

# An Obstetrics & Gynecology Resident Education Program to Address Gaps in the Knowledge, Screening, and Treatment of Postpartum Mood and Anxiety Disorder (PMAD)

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**Received:** December 12, 2023; **Accepted:** December 29, 2023; **Published:** January 02, 2024

## ABSTRACT

**Background:** Postpartum mood and anxiety disorders has been shown to cause significant problems for caregivers, their newborn and children. Despite this widespread issue, only 55% of healthcare providers assess for these symptoms/disorders.

**Objective:** The objective of this study is to design a training class to increase OBGYN residents' knowledge and confidence in diagnosing and treating postpartum mood and anxiety disorders.

**Methods:** In 2023 we implemented a program designed to educate Obstetrics & Gynecology resident physicians about the symptoms of postpartum mood and anxiety disorders as well as interventions for validated screening and treatment modalities.

**Results:** A total of 26 residents participated in this training program at of the 49 who were recruited. This resulted in an improvement in foundational knowledge, notably the recognition of postpartum blues versus depression, as well as understanding how to screen for postpartum depression.

**Conclusions:** The program increased resident confidence in recognizing and treating postpartum mood and anxiety disorders.

**Keywords:** PMAD, Postpartum Mood, Obstetrics, Gynecology, Education Program, OBGYN

## Abbreviations

- EMR - Electronic Medical Record
- OBGYN - Obstetrics and Gynecology
- PMAD - Postpartum Mood and Anxiety Disorder

## Introduction

Postpartum Mood and Anxiety Disorder (PMAD) has been associated with a multitude of adverse antepartum and postpartum sequel. The overarching concern is that up to 15% of women will experience some form of perinatal mood disorder not just depression [1]. Moreover, women with PMAD have additional pregnancy complications, including increased risk for fetal growth restriction, pre-term delivery as well as adverse

developmental, behavioral, and cognitive issues for their children [2]. Women who are undiagnosed or untreated for PMAD experience significant difficulties engaging with their infants [1-5].

Despite the estimated prevalence of depression and anxiety in the perinatal period, ranging from 10-20% and 2.6-39%, respectively, studies have demonstrated low and inconsistent screening rates among healthcare professionals in the United States [6-11]. Both the American College of Obstetricians and Gynecologists and American Academy of Pediatricians recommend the utilization of a validated screening tool more than once during and after pregnancy [12-13]. A review of seven studies indicated that only 55% of healthcare professionals assess for depression. In addition, 80% of pediatricians and 60% of Ob/Gyn clinicians have been observed to utilize clinical assessment, as opposed to validated screening tools to properly

**Citation:** Stephanie Trentacoste McNally, Jack Miller, Vidhi Patel, Jonathan Hy, Sneha Shrivastava, et al. Correlation of Serum TSH with Ovarian Reserve in Patient of Infertility. A Retrospective Study. *J Gyneco Obstet Res.* 2024. 2(1): 1-6. DOI: doi.org/10.61440/JGOR.2024.v2.12

screen and diagnosis patients. This further limits the accuracy in evaluating mental health concerns and also contributes to an underlying low screening rate [14].

Even when postpartum mood and anxiety disorder (PMAD) symptoms are recognized, clinicians report feeling ill-prepared to prescribe treatment and medications. They also report being challenged to find the necessary behavioral health providers for long-term care and follow up [15]. One survey of 118 clinicians from an academic center reported that 34.7% had never received any PMAD management training, and 21.2% attended a single workshop about PMAD interventions [16]. There are three main intervention types that have been studied to address the gaps in screening, treatment, and referral to behavioral health. These intervention types include provider education, electronic medical record (EMR) changes, and standardized patient exercises [9]. The educational strategies used varies from seminars, lectures, and educational websites. These educational media contain information about the symptoms of PMAD, treatment options, crisis interventions, and the general impact of PMAD on mothers and children [9]. A literature review examining these interventions revealed a lack of pre- and post-natal assessments. It is therefore difficult to determine the effectiveness of these interventions [9]. With the large negative impact PMADs can have on the development of an infant, and the general increased risk of mental illness to their caregiver, it is imperative that all women are screened and treated for PMAD. We report the findings of an observational study designed to implement a training program to educate resident physicians about best practices for screening for and treating PMAD. Using an observational, single group (descriptive) pretest-posttest study design, we examine whether education can lead to increased knowledge and confidence of OB/GYN residents in assessing and treating post partum mood and anxiety disorders.

## Methods

In 2023, Resident physicians from 4 affiliated New York city area Obstetrics and Gynecology training programs affiliated were recruited to participate in the study. The evidence-based educational intervention was conducted during their dedicated didactic time. The program was reviewed by the internal IRB committee and was deemed to be exempt. No additional consents were needed to participate in the education and surveys. 26 residents participated. 22 were identified as female and 4 identified as male. Age ranged from 25-32, with the average age being 28. All participants were asked to fill out a pre-training survey prior to the formal educational sessions This included both demographic information as well as an assessment of their practice patterns with respect to PMAD. These responses were anonymous, recorded in REDCap, a survey design software used as a data collection tool in research. Participants were identified via self-assigned monikers.

Educational sessions were all approximately one hour in length and were done using Microsoft Teams in a virtual format by the same physician. The content of the educational session consisted of a cultural overview of matrescence, an overview of the transition of motherhood including hormonal changes and the effects on mental health. Discusses the barriers screening including comfort, stigma, and referrals. Describe the collaborative and system-based process to incorporate screenings

with mental health providers into ambulatory practices. And a brief overview of medications and follow up algorithm. The content and presentation remained consistent for each program. At the conclusion of the educational program, participants were provided with a post-survey which had questions correlating with the pre-survey. Pre and post data were analyzed utilizing a paired T-tests using JAMOVI statistical software.

The IRB at Northwell Health reported “ethics approval and consent to participate - IRB approval obtained / No additional consent for the education was necessary.”

## Results

A total of 49 residents participated in the educational intervention as determined by the number of pre-surveys. Of these, 26 completed the post-survey (53% response rate). Analysis of the data found: only 61.2% felt comfortable (somewhat agree or strongly agree) discussing and addressing mental health concerns in the context of perinatal care, 71.4% knew how to screen for postpartum depression, and 69.4% screened for postpartum depression at routine postpartum visits. The Edinburgh Postnatal Depression Scale and PHQ9 were reported as the most utilized validated screening tools, 49% and 36.7%, respectively, see table 2. Medical school was identified as the most common source of training/education about post-partum depression, see Table 1.

**Table 1: Sources of Training and Formal Education on Post-partum Depression (select all that apply, n = 49)**

Medical school	38
Resident lectures	23
Clinical office sessions	5
Conferences	0
Others	4

**Table 2: If you use a validated screening tool, which do you use?**

Name of screening tool	Number reported use (percentage of sample)
Edinburgh Postnatal Depression Scale	24 (49%)
PHQ9	18 (36.7%)
Beck Depression Inventory	1 (2%)
Structured Interview	1 (2%)
Other	5 (10.2%)

## Confidence Scores

With respect to the educational intervention, the following improvements in Likert scores (defined as responses skewing towards “somewhat agree” or “strongly agree”) were seen. Participant comfort in prescribing an SSRI or other antidepressant,  $t = -4.70$  (25),  $p < .001$ , in that residents felt more comfortable after the training ( $M = 3.65$ ,  $SD = 0.98$ ) compared to prior ( $M = 2.54$ ,  $SD = 1.24$ ), see Table 3.

Resident confidence in treating PMAD symptoms was improved,  $t = -2.78$  (25),  $p < .01$ , participants felt more confident in their training after participating in this educational training ( $M = 3.5$ ,  $SD = 0.81$ ) compared to how they felt prior to the training

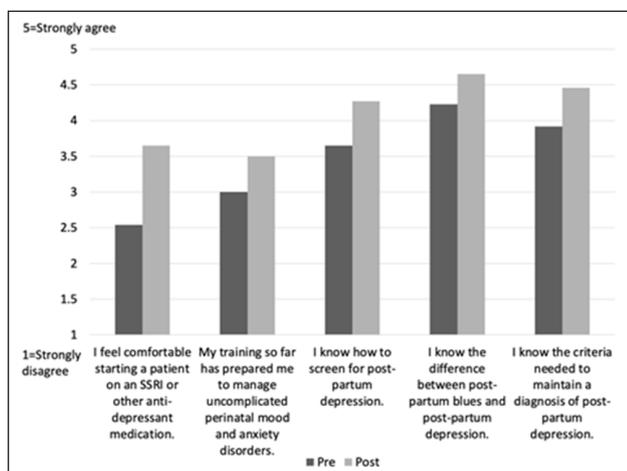
(M=2.96, SD=0.87). Similarly, resident confidence in screening for postpartum depression,  $t=-2.68$  (25),  $p<.05$ , increased after participating in this formal training (M=4.27, SD=0.87) compared to prior participation (M=3.65, SD=1.06).

**Table 3: What would improve your comfort with managing and addressing perinatal mood and anxiety disorders? (select all that apply, n = 49)**

Question	# of affirmative responses
Know what resources are available in the clinic and in the community	47
More formal didactic curriculum on basic psychiatry for the Ob/Gyn	40
More formal training on how to conduct a basic mental health assessment	36
I do not have any interest in learning more about this subject	2

**Knowledge Scores**

Participants reported being able to better tell the difference between postpartum blues and postpartum depression,  $t=-3.73$  (25),  $p<.001$ , after the training (M=4.65, SD=0.49) than before the training (M=4.23, SD=0.59). Participants also reported being better at knowing the criteria to maintain a postpartum depression diagnosis,  $t=-3.89$  (25),  $p<.001$ , after completing this training (M=4.46, SD=0.65) than before (M=3.92, SD=0.85), see Figure 1. All of the attitudinal questions regarding participants feelings towards how effective they felt about screening and treatment options of PMAD were not statistically significant.



**Figure 1: Effect of Educational Intervention ( $p \leq 0.05$ )**

**Discussion**

Our data further support the benefit and efficacy of PMAD training on the diagnosis and treatment of PMAD. It further identified that a significant proportion of participating Obstetrics & Gynecology resident trainees were uncomfortable in addressing several aspects of PMAD. This included discussing/addressing patients concerns, knowing how to screen, and screening during postpartum visits prior to the formal training. Participants reported a significant increase in knowledge and confidence specifically in being able to identify the difference between PMAD and postpartum blues. They reported an increased ability

to diagnose postpartum depression. They reported greater efficacy in prescribing SSRIs and treating postpartum depression and PMAD. These findings are consistent with a prior study in which less than 50% of clinicians reported that they were either somewhat knowledgeable or moderately knowledgeable on PMAD management [15].

Given the results of the educational intervention, there appears to be an improvement in the foundational knowledge, notably the recognition of postpartum blues versus depression and understanding how to screen for postpartum depression. This study further supports the previous studies in examining the gap in knowledge and understanding of PMAD by residents and the benefits of specialized training on the subject during their residency. This is particularly pertinent because more trainees identified medical school as a source of training/education for post-partum depression over the residency itself. This study can lay the groundwork for the development of easier ways for providers to identify patients with symptoms of PMAD. This in turn can lead to improving access to start on sight treatment. Ultimately leading to faster diagnosis and treatment of PMAD. Further studies need to be done to evaluate how educational interventions could help increase the education and understanding of PMAD during medical school to drive and promote screening changes

**Limitations**

The participant population was limited to residents which was a limitation due to the varying types of medical and health care professionals a patient can work with and their understanding of PMAD. This study also had the limitation of being a single group of participants without a control group and no randomization of the participants. Having the assessment be self-report it would not be feasible to potentially quantify the effects of the educational intervention on individual practice patterns. The cross-sectional design also poses a limitation due to not knowing how long this educational intervention will stay with the participants. This study only examined the confidence in practitioners' knowledge of treatment of PMAD and did not examine these practitioners' actual knowledge of the treatment of PMAD. This study also did not assess the participants' previous knowledge on diagnosing and treating PMAD. This means we are unable to determine if the intervention had an effect on increasing treatment and diagnosing knowledge of PMAD in these participants. And despite the relative standardization of Obstetrics & Gynecology residency training, exposure to routine antenatal and postpartum care can vary significantly—thereby limiting the opportunities. In addition, there are likely provider-specific, institutional/regional practice patterns that may serve as an additional confounder.

**Conclusions**

The program increased resident confidence in recognizing and treating postpartum mood and anxiety disorders. Our study demonstrates that a formalized education for OB/GYN residents for Postpartum Mood and Anxiety Disorder (PMAD) should be part of all residency curriculum and that the PMAD education should primarily focus on risks, screening, and treatment.

**Declarations**

- a. Ethics approval and consent to participate - IRB approval obtained / No additional consent for the education was necessary
- b. Consent for publication – The data is de-identified data and no additional consents were needed for publication.
- c. Availability of data and materials – Included in the manuscript and as an appendix.
- d. Conflict of Interests – No team member has anything to declare
- e. Funding – None
- f. Authors’ contributions – Equally contributed
- g. Acknowledgements – N/A
- h. Authors’ information (optional) – Included

**Appendix C - Statistical Analyses Descriptives**

	Q3	Q3A	Q4	Q4A	Q5	Q5A	Q6	Q6A	Q7
26	26	26	26	26	26	26	26	26	26
0	0	0	0	0	0	0	0	0	0
2.54	3.65	2.04	2.15	1.96	1.77	2.96	3.50	4.50	
1.24	0.977	1.08	1.43	1.04	1.14	0.871	0.812	0.762	
1.00	1.00	1.00	1	1.00	1	1.00	1.00	1.00	3.00
5.00	5.00	5.00	5	4.00	4	4.00	5.00	5.00	5.00

	Q1	Q1A	Q2	Q2A
N	26	26	26	26
Missing	0	0	0	0
Mean	3.65	3.88	3.54	3.92
Standard deviation	1.02	0.909	1.21	0.744
Minimum	2.00	2	1.00	2
Maximum	5.00	5	5.00	5

	Q7A	Q8	Q8A	Q9	Q9A	Q10	Q10A	Q11	Q11A
	26	26	26	26	26	26	26	26	26
	0	0	0	0	0	0	0	0	0
	4.65	3.65	4.27	3.96	4.12	4.23	4.65	3.92	4.46
	0.689	1.06	0.874	1.11	0.952	0.587	0.485	0.845	0.647
	2	1.00	2.00	1.00	2	3.00	4.00	2.00	3.00
	5	5.00	5.00	5.00	5	5.00	5.00	5.00	5.00

**Descriptives - Age**

**Descriptives**

	What is your age?
N	26
Missing	0
Mean	28.4
Median	28.0
Standard deviation	1.88
Minimum	25
Maximum	32

**Paired Samples T-Test**

			Statistic	df	p
Q3	Q3A	Student's t	-4.70	25.0	<.001
Q6	Q6A	Student's t	-2.78	25.0	0.010
Q8	Q8A	Student's t	-2.68	25.0	0.013
Q10	Q10A	Student's t	-3.73	25.0	<.001
Q11	Q11A	Student's t	-3.89	25.0	<.001

Note. H<sub>a</sub> μ Measure 1 - Measure 2 ≠ 0

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