# FREQUENCY OF UTERINE CURETTAGE; AS A RISK FACTOR AMONG PATIENTS WITH PLACENTA PREVIA

**Sadaf Ijaz[1]\*, Bibi Sajida[2], Javeria Javed[3], Hani Baloch[4], Sidra Ijaz[5], Aliya Dar[6], Hoor Asad Ullah Jan[7]**

[1,2]Consultant Gynaecologist, DHQ Teaching Hospital, KDA Kohat, Pakistan
[3]MBBS, Kabir Medical College, Peshawar, Pakistan
[4]Medical Superintendent/Senior Gynaecologist, Lady Dufferin Hospital, Quetta, Pakistan
[5]Pharm D, MPH Gandhara University, Peshawar, Pakistan
[6]Specialist Obstetrics and Gynaecology, MERF, Category D Hospital BZK, District Khyber, Pakistan
[7]Specialist Obstetrics & Gynaecology, Saeed Medical Complex, Mattani Peshawar, Pakistan

**\*Corresponding Authors:** Sadaf Ijaz
\*Email address: sadafwair89@gmail.com

## Abstract
Placenta previa poses substantial challenges in obstetric care, warranting a comprehensive understanding of its risk factors for effective management. This study aimed to investigate the frequency of uterine curettage as a potential risk factor among patients diagnosed with placenta previa. A cohort of 178 patients admitted to the Department of Gynecology and Obstetrics at Lady Reading Hospital in Peshawar, from July 2015 to January 2016, was analyzed. Age, parity, and gravid status were scrutinized in relation to the prevalence of uterine curettage. The mean age was 32.67 years (SD ± 4.99), and the chi-square test did not reveal significant associations between age, parity, or gravid status and the frequency of uterine curettage. Notably, the overall incidence of uterine curettage among patients with placenta previa was 36%. Comparisons with existing studies emphasized the consistency of our findings. While age, parity, and gravid status did not emerge as primary determinants, the prevalence of uterine curettage among patients with placenta previa remains noteworthy. This study contributes valuable insights into the multifaceted nature of risk factors associated with placenta previa, urging further exploration for nuanced risk assessment and tailored clinical management.

**Keywords:** placenta previa, uterine curettage, risk factor.

## 1. Introduction
Placenta previa was defined as the placenta covering or reaching within 2 cm of the internal os, as detected by the most recent trans-abdominal ultrasonography before delivery (at least after 28 weeks gestation) or through clinical examination during cesarean delivery or following vaginal delivery [1]. Placenta-previa is characterized by the complete or partial insertion of the placenta into the lower uterine segment. The hypothesized cause involves abnormal vascularization of the endometrium due to scarring or atrophy resulting from previous trauma, leading to reduced differential growth in the lower segment [2,3]. While the exact cause remains unknown, established risk factors include advanced maternal age, multi-parity, previous cesarean section, multiple gestation, and smoking

during pregnancy. Additional identified risk factors include prior abortions, a history of placenta previa in a previous pregnancy, cocaine use, and a past occurrence of retained placenta. Numerous clinical and epidemiological studies have presented varying data on the prevalence and associated risk factors of this condition [4]. This study focus on assessing the prevalence of uterine curettage as a potential risk factor in individuals with placenta previa. This research aims to investigate the frequency of uterine curettage as a risk factor among patients diagnosed with placenta previa. Uterine curettage, a procedure commonly performed for reasons such as abortion, removal of retained products of conception, or diagnostic purposes, involves scraping the uterine lining. The impact of this intervention on subsequent pregnancies and the risk of placenta previa remains a topic of interest and concern within the realm of maternal-fetal medicine [5]. Understanding the frequency of uterine curettage as a potential risk factor is imperative for refining risk assessment tools, guiding clinical decision-making, and ultimately improving outcomes for both mother and baby [6,7]. Understanding the potential association between uterine curettage and placenta previa is crucial for improving risk assessment and maternal-fetal outcomes [8,9]. In this paper, we present a comprehensive analysis of the age distribution, prevalence, and implications of uterine curettage in a cohort of patients with placenta previa, shedding light on the intricacies of this relationship and its clinical significance.

## 2. Materials and Methods

The investigation took place at the Department of Gynecology and Obstetrics, Lady Reading Hospital in Peshawar, spanning from July 2015 to January 2016. A cohort of 178 patients was enrolled and closely monitored to ascertain the prevalence of uterine curettage as a potential risk factor in individuals with placenta previa. All patients who met the inclusion criteria, diagnosed either clinically or sono-graphically, or incidentally discovered during a cesarean section, were enrolled in the study. They were subsequently monitored during their hospital stay until discharge. Exclusion criteria for the study involved patients with placental abruption, unclassified ante-partum hemorrhage, or coagulation disorders, aiming to reduce confounding and bias in the study's outcome [10]. The research proposal underwent review by the hospital's ethical review board, and cases were recruited into the study between July 2015 and January 2016. All patients diagnosed with placenta previa underwent additional scrutiny for any prior history of uterine curettage, such as abortion or evacuation of retained products of conception. The percentage of patients with a preceding history of dilatation and curettage presenting with placenta previa was then calculated.

The findings were subsequently subjected to analysis using SPSS [11].

## 3. Results and Discussion

The age distribution of the 178 patients was examined, revealing that 44 (25%) individuals were in the 15-25 age range, 59 (33%) were in the 26-35 age range, and 75 (42%) were in the 36-45 age range. The mean age was 32.67 years, with a standard deviation of ±4.99, as depicted in Table 1 and Figure 1.

### Table 1. Age distribution (n=178).

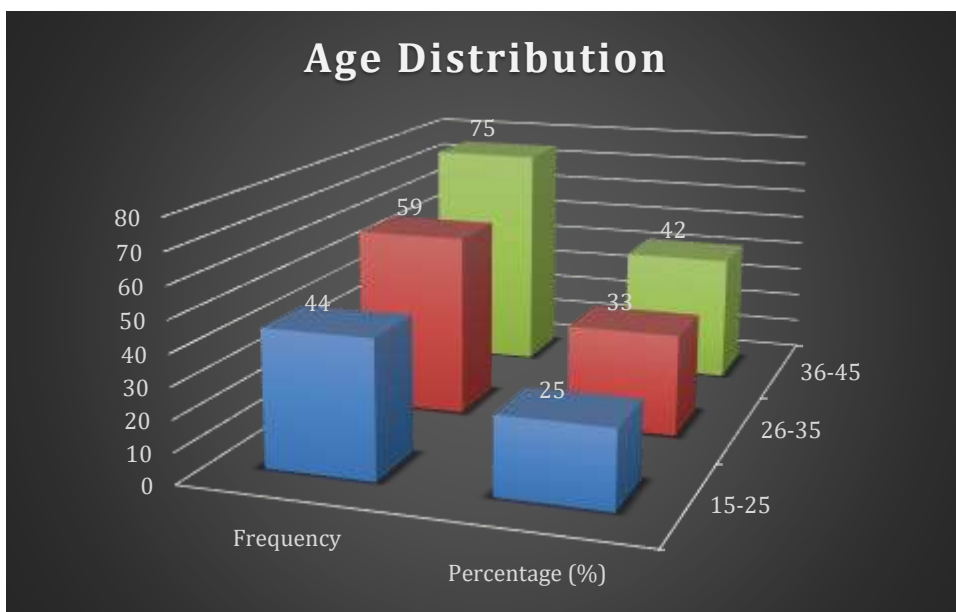| AGE | FREQUENCY | PERCENTAGE |
|---|---|---|
| 15-25 years | 44 | 25% |
| 26-35 years | 59 | 33% |
| 36-45 years | 75 | 42% |
| Total | 178 | 100% |

**Figure 1. Frequency of age distribution with Mean age was 32.67 years with SD ± 4.99.**

The utilization of uterine curettage among the 178 patients was examined, revealing that 64 (36%) individuals underwent uterine curettage, while 114 (64%) did not, as illustrated in Table 2.

**Table 2. Uterine Curettage (n=178).**

| Uterine Curettage | Frequency | Percentage |
|---|---|---|
| Yes | 64 | 36% |
| No | 114 | 64% |
| Total | 178 | 100% |

The Age-based Stratification of Uterine Curettage is essential for a comprehensive understanding of the role age plays in the context of placenta previa. It contributes valuable information to the broader research endeavor, offering a more nuanced perspective on the potential correlation between age and the utilization of uterine curettage in this specific medical context. Further scrutiny and analysis of uterine curettage were conducted in relation to age, parity, and gravid status, as depicted in Table 3.

**Table 3. Age-based Stratification of Uterine Curettage.**

| Uterine Curettage | 15-25 years | 26-35 years | 36-45 years | Total |
|---|---|---|---|---|
| Yes | 10 | 24 | 30 | 64 |
| No | 34 | 35 | 45 | 114 |
| Total | 44 | 59 | 75 | 178 |

The Chi-square test was employed, yielding a p-value of 0.1081 (n=178). This analysis involves categorizing individuals into distinct parity groups and investigating the prevalence of uterine curettage within each category. By delving into the relationship between parity and uterine curettage, this stratification seeks to provide insights into potential patterns or disparities that may contribute to our understanding of the etiology of placenta previa and is presented in Table 4. Such nuanced insights may contribute to more tailored risk assessments and improved clinical management for pregnant individuals with varying parity statuses [12,13].

**Table 4. Parity-based Stratification of Uterine Curettage.**

| Uterine Curettage | Primi-Para | Multi Para | Total |
|---|---|---|---|
| Yes | 8 | 56 | 64 |
| No | 13 | 101 | 114 |
| Total | 21 | 157 | 178 |

The Chi-square test was utilized, resulting in a p-value of 0.8277 (n=178). Stratifying uterine curettage data according to gravida status is a pivotal analytical approach, shedding light on potential correlations between the number of pregnancies and the utilization of uterine curettage, particularly in the context of placenta previa. Gravida status refers to the total number of pregnancies, regardless of the outcome, and exploring its relationship with uterine curettage can offer valuable insights into clinical practices and patient experiences.

This scientific exploration involves categorizing individuals into distinct gravida groups and examining the prevalence of uterine curettage within each category. By dissecting the data across different gravida statuses, the study aims to discern whether there are discernible patterns or variations in the frequency of uterine curettage among nulli-gravidas, multigravidas, or grand multigravidas. The Stratification of Uterine Curettage Based on Gravida Status serves as a nuanced lens through which to understand the interplay between the number of pregnancies and the likelihood of undergoing uterine curettage [14]. This stratified analysis contributes valuable information to the broader scientific inquiry, enhancing our understanding of how gravida status may influence the clinical aspects of placenta previa management.

**Table 5. Stratification of Uterine Curettage Based on Gravida Status.**

| Uterine Curettage | Primi gravid | Multi gravid | Total |
|---|---|---|---|
| Yes | 6 | 58 | 64 |
| No | 12 | 102 | 114 |
| Total | 18 | 160 | 178 |

Top of Form

The Chi-square test was conducted, resulting in a p-value of 0.8068 (n=178). Our findings indicate that the average age was 32.67 years with a standard deviation of ± 4.99. Twelve percent of the patients were primi-parous, while 88% were multiparous. Additionally, ten percent of the patients were primi-gravida, and 90% were multigravida. Furthermore, the prevalence of uterine curettage among patients with placenta previa in our setting was observed to be 36%.

Comparable findings were reported in another study by Tabassum R *et al.*, where 16 women (19.8%) had a prior history of Caesarean section, 1 (1.2%) had undergone dilatation and curettage (D & C), and 20 (24.7%) underwent Dilatation and Evacuation (D & E) before the subsequent pregnancy [15]. In the control group, only 4 (4.4%) had a past history of one or more Caesarean sections, and 14 (15.4%) had a prior history of Dilatation and Evacuation.

As per the research conducted by Kiondo P *et al.*, a previous history of dilation and curettage and dilatation and evacuation is associated with an approximately fourfold increased risk of Placenta Previa [16]. The study reported a 95% confidence interval (CI) of 3.9 (1.4-11.1), and the associated P-value was 0.01. Our conclusion is that the risk of developing Placenta Previa nearly doubles with a past history of Dilatation and Evacuation.

Placenta previa is a significant obstetric complication with potential implications for maternal and fetal health. While various risk factors have been identified, our study aimed to investigate the frequency of uterine curettage as a potential risk factor in patients diagnosed with placenta previa. The comprehensive analysis of 178 patients revealed several noteworthy findings that contribute to our understanding of the relationship between uterine curettage and placenta previa.

Firstly, our examination of age-based stratification provided insights into how different age groups may influence the utilization of uterine curettage among patients with placenta previa. The mean age of 32.67 years with a standard deviation of ± 4.99 indicated a diverse age distribution in our study population. However, the Chi-square test did not reveal a statistically significant association between age and the frequency of uterine curettage, suggesting that age alone may not be a primary determinant in the decision to undergo uterine curettage in the context of placenta previa.

Secondly, parity-based stratification demonstrated that the prevalence of uterine curettage did not show significant variation among primiparous and multiparous individuals. This observation is noteworthy as it suggests that parity alone may not be a major contributing factor to the decision for uterine curettage in the presence of placenta previa.

Furthermore, our analysis based on gravid status revealed that the frequency of uterine curettage did not significantly differ between primigravidas and multigravidas. This finding indicates that the number of pregnancies alone may not be a decisive factor in the decision-making process regarding uterine curettage in cases of placenta previa. Comparisons with other studies, such as the research conducted by Tabassum R *et al.* and Kiondo P *et al.*, further support our findings. Similarities in the prevalence of uterine curettage and its association with previous obstetric procedures highlight the consistency of our results with existing literature.

Notably, the study by Kiondo P *et al.* reported a fourfold increased risk of Placenta Previa associated with a history of dilatation and evacuation. While our findings did not show a statistically significant association, the observed frequency of uterine curettage among patients with placenta previa was notable at 36%, emphasizing the importance of continued exploration of potential risk factors.

## Conclusion

In conclusion, our research contributes valuable insights into the frequency of uterine curettage as a potential risk factor among patients with placenta previa. While age, parity, and gravid status did not emerge as significant determinants in our study, the prevalence of uterine curettage remains noteworthy. These findings underscore the complexity of factors influencing the decision to undergo uterine curettage in the presence of placenta previa, highlighting the need for further research and a nuanced approach to risk assessment and clinical management in such cases.

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