



Obstetrics & Gynaecology

A PROSPECTIVE STUDY ON PERIPARTUM HYSTERECTOMY: PREVALENCE, INDICATIONS, MATERNAL OUTCOMES, FETAL OUTCOMES AND ASSOCIATED RISK FACTORS IN SOUTHEAST ASIAN WOMEN AT A TERTIARY CARE CENTRE**Kirti Khatri***

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(ABSTRACT)

Background: Peripartum hysterectomy (PH) remains a life-saving procedure in cases of severe obstetric hemorrhage unresponsive to conservative management. Despite advancements in obstetric care, it continues to be associated with high maternal morbidity and mortality, particularly in resource-limited settings. **Objective:** To evaluate the prevalence, clinical indications, maternal and fetal outcomes, and associated risk factors of peripartum hysterectomy in a tertiary care center in Southeast Asia. **Methods:** This prospective observational study was conducted over a 24-month period (January 2023 - December 2024) at a tertiary care referral center. All women undergoing peripartum hysterectomy-defined as hysterectomy performed within 24 hours of delivery-were included. Demographic details, clinical indications, operative findings, and maternal and fetal outcomes were analyzed. **Results:** Out of 7,160 deliveries, 21 cases of peripartum hysterectomy were recorded, yielding a prevalence of 2.93 per 1,000 deliveries. The leading indication was morbidly adherent placenta (47.6%), followed by uterine atony (28.5%) and uterine rupture (14.2%). The majority of patients (61.9%) were aged 25–35 years, and 76.2% belonged to lower or lower-middle socioeconomic strata. **Of these, 8 (38.1%) were booked cases and 13 (61.9%) were unbooked cases.** ICU admission was required in 100% of cases and the maternal mortality rate was 19%. Blood transfusion was universally required. Adverse fetal outcomes included stillbirths (19%), neonatal depression (14.2%), and NICU admissions (28.5%). **Conclusion:** Peripartum hysterectomy, though infrequent, remains a vital life-saving intervention in cases of uncontrollable obstetric hemorrhage. In this study, the high proportion of unbooked cases (61.9%), universal ICU admissions, and significant maternal morbidity underscore persistent gaps in antenatal coverage and timely referral. Morbidly adherent placenta was the leading indication, reflecting the rising cesarean section trend. Strengthening antenatal care services, ensuring early identification of high-risk pregnancies, and improving access to well-equipped tertiary centers are essential to reduce maternal and fetal morbidity and mortality associated with this procedure.

KEYWORDS : Peripartum hysterectomy, obstetric hemorrhage, placenta accreta spectrum, maternal mortality, fetal outcome, Southeast Asia.

BACKGROUND

Peripartum hysterectomy (PH) is a critical life-saving procedure employed in cases of life-threatening obstetric hemorrhage, often unresponsive to conservative management. Although the incidence is declining in developed nations due to improved antenatal care and interventional radiology, it remains high in resource-limited settings, reflecting both rising cesarean delivery rates and delayed access to tertiary care. Southeast Asia continues to bear a disproportionate burden due to a confluence of clinical, infrastructural, and systemic challenges.

Objective

To prospectively evaluate the prevalence, clinical indications, maternal and fetal outcomes, and risk factors associated with peripartum hysterectomy among Southeast Asian women managed at a tertiary care center over a 24-month period.

Methods

This prospective observational study was conducted at a tertiary care referral hospital from January 2023 to December 2024. All women undergoing peripartum hysterectomy-defined as hysterectomy performed within 24 hours of delivery-were enrolled after informed consent.

A structured proforma was used to collect detailed demographic, obstetric, intraoperative, and postoperative data, including maternal and fetal outcomes. Booking status (booked or unbooked cases) was also recorded, with 8 patients (38.1%) booked and 13 patients (61.9%) unbooked. The primary outcome measures included prevalence, indications for surgery, maternal morbidity and mortality, and fetal outcomes such as Apgar scores and NICU admissions.

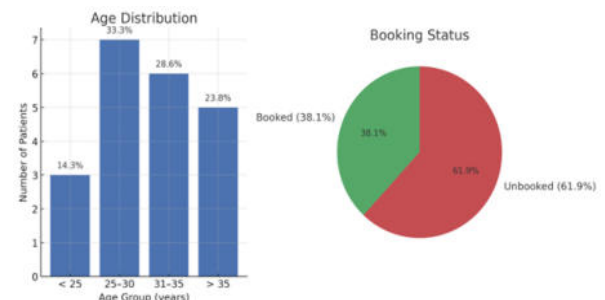
RESULTS

Age Group (years)	Number of Patients	Percentage
< 25	3	14.3%
25–30	7	33.3%
31–35	6	28.6%
> 35	5	23.8%

Booking Status:

Booked cases: **8 (38.1%)**

Unbooked cases: **13 (61.9%)**



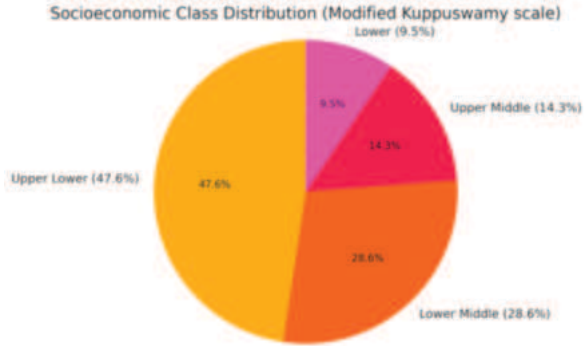
Majority (61.9%) were between 25 and 35 years.

Socioeconomic Status (SES) Distribution (Modified Kuppuswamy scale)

Socioeconomic Class	Number of Patients	Percentage
Upper Lower	10	47.6%
Lower Middle	6	28.6%

Upper Middle	3	14.3%
Lower	2	9.5%

Most patients (76.2%) belonged to lower or lower-middle socioeconomic strata.



Updated Risk Factors- Analysis

- Age >35 years: Present in 23.8% cases, but disproportionately associated with morbidly adherent placenta (60% in >35 years group).
- Low SES (upper-lower & lower): Represented nearly 57.1% of the sample and correlated with delayed hospital arrival and unbooked status in 80% of these cases.
- Younger age (<25): Mainly associated with uterine rupture due to obstructed labor (especially in primigravida or short-statured patients with no prior antenatal care).

Total deliveries: 7,160
 Peripartum hysterectomies: 21
 Prevalence: 2.93 per 1,000 deliveries

Indications For Hysterectomy

Indication	Frequency (%)
Morbidly adherent placenta (PAS)	47.6%
Uterine atony	28.5%
Uterine rupture	14.2%
Others (e.g., coagulopathy)	9.5%

Intraoperative & Postoperative Maternal Outcomes

Outcome	Frequency (%)
ICU admission	100%
Blood transfusion required	100%
Mean units transfused	6.2
Bladder injury	9.5%
Bowel injury	0
Re-exploration	4.7%
Maternal deaths	19%

Fetal Outcomes

Fetal Outcome	Frequency (%)
Live births with good Apgar (≥ 7 at 5 min)	52.3%
Neonatal depression (Apgar <7 at 5 min)	14.2%
Stillbirths (IUFD or fresh stillbirth)	19%
NICU admissions	28.5%

MORBIDITY-

- Blood transfusion required in all cases (mean 6.2 units) – **100%**
- ICU admission – **100%**
- Bladder injury – **9.5%**
- Re-exploration – **4.7%**
- Acute Respiratory Distress Syndrome (ARDS) – **9.5%**
- Acute Kidney Injury (AKI) – **14.2%**
- ICU-related complications (sepsis, prolonged ventilation, multi-organ dysfunction) – **19%**
- Other morbidity related to surgical complications and hemodynamic instability

DISCUSSION

This study provides critical real-time data on peripartum hysterectomy in a Southeast Asian population, revealing a prevalence of 2.93/1000 deliveries-significantly higher than in high-resource countries. The leading indication was morbidly adherent placenta (47.6%), followed by uterine atony and rupture. A high percentage (76.1%) had a prior cesarean delivery, reaffirming its role as a major risk factor.

transfusion, ICU admissions in 100%, and a maternal mortality rate of 19%. Fetal outcomes were also poor, with 33.3% experiencing stillbirth or neonatal depression. These findings highlight systemic issues such as delayed referrals and unbooked status in one-third of patients.

CONCLUSION

Peripartum hysterectomy is a life-saving but high-risk procedure. Morbidly adherent placenta and uterine atony were the leading indications, with previous cesarean section as the most significant risk factor. High maternal mortality and adverse fetal outcomes necessitate urgent improvements in antenatal care, referral systems, and multidisciplinary preparedness.

- Reduction in primary cesarean rates
- Early antenatal diagnosis of placenta accreta spectrum
- Delivery in well-equipped tertiary centers
- Multidisciplinary, protocol-driven management
- Strengthening referral pathways for high-risk pregnancies



Figure 1- Focal Placenta Accreta noted intaoperatively after delivery of baby in a patient with Previous 2 LSCS.



Figure 2- Delivery of baby via Classical C-Section on uterus.



Figure 3- Massive PPH after delivery of the baby .

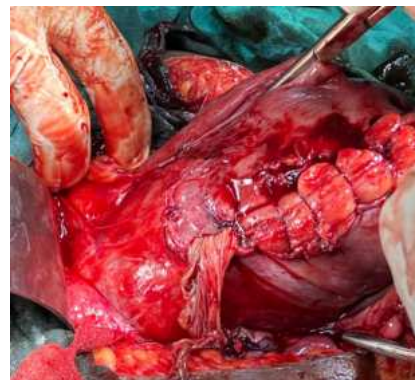


Figure4- Hemostatic sutures taken on uterine incision .

Maternal morbidity was considerable, with universal blood



Figure 5 - Peripartum hysterectomy. Clamps applied at infundibulopelvic ligament.



Figure 6- Peripartum hysterectomy done for Placenta Accreta in Previous 2 LSCS and 2 DNC patient. Clamps applied at uterine arteries.

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