be able to see it. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except the UPMREB.

Sharing the Results
The knowledge that we get from doing this research may be available to you if you are interested. Confidential information will not be shared. It is hoped that the results be published in order that other interested people may learn from our research.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so and refusing to participate will not affect your treatment at this institution in any way. You will still have all the benefits that you would otherwise have at this institution. You may stop participating in the research at any time that you wish without losing any of your rights as a patient here. Your treatment at this institution will not be affected in any way.

Who to Contact
If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact the Primary Investigator:
Dr. Maria Carmina L. Santiago
09189054618
mindy.santiago@gmail.com

This proposal has been reviewed and approved by the University of the Philippines Manila Research Ethics Board (UPMREB) Panel, a committee whose task is to make sure that research participants are protected from harm. If you wish to find more about the UPMREB Panel, you may call the UPMREB at 554-8400 local 2065, Monday thru Thursday, 8:00AM-4:00PM, located at the 2nd Floor Main Administrative Building, Philippine General Hospital, Taft, Manila.
PART II: Certificate of Consent
I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Print Name of Participant_____

Signature of Participant _____

Date _____
      Day/month/year

If cannot read and/or write

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____   AND   Thumb print of

participant

Signature of witness _____

Date _____
      Day/month/year

Statement by the researcher/person taking consent
I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:
1. Accomplishment of the *Edinburgh Postnatal Depression Scale* (Filipino)

2. Accomplishment of the *sociodemographic questionnaire*
3. Data from the participant's hospital chart can be accessed

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____
   Day/month/year

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- EdinburghPostnatalDepressionScaleEnglish.pdf
- Strobechecklistforcrosssectionalstudies.pdf