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Clinical Profile of Women Presenting with First-Trimester Abortion in a Tertiary Care Hospital

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Abstract **Original Research Article**

Background: First-trimester abortion is one of the most common obstetric conditions contributing significantly to maternal morbidity worldwide. It may occur spontaneously or be induced and is influenced by multiple sociodemographic, obstetric, and clinical factors. Understanding its clinical profile is essential for early diagnosis and appropriate management, particularly in resource-limited settings. ***Objective:*** To evaluate the sociodemographic and clinical profile of women presenting with first-trimester abortion in a tertiary care hospital. ***Methods:*** A hospital-based cross-sectional descriptive observational study was conducted in the Department of Obstetrics and Gynecology, Mymensingh Medical College Hospital, Bangladesh, from July 2020 to December 2020. A total of 100 women with first-trimester abortion were included using purposive sampling after obtaining informed consent. Data were collected through structured interviews, clinical examinations, laboratory investigations, and ultrasonography. Statistical analysis was performed using SPSS version 23, and a p-value <0.05 was considered statistically significant. ***Results:*** The majority of patients (82%) were aged 21–30 years with a mean age of 24.71 ± 3.9 years. Most were married (91%), housewives (70%), and had primary-level education (60%). A total of 56% belonged to the middle-income group. Clinically, 52% of patients presented at 11–12 weeks of gestation, and incomplete abortion was the most common type (51%). Vaginal bleeding and lower abdominal pain were each present in 74% of cases, while 96% had mild to moderate anemia. Delayed presentation and symptomatic anemia were frequently observed among the patients. ***Conclusion:*** First-trimester abortion predominantly affects young, married women of low to middle socioeconomic status, with incomplete abortion being the most frequent clinical presentation. Early gestational presentation with bleeding and abdominal pain is common. Strengthening reproductive health education, improving early antenatal care, and ensuring timely diagnosis and management are essential to reduce complications and improve maternal outcomes.

Keywords: First-trimester abortion, clinical profile, sociodemographic factors, incomplete abortion.

INTRODUCTION

First-trimester abortion refers to the termination or loss of pregnancy before 12 completed weeks of gestation and represents one of the most common complications encountered in early pregnancy. It may occur spontaneously due to natural causes or be induced for medical or personal reasons [1-2]. Globally, first-trimester abortion contributes substantially to maternal morbidity and remains an important public health concern, particularly in developing countries where access to timely diagnosis and management may be limited. Understanding the clinical profile of women presenting with first-trimester abortion is essential for early diagnosis, appropriate treatment, and prevention of complications [3].

The clinical presentation of first-trimester abortion varies depending on the type and stage of pregnancy loss. The most common symptoms include vaginal bleeding, lower abdominal pain, passage of

products of conception, and amenorrhea. The severity and combination of these symptoms may differ among patients and can provide important clues regarding the underlying type of abortion, such as threatened, inevitable, incomplete, complete, missed, or septic abortion. Careful assessment of presenting symptoms and signs is therefore crucial in establishing an accurate diagnosis and guiding management decisions [4-5].

Several maternal factors influence the occurrence and clinical manifestations of first-trimester abortion. Advanced maternal age, previous miscarriage, chromosomal abnormalities, endocrine disorders, infections, nutritional deficiencies, and chronic medical illnesses have all been identified as significant risk factors [6]. Obstetric characteristics such as parity, gestational age, history of cesarean section, and contraceptive use may also affect the clinical course and outcome of abortion. Evaluation of these factors helps clinicians identify women at increased risk and implement appropriate interventions [7].

Clinical examination plays a vital role in the assessment of first-trimester abortion. Parameters such as hemodynamic status, degree of vaginal bleeding, uterine size, cervical changes, and evidence of infection are important components of patient evaluation. Laboratory investigations including complete blood count, blood grouping, and hormonal assessments, together with imaging modalities such as ultrasonography and transvaginal sonography, are valuable tools for confirming the diagnosis and determining the extent of pregnancy loss [8-9]. These investigations also assist in differentiating among various types of abortion and identifying associated complications.

The clinical profile of first-trimester abortion not only reflects the underlying pathology but also influences treatment selection and prognosis. Patients may present with mild symptoms requiring conservative management, while others may develop severe hemorrhage, anemia, or infection necessitating urgent medical or surgical intervention. Early recognition of clinical features allows timely management, reduces maternal morbidity, and improves reproductive outcomes. Furthermore, understanding the spectrum of clinical presentations can help healthcare providers develop evidence-based strategies for patient counseling and follow-up care.

Given the significant burden of first-trimester abortion on women's health, a comprehensive evaluation of its clinical profile is essential. Studying the sociodemographic characteristics, obstetric history, presenting symptoms, physical findings, and investigation results of affected women can provide valuable insights into disease patterns and management needs. Such information is important for improving the quality of obstetric care, reducing complications, and enhancing maternal health outcomes.

Objective

In this study our main goal is to evaluate the clinical profile of women with first trimester Abortion.

METHODOLOGY

A hospital-based cross-sectional descriptive observational study was carried out in the Department of Obstetrics and Gynecology of Mymensingh Medical College Hospital, Bangladesh, from July 2020 to December 2020. The study included women presenting with first-trimester abortion who sought care at the department during the study period. Participants were enrolled after obtaining written informed consent and confirming their eligibility according to the predetermined inclusion and exclusion criteria.

The sample size was estimated using the formula $n = Z^2pq/d^2$, where Z represented the standard normal deviate at a 95% confidence level (1.96), p was assumed to be 50%, q was 1 − p, and d was set at 5% precision. The calculated sample size was 385. However, considering the limited study duration and available resources, 100 eligible patients were ultimately included in the study. A purposive sampling technique was adopted for participant selection.

Women with pregnancies of less than 12 completed weeks of gestation were considered eligible for inclusion. Patients with gestational age exceeding 12 weeks and those who declined participation were excluded from the study. For the purpose of this study, abortion was defined as the expulsion or removal of an embryo or fetus before viability. Incomplete abortion was characterized by partial expulsion of the products of conception with retained tissue inside the uterine cavity, whereas complete abortion referred to the total expulsion of all products of conception. Missed abortion was defined as intrauterine fetal death with retention of the nonviable fetus for more than four weeks, while septic abortion was described as abortion complicated by clinical evidence of uterine infection.

Following recruitment, all participants underwent detailed clinical assessment. Information on sociodemographic characteristics, obstetric history, clinical manifestations, laboratory investigations, and treatment modalities was collected using a predesigned and peer-reviewed semi-structured data collection form. Sociodemographic data included age, marital status, educational attainment, occupation, monthly family income, and place of residence. Obstetric variables comprised gestational age, parity, duration of amenorrhea, previous miscarriage, contraceptive history, prior cesarean delivery, and the number of previous cesarean sections.

Clinical evaluation involved assessment of blood pressure, pulse rate, body mass index, anemia status, and the degree of vaginal bleeding. Relevant investigations, including complete blood count, ultrasonography, transvaginal sonography (TVS), random blood glucose measurement, and thyroid function tests, were performed whenever indicated. Ultrasonography and TVS were utilized to confirm pregnancy status and classify the type of abortion, such as threatened, complete, incomplete, or missed abortion. Management options were grouped into minimally invasive procedures, including manual vacuum aspiration (MVA), medical treatment with mifepristone and misoprostol, and surgical interventions such as dilatation and curettage (D&C) and laparotomy.

Data were obtained through face-to-face interviews, clinical examinations, and review of laboratory and imaging records. As with any observational study, selection bias was recognized as a possible source of confounding. Although randomization was not feasible, measures were taken to maintain objectivity during data collection and analysis. Clinical records, questionnaires, observation findings, and investigation reports served as the primary sources of information. Statistical consultation was sought whenever required.

All collected data were reviewed for completeness, coded appropriately, and entered into the Statistical Package for Social Sciences (SPSS) version 23 for analysis. Descriptive statistical methods were applied to summarize the data, while cross-tabulation was performed to examine relationships among risk factors, clinical characteristics, treatment approaches, and outcomes. Chi-square tests and Student's t-tests were used for inferential analysis where applicable. Statistical significance was determined at a p-value of less than 0.05. To ensure data quality, careful attention was given to data collection, entry, verification, and analysis procedures.

Ethical approval for the study was obtained from the Institutional Review Board of Mymensingh Medical College Hospital. Prior permission was secured from the relevant departmental authorities before initiating the research. All participants received detailed information regarding the purpose, procedures, benefits, and possible implications of the study. Confidentiality and privacy were maintained throughout the research process, and participants were informed of their right to withdraw from the study at any stage without prejudice. Written informed consent was obtained from each participant before enrollment, and appropriate medical care was provided whenever necessary.

RESULTS

Table-1 shows that out of 100 respondents, the highest 82% belonged to age group 21-30 years and 19% and 9% belonged to ≤20 years and 31-40 years age group respectively. The mean age was 24.71±3.9 (age range: 18-39) years.

Besides, among them 91% were continuing their conjugal life though 7% of them were divorced. Rest 2% were recently widowed.

Regarding occupation it was observed that, the highest 70% were housewife, 23% were service holder, 4% were housewife, 23% were service holder, 4% were doing business, 2% were students and 1% was farmer.

Educational status revealed that among 100 respondents 60% achieved primary educational and 25% completed SSC level. Besides, 3% and 1% achieved education upto HSC and graduate and above level. Rest 11% were illiterate/only can sign.

Monthly income status depicted that out of 100 respondents 56% belonged to middle income (20,000-40,000 BDT/month) group, 41% belonged to lower income (≤20,000 BDT/month) group and 3% were categorized as affluent group (>40,000 BDT/month) group.

Table-1: Baseline characteristics of patients according to sociodemographic profile (n=100)

Baseline characteristics	**Values n=100)**
Age group (in years) (n, %)	
≤20	19
31 – 30	82
31 – 40	9
Mean age ± SD (in years)	24.71±3.9
Age range (in years)	18 – 39
Marital status (n, %)	
Married	91
Widow	2
Divorced	7
Occupation (n, %)	
Housewife	70
Service Holder	23
Business	4

Students	2
Farmer	1
Educational status (n, %)	
Illiterate/only can sign	11
Primary	60
SSC	25
HSC	3
Graduate and above	1
Monthly income (n, %)	
Lowes income (≤20,000 BDT/month)	41
Middle income (20,000-40,000 BDT/month)	56
Affluent (<40,000 BDT/month)	3

Figure-2 shows that out of 100 respondents, 52%, 45% and 3% had the gestational age 11-12 weeks, 9-10 weeks and <6 weeks respectively.

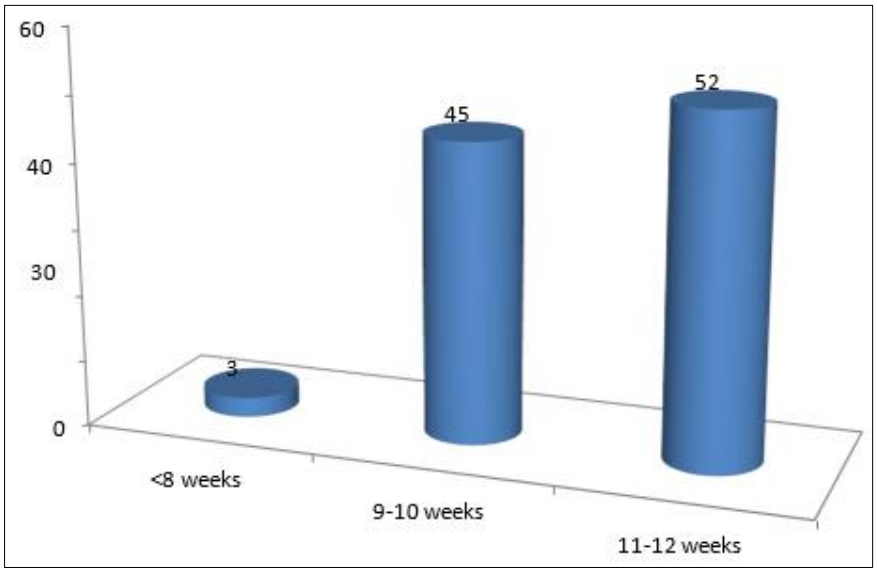

Figure-1: Distribution of patients according to gestational age (n=100)

Table shows that out of 100 respondents, 63% had previous cesarean section and rest had no such a history.

Table-2: Distribution of patients according to previous cesarean history (n=100)

Previous cesarean history	Frequency (%)
Yes	63
No	27

Figure shows that out of 100 respondents, the highest 51% had incomplete abortion. Besides, 31%, 14% and 4% had threatened, missed and septic abortion respectively.

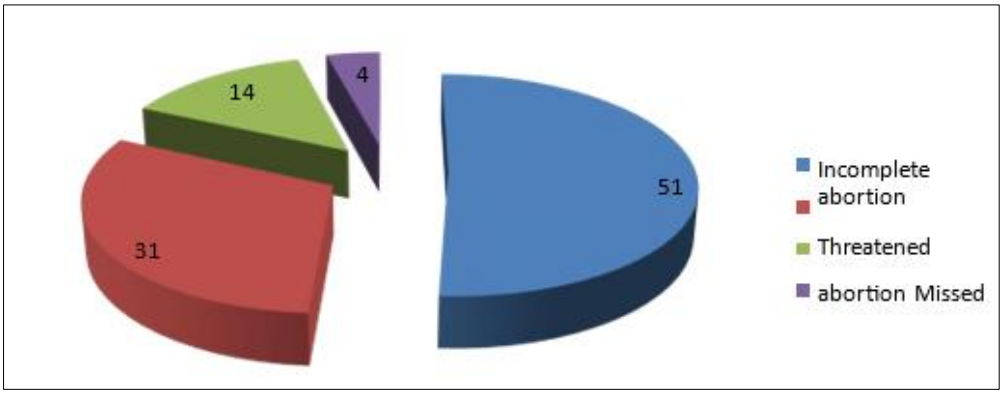

Figure-2: Distribution of patients according to septic abortion (n=100)

Table shows that out of 100 respondents, 74% each showed PV bleeding and lower abdominal pain. Twenty eight percent experienced passage of fleshy mass. The anemic status revealed that 96% had mild/moderate anemia and 4% had severe anemia.

Table-3: Distribution of patients according to clinical profile (n=100)

Clinical presentation	Frequency (%)
Per vaginal bleeding	74
Pain in the abdomen	74
Passage of fleshy mass	28
Anemia	
Mild/moderate	96
Severe	4

*Single patient showed multiple presentations.

DISCUSSION

The present study evaluated the sociodemographic and clinical profile of first-trimester abortion among 100 patients. In our study, the majority of women (82%) belonged to the 21–30 years age group with a mean age of 24.71 ± 3.9 years. This finding is consistent with studies where the highest incidence of abortion was also reported among women in their early reproductive age group [10]. This similarity may be explained by higher fertility rates, increased sexual activity, and greater exposure to pregnancy during this period. The relatively lower proportion in older age groups may be due to declining fertility and increased contraceptive use.

Regarding marital status, most of the participants (91%) were married, while a small proportion were divorced (7%) or widowed (2%). This pattern is comparable to findings from studies conducted where abortion cases are predominantly observed among married women due to higher pregnancy rates within marriage [11].

In terms of occupation, the majority of respondents were housewives (70%), followed by service holders (23%). This is in agreement with studies which also demonstrated that housewives constitute the largest group among abortion cases, likely due to higher fertility rates and limited access to reproductive health education or family planning services. Educational status in our study showed that most women had primary-level education (60%), while only a small proportion had higher education [12]. Similar findings were reported in studies where lower educational attainment was associated with increased risk of abortion, possibly due to lack of awareness regarding early pregnancy care and contraception [13].

Monthly income distribution revealed that 56% of participants belonged to the middle-income group and 41% to the lower-income group. This is consistent with findings from other developing country studies where abortion is more commonly observed among low- to middle-income populations. Economic constraints, limited access to quality antenatal care, and delayed healthcare seeking behavior may contribute to this pattern.

Clinically, 52% of patients presented at 11–12 weeks of gestation, followed by 45% at 9–10 weeks. This late presentation is comparable to studies conducted in other developing countries, where delayed diagnosis and late health-seeking behavior are common [14]. In our study, incomplete abortion was the most frequent type (51%), followed by threatened (31%), missed (14%), and septic abortion (4%). Similar distribution was reported where incomplete abortion was the predominant type due to delayed presentation and progression of untreated early pregnancy complications [15].

The clinical presentation in our study showed that 74% of patients had vaginal bleeding and 74% had lower abdominal pain, while 28% reported passage of fleshy mass. Additionally, 96% had mild to moderate anemia. These findings are consistent with other study who also identified vaginal bleeding and abdominal pain as the most common symptoms of first-trimester abortion [16]. The high prevalence of anemia in our study reflects the impact of blood loss and delayed treatment, which is also supported by findings from similar hospital-based studies in low-resource settings [10,8].

CONCLUSION

The present study concludes that first-trimester abortion predominantly occurs among young, married women in the 21–30 years age group, most of whom are housewives with low to moderate educational and socioeconomic status. Clinically, vaginal bleeding and lower abdominal pain were the most common presenting symptoms, with incomplete abortion being the most frequent type. A significant proportion of patients presented at 9–12 weeks of gestation and also showed a high prevalence of anemia. Overall, the findings highlight that first-trimester abortion is strongly associated with sociodemographic vulnerability and delayed presentation. Strengthening reproductive health

education, improving early antenatal care, and ensuring timely diagnosis and management are essential to reduce complications and improve maternal outcomes.

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