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Assessment of Prevalence, Indications, Outcomes and Post Operative Complications of Obstetric Hysterectomy: At Mettu Karel Comprehensive Specialized Hospital, Mettu, South Weast, Ethiopia

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Abstract

Background: *Obstetric hysterectomy (OH) is a life-saving procedure performed to manage severe obstetric complications. While uncommon in developed countries, it remains a significant challenge in developing nations, with reported rates of 1–5 per 1,000 deliveries.*

Objective: *To assess the incidence, primary indications, risk factors, and maternal outcomes of obstetric hysterectomy at Mettu Karle Comprehensive Specialized Hospital over a seven-year period.*

Methods: *A retrospective cross-sectional review of hospital obstetric records from April 2018 to April 2025 was conducted. All women who underwent OH were included. Data were analyzed using SPSS version 16. Binary logistic regression determined risk factors for maternal mortality, with $p < 0.05$ considered statistically significant.*

Results: *Among 8,657 deliveries, 65 women underwent OH, yielding an incidence of 6.6 per 1,000 deliveries. Most patients were aged >35 years and had parity of 3–4. The leading indication was ruptured uterus (75.3%), followed by atonic postpartum hemorrhage (8.2%) and postpartum sepsis (5.5%). The maternal mortality rate was 9.2%. A hospital stay exceeding four hours before surgery was significantly associated with maternal death (OR = 7.5, 95% CI).*

Conclusion: *The high incidence of OH and associated maternal mortality at Mettu Karle Comprehensive Specialized Hospital highlights critical gaps in maternal care. Prompt identification of obstetric complications, active labor management, comprehensive antenatal care, and timely referral are essential to reduce the need for OH and improve maternal outcomes.*

Keywords: Emergency Obstetric Hysterectomy, Incidence, Maternal Death, Complication and Associated Risk Factors.

Abbreviations

ANC: Antenatal Care
APH: Ante Partum Hemorrhage
BEmOC: Basic Emergency Obstetric Care
BSC: Bachelor of science
CEmOC: Comprehensive Emergency Obstetric Care
CD: Caesarean Delivery
DIC: Disseminated Intravascular Coagulopathies
EmOC: Emergency Obstetric Care
EDHS: Ethiopian Demographic and Health Survey

OH: Obstetric Hysterectomy
GA: Gestational Age
GTD: Gestational Trophoblastic Disease
HIV: Human Immune Deficiency Virus
ICU: Intensive Care Unit
IEOS: Integrated Emergency Obstetrics and Gynecology and General Surgery
LUSCD: Lower uterine Segment Caesarian Delivery
MMR: Maternal Mortality Ratio
MRI: Magnetic Resonant Imaging
MD: Medical doctor
NGO: Non Governmental Organization
OR: Operating room
PGE2: Prostaglandin group E2
PPH: Post Partum Hemorrhage

Introduction

Obstetric hysterectomy (OH) is the surgical removal of the pregnant or recently pregnant uterus. The term includes hysterectomy with the pregnancy in-situ, as well as operations related to complications of delivery. Emergency hysterectomy during normal vaginal or cesarean deliveries is performed when all other measures to control life-threatening maternal hemorrhage have become futile. Although often referred to as "cesarean hysterectomy," the terms "peripartum" or "obstetric hysterectomy" are considered more accurate classifications [1- 6].

Obstetric hysterectomy, although rare in modern obstetrics, remains one of the world's most critical, life-saving surgical procedures. Hemorrhage resulting from uterine rupture and atony, while rare in developed countries, continues to be a significant problem in developing nations. The incidence of emergency hysterectomy in developed countries is below 0.1% of all deliveries, while in developing countries, rates can be as high as 1 -5 per 1000 deliveries. In the past, the most common indications for emergency peripartum hysterectomy were uterine atony and uterine rupture. However, more recent reports list placenta accreta as the most common indication, a trend that is most likely related to the increased number of cesarean deliveries observed over the past two decades. This is a major cause of obstetric hemorrhage and loss of reproductive organs [7- 11].

Despite its significant association with increased maternal morbidity and mortality, obstetric hysterectomy remains a crucial, potentially life-saving procedure. It is a major surgical undertaking performed in the setting of life-threatening hemorrhage. Postpartum hemorrhage continues to be a leading cause of maternal mortality and morbidity worldwide. The unplanned nature of this emergency surgery, coupled with the patient's often critical condition due to acute blood loss, makes it a complex and challenging procedure. In third-world countries like Ethiopia, major indications for OH include postpartum hemorrhage secondary to uterine atony, uterine rupture, and infected uteri. Other indications include complications from abortion, Gestational Trophoblastic Disease (GTD), and morbid placental adherence. The prevalence of OH is rising globally, largely due to the increase in cesarean section rates, which lead to morbidly adherent placentas. This procedure requires not only excellent surgical skills but also prompt decision-making and a speedy intervention to be successful [12- 17].

The purpose of this study was to assess the prevalence, common indications, outcomes, and postoperative complications of obstetric hysterectomy at Mettu Karle comprehensive specialized Hospital in Mettu, Ethiopia. The research period spanned seven years, from April 2018 to April 2025. The study aimed to provide valuable data on the trends of OH in this specific hospital, helping to inform medical staff and managers about the most critical issues to address. The prevalence and outcomes of operative deliveries, particularly obstetric hysterectomy, are crucial in areas with a high rate of maternal morbidity and mortality due to limited access to Comprehensive Emergency Obstetric Care (CEmOC) [18, 19].

This research holds significant importance as it is the first of its kind to be conducted at Mettu Karle Referral Hospital, a facility that plays a vital role in reducing maternal mortality and morbidity in the region. The findings will provide precise and reliable data on the rate of OH, its leading indications, and the associated pregnancy outcomes and postoperative complications. This information will be instrumental for the hospital staff, enabling them to understand the trends and common indications of OH and thereby improve clinical judgment and patient care. Hospital managers can use the study results to allocate resources more effectively to priority areas. Furthermore, the findings will assist other researchers, non-governmental organizations, and health departments at the zonal and regional levels in developing evidence-based strategies to improve maternal health outcomes. The best practices identified within the hospital may also serve as a model for other healthcare facilities facing similar challenges [20- 22].

Table 1: Data of obstetric interventions at Mettu Karle compressive specialized Hospital from April 2018-April 2025 GC

Mode of delivery	Number (N)	Percentage (%)
Vaginal delivery	9153	92.7
Laparatomy + CD	657	6.7
Obstetric hysterectomy	65	0.6
Total number of delivery	9875	100

Methods

Study Design

This was a retrospective, cross-sectional study conducted at Mettu Karle comprehensive specialized Hospital.

Study Area

Mettu Karle comprehensive specialized Hospital is located in Mettu Town, 595 km southwest of Addis Ababa. It serves an estimated 1.5 million people in the Illu-Ababora Zone and surrounding areas. The hospital has 291 staff members and 160 beds across various wards. The obstetric and gynecologic ward is equipped with two delivery coaches and several beds for different stages of labor and postpartum care.

Source Population
All pregnant women delivered and treated for obstetric indication at Mettu Karle Referral Hospital from April 2018 to April 2025 G.C.

Study Population
All women who were operated for the indication of obstetric hysterectomy at Mettu Karle comprehensive specialized Hospital from April 2018 to April 2025 G.C will include in the study.

Sample size
All women treated at Mettu Karle comprehensive specialized Hospital for the indication of obstetrics hysterectomy from April 2018 to April 2025 G.C was include in the study.

Inclusion and Exclusion Criteria:
- Inclusion Criteria: All women for whom an emergency hysterectomy was performed for any indication during pregnancy, labor, or the puerperium within the specified study period.
- Exclusion Criteria: Women who had an elective hysterectomy, hysterectomies performed for gynecological indications, or cases where patient charts were lost or grossly incomplete. Women treated with elective schedule and hysterectomy performed for gynecologic indication was not included. Women whose charts was lost or grossly incomplete will not include in the study

Data Processing and Analysis
The collected data was entered, cleaned and analyzed using SPSS version 16.0. Socio- demographic and obstetric profile of patients undergone OH was summarized and presented by frequency tables, graphs and other summary statistic. Bivariate analysis was used to check association between dependent and independent variables. All variables that had significant association with p-value <0.25 in the bivariate analysis will be the candidate for multivariable logistic regression. Multivariable logistic regression model will be fitted to identify factors affecting the maternal out come. P-value less than 0.05 were considered as statistically significant. The degrees of association between dependent and independent variables will be assessed using OR at 95% CI.

Data Quality Assurance
To assure the quality of data, data collectors were trained before the actual study period. Regular supervision and follow up was made by principal investigator. In addition, regular check up for completeness and consistency of the data was making on daily basis. Possible correction or careful omission was doing during the actual study. Consultation from research advisor and potential resource persons will seek.

Data sources was seven years (April 2018 to April 2025 GC) log-books review of the labor ward, maternity ward and major operations, Patient charts, discharge and death reports. A monthly and morning report was also review. First card number of women who had OH during the study period was identified from Operating Room (OR) logbooks, and then their charts have been retrieving from card office. Finally documents from patient cards will enter in to a structured format.

Data Quality Management: To ensure data quality, all data collectors and supervisors underwent a two-day training session. A pre-test was conducted on 5% of the sample households, and the questionnaire was revised based on the results. After collection, each questionnaire was coded and the data was entered into Epi Data 3.1 before being exported to SPSS version 20 for analysis. To maintain accuracy, a 10% sample of the data entries was rechecked against the original questionnaires, and any errors were corrected.

Data Analysis: The collected data was entered, cleaned, and analyzed using SPSS version 16.0. Descriptive statistics, including frequency tables and graphs, were used to summarize the socio- demographic and obstetric profiles of the patients. Bivariate analysis was conducted to check for associations between dependent and independent variables, with variables having a p-value of less than 0.25 proceeding to multivariable logistic regression. A p-value of less than 0.05 was considered statistically significant for the final model.

Data Quality Assurance: To ensure data quality, the data collectors were trained before the study. The principal investigator conducted regular supervision and follow-up. Daily checks for the completeness and consistency of the data were also performed, with any necessary corrections or omissions made during the study period.

Operational Definitions:
Obstetric hysterectomy - Hysterectomy performed for any indication during pregnancy, labor, and per peurium and abortion complication.

Maternal Death: is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Maternal outcome -Maternal condition after hysterectomy which can be good/favorable maternal outcome or poor/unfavorable maternal outcome.

Poor/unfavorable Maternal Outcome: includes mothers who developed post-operative complications after hysterectomy.

Good/Favorable Maternal Outcome: mothers with smooth post-operative condition after hysterectomy.

Perinatal Mortality Rate: is most often defined as fetal death that occurs between the periods from the 28thwk of gestation through the 7th day after birth.

Associated obstetric problems – Maternal conditions like previous CS, PPH/APH, sepsis (pelvic infection) and others like trauma and previous fistula repair that are identified before the procedure.

Maternal complication –maternal morbidity (condition) during operation or after operation of OH

Uterine Rupture: defined as loss of continuity of the wall of the

uterus, after cessation of contraction.

PPH: Excessive bleeding following delivery (>500 ml in vaginal delivery, >1000 ml in CD and twin vaginal deliveries, >1500 ml following cesarean hysterectomy) or a drop in Hct> 10% from baseline or derangement in vital sign following bleeding after delivery.

Definition of Key Terms

Gestational Age –The duration of pregnancy in weeks which is calculated based on Last Normal Menstrual Period (LNMP) and/or duration of amenorrhea claimed by the mother and/or by Physical Examination (PE).

Mode of delivery –obstetric procedure to attend delivery of the baby like vaginal delivery, CS, laparatomy and destructive delivery.

Sepsis (pelvic infection)-clinically diagnosed chorioamnionities, endometrities and pelvic peritonitis.

Table 2: Age wise distribution of patients who undergone OH at Mettu Karle compressive specialized Hospital for the indication of obstetrics hysterectomy from April 2018- April 2025 G.C

Age	Number of pts	Frequency	Cumulative %
15-19	0	0	0
20-24	6	9.2	9.2
25-29	26	40.0	49.2
30-34	16	24.6	73.8
35-39	12	18.5	92.3
40-44	5	7.7	100.0
≥45	0	0	100.0
Total	65	100	100.0

Table 3: Obstetric profile of the patients undergone obstetric hysterectomy at Mettu Karle compressive specialized Hospital from April 2018- April 2025(n=65).

Variables	Number(N)	Percentage (%)
Gestational age in weeks		
37-42	53	81.5
>42	1	1.5
Unknown	11	16.9
Parity		
1	0	0
2	1	1.5
3	5	7.6
4	13	19.7
>=5	46	69.7
Mother came with referral		
Yes	45	69.7
No	20	30.3
Distance		
<100kms	40	61.5
≥100kms	25	38.5
Duration of hospital stay before operation in hrs		
≤4hrs	49	75.4
>4hrs	16	24.6
Mode of delivery		
Laparatomy	10	15.4
Vaginal delivery	54	83.1
Others *	1	1.5
ANC follow up visit		
Yes	24	36.9
No	41	63.1

Table 4: Indication for OH at Mettu Karle compressive specialized Hospital from April 2018- April 2025

Complication	Number(n)	%
Intra operative		
Septic shock	11	16.9
Hypo volumic shock	39	24.6
No complication	15	64.3
Postoperative		
Sepsis	10	15.4
Wound infection and or		
dehiscence	6	9.2
Anemia	59	90.4
No complications	7	10.8

Ethical Consideration

Ethical clearance was obtained from ethical review committee of Mettu University, faculty of public health and medical sciences and official letter of co-operation was given to Mettu Karle compressive specialized Hospital. Confidentiality has been keeping for relevant information taken from the Hospital medical records. Charts and medical records of patients will revise only for the purpose of interest of the study. Information about the study has been told to the departments of hospital, labor and delivery, maternity ward, Operating Room (OR) and card office.

Result

During the seven-year study period (April 2018–April 2025 E.C.), a total of 9,875 deliveries were conducted at Mettu Karle comprehensive specialized Hospital. Of these, 9,153 (92.7%) were vaginal deliveries, 657 (6.7%) were cesarean sections, and 65 cases (0.66%) were obstetric hysterectomies (OH) performed for obstetric indications. The retrieval rate of case records was 97%. Hysterectomies included those performed during pregnancy, labor, or puerperium, as well as for complications following pregnancy termination such as perforation and sepsis. All were performed on an emergency basis.

Socio-demographic Characteristics

The age of patients ranged from 22 to 41 years, with a mean of 30.09 years. The majority (40%) were between 25–29 years, followed by 24.6% in the 30–34 year group, 18.5% in the 35–39 year group, and 7.7% in the 40–44 year group. Only 9.2% were between 20–24 years. More than half of the patients (55.4%) lived within 100 km of the hospital, including those from Mettu town.

Obstetric Profile of Patients

Parity ranged from 2–8 with a mean of 5.18. Nearly half of the patients (46.6%) were para 3–4, while 27.4% were para 5 or above. The majority of cases (63.1%) had no antenatal care (ANC) follow-up, while 36.9% did. At admission, 81.5% of patients were between 37–42 weeks of gestation, 16.9% had unknown gestational age, and 1.5% were beyond 42 weeks.

Most patients (75.4%) stayed in the hospital less than 4 hours before surgery. In terms of delivery mode, 83.1% underwent laparotomy for ruptured uterus, 15.2% delivered vaginally, and one patient had destructive delivery. Sepsis of pelvic origin (10.6%) was the most common associated obstetric problem, followed by antepartum/postpartum hemorrhage (7.6%), previous cesarean scar (6.1%), pregnancy-induced hypertension (4.5%), morbidly adherent placenta (4.5%), and antepartum hemorrhage (3.5%). A majority (64.4%) labored for more than 48 hours before hysterectomy.

Incidence and Indications of OH

The overall frequency of OH was 0.66% (6.6 per 1000 deliveries). The leading indication was ruptured uterus (81.5%), followed by morbidly adherent placenta (6.2%), postpartum hemorrhage due to uterine atony (4.6%), postpartum uterine sepsis (4.6%), and uterine perforation from unsafe abortion (3.1%). Total abdominal hysterectomy (78.2%) was more common than subtotal hysterectomy (21.6%). The average procedure lasted 2.03 hours (range: 1–4 hours).

Intra- and Post-operative Complications

Intraoperatively, hypovolemic shock occurred in 60% of patients, septic shock in 16.9%, bladder injuries in 15.4% (all repaired), and fistula in 1.5%. Postoperatively, anemia was the most common complication (90.8%), followed by wound infection/dehiscence (27.7%) and sepsis (26.2%).

Maternal Outcomes

There were six maternal deaths (9.2%). Two resulted from multi-organ failure due to septic shock, two from anesthesia complications, and two from cardiorespiratory failure secondary to hypovolemic shock. The majority of patients (70.8%) were discharged within 8–15 days, 20% within 22 days, and 9.2% within 7 days. Prolonged hospital stay was mainly due to sepsis and wound infection.

Factors Associated with Maternal Outcomes

Several factors were significantly associated with maternal outcome:

- Age: Women aged 35–39 years had significantly worse outcomes compared to those under 30 years.
- Referral status: Non-referred patients had higher unfavorable outcomes (80%) compared to referred patients (20%).
- ANC follow-up: Absence of ANC follow-up was strongly associated with unfavorable outcomes (86.8% vs. 13.2%).
- Hospital stay before operation: Patients who stayed ≥4 hours before surgery had worse outcomes compared to those operated within 4 hours.
- Duration of surgery: Operations lasting >1 hour were associated with unfavorable outcomes (84.8% vs. 15.2%).
- Intraoperative complications: Both hypovolemic and septic

shock were strongly linked to poor outcomes.

- Blood loss and transfusion: Patients with severe blood loss and those not transfused had significantly worse outcomes.
- Duration of labor: Labor >24 hours was associated with unfavorable outcomes (68.2%).

Multivariate Logistic Regression

Final analysis identified three independent predictors of unfavorable maternal outcome:

1. Lack of ANC follow-up – patients were 7.5 times more likely to have unfavorable outcomes compared to those with ANC visits.
2. Hypovolemic shock during surgery – patients were 16 times more likely to have unfavorable outcomes compared to those without shock.
3. Duration of surgery >1 hour – patients were 9.5 times more likely to have unfavorable outcomes compared to those operated within 1 hour.

Table 5: Bivariate logistic regression of socio demographic factors with maternal outcome of OH (N=65) at Mettu Karle compressive specialized Hospital from April 2018- April 2025

S no	Variables	Maternal outcome		P value	COR(95% CI)
		Favorable	Unfavorable		
		N (%)	N (%)		
1	Age				
	20-24	5(83.3)	1(16.7)		1
	25-29	7(58.3)	5(41.7)	.039	1
	30-34	6(37.5)	10(62.5)		1
	35-39	8(30.8)	18(69.2)		11.3(1.1-112.5)
	≥40	1(20)	480()		1
2	Comes with referral				
	Yes	23(51.1)	22 (48.9)	. 024	4.2 (1.2- 14.5)
	No	4 (20)	16(80)		
3	ANC follow up				
	Yes	19(70.4)	8(29.6)	.000	15.7(4.5-54.8)
	No	5(13.2)	33(86.8)		

Table 6: Multivariate logistic regression analysis of risk factors for maternal outcome who underwent OH (N=65) at Mettu Karle compressive specialized Hospital from April 2018- April 2025

SNo	Variables	Maternal outcome		COR (95% of CI)	AOR (95% CI)	P Value
		favorable N (%)	unfavorable N (%)			
1	ANC FOLLOW UP					
	No	1(50)	1(50)	15.7(4.5-54.8)	9.4 (1.2-70.95)	.030
	Yes	24(77.4)	7(22.6)	1		
2	Hypo-volumic shock					
	Yes	21(80.8)	5(19.2)	9.100(2.8,29.9)	16.1 (2.2-119.8)	.007
	No	12(31.6)	26(68.4)		1	
3	Duration of procedure					
	<1hr	22(68.8)	10(31.2)	1	1	.024
	≥1hr	5(15.2)	28(84.8)	11.44 (3.4,38.5)	9.5 (1.3-67.2)	

Discussion

Obstetric hysterectomy (OH) is a radical, life-saving surgical procedure, most often carried out for life-threatening indications. The most critical surgeon-related factors influencing maternal outcomes are rapid decision-making and timely execution of the surgery [7]. This study was conducted to analyze maternal mortality, morbidity, and associated factors among women who underwent OH at Mettu Karle compressive specialized Hospital.

Socio-demographic Characteristics

The age of patients ranged from 22–41 years, with a mean of 30.09 years (SD = 0.61), which is consistent with the study by Lamba & Gupta (mean age = 30.05 years) [16]. The highest frequency was in the 25–29 year age group (40%), followed by 30–34 years (24.6%) and 35–39

years (18.5%). Only 7.7% of patients were between 20–24 years. This trend is similar to results from Kashani & Azarhoush (2012) [6] and Anita & Kavita (2005), who reported the youngest patient as 22 years and the oldest as 39 years [8].

Parity

Parity ranged from 2–8 with a mean of 5.18, nearly identical to Ethiopia's rural fertility rate of 5.5 (EDHS, 2011). Most women were multiparous, with 46.6% para 3–4 and 27.4% para ≥5. This indicates that OH was most frequent among multiparous women, a finding consistent with Alsayali & Baloul (2000) and Kashani & Azarhoush (2012) [1,4]. The higher incidence among multiparous women is a risk factor widely documented in other studies [8].

Antenatal Care

Effective antenatal care, identification of high-risk patients, adequate transfusion facilities, and improved surgical skills are essential to reducing OH-related morbidity [1]. In this study, 63.1% of patients had no ANC follow-up. Among them, 81.5% experienced unfavorable maternal outcomes. This is comparable with Anita & Kavita (2005), who reported 73.1% unfavorable outcomes in women without ANC [8].

Surgical Duration and Experience

There was a strong association between duration of surgery (>1 hour) and unfavorable outcomes (OR = 9.5, 95% CI 1.3–67.2). Delays were attributed to poor patient condition, shortage of obstetricians, and cases handled by trainee general practitioners. Prolonged anesthesia exposure also contributed. OH performed by experienced surgeons significantly reduces operating time, transfusion requirements, and hospital stay [14]. When conservative treatment fails, OH should not be delayed, as postponement increases blood loss, transfusion needs, operative time, disseminated intravascular coagulation, and ICU admissions [14]. In this study, 41.5% of patients required blood transfusion, though shortages and family refusal to donate blood were major challenges. Comparatively, other studies reported transfusion in 92% of OH cases, with 20% developing coagulopathy [22]

Intraoperative Hypovolemic Shock

Hypovolemic shock was strongly associated with maternal outcomes (OR = 16.1, 95% CI 2.1– 120.6). Lack of blood bank services and refusal of family donors were significant contributing factors.

Incidence of OH

In developed countries, emergency hysterectomy incidence is below 0.1% of deliveries, while in developing countries it ranges between 1–5 per 1000 [3,6]. The incidence in this study was 6.6 per 1000 deliveries, which is high but comparable to figures reported elsewhere. Ambiye & Venkatraman reported an incidence of 67.8% [9], and global reports range from 0.24–8.9 per 1000 deliveries [14]. The higher rate here is explained by very low institutional delivery coverage (6.9%) compared to 50% in urban facilities (EDHS, 2011), and the high proportion of referred cases—95.4% of patients in this study.

Indications for OH

The leading indication was uterine rupture (81.5%), higher than the 75% reported by Archana et al. [7]. Causes included previous cesarean scar (4 cases), trauma (1 case), and prolonged labor (64.4%). Most women presented late, often after complications had already occurred, which aligns with Lamba & Gupta (2012) [16]. Prior cesarean section increases OH risk due to placenta previa/accreta and uterine rupture [2].

Morbidly adherent placenta (6.2%) was the second most common indication. Similar findings were reported in other studies [2,4,5], though at higher rates (16–28%). The lower incidence in this study is likely due to the predominance of uterine rupture. Other less frequent indications included postpartum hemorrhage from uterine atony (4.6%), postpartum sepsis (4.6%), and uterine perforation from destructive delivery (3.1%). These figures are comparable to Kashani & Azarhoush (2012) [4] and Anita & Kavita [8].

Maternal Mortality

There were six maternal deaths (9.2%), consistent with Ambiye & Venkatraman's findings (9.3%). Causes included irreversible hemorrhagic shock due to ruptured uterus (2 cases), cardiorespiratory failure related to anesthesia (2 cases), and multi-organ failure secondary to septic shock (2 cases). The rest were discharged: 70.8% within 8–15 days, 20% within 16–22 days, and 9.2% within 7 days. Prolonged stays were primarily due to sepsis and wound infections. Similar causes of death and complications were reported by Lamba & Gupta (2012) [16]. Proper timing of OH and meticulous perioperative care may reduce complications such as coagulopathy, severe hypovolemia, tissue hypoxia, hypothermia, and acidosis.

Type of Surgery

Total hysterectomy was the most frequently performed procedure (76.7%). While subtotal hysterectomy is often preferred in unstable patients due to being faster and less hemorrhagic, total hysterectomy is recommended because of risks associated with leaving the cervical stump, including malignancy and persistent bleeding [6,8,16]. In this study, the choice was likely based on surgeon experience and patient condition.

Intraoperative and Postoperative Complications

Hypovolemic shock (24.6%) was the most common intra operative complication, followed by septic shock (10.9%). Both were significantly associated with poor outcomes (OR = 16.1, 95% CI 2.1–120.6). Bladder injuries occurred in 15.4% of cases, and one fistula (1.5%) was reported; all bladder injuries were repaired. These findings are consistent with Tallab Fassil (16%) [7].

Postoperative complications included anemia (90.8%), sepsis (26.2%), and wound infection or dehiscence (27.7%). These rates are consistent with findings by Lamba & Gupta (2012) and Tallab Fassil [7,16]. Other studies (Naureen Javed and Sumera Tahir) also report sepsis and wound infection as leading postoperative complications, often linked to massive hemorrhage and hypovolemic shock [6,12]

Strength of the Study

As to my knowledge this research is the first research performed in the hospital to this area of interest

Limitations

- Time constraints
- Very low institutional delivery rate at the Hospital

Conclusion

The incidence of obstetric hysterectomy (OH) at Mettu Karle compressive specialized Hospital was found to be high, with uterine rupture being the leading indication. All cases of uter-

ine perforation secondary to destructive delivery required OH, and the most common procedure performed was total abdominal hysterectomy. The major complications encountered were hypovolemic shock and postoperative sepsis. Longer preoperative hospital stay (>4 hours) [COR=7.5, 95% CI: 2.64–21.28, p=0.000] and septic shock [COR=16.1, 95% CI: 2.1–120.6, p=0.007] were significantly associated with maternal death. There were six maternal deaths: four due to multi-organ failure from hypovolemic and septic shock, and two related to anesthesia complications. Overall, OH remains a life-saving intervention, but favorable outcomes depend on promptdecision-making, skilled surgical care, effective maternal health services, active labor management, early recognition of complications, and timely referral..

Recommendations

The study recommends improving proper chart keeping and documentation, ensuring early recognition and management of complications, and strengthening antenatal care with timely referral of high-risk cases. Emergency obstetric care should be expanded, with Basic EmOC available at health centers and Comprehensive EmOC, including caesarean sections and blood transfusions, at district hospitals. Additionally, upgrading peripheral health services, improving transportation, providing refresher training, and deploying skilled professionals in rural areas are essential.

Consent for Publication

Not applicable.

Availability of Data and Materials

Data are available upon reasonable request from the corresponding author.

Competing Interests

The authors declare no competing interests.

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Author Contributions

Dagim Dagne is the sole author. The author read and approved the final manuscript.

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References

1. Alsayali, A. R. A., & Baloul, S. M. A. (2000). Emergency obstetric hysterectomy: 8-year review at Taif Maternity Hospital, Saudi Arabia. Annals of Saudi Medicine, 20(6), 454–456.
2. Korejo, R., Nasir, A., Yasmin, H., & Bhutta, S. (2012). Emergency obstetric hysterectomy. Journal of the Pakistan Medical Association, 64(12), 1322–1325.
3. Baskett, T. F. (2010). Peripartum hysterectomy. Obstetrics & Gynecology, 462–465.
4. Kashani, E., & Azarhoush, R. (2012). Peripartum hysterectomy for primary postpartum hemorrhage: 10 years evaluation. European Journal of Experimental Biology, 2(1), 32–36.
5. Shaikh, N. B., Shaikh, S., & Shaikh, J. M. (2010). Morbidity and mortality associated with obstetric hysterectomy. Journal of Ayub Medical College Abbottabad, 22(2), 100–104.
6. Umezurike, C. C., & Adisa, C. A. (2012). Peripartum hysterectomy (pp. 96–102).
7. Tallab, F., & Helewa, M. (1998). Peripartum hysterectomy: 10-year experience in two Manitoba centers. Annals of Saudi Medicine, 18(5), 398–400.
8. Anita, K., & Kavita, W. (2005). Emergency obstetric hysterectomy. Journal of Obstetrics and Gynecology of India, 55(2), 132–134.
9. Siddiq, N., Ghazi, A., Jabbar, S., & Al, T. (2007). Emergency obstetrical hysterectomy (EOH): A life-saving procedure in obstetrics. Pakistan Journal of Surgery, 23(3), 217–219.
10. Carolyn, M., et al. (1993). Emergency peripartum hysterectomy. Obstetrics & Gynecology, 82(1), 1443–1448.
11. Daskalakis, G., Anastasakis, E., Papantoniou, N., Mesogitis, S., & Theodora, M. A. A. (2007). Emergency obstetric hysterectomy. Acta Obstetricia et Gynecologica Scandinavica, 86(2), 223–227.
12. Thaker, R., Khurshid, R., & Ahmad, A. (2012). Emergency peripartum hysterectomy: A 10-year review. Journal of Medical Sciences, 15, 1–5.
13. Kwakye, A. K., & Seffah, J. D. (2007). Peripartum hysterectomies at the Korle-Bu Teaching Hospital: A review of 182 consecutive cases. Ghana Medical Journal, 41(3), 133–138.
14. Machado, L. S. M. (2011). Emergency peripartum hysterectomy: Incidence, indications, risk factors and outcome. North American Journal of Medical Sciences, 3(8), 6–9.
15. Lee, R. H., et al. (2010). Emergency postpartum hysterectomy: A systematic review. Obstetrics & Gynecology, 115(3), 637–644.
16. Lamba, J., & Gupta, S. (2012). Role of emergency hysterectomy in modern obstetrics. JK Science, 14(1), 22–24.
17. Naqvi, K. Z., & Thontia, S. (2013). Peripartum hysterectomy. Journal of Surgery Pakistan, 18(2), 97–100.
18. Central Statistical Agency [Ethiopia] and ICF International. (2011). Ethiopia demographic and health survey: Preliminary report.
19. Yang, M., & Wang, P. (2010). Peripartum hysterectomy risk factors in Taiwan. Journal of the Chinese Medical Association, 73(8), 399–400.
20. Nnadi, E. N., & D., O. (2012). Emergency obstetric hysterectomy in a tertiary hospital in Sokoto, Nigeria. Annals of Medical and Health Sciences Research, 2(1), 37–40.
21. Perveen, F., et al. (2012). Peripartum hysterectomy for primary postpartum hemorrhage. Quarterly Medical Channel, 19(3), 34–37.
22. Masheer, S., & Najmi, N. (2010). Peripartum hysterectomy versus non-obstetrical hysterectomy. Journal of the Chinese Medical Association, 73(7), 360–363.