Original Article

Pattern of Gynecological problems of pregnancy in a tertiary care hospital

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ABSTRACT:

Background: *Gynecological complications during pregnancy remain a major contributor to maternal morbidity and mortality in Bangladesh and other low-resource settings. Understanding the pattern of presenting symptoms, clinical findings, and outcomes is essential for improving obstetric care.*

Objectives: *This study aimed to assess the pattern of gynecological problems among pregnant women attending a tertiary care hospital in Bangladesh, focusing on demographic distribution, common clinical presentations, management approaches, and maternal outcomes.*

Methods: *A cross-sectional observational study was conducted over twelve months among 100 pregnant women admitted with gynecological complaints. Data on demographic variables, symptoms, clinical examination findings, management modalities, and maternal outcomes were collected and analyzed. Associations between factors such as age group, parity, gestational age, abdominal tenderness, blood transfusion, and blood pressure with key outcomes were examined using chi-square tests.*

Results: *Abdominal pain (35%) and PV bleeding (22.5%) were the most frequent presenting complaints. Conservative management was provided to 62% of women, while 38% required surgical intervention. Maternal outcomes showed 59% improvement, 39% complications, and 2% mortality. Significant associations were found between gestational age and management type ($p < 0.001$), blood transfusion and maternal outcome ($p < 0.001$), and systolic blood pressure and maternal outcome ($p = 0.003$). Age group was associated with PV bleeding ($p = 0.042$). Parity and abdominal tenderness showed no significant association with maternal outcomes in this cohort.*

Conclusion: *Gynecological emergencies in pregnancy commonly present with abdominal pain and PV bleeding. Advanced gestational age, high systolic blood pressure, and transfusion requirement strongly predict adverse outcomes, while abdominal tenderness and parity were not significant determinants. Early recognition and targeted management of high-risk clinical indicators are essential to improve maternal outcomes in tertiary care settings.*

Key Words:
Gynecological problems, pregnancy, PV bleeding, abdominal pain, maternal outcome, Bangladesh, obstetric complications.

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Introduction

Gynecological complications during pregnancy remain a major public health challenge globally, particularly in low- and middle-income countries (LMICs), where limited resources and delayed access to care contribute significantly to maternal morbidity and mortality. Early pregnancy bleeding, abdominal pain, adnexal masses, infections, and hypertensive disorders frequently complicate antenatal periods and may progress rapidly if not promptly addressed. Recent global estimates show that approximately 295,000 maternal deaths occur each year, with the majority arising from preventable or manageable conditions affecting reproductive health during pregnancy (1). In LMICs, structural barriers such as inadequate emergency obstetric services, shortages of skilled providers, and delayed referral pathways further exacerbate poor maternal outcomes (2,3).

Bleeding in early pregnancy, including miscarriage-related complications and ectopic pregnancy, accounts for a substantial proportion of emergency gynecological admissions, especially among younger women (4). Abdominal pain, another common presenting symptom, is clinically significant because it may indicate conditions such as adnexal torsion, pelvic infection, or obstetric emergencies like abruptio placentae (5). The diagnostic overlap between obstetric and gynecological causes often complicates timely management, especially in resource-constrained hospitals where imaging and laboratory facilities may be limited (6). Moreover, the presence of clinical indicators such as abdominal tenderness, hemodynamic instability, or need for blood transfusion strongly predicts adverse outcomes, reflecting the importance of early risk stratification (7).

In Bangladesh, maternal health remains a priority, yet tertiary care hospitals continue to experience high caseloads of pregnancy-related gynecological emergencies. Studies indicate that delays in recognition and management—especially for conditions requiring surgical intervention—are associated with increased morbidity, prolonged hospital stays, and poor maternal outcomes (8). Understanding the pattern, frequency, and determinants of gynecological problems among pregnant women is therefore essential for strengthening antenatal and emergency care services. This study examines these patterns in a tertiary care setting in Bangladesh, focusing on clinical presentations, management practices, and maternal outcomes to inform evidence-based improvements in maternal health systems.

Methodology

This cross-sectional observational study was conducted over a 12-month period among pregnant women admitted with gynecological complaints to a tertiary care hospital in Bangladesh. A total of 100 participants were selected using a consecutive sampling technique, ensuring inclusion of all eligible cases presenting during the study period. Pregnant women of any gestational age with symptoms such as abdominal pain, per vaginal (PV) bleeding, abdominal tenderness, or other gynecological concerns were included, while those with incomplete records or non-gynecological causes of symptoms were excluded.

Data were collected using a structured checklist that captured sociodemographic characteristics, obstetric history, presenting symptoms, clinical examination findings, laboratory and imaging results, type of management provided, and maternal outcomes. Management approaches were categorized as conservative or surgical. Maternal outcomes were classified as improved, complicated, or death. All clinical assessments and treatment decisions followed the hospital's standard obstetric and gynecological protocols.

Data were entered and analyzed using statistical software. Descriptive statistics were used to summarize demographic variables and clinical features. Chi-square tests were performed to assess associations between predictors—such as age group, gestational age, abdominal tenderness, parity, blood transfusion, and systolic blood pressure—and maternal outcomes. A p-value <0.05 was considered statistically significant. Ethical approval was obtained from the institutional review board prior to data collection.

Results

Demographic Characteristics of Participants (n = 100)

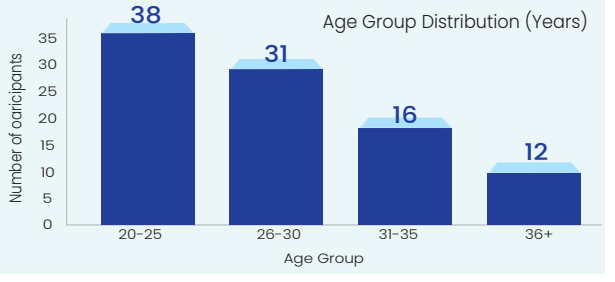

Figure 1: Age group (years) distribution of the study population

The demographic analysis (Figure 1) shows that the largest proportion of participants were aged 20–25 years (37.5%), followed by 26–30 years (31.25%).

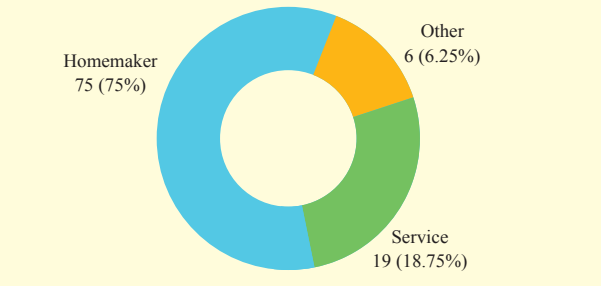

Figure 2: Distribution of Occupation of the study population

Homemakers constituted the majority of respondents (75%), reflecting the typical socioeconomic distribution of pregnant women in Bangladesh.

Table 1: Parity and Gravida of the study population (n=100)

Category	Group	Frequency	Percentage
Parity	0	24	24%
	1–2	51	51%
	3+	25	25%
Gravida	1–2	44	43.75%
	3+	56	56.25%

The distribution of parity and gravida among the study population reflects a predominantly multiparous and multi-gravida cohort. About half of the participants (51%) had a parity of 1–2, while around equal proportions (24% & 25%) were nulliparous and high-parity women (≥3). Regarding gravida status, 56.25% of the women had experienced three or more pregnancies, whereas 43.75% had a gravida of 1–2.

Table 2: Management Approach, Transfusion Status, and Maternal Outcomes (n = 100)

Category	Sub-category	Frequency	Percentage
Management Type	Conservative	62	62%
	Surgical	38	38%
Blood Transfusion	Needed	15	15%
	Not Needed	85	85%
Maternal Outcome	Improved	59	59%
	Complicated	39	39%
	Death	2	2%

Maternal management patterns showed that 62% of women were treated conservatively, while 38% required surgical intervention. Blood transfusion was needed in only 15% of cases, indicating limited severe hemorrhage. Overall outcomes were favorable, with 59% experiencing clinical improvement. However, 39% developed complications, reflecting the clinical severity of presentations. Maternal mortality occurred in 2% of cases, emphasizing the need for prompt and appropriate management.

Table 3: Association Between Age Group and PV Bleeding (n = 100)

Age Group	PV Bleeding YES	PV Bleeding NO
20–25 (n = 38)	11 (28.9%)	27 (71.1%)
26–30 (n = 31)	7 (22.6%)	24 (77.4%)
31–35 (n = 19)	6 (31.6%)	13 (68.4%)
36+ (n = 12)	4 (33.3%)	8 (66.7%)

p-value = 0.042

A statistically significant association was observed between age group and PV bleeding (p = 0.042). Women aged 20–25 years demonstrated the highest proportion of PV bleeding (28.9%), whereas those aged 26–30 years showed the lowest (22.6%). The findings suggest that younger women may be more vulnerable to developing PV bleeding compared to older age groups.

Table 4: Association Between Parity and Maternal Outcome (n = 100)

Maternal Outcome	Parity 0 (n=24)	Parity 1–2 (n=24)	Parity 3+ (n=25)
Improved	17 (70.8%)	25 (49.0%)	17 (68.0%)
Complicated	13 (54.2%)	11 (21.6%)	15 (60.0%)
Death	1 (4.2%)	0 (0%)	1 (4.0%)

p-value = 0.513

There was no statistically significant association between parity and maternal outcome (p = 0.513). Improvement rates were comparable across groups, ranging from 49% to 70.8%. Complications were more common among Parity 0 (54.2%) and Parity 3+ women (60%) compared with Parity 1–2 (21.6%). Maternal deaths occurred rarely, with one case each in Parity 0 and Parity 3+. Overall, parity did not meaningfully influence clinical outcomes in this cohort.

Table 5: Association Between Gestational Age and Management Type (n = 100)

Management Type	<20 weeks	20–30 weeks	>30 weeks
Conservative	22 (64.7%)	31 (79.5%)	9 (33.3%)
Surgical	12 (35.3%)	8 (20.5%)	18 (66.7%)

p-value = <0.001

A significant association was found between gestational age and the type of management provided ($p < 0.001$). Conservative management predominated at earlier gestations, accounting for 64.7% of cases before 20 weeks and 79.5% at 20–30 weeks. However, surgical intervention increased sharply after 30 weeks, reaching 66.7% of cases.

Table 6: Association Between Abdominal Tenderness and Maternal Outcome (n = 100)

Maternal Outcome	Tenderness Present	Tenderness Absent
Improved	20 (47.6%)	39 (67.2%)
Complicated	21 (50.0%)	18 (31.0%)
Death	1 (2.4%)	1 (1.7%)

p-value = 0.143

There was no statistically significant association between abdominal tenderness and maternal outcome ($p = 0.143$). Improvement was less frequent among women with tenderness (47.6%) compared to those without tenderness (67.2%). Complications occurred more commonly in the tenderness-present group (50%) than in the tenderness-absent group (31%). Mortality remained low and identical in both groups (2.4% vs. 1.7%). Overall, abdominal tenderness showed a trend toward poorer outcomes but did not reach statistical significance.

Table 7: Association Between Blood Transfusion and Maternal Outcome (n = 100)

Maternal Outcome	Transfusion Needed	No Transfusion
Improved	2 (13.3%)	57 (67.1%)
Complicated	11 (73.3%)	28 (32.9%)
Death	2 (13.3%)	0 (0%)

p-value = <0.001

A significant association was found between blood transfusion requirement and maternal outcomes ($p < 0.001$). Only 13.3% of women requiring transfusion improved compared with 67.1% of those not requiring transfusion. Complications were markedly higher among women who needed transfusion (73.3% vs. 32.9%). Maternal deaths occurred exclusively among transfusion recipients (13.3%).

Table 8: Association Between Systolic Blood Pressure (SBP) and Maternal Outcome (n = 100)

Maternal Outcome	SBP <120	SBP 120–140	SBP >140
Improved	33 (76.7%)	16 (57.1%)	10 (34.5%)
Complicated	10 (23.3%)	12 (42.9%)	17 (58.6%)
Death	0 (0%)	0 (0%)	2 (6.9%)

p-value = 0.0032

A significant association was observed between systolic blood pressure and maternal outcomes ($p = 0.003$). Improvement rates declined progressively with rising SBP, from 76.7% in women with SBP <120 mmHg to only 34.5% among those with SBP >140 mmHg. Complications increased substantially at higher pressures, reaching 58.6% in the SBP >140 mmHg group. Maternal deaths occurred exclusively among women with SBP >140 mmHg (6.9%).

Discussion

The present study provides an updated understanding of gynecological problems during pregnancy in a tertiary care setting in Bangladesh, highlighting the clinical factors most strongly associated with adverse maternal outcomes. Consistent with international evidence, abdominal pain and PV bleeding emerged as the most common presenting complaints, reaffirming their prominence as major contributors to early pregnancy complications and emergency gynecological admissions in LMICs (9). Younger women (20–25 years) demonstrated the highest proportion of PV bleeding, a finding that aligns with prior research suggesting greater vulnerability to early pregnancy loss, ectopic pregnancy, and cervicovaginal pathology in this age group (10).

Gestational age showed a significant association with management approach, with surgical intervention becoming more common in late pregnancy. This pattern corresponds with global findings indicating that diagnostic complexity increases as the uterus enlarges, often obscuring underlying pathologies such as ovarian torsion, appendicitis, adnexal masses, or degenerating

fibroids—conditions that frequently necessitate operative management (11,12). The higher proportion of incidental diagnoses in advanced gestation reinforces earlier evidence that late pregnancy masks clinical signs and complicates diagnosis, supporting the need for enhanced surveillance as gestational age advances (13).

While abdominal tenderness is widely documented as a predictor of concealed hemorrhage, sepsis, and surgical abdomen (14), the present study did not find a statistically significant association between tenderness and maternal outcome. This discrepancy may reflect variability in clinical documentation, differing thresholds for identifying tenderness, or earlier presentation of patients before complications evolved. Similarly, parity did not significantly influence maternal outcomes, contrasting with some studies showing higher risks of complications among primigravida and grand multipara women in resource-limited settings. These inconsistencies underscore the need for larger sample sizes and more nuanced assessment of obstetric history in future research.

In contrast, blood transfusion requirement was a strong predictor of adverse outcomes, with markedly higher complication rates and all maternal deaths occurring among transfused women. This aligns with existing evidence emphasizing hemorrhage as a leading cause of preventable maternal mortality, particularly where delays in referral or shortages in blood-bank capacity are common (17,18). Likewise, elevated systolic blood pressure demonstrated a significant association with poor outcomes. Women with SBP >140 mmHg had the lowest improvement rates and highest complication and mortality rates. These findings mirror global data showing that hypertensive disorders are among the most dangerous maternal conditions, associated with risks of eclampsia, multi-organ dysfunction, and placental abruption (15,16).

Gynecological disorders such as uterine fibroids, adnexal masses, pelvic inflammatory disease (PID), and ovarian cysts frequently complicate pregnancies, leading to abdominal pain, vaginal bleeding, and obstetric emergencies. These conditions not only increase the risk of preterm labor and miscarriage but also contribute significantly to maternal morbidity in low-resource settings like Bangladesh. Early detection through ultrasound and timely surgical or medical management can prevent complications such as torsion, rupture, or infection. Moreover, concurrent gynecological infections—particularly bacterial vaginosis and cervicitis—may predispose women to premature rupture of membranes and postpartum sepsis. Strengthening routine antenatal screening and integrating gynecological evaluation into prenatal care are crucial for early intervention and improved maternal outcomes

Overall, the study highlights that while common symptoms such as abdominal pain and PV bleeding are important early indicators, specific clinical markers—advanced gestation, high systolic blood pressure, and transfusion requirement—are the most powerful predictors of adverse outcomes. Strengthening triage protocols, ensuring rapid stabilization, and improving access to surgical and transfusion services are essential steps to reduce preventable morbidity and mortality. In resource-limited settings like Bangladesh, timely recognition of high-risk clinical features remains critical to improving maternal health outcomes.

Conclusion

This study shows that gynecological problems during pregnancy, particularly abdominal pain and PV bleeding, remain major contributors to maternal complications in tertiary care settings. Adverse outcomes were strongly associated with elevated systolic blood pressure, advanced gestational age requiring surgery, and the need for blood transfusion. Parity and abdominal tenderness did not significantly influence outcomes. Women with SBP >140 mmHg and those requiring transfusion had the highest rates of complications and mortality. Early recognition of high-risk clinical indicators and rapid access to surgical and transfusion services are essential to improve maternal outcomes in resource-limited hospitals.

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