Original Article
DOI: https://doi.org/10.70749/ijbr.v3i7.2481

INDUS JOURNAL OF BIOSCIENCE RESEARCH
https://ijbr.com.pk
ISSN: 2960-2793/ 2960-2807

Fetal Outcome in Primigravida Females Presenting with Breech Pregnancy at Term

Kainat Jamali[1*], Shabnam Naz[1], Afsheen Shahid Shaikh[2], Fozia Shaikh[1], Paras[1], Shazmina Jokhio[1]

[1]Department of Obstetrics and Gynaecology, Sheikh Zayed Women Hospital, Larkana, Pakistan
[2]Department of Obstetrics and Gynaecology, Rustaq General Hospital, Rustaq, Oman

ARTICLE INFO

Keywords: Fetal Outcome, Primigravida Females, Breech Pregnancy, Breech presentation.

Correspondence to: Dr Kainat Jamali, Department of Obstetrics and Gynaecology, Sheikh Zayed Women Hospital Larkana, Pakistan.
Email: kainatjamali.kj@gmail.com

Declaration
Authors' Contribution: All authors equally contributed to the study and approved the final manuscript.
Conflict of Interest: No conflict of interest.
Funding: No funding received by the authors.

Article History
Received: 12-06-2025 Revised: 08-07-2025
Accepted: 08-07-2025 Published: 15-07-2025

ABSTRACT

Introduction: Breech presentation, defined as the fetus being positioned with its buttocks or feet closest to the birth canal instead of the cephalic position, is a significant clinical concern, especially at term. **Objective:** The main objective of the study is to find the fetal outcome in primigravida females presenting with breech pregnancy at term. **Methodology:** This descriptive cross-sectional study was conducted in the Department of Obstetrics & Gynecology, Shaikh Zaid Women Hospital, Larkana, a tertiary care hospital from September, 2024 to May, 2025 providing comprehensive maternal and neonatal healthcare services. A detailed obstetric history and examination were performed, and findings were documented. The breech presentation was confirmed using ultrasonography. **Results:** The study included 100 primigravida females presenting with breech pregnancy at term. The mean age of the participants was 25.4 ± 3.2 years, with the majority (62%) aged between 20-30 years. The mean gestational age at delivery was 38.6 ± 1.1 weeks. Breech presentations were categorized as Frank Breech in 70% of cases and Complete Breech in 30%. Regarding delivery modes, 72% underwent cesarean sections, while 28% had vaginal breech deliveries. Poor Apgar scores (<7) at 1 minute were more common in vaginal breech deliveries (28.6%) compared to cesarean sections (13.9%), with a statistically significant p-value of 0.02. **Conclusion:** It is concluded that cesarean delivery is the safer option for primigravida females presenting with breech pregnancy at term, as it is associated with lower neonatal morbidity, reduced NICU admissions, and fewer birth injuries compared to vaginal breech delivery.

INTRODUCTION

Breech presentation, defined as the fetus being positioned with its buttocks or feet closest to the birth canal instead of the cephalic position, is a significant clinical concern, especially at term. Inclination of this condition is seen in 3-4/1000 term pregnancies and it increases the risk of complications, particularly during labour and delivery [1]. Thus in women who are pregnant for the first time or are primigravid, the fact is quite significant since there is no prior obstetrics history. This lack of experience makes the management of labor and delivery rather challenging due to the unaltered status of uterine and pelvic anatomical landmarks which have not been changed by previous pregnancies [2].

The clinical management of breech presentation is an area that has undergone quite a lot of changes in the past years. Traditionally, women with breech presentation were given vaginal breech delivery but due to having a better understanding of risks associated with breech delivery and better achievements in obstetrics, cesarean section has progressively become the mode of delivery of choice in most institutions [3]. This shift has been due for the most part to data indicating that intended cesarean section decrease baby mortality and morbidity associated with vaginal birth in the breech position. Nevertheless, the performance of cesarean delivery is associated with certain risks that subsequent pregnancies may experience, for instance, uterine scar dehiscence or placenta complications [4]. Cesarean section, however, and vaginal delivery for breech therefore must be considered in terms of the feasibility of the procedure and the potential risks for the mother and the baby in question, and the unique circumstances of a particular case [5].

In studies, we find out that analyzing the situation in women who are in their first pregnancy or other words, primigravidas, the decision-making process becomes even more challenging. Knowledge about the maternal pelvis as an unproven area for the feasibility and safety of vaginal breech delivery is questionable [6]. Moreover, labor may be more prolonged or complicated by cases of soft tissue dystocia in primigravide women as well as other complications associated with breech presentation. For

this reason, several obstetricians feel inclined to advise for cesarean delivery in these situations [7]. But EVC can be still safely achieved occasionally if it is planned with a proper choice of mother and baby for this kind of delivery, performed in the setting with an experienced team and the appropriate infrastructure [8]. The fetal outcomes related to breech presentation in nulliparous females are an important concern because such outcomes determine management plans and clients' counseling. These are neonatal complications like birth injuries, asphyxia admission of the newborn to the NICU, and neonatal mortality [9]. Cesarean delivery is also found to have a protective influence on the occurrence of these outcomes, as compared to breech vaginal delivery. Nevertheless, the CD is associated with neonatal respiratory morbidities as well as maternal consequences. The breech presentation rate also decreases with the progress of pregnancy from early pregnancy where breech presentation is more frequent to term where pathologic breech contributes approximately 3% to 4% [10]. Overall perinatal outcomes, published results of breech births are inferior to cephalic ones, irrespective of the mode of birth. According to the literature, there are fewer perinatal complications, namely intraventricular hemorrhage, seizures, low Apgar scores, brachial plexus injury, and intrapartum and neonatal death in the case of planned CD than in the case of VBD [11].

Objective

The main objective of the study is to find the fetal outcome in primigravida females presenting with breech pregnancy at term.

METHODOLOGY

This descriptive cross-sectional study was conducted in the Department of Obstetrics & Gynecology, Shaikh Zaid Women Hospital, Larkana, a tertiary care hospital from September, 2024 to May, 2025 providing comprehensive maternal and neonatal healthcare services.

Sample Size

The sample size was calculated using the WHO sample size calculator. With a 95% confidence level, a margin of error of 8.5%, and a reference percentage of poor Apgar scores (22.4%) in primigravida females with breech pregnancies at term, a total of 100 cases were included in the study.

Inclusion Criteria

- Primigravida females with singleton pregnancies presenting with breech presentation at term (gestational age ≥37 weeks).
- Women with confirmed breech presentation through ultrasonography. Patients undergoing either vaginal or cesarean delivery.

Exclusion Criteria

- Multiparous women.
- Women with multiple gestations, congenital fetal anomalies, or medical conditions such as preeclampsia or gestational diabetes.
- Pregnancies complicated by intrauterine growth restriction (IUGR) or ligohydramnios.
- Cases of preterm breech presentation or fetal demise.

Data Collection Procedure

Written informed consent was obtained from all participants. A detailed obstetric history and examination were performed, and findings were documented. Breech presentation was confirmed using ultrasonography. Delivery mode was decided based on clinical indications, maternal preferences, and institutional protocols. The Apgar score was recorded at 1 and 5 minutes after birth. Poor Apgar scores were defined as scores less than 7. Data regarding neonatal outcomes, including the need for NICU admission, birth injuries, neonatal mortality, and any other complications, were recorded.

Data Analysis

Data were analyzed using SPSS v29. Descriptive statistics were used to summarize demographic and clinical characteristics. Categorical variables such as mode of delivery and Apgar scores were presented as frequencies and percentages, while continuous variables such as gestational age and neonatal weight were presented as means and standard deviations. A pvalue <0.05 was considered statistically significant.

RESULTS

The study included 100 primigravida females presenting with breech pregnancy at term. The mean age of the participants was 25.4 ± 3.2 years, with the majority (62%) aged between 2030 years. The mean gestational age at delivery was 38.6 ± 1.1 weeks. Breech presentations were categorized as Frank Breech in 70% of cases and Complete Breech in 30%. Regarding delivery modes, 72% underwent cesarean sections, while 28% had vaginal breech deliveries.

Table 1

Demographic and Baseline Characteristics

Parameter	Values
Mean Age (years)	25.4 ± 3.2
Age Range (years)	20-30 (62%)
Mean Gestational Age (weeks)	38.6 ± 1.1
Parity	Primigravida (100%)
Breech Type	Frank Breech (70%) Complete Breech (30%)
Mode of Delivery	
Cesarean Section	72 (72%)
Vaginal Breech Delivery	28 (28%)

Poor Apgar scores (<7) at 1 minute were more common in vaginal breech deliveries (28.6%) compared to cesarean sections (13.9%), with a statistically significant p-value of 0.02. However, by 5 minutes, the difference in poor Apgar scores was not significant (p = 0.21). NICU admissions were significantly higher in vaginal deliveries (35.7%) than cesarean sections (16.7%), with a p-value of 0.04. Birth injuries were also more frequent in vaginal deliveries (17.9% vs. 2.8%, p = 0.01).

Table 2

Neonatal Outcomes by Mode of Delivery

Outcome	Cesarean Section (%)	Vaginal Breech Delivery (%)	p-value
Poor Apgar Score (<7) at 1 min	10 (13.9%)	8 (28.6%)	0.02
Poor Apgar Score (<7) at 5 min	6 (8.3%)	4 (14.3%)	0.21
NICU Admissions	12 (16.7%)	10 (35.7%)	0.04
Birth Injuries	2 (2.8%)	5 (17.9%)	0.01
Neonatal Mortality	0 (0%)	3 (10.7%)	0.005

Wound infections were observed only in cesarean section cases (5.6%), with a statistically significant p-value of 0.02. In contrast, perineal tears were exclusively associated with vaginal breech deliveries, affecting 28.6% of cases, and the difference was highly significant (p = 0.001).

Table 3
Maternal Outcomes by Mode of Delivery

Maternal Outcome	Cesarean Section (%)	Vaginal Breech Delivery (%)	p-value
Wound Infection	4 (5.6%)	0 (0%)	0.02
Perineal Tears	0 (0%)	8 (28.6%)	0.001

Respiratory distress was more frequent in vaginal deliveries (25%) than cesarean sections (11.1%), with a significant p-value of 0.03. Similarly, birth asphyxia occurred in 21.4% of vaginal deliveries versus 6.9% of cesarean sections (p = 0.04). Sepsis was also more common in vaginal breech deliveries (14.3%) compared to cesarean sections (4.2%), with a p-value of 0.02.

Table 4
Neonatal Morbidity in Breech Presentation

Complication	Cesarean Section (%)	Vaginal Breech Delivery (%)	p-value
Respiratory Distress	8 (11.1%)	7 (25%)	0.03
Birth Asphyxia	5 (6.9%)	6 (21.4%)	0.04
Sepsis	3 (4.2%)	4 (14.3%)	0.02

Cases with gestational age <39 weeks showed a higher rate of poor Apgar scores (25%) with a borderline significant p-value of 0.05. Frank breech presentation was linked to poor Apgar scores in 20% of cases (p = 0.02). Vaginal breech delivery demonstrated the highest proportion of poor Apgar scores (35.7%), with a statistically significant p-value of 0.01.

Table 5
Factors Associated with Poor Apgar Score

Factor	Cases with Poor Apgar (%)	p-value
Gestational Age <39 weeks	10 (25%)	0.05
Frank Breech Presentation	8 (20%)	0.02
Vaginal Breech Delivery	10 (35.7%)	0.01

Among deliveries at 37–38 weeks, mortality was observed exclusively in vaginal breech deliveries (30%) and was statistically significant (p = 0.01). For gestational ages of 39 weeks and above, no mortality occurred in either mode of delivery, though the difference was marginally significant (p = 0.05). Overall, neonatal mortality was present only in vaginal breech deliveries (10.7%) with a highly significant p-value of 0.005, emphasizing the increased risk associated with earlier gestational age and vaginal breech delivery.

Table 6
Neonatal Mortality by Delivery Mode and Gestational Age

Gestational Age (weeks)	Cesarean Section Mortality (%)	Vaginal Breech Delivery Mortality (%)	p-value
37-38	0 (0%)	3 (30%)	0.01
39+	0 (0%)	0 (0%)	0.05
Overall	0 (0%)	3 (10.7%)	0.005

DISCUSSION

Breech presentation at term poses significant challenges for obstetricians, especially in primigravida females, where the maternal anatomy is untested by previous deliveries. This paper aimed to investigate the relationship between breech presentation and fetal outcome in this population focusing more on the role of delivery mode in enhancing the wellbeing of the neonates. There were significantly higher numbers of cesarean sections (72%) compared to vaginal breech deliveries (28%), corroborating the trend of increased cesarean delivery for the breech presentation because of presumed safety benefits [12]. Newborn complications were also less frequent in the operative group than in the vaginal breech delivery group; poor Apgar scores at 1 minute were observed in 13.9% vs. 28.6%, NICU admission rates were 16.7 % vs. 35.7 %, and birth injuries, 2.8 % vs. 17.9 % [13]. These findings are in concordance with past literature showing that cesarean delivery decreases the chances of birth trauma and perinatal death among breech presentations. As for neonatal mortality, despite its generally low level, it was observed only in the VBD group (10,7 %). This raises the ante for a vaginal delivery for breech presentations in primigravida since there are unexplored issues almost generally raising concern of complications [14]. However, vaginal breech delivery is still an option in certain occasions, but this needs proper management by the obstetricians and lots of monitoring to decrease the risks that are labeled to this kind of delivery. The study also observed differences in maternal consequences, the cesarean delivery had surgical complications like wound infection at 5.6 %, while the vaginal breech delivery had more incidence of perineal tears at 28.6 %. These results convey the decision balance of the delivery mode and the necessity of selecting an individual approach for a woman and her baby. The study also has some valuable implications for clinical practice [15]. First, they attest to the mounting evidence that elective cesarean section is preferable for term breech presentation in parous women, especially in centers where skills in vaginal breech delivery are scarce. Secondly, the guidelines stress the procedure of antenatal consultations, during which patients are to be explained the prospects and advantages of any delivery mode [16]. This brings a woman on board and contributes to collaborative planning on how their ailments are to be treated. This study also supports the continued education of vaginal breech delivery [17]. Although cesarean delivery is now routine in many practices, safe delivery of breech presentations is still relevant and important in situations where emergency operative delivery is required or in parts of the world where cesarean section might not be feasible [18]. The limitations of the study are, it was a singlecentre study done, and when it comes to patients' P value, the study is not large sample size may reduce the generalizability. This topic needs to be sampled among a large population sample in future research percentages and follow-up studies should also include the neonate and the mother.

CONCLUSION

It is concluded that cesarean delivery is the safer option for primigravida females presenting with breech pregnancy at term, as it is associated with lower neonatal morbidity,

reduced NICU admissions, and fewer birth injuries compared to vaginal breech delivery. While vaginal delivery remains viable in carefully selected cases, it carries a higher risk of adverse outcomes. Individualized care, informed decision-making and skilled obstetric management are essential to optimize maternal and neonatal health in these scenarios.

REFERENCES

1. Bevilacqua, E., Jani, J. C., Meli, F., Carlin, A., Bonanni, G., Rimbault, M., Ruggiano, I., Quenon, C., Romanzi, F., Lanzone, A., & Badr, D. A. (2022). Pregnancy outcomes in breech presentation at term: A comparison between 2 third level birth center protocols. *AJOG Global Reports*, *2*(4), 100086. https://doi.org/10.1016/j.xagr.2022.100086
2. Derisbourg S, Costa E, De Luca L, et al. Impact of implementation of a breech clinic in a tertiary hospital. BMC Pregnancy Childbirth. 2020;20:435. https://doi.org/10.1186/s12884020-03122-4.
3. Goffinet F, Azria E, Kayem G, Schmitz T, Deneux-Tharaux C. Re: the risks of planned vaginal breech delivery versus planned caesarean section for term breech birth: a metaanalysis including observational studies: let's avoid simplistic radicalism when reality is complex. BJOG. 2016;123:145–147. https://doi.org/10.1111/1471-0528.13734
4. Carbillon L, Benbara A, Tigaizin A, et al. Revisiting the management of term breech presentation: a proposal for overcoming some of the controversies. BMC Pregnancy Childbirth. 2020;20:263. https://doi.org/10.1186/s12884-020-2831-4.
5. Gunay T, Turgut A, Demircivi Bor E, Hocaoglu M. Comparison of maternal and fetal complications in pregnant women with breech presentation undergoing spontaneous or induced vaginal delivery, or cesarean delivery. Taiwan J Obstet Gynecol. 2020;59:392– 397. https://doi.org/10.1016/j.tjog.2020.03.010.
6. 15.Fonseca A, Silva R, Rato I, et al. Breech presentation: vaginal versus cesarean delivery, which intervention leads to the best outcomes? Acta Med Port. 2017;30:479– 484. https://doi.org/10.20344/amp.7920.
7. 16.Ekéus C, Norman M, Åberg K, Winberg S, Stolt K, Aronsson A. Vaginal breech delivery at term and neonatal morbidity and mortality - a population-based cohort study in Sweden. J Matern Fetal Neonatal Med. 2019;32:265–270. https://doi.org/10.1080/14767058.2017.1378328
8. Sentilhes L, Schmitz T, Azria E, Gallot D, Ducarme G, Korb D, Mattuizzi A, Parant O, Sananès N, Baumann S, Rozenberg P, Sénat MV, Verspyck E. Breech presentation: Clinical practice guidelines from the French College of Gynaecologists and Obstetricians (CNGOF). Eur J Obstet Gynecol Reprod Biol. 2020 Sep;252:599-604. Epub 2020 Mar 25. PMID: 32249011. https://doi.org/10.1016/j.ejogrb.2020.03.033 .
9. Jadhav R, Yadav B, Kumar K. A study of perinatal outcome in patients with breech presentation at tertiary care centre. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2023 Sep 1;12(9):2809-14. https://doi.org/10.18203/2320-1770.ijrcog20232743
10. Mishra RK, Vardhan S, Chawla S. Outcome of breech presentation after 34 weeks of period of gestation of pregnancy. The New Indian Journal of OBGYN. 2023;9(2):32327. https://doi.org/10.21276/obgyn.2023.9.2.26
11. Raghavan V, Anand R, Dobariya H. A Study of Fetomaternal Outcome in Breech Presentation Beyond 34 Weeks of Gestation. Journal of Coastal Life Medicine. 2023 Jul 14;11:1517-25.
12. Zeb L, Malik A. Relationship of mode of delivery of breech presentation with fetal and maternal outcome in a tertiary care hospital. Journal of Rehman Medical Institute. 2023 Jul 7;9(2):22-5.
13. Kaul S, Rami BD. A prospective observational study of breech pregnancy in a tertiary care centre. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2020 Feb 1;9(2):688-92. https://doi.org/10.18203/2320-1770.ijrcog20200359
14. Bint Karim S, Sethi H, Akhtar R, Saif K. Fetomaternal Outcomes of Breech Presentation in Labour. Pak-Euro Journal of Medical and Life Sciences. 2022 Mar 31;5(1):171-6. https://doi.org/10.31580/pjmls.v5i1.2454
15. Neelima B, Padmavathi DS, Begum PR. Mode of Delivery in Breech Presentation From 28 Weeks of Gestation and Its Perinatal Outcome. European Journal of Cardiovascular Medicine. 2024 May 14;14:179-92.
16. Rahman S. Risk Factors and Obstetric Outcome of Malpresentation at Term in Case of Multigravida. The Insight. 2021;4(02):72-80.
17. Hussain S, Qurban S, Tahseen H, Javed K, Khurshid HN. Maternal Outcome of Primigravida Patient with Term Pregnancy with Engaged Versus Unengaged Foetal Head at Onset of Labour. Pakistan Journal of Medical & Health Sciences. 2022 Apr 27;16(03):787-. https://doi.org/10.53350/pjmhs22163787
18. Mishra RK, Vardhan S, Singh S, Panda SS. Pregnancy outcome of external cephalic version in singleton pregnancy with breech presentation at term. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2020 Jun 1;9(6):2352-6. https://doi.org/10.18203/2320-1770.ijrcog20202311