Original Article

Frequency of Spontaneous Vaginal Delivery among Malpresentation at Term in Cases of Multigravida

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ABSTRACT

Introduction: *Persistent malpresentation in full-term pregnancy is urgent, involving non-cephalic, non-vertex fetal positioning. Associated with risks for both mother and baby, successful spontaneous vaginal delivery varies due to factors like malpresentation type, maternal anatomy, fetal size, and overall health.* ***Aim of the study:*** *This study aimed to assess the frequency of spontaneous vaginal delivery among malpresentation at term in cases of multigravida.* ***Methods and Materials:*** *A cross-sectional study took place in the Obstetrics and Gynaecology department of Shaheed Suhrawardy Medical College and Hospital, Dhaka, Bangladesh, spanning from January 2012 to June 2012. The study included 52 multi-gravid women with malpresentation at term pregnancy, selected through convenient sampling. Data encompassing demographic and clinical details were collected and subsequently processed, analyzed, and presented using the MS Office program.* ***Results:*** *Among the total of 52 cases, the frequency of spontaneous vaginal delivery (SVD) was only 1.92%. The predominant approach was the utilization of lower segment cesarean section (LSCS), accounting for 92.31% of the cases, while another smaller proportion (5.87%) involved vaginal delivery with assisted breech.* ***Conclusion:*** *Among the malpresentation at term in cases of multigravida, the chances of spontaneous vaginal delivery are very low. Prompt hospitalization and mediation are essential for such cases.*

Keywords: *Spontaneous vaginal delivery, SVD, Malpresentation, Multigravida, Pregnancy*

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INTRODUCTION

Mal-presentation refers to any fetal positioning other than the vertex,

encompassing breech, compound, face, brow, and shoulder presentations. Although the possibility of spontaneous rotation from malpresentation to the vertex position exists within the final 4-6 weeks of gestation, this potential decreases as pregnancy progresses. In term pregnancies, approximately 95% of fetuses assume the vertex position during labor [1]. While malpresentation is estimated to occur in 5% of all deliveries, this occurrence diminishes to 3% at term [2]. Among malpresentations, the most prevalent is breech presentation, with incidences of 28% at 20 weeks, 15% at 28 weeks, and 3% at term [3]. Shoulder presentation is rare, arising in around 0.3% of singleton pregnancies and 10% of multiple births, with an incidence of 1 in 400 at term [4]. Compound presentation, occurring in 0.1% of deliveries, is associated with perinatal mortality rates ranging from 9-19% due to complications [5]. Various risk factors contribute to the occurrence of malpresentation, including prematurity, multiparity, placenta previa, oligohydramnios, contracted pelvis, polyhydramnios, pelvic mass, and fetal congenital malformations such as anencephaly and hydrocephalus [6]. There exists a connection between malpresentation and progressive multiparity, potentially attributed to the increasing relaxation of uterine musculature with successive pregnancies. Gestational age and traumatic injuries sustained during delivery also significantly impact neonatal outcomes. In cases of mal-presentation, reported perinatal injuries encompass cephalohematoma, brachial plexus injury, fractures of long bones like the humerus or clavicle, tears in the tentorium cerebelli, spinal cord disruption, soft tissue trauma, hypoxia, and even mortality [7]. Among malpresentations, breech presentation is the most frequently encountered. The term "breech trial analysis" indicated that the absence of an experienced senior practitioner was linked to a rise in unfavorable obstetric outcomes. When conducting assisted breech extraction, several techniques are commonly utilized, including the Burns Marshall method, Modified Mauriceau-Smellie-Veit maneuver, Modified Prague maneuver, and forceps delivery. In intricate cases, approaches like Pinard's maneuver and Lovset's maneuver, and in certain instances, Duhrssen's incision at the 2 and 10 o'clock positions on the cervix, may be employed [3]. However, in contemporary practice, obstetricians have refrained from widely using such techniques due to their associated complications. In India, breech deliveries contributed to 19% of stillbirths and 12% of neonatal deaths, with birth asphyxia accounting for 41% of early neonatal deaths [8]. Other mal-presentations like shoulder, face, brow, and compound presentations can also introduce complexities into the normal labor process. The progression of anesthesia, antibiotics, antiseptics, blood transfusion, and intravenous therapy has elevated cesarean section as a more favored mode of delivery. Before 1965, nearly all viable malpresentation fetuses were delivered vaginally, and cesarean sections were limited to specific indications. However, the rate of Caesarean Section for malpresentation has witnessed a progressive rise, increasing from around 30% in 1970 to 85% by 1999 [9]. The advancement of anesthesia, antibiotics, antiseptics, blood transfusion, and intravenous therapy has led to cesarean section becoming a more favored and preferable mode of delivery. Presently, a significant majority of abnormal fetal presentations are managed through cesarean section. Maternal complications include those related to anaesthesia, hemorrhage, laceration of cervix, vagina, or perineum resulting from a hastily performed delivery, infection following cesarean section, venous thrombosis may also occur within 2-3 days after operation [10]. In multipara the uterus reacts vigorously in response to obstruction and

ultimately the lower segment gives way as a result of marked thinning of its wall [11]. In the absence of prompt medical care, most notably in developing countries, malpresentation can also result in obstructed labor with its risk of tissue necrosis and subsequent fistula formation or uterine rupture, sepsis and death [12]. So many malpresentation at term require cesarean section and the operations can be difficult. Although augmentation has been used, it is generally not advised and lack of progress should usually prompt delivery by LSCS. The objective of this current study was to assess the frequency of spontaneous vaginal delivery among malpresentation at term in cases of multigravida.

METHODS AND MATERIALS

This cross-sectional study was carried out within the Obstetrics and Gynaecology Department of Shaheed Suhrawardy Medical College and Hospital in Dhaka, Bangladesh, spanning from January 2012 to June 2012. The study was conducted on 52 multi-gravid women with malpresentation at term pregnancy who were admitted to the hospital during this period. The participants were selected using a convenient sampling technique. Ethical approval for the study was obtained from the hospital's ethical committee, and comprehensive informed consent was acquired from all participants before the commencement of data collection. The study had specific exclusion criteria, which involved excluding women who were primigravida, those with mal-presentation along with preterm labor, individuals induced prematurely due to fetal distress, cases of preeclampsia, antepartum hemorrhage, chorioamnionitis, and instances of intrauterine death. Comprehensive demographic and clinical information of all participants was meticulously documented. Subsequently, all collected data underwent processing, analysis, and presentation using the MS Office suite.

RESULT

In this study, among the 52 cases investigated, 73.08% were up to 3rd gravida, 23.07% ranged from 3rd to 6th gravida, and the remaining 3.85% exceeded 6th gravida **(Figure 1)**.

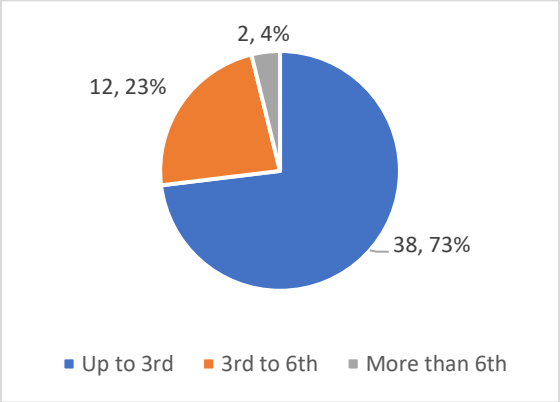

Figure 1: Distribution of participants as per gravida (N=52)

Upon analyzing the gestational age distribution of the participants, it was evident that a notably substantial proportion (80.77%) were categorized within the 37–38-week range. A smaller percentage, 17.31%, corresponded to the 39–40-week range, while a minority, 1.92%, were identified as exceeding 40 weeks **(Table I)**.

Table I: Gestational age of the patients on admission (N=52)

Weeks	n	%
37-38	42	80.77
39-40	9	17.31
> 40	1	1.92

In this study, it was observed that among the total patient pool, 46.51% of respondents exhibited irregular antenatal check-ups, 38.46% received no antenatal care (ANC), and a mere 15.38% adhered to a consistent ANC schedule **(Figure 2)**.

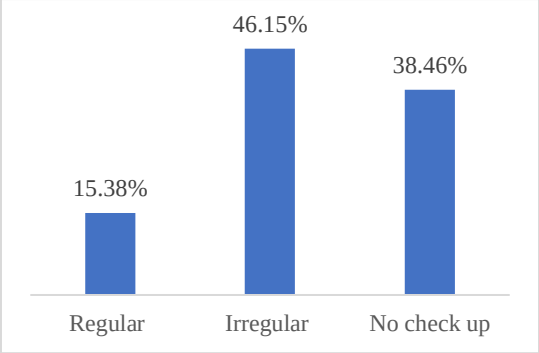

Figure 2: Antenatal care status of the study population (N=52)

Regarding the distribution of the study participants based on their per-vaginal findings upon admission, a significant majority (63.46%) were diagnosed with complete breech presentation, followed by 17.31% with shoulder presentation, 5.77% with compound presentation, and 3.85% each with breech-footling, face, and cord presentations. The remaining 1.92% demonstrated a brow presentation **(Table II)**.

Table II: Foetal presentations of the study population on admission (N=52)

Presentation	n	%
Complete breech	33	63.46
Shoulder	9	17.31
Breech-footling	2	3.85
Compound	3	5.77
Face	2	3.85
Cord	2	3.85
Brow	1	1.92

Among the total of 52 patients, 39 cases were identified as being linked with risk factors of mal-presentation. Within this group, 28.21% exhibited oligohydramnios, 20.51% had a contracted pelvis, 17.95% displayed congenital uterine malformations such as bicornuate, uni-cornuate, or septate uterus, 15.38% had placenta previa, 10.26% had polyhydramnios, and 7.69% of the patients were diagnosed with pelvic masses like ovarian cysts, and similar conditions **(Figure 3)**.

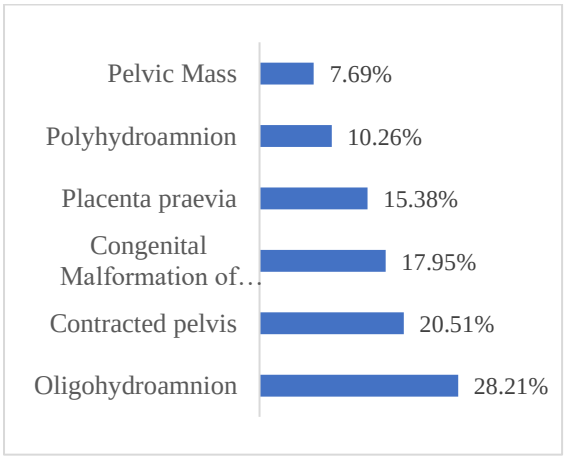

Figure 3: Association of risk factors with malpresentation (n=39)

Among the total of 52 cases, the frequency of spontaneous vaginal delivery (SVD) was only 1.92%. The predominant approach was the utilization of lower segment cesarean section (LSCS), accounting for 92.31% of the cases, while another smaller proportion (5.87%) involved vaginal delivery with assisted breech **(Figure 4)**.

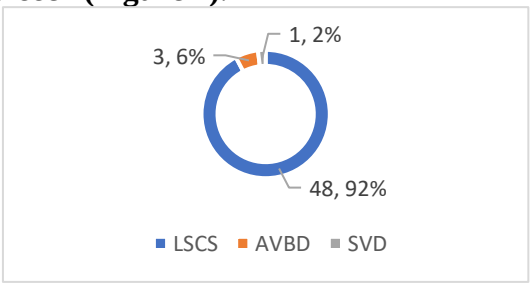

Figure 4: Distribution of mode of delivery (N=52)

AVBD: Assisted vaginal breech delivery,
SVD: Spontaneous vaginal delivery,
LSCS: lower segment cesarean section.

Within the total of 52 cases, complications arose for 35 patients (67.32%). Among these, postpartum hemorrhage (PPH) emerged in 17.31%, obstructed labor in 15.38%, antepartum hemorrhage (APH) in 11.54%, and abdominal wound infections

affected 9.62% of patients. Occurrences of cervical tear, chorioamnionitis, and respiratory tract infections were each noted in around 3.85% of cases **(Table III)**.

Table III: Maternal complications among the participants (N=52)

Complications	n	%
PPH	9	17.31%
Obstructed labour	8	15.38%
APH	6	11.54%
Wound infection	5	9.62%
Cervical tear	2	3.85%
Chorioamnionitis	2	3.85%
Respiratory tract infection	2	3.85%
Ruptured uterus	1	1.92%

A ruptured uterus, a rarity, was observed in 1.92% of cases, while the study recorded no instances of maternal mortality. The remaining 32.68% of patients experienced no complications, offering a comprehensive overview of the spectrum of outcomes observed in this study. In terms of perinatal complications and morbidity, 26.92%b cases experienced asphyxia, while 11.54% had jaundice. Infection was also observed in 9.62%, and Intrauterine growth restriction was recorded in 7.69%. Birth trauma and congenital defect were also present among the participants, but in very low number **(Table IV).**

Table IV: Cases of perinatal morbidity (N=52)

Variables	n	%
Asphyxia	14	26.92
Physiological jaundice	6	11.54
Infection	5	9.62
IUGR	4	7.69
Birth trauma	2	3.85
Congenital defect	1	1.92

IUGR: Intrauterine growth restriction

DISCUSSION

This study aimed to assess the frequency of spontaneous vaginal delivery among malpresentation at term in cases of multigravida. In the conducted study, among the 52 cases considered concerning gravida, the majority of respondents (73.08%) fell within the up to 3rd gravida category, 23.07% were categorized as 3rd to 6th gravida, and the remaining 3.85% were identified as beyond the 6th gravida. This distribution offered insights into the prevailing family planning patterns in Bangladesh. These findings aligned with those reported by Rahman et al., where 88% fell within up to 3rd gravida, 11% were categorized as 3rd to 6th gravida, and 1% belonged to more than 6th gravida [13]. When analyzing the gestational age of patients upon admission, it became evident that a significantly high proportion (80.77%) were positioned within the 37–38-week bracket, with the second most prominent group (17.31%) falling between 39-40 weeks, while a small fraction of 1.92% exceeded 40 weeks. It's worth noting that the majority of these cases were detected during labor when patients were referred to the hospital. These characteristics were in line with the findings observed in a previous study [13]. In this study 63.46% of respondents presented with complete breech, 17.31% with shoulder, 5.77% with compound and 3.85% cases with breech footling, face & cord presentation in each. The rest 1.92% were presented with brow presentation. Breech presentation was the commonest malpresentation somewhat similar result was reported by Rahman et al., (58%) [13]. In this study, 39 patients were identified as having risk factors associated with mal-presentation. Among them, 28.21% of patients exhibited oligohydramnios, 20.51% had a contracted pelvis, 17.95% displayed congenital malformations of the uterus, such as bicornuate, uni-cornuate, or septate uterus, 15.38% were diagnosed with placenta previa, 10.26% had polyhydramnios, and 7.69% of patients presented with pelvic masses like ovarian cysts, and similar conditions. These observations align with the findings of other studies [9,13]. Among the total of our participants, the frequency of spontaneous vaginal delivery (SVD) was only 1.92%. The predominant approach was the utilization of lower segment cesarean section (LSCS), accounting for 92.31% of the cases, while another smaller proportion (5.87%) involved

vaginal delivery with assisted breech. In Rahman et al., series LSCS done in 89% of cases and vaginal delivery was done in 10% of cases [13]. In a separate study, cephalic presentation was observed in 11,575 deliveries (96.8%), while there were 368 cases (3.1%) of breech presentations, with a vaginal delivery rate of 33.4% [14]. Additionally, 14 women exhibited a transverse lie (0.12%), and all of them underwent abdominal delivery, with 12 of these cases being multiparous. In this study, there were no instances of maternal mortality; however, maternal morbidities exhibited a notably high prevalence. Among the total of 52 cases examined, complications were observed in 35 patients (67.32%). These complications encompassed various types, including post-partum hemorrhage (17.31%), obstructed labor (15.38%), antepartum hemorrhage (11.54%), cervical tear (3.85%), abdominal wound infections (9.62%), chorioamnionitis (3.85%), ruptured uterus (1.92%), and respiratory tract infections (3.85%). Conversely, the remaining 32.68% of patients experienced no complications during the study. Some studies have focused on aspects such as gravida, malpresentation, and their connection with the mode of delivery [15,16]. In situations where abnormal presentation leads to obstructed delivery, taking swift action becomes crucial to ensure the safety of both the mother and the baby [17]. The risk of cord prolapse is estimated to be 1 in 300 deliveries, a risk that can be mitigated through elective cesarean section [18]. In terms of perinatal complications and morbidity, 26.92%b cases experienced asphyxia, while 11.54% had jaundice. Infection was also observed in 9.62%, and Intrauterine growth restriction was recorded in 7.69%. Birth trauma and congenital defect were also present among the participants, but in very low number.

LIMITATION OF THE STUDY

This was a single-centered study with small-sized samples. Moreover, the study was conducted over a very short period. So, the findings of this study may not reflect the exact scenario of the whole country.

CONCLUSION & RECOMMENDATION

As per the findings of this current study, we can conclude that in cases of malpresentation at term among multigravida women, the likelihood of achieving spontaneous vaginal delivery is notably diminished. Due to the complexities associated with these presentations, prompt hospitalization and intervention become crucial. The relatively low chances of successful natural delivery underscore the need for medical evaluation, close monitoring, and timely intervention to ensure the well-being of both the mother and the baby. Medical professionals often play a pivotal role in assessing the situation, determining the appropriate course of action, and facilitating interventions such as cesarean section or assisted vaginal delivery when necessary to optimize outcomes for both the mother and the infant.

FUNDING

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CONFLICT OF INTEREST

None declared.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee

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