

# Emergency Peripartum Hysterectomy And Postnatal Depression: A Case-Control Study

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<sup>1</sup> Conception of study

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<sup>1,2,3,4,5,6</sup> Analysis/Interpretation/Discussion

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## Abstract

**Objective:** to investigate postnatal depression after emergency peripartum hysterectomy versus controls.

**Material and Methods:** This case-control study was conducted at the district headquarters teaching hospital in Rawalpindi between July 2020 and June 2021. We compared postnatal depression among patients who underwent emergency peripartum hysterectomy (EPH) versus the control group where surgical procedures other than a hysterectomy (B-Lynch, uterine artery ligation, or internal iliac artery ligation) were performed.

**Results:** A total of 88 patients were included, 44 in the hysterectomy group and 44 in the non-hysterectomies/control group. The scores on Edinburgh post-natal depression scale were high in the hysterectomy group (11.61±2.48), compared to the non-hysterectomy group (6.79±2.13) which was statistically significant. (p=0.001). Uterine atony, Placental abruption, placenta previa, and accrete, were identified as the main reasons for surgical intervention in both groups. Emergency peripartum hysterectomy is a traumatic birth event with serious physical, emotional, and psychological consequences. It is empirical to not only screen the women in the immediate postpartum period, but a long-term follows up in the community is required.

**Keywords:** Emergency peripartum hysterectomy, Postnatal depression, Postpartum hemorrhage, B-Lynch suture, Internal iliac ligation.

## Introduction

Peripartum hysterectomy, a lifesaving surgical procedure can affect a woman's psychosocial domain and quality of life. According to a study in Quetta incidence of EPH is 4 in 1000 births<sup>1</sup>, while another retrospective study in Southern India found the incidence being 0.073%<sup>2</sup>. Women who suffered from severe morbidity related to childbirth are at higher risk of post-traumatic stress disorder PTSD symptoms compared to women who had uneventful childbirth<sup>3</sup>. In societies like ours, where the uterus is considered the sign of femininity and marriages are sustained by the ability to have more children. Women experience loss of Womanhood, Joy for being alive, and Loss of Marital safety after undergoing EPH<sup>4</sup>.

This study aimed to see the effect of peripartum hysterectomy on the psychological well-being of women which is often neglected but an important public health issue, compared to a control group who underwent conservative surgical procedures but were not hysterectomized.

## Materials and Methods

This case-control study was carried out at the Department of Gynecology and Obstetrics District Headquarters Hospital Rawalpindi between June 2020 till June 2021. Ethical approval was taken from the hospital's ethical committee to review the hospital record. The study was conducted by making two groups. Group A comprised of women who underwent Peripartum hysterectomy directly or followed failed conservative surgical procedures like B-lynch, arterial ligation, or both. While group B consisted of non-hysterectomized women who underwent conservative surgical procedures (B-lynch and internal iliac ligation). We used a consecutive sampling technique to recruit patients until the study period of one year. Only those patients who remained admitted for at least 7 days or more were included. Patients who received only medical treatment, such as uterotonic drugs and tranexamic acid but no surgical interventions were not included in our study. Demographic details of patients included age, parity, gestational age in weeks at birth, type of birth (vaginal or cesarean), type of surgical intervention (hysterectomized / nonhysterectomized), the reason for surgical intervention, admission in intensive care,

and blood transfusions, post-natal complications, neonatal status (alive or stillbirth, admissions in Neonatal ICU).

Our patients were evaluated for postnatal depression by the psychiatry department. They were further assessed for the need for medical therapy or behavioral therapy after one week, and then discharged from the hospital. Reevaluation was done via phone and postnatal follow-up visit at one month and the mean score was calculated. Edinburgh Post Natal Depression score was used for the psychiatric evaluation of patients. Depression was accepted, as a score of 10 or more on psychiatric evaluation.

The mean scores of Study Group A and Control Group B were compared using the "t" test on SPSS version 20, taking a p-value of <0.05 as significant.

## Results

A total of 88 patients were included in this study, 44 in group A (hysterectomy group) and 44 in group B (non-hysterectomy group). The mean ages were 30.45±3.04 and 31.54±3.82 in groups A and B respectively. The mean gestational age at the time of delivery was 37.21±3.06 in group A and 36.54±2.02 in group B. There were 13 preterm births (< 37 weeks of gestation), 7 in group A and 6 in group B. There were 56(63.63%) vaginal deliveries, 25(28.40%) in group A and 32(36.36%) in group B. There were 9 home deliveries. Out of 31(35.22%) Cesarean sections, 19 (21.59%) were performed in Group A and 12(13.63%) in Group B.

Atony 57(64.77%), placental abruption 9(10.22%), placenta previa 8(9.09%), placenta accreta 3(3.40%), scar rupture 5(5.68%), previa along with accreta 3(3.40%), coagulopathy 2(2.27%), uterine inversion 1(1.13%) were identified as the main reasons for undertaking the surgical interventions.

On initial evaluation day 7 or at the time of discharge, scores calculated on the Edinburgh depression scoring system were quite similar in both groups 9.50±2.42 versus 9.13±2.28 (p=0.47). However, at one-month follow-up, there was a mean score of 12.61±2.48 in the hysterectomy group and 4.79±2.13 in the non-hysterectomy group (p=0.001) which was statistically significant. There were 19(52.27%) patients who had persistent depression symptoms (Edinburg scale>10) in group A, compared to 4(9.09%) in group B. (P=0.0001). Medical treatment along with behavioral therapy was offered to thirteen patients, and ten cases were

offered counseling and self- Help strategies. Seventeen patients remained in intensive care for more than three days, four in group B and thirteen in group A. Twenty-three neonates were admitted to Neonatal ICU. There were 9 stillbirths and 7 early neonatal deaths. Eighteen patients received more than 10 units of blood. Irritability, tearfulness, sleep, and appetite disorders, self-blame and obsessive behavior were the common depressive symptoms observed in our patients.

**Table-1**

N=44	Group A hysterectomy n=44)	Group B (Non- hysterectomy n=44)
Age of patients	30.45±3.04	31.54±3.82
gravida	3.8±2.15	4.2±2.23
Vaginal deliveries	25(28.40%)	32(36.36%)
Cesarean	19(21.59%)	12(13.63%)
Preterm births	7	6
Stillbirths	4	5
Early neonatal deaths	3	4

**Table-2.** Causes of surgical intervention

Atony	57(64.77%)
Placenta previa	9(10.22%)
Placental abruption	8(9.09%)
Scar rupture	5(5.68%)
Placenta accreta	3(3.40%)
Placenta accreta	3(3.40%)
coagulopathy	2(2.27%)
Uterine inversion	1(1.13%)

**Table-3** Group A interventions n=44

TAH	23
Subtotal	3
Lynch sututre followed by TAH	5
TAH+Internal iliac ligation	13

Group B interventions n=44

Lynch sutures only	24
Lynch suture+uterine artery ligation	9
Lynch suture+ internal iliac ligation	8
Lynch sutures+uterine artery +internal iliac ligation	3

**Table-4** EPND SCORE comparison

	Group A	GROUP B	P- VALUE
No of patients	15	8	<b>0.001</b>
EPND score	12.61±2.48	6.79±2.13	<b>0.001</b>
Counseling + behavior therapy	6	4	0.183
Medical treatment	9	4	0.002
Stillbirths. + Early neonatal deaths	7	9	0.275

## Discussion

The results of our study showed that women experience negative emotional reactions due to morbidity and significant depression due to organ loss and future fertility, which continue to haunt them in long term. This serious health issue affects 15% of females after childbirth<sup>5</sup>. In India, the prevalence of depression was 16.3% even among antenatal women <sup>6</sup>. Depression symptoms such as irritability, appetite and sleep disorders, anger, and obsessive behavior were observed among our patients. One of our patients in the non-hysterectomy group had a known history of PND and had prolonged medical treatment after her previous deliveries. 1 in 5 women who suffered from life-threatening complications during childbirth is likely to go into PND<sup>7</sup>. In cases of severe mental illness, there is weak bonding with the child and harming the baby, unable to breastfeed. PND is associated with a 20% risk of maternal death<sup>8</sup>.

Women with prior cesarean deliveries are at risk of Postpartum hemorrhage, EPH, or other surgical treatments.<sup>9,10</sup> Our 31 (35.22%) patients had a cesarean. Abnormal placentation, adherent placenta, and previous cesarean sections are major risk factors for EPH and associated morbidity<sup>11,12</sup>. Our study group was having high EPND score compared to the control (p=0.001), and more patients in the study group received medical treatment for depression(p=0.002). However, the stillbirth and early neonatal deaths were not statistically significant between the two groups(p=0.275). Postnatal depression is not necessarily related to a child's death but maybe a sequele of traumatic birth events, prolonged hospital stays, and loss of ability to bear more children. Our study has limitations, as we enrolled only those

women who underwent surgical procedures and stayed for at least a week. Many women without PPH or traumatic birth may exhibit behavioral symptoms of PND. At the one-month follow-up visit, only those who had a higher score >10 were followed on. A study in Iran using Beck Depression Inventory BDI to assess depression among hysterectomized women showed scores of 13.01±10.1 and 11.02±10.3 at 3 months after surgery<sup>13</sup>. While the majority of women show depressive symptoms within 4 weeks of childbirth, late-onset Postnatal depression between 1-3 months has been reported, which may affect a child's development<sup>14,15</sup>. Prolonged follow-up in the community is needed.

## Conclusion

Pregnancy and the postpartum period are delicate events, characterized by biological, psychological, and social changes which expose women to an increased risk of emotional vulnerability and depressive symptomatology. Emergency peripartum hysterectomy (EPH) is a known remedy for saving women's lives when faced with the challenging situation of severe post-partum hemorrhage not responsive to conservative management. However, EPH by its nature is also a traumatic birth event that causes serious physical, emotional, and psychological harm. The social pressure of being unable to bear more children, or a male child can often lead to depression and isolation, instability in marital relationships in the form of divorce, or second marriage of the husband. Women who have known depressive illness or past history of PND need to be screened during antenatal visits. Some women may exhibit delayed and prolonged responses to a stressful event, It is empirical that they should be followed up in the community for a longer time period.

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