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Original Article

Antenatal Checkup Status with Intrapartum Outcome of Pregnant Mothers with Fetal Malpresentation

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ABSTRACT

Background: *Malpresentation is when the fetus is not facing head-first down the birth canal as birth approaches. The most common type of mal-presentation is breech-when the fetus's bottom or feet are facing downwards. Antenatal checkups may be one of the methods of it.* ***Aim of the study:*** *The aim of this study was to assess the antenatal checkup status of pregnant mothers diagnosed with fetal mal-presentation.* ***Methods & Materials:*** *This was a cross-sectional descriptive study. The study was conducted in the Department of Obstetrics & Gynecology, Rangpur Medical College Hospital, Rangpur, Bangladesh during the period from July 2003 to June 2004. In 100 mothers diagnosed with fetal mal-presentation were enrolled in this study.* ***Results:*** *In this study, most of the respondents (76%) had not received any antenatal cheek-up, 17% got irregular antenatal cheek-up and only 7% received regular antenatal care. As the frequency distribution of the study 46% were with breech buttock, 26% with shoulder presentation, 12% with breech footling, 11% with the transverse lie, 2% with cord presentation, and 1% with brow and face in each. Among total cases, 86% did not do any ultra-sonogram, in 13% of cases ultrasonogram revealed breech presentation, and in 1% of the case revealed brow presentation.* ***Conclusion:*** *Malpresentation during pregnancy is a very common obstetrical problem in Bangladesh. As per the findings of this study, we can conclude that complications of mal-presentation can be prevented by regular antenatal check-ups to detect all mispresented pregnant women and advise them to deliver in a well-equipped hospital.*

Keywords: *Antenatal checkup, Pregnant mothers, Fetus, Malpresentation*

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INTRODUCTION

Malpresentation means all presentation of the fetus other than vertex, which may be diagnosed antenatally. Malposition means an abnormal position of the vertex of the fetal head (with the occiput as the reference point) relative to the maternal pelvis [1]. In the majority of cases, the causes of abnormal presentation and position are not clear. Some feto-maternal abnormal condition is related to malpresentation. The fetus may even lie transversely so that no pole is in relation to the pelvis inlet. A fetus in this position is undeliverable vaginally; both transverse lie and breech presentations are much more common if the women enter labour in the earlier weeks of pregnancy (22-28 weeks of gestation). All these mal-presentations are malposition's need a careful diagnosis and skillful management [2]. This study will give an idea about pregnancy outcomes in cases with fetal mal-presentation and will find out the key for further research. The uterus is a hollow pyriform muscular organ situated in the pelvis between the bladder in front and the rectum behind. The uterus measures about 7.5 cm long, 5 cm wide at the fundus and its wall is about 1.25 cm thick. Its weight varies from 50 to 80 gm. It has got three parts; body or corpus, isthmus and cervix [3]. The uterus is externally normal but contains a complete or incomplete septum, which reflects a failure in breakdown of the wall between the two ducts. The cervical canal may be single or double and the vagina is whole or septate [4]. Hypertonic labour may also cause precipitate labour disorders, resulting in fetal intracranial hemorrhage, fetal distress, neonatal injury or depression and birth canal laceration from rapid delivery. Inadequate pushing in the second stage of labour is common and may be caused by conduction anesthesia, overdistension, exhaustion or neurologic dysfunction such as paraplegia or hemiplegia of various causes, or by psychiatric disorders. Mild sedation or a waiting period to permit analgesic or anesthetic agents to wear off may improve expulsion efforts and outlet forceps or vacuum delivery may be effective in selected cases [5]. Posterior fontanelle- it is formed by the joining of three suture lines, sagittal suture anteriorly and lambdoid suture on either side. It is triangular in shape and measures about 1.2x1.2cm. Its floor is membranous but becomes bony at term. Thus, truly its nomenclature as fontanelle is a misnomer. It denotes the position of the head in relation to the maternal pelvis. Sagittal suture- it is inconsistent in its presence, when present it is situated on the sagittal suture at the junction of anterior two- third and post one-third. It has got no clinical importance. Diameter of a skull- the engaging diameter of the fetal skull depends on the degree of flexion present [6]. In certain cases, an x-ray pelvimetry may provide a necessary guideline to the clinician as to whether a trial of labour appears warranted or otherwise [7]. If a baby is less than 2500 gm at term it is probably growth restarted (dysmature) and on this account may have a diminished chance of survival. It is different with twins. Both may weigh less than 2500 gm, and they tend to be born before term, yet both are likely to survive. The heaviest children are likely to be born when the mother's age is between 25 and 35 years. The weight of the children tends to increase in successive pregnancies, provided that the mother's age is under 35. On average male babies are heavier than female ones at birth [8]. The face is always somewhat swollen and discolored after a

face delivery, and the parents should be warned that it might be temporarily unsightly but that complete recovery is to be expected [9]. If the brow presentation is only transient, the first stage of labour may be of average length and the prognosis for delivery will be that of the face or vertex presentation which ensues. However, if the brow presentation is persistent, caesarean section is the best management. It is possible to flex a fetal head presenting as a brow with the occipital posterior vacuum extractor cup and with a second twin, this may be a reasonable course of action [10]. In a study [D. C. Dutta] it was reported that, internal version or breech extraction has got limited value where caesarean section facilities are not an available, and destructive operation is indicated in cases of obstructed labour with a dead fetus [11].

METHODS & MATERIALS

This was a cross-sectional descriptive study. The study was conducted in the Department of Obstetrics & Gynecology, Rangpur Medical College Hospital, Rangpur, Bangladesh during the period from July 2003 to June 2004. In total 100 mothers diagnosed with fetal mal-presentation were enrolled in this study as study subjects. The study was approved by the ethical committee of the mentioned hospital. Properly written consent were taken from all the participants before data collection. As per the inclusion criteria of this study patients with mothers diagnosed with fetal mal-presentation were enrolled in this study as study subjects were included. For sample selection of this study, a convenient sampling technic was used. As data collection tools a structural interview schedule was developed in the light of the objectives and the interview schedule was finalized by modifying it after being pre-tested. A checklist was designed in light of the objective to include all clinical data. After taking verbal consent, collected forms the respondents by using the interview schedule and checklist. All collected data were checked and verified thoroughly to reduce inconsistency, and the data were edited, coded, and entered into a computer. The main outcome measures of this study were perinatal morbidity, mortality, and inaction of caesarean section among the study population. All the demographic and clinical data of the participants were also recorded. A predesigned questionnaire was used in data collection. All data were processed, analyzed, and disseminated by using MS Excel and SPSS version 23.0 program as per necessity.

RESULTS

According to the occupation of the participants, 99% were housewife and only 1% was service holder (Table I).

Table I: Occupation of the study population (N=100)

Occupation	n	(%}
Housewife	99	99
Service	1	1
Total	100	100

Most of the respondents (76%) had not received any antenatal cheek up, 17% got irregular antenatal cheek-up and only 7% received regular antenatal care (Table II).

Table- II: Antenatal care status of study population (N=100)

ANC Status	n	(%)
Regular	7	7
Irregular	17	17
None	76	76
Total	100	100

As for the heights of the respondents, most of the cases (58%) were below 5 feet (152.4 cm) and 42% were above 5 feet (152.4 cm) (Table III).

Table- III: Height of the respondents (N=100)

Height	n	(%)
Below 5 feet(152.4cm)	58	58
Above 5 feet(152.4cm)	42	42
Total	100	100

On the other hand, the weights of 83% of the respondents were 55 kg or above and in 17% it was below 55 kg (Table IV). Out of the total cases, 88 % were up to 3rd gravida, 11% were within 3rd to 6th gravida and the rest of 1% were with >6th gravida (Table V).

Table- IV: Weight of the respondents (N=100)

Weight in kg	n	(%)
>55 Kg	17	17
≤55 Kg	83	83
Total	100	100

Table- V: Distribution of patients according to gravida (N=100)

Gravida	n	(%)
Up to 3rd	88	88
3rd to 6th	11	11
More than 6th	1	1
Total	100	100

As fundal height in cm; out of 100 cases 54% were of 30 cm, 29% were of 32 cm, 6% were 28 cm,3% were of 34 cm,2% were of 25 cm, and 1% were of 27 cm (Table VI).

Table- VI: Fundal height of the patients on admission (N=100)

Fundal height in cm	n	(%)
22	2	2
25	2	2
26	1	1
27	1	1
28	6	6
29	1	1
30	54	54
31	1	1
32	29	29
34	3	3
total	100	100

As the frequency distribution of the study population according to vaginal findings, 46% were with breech buttock, 26% with shoulder presentation, 12% with breech footling, 11% with a transverse lie, 2% with cord presentation and 1% with brow and face in each (Table VII).

Table- VII: Per-vaginal finding of the patients on admission (N=100)

PV FINDING	n	(%)
Shoulder	26	26
Cord	2	2
Transverse lie	11	11
Compound presentation	1	1
Breech-buttock	46	46
Breech-footling	12	12
Brow	1	1
Face	1	1
Total	100	100

Out of total cases, fetal heart rates were found in 44% as 120-140 bpm, in 30% as 141-160 bpm, in 24% as <120 bpm and in 2% as 161-170 (Table VIII).

Table- VIII: Fetal heart rate recorded on admission (N=100)

Fetal heart rate	n	(%)
Below 120	24	24
120 to 140	44	44
141 to 160	30	30
161 to 170	2	2
Total	100	100

Among total cases, 86% did not do any ultra-sonogram, in 13% cases ultrasonogram revealed breech presentation and in 1% case revealed brow presentation (Tale IX).

Table-IX: Ultrasound finding of patients (N=100)

Us finding (Presentation)	n		(%)
Us not done	86		86
Breach	13		13
Brow	1		1
Total	100		100

In this study among total cases breech presentation was found as the most frequent occurrence (Table X).

Table-X: Mode of deliveries occurred in different types of malpresentation (N=100)

Presentations	Caesarean Section	Spontaneous Vaginal delivery
Breech	46	9
Shoulder	40	2
Face	2	0
Brow	1	0

Among all the cases, only 9% had bad obstetrical history, 88% was primigravida and the rest 3% had no bad obstetrical history (Figure 1).

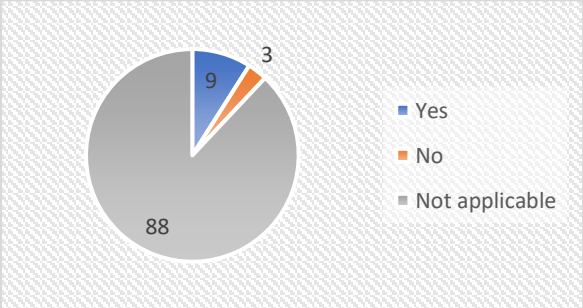

Figure-1: Bad obstetrical history of the patients (N=100)

Among our total study population; 65% were moderately anaemic and 35% were mildly anaemic (Figure 2).

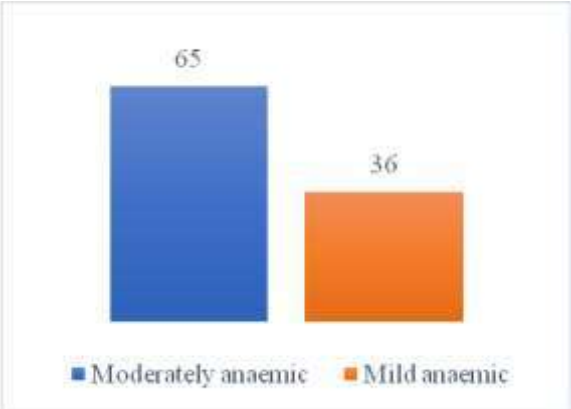

Figure-2: level of anaemia among the study population (N=100)

DISCUSSION

The aim of this study was to assess the antenatal checkup status of pregnant mothers diagnosed with fetal mal-presentation. Though the hospital is placed in an urban area majority of the urban people take obstetrical services from various private hospitals and clinics. In rural areas, the incidence of literacy is very much low. The majority of the population came from low socioeconomic groups 72% and only 4% from the mid-level. As members of low socioeconomic groups are mostly illiterate so they have no proper knowledge of antenatal check-ups which lead to complications of pregnancy and late exposure to the hospital. Age distribution of the study population showed that 80% of the population were from the 20-30 years age group, 7% from below 20, and 13% from the above 30 years age group. This pattern reflected the fact that the age group 20-30 years was the age of optimum fertility and most of the females become married and expect to have a baby. The incidence of the below 20 years age group is only 7% probably due to decreasing incidence of early marriage. These features were consistent with the features of the studies [12,13]. Among all cases, presented 76% with no experience with antenatal cheek-up, only 7% with regular check-ups and 17% got irregular check-ups. Anthropometric measurement shows that height 58% of the respondent were below 5 feet (152.4 cm) and 42% were about 5 feet. This feature is a common trend in our country. When considering weight at presentation 83% were 55 Kg and above and 17% were below 55 Kg. During pregnancy, the weight of the mother increases due to various reasons e.g., Weight of the produce of conception and liquor, increase body fluid, etc [14]. when considering gravida majority of the respondent (88%) were up to a third gravida, 11% were 3rd to 6th gravida and 1% were more than 6th gravida. This finding reflected the family planning activity in Bangladesh [15]. In this study assessment of anaemia revealed that 65% were moderately anaemic and 35% were mildly anaemic. This finding was common in developing countries probably due to poverty, malnutrition, and lack of education and awareness [16,17]. In this study, 58% of the respondents presented with breech (including breech buttock 46% and breech footling 12%) presentation 26% with shoulder, 11% with a transverse lie, 2% with cord and 1% with brow and face each. Breech presentation is the commonest mal-presentation and these features correlate with the findings of other studies [9,11]. When monitoring the condition of the fetuses, fetal heart rates were normal (heart rate 120-160) in 74% of cases and evidence of fetal distress (heart rate below 120 and above 160) was detected in 26% of cases. Rate of increased fetal distress due to mal-presentation, previous maltreatment and

late presentation in hospital. [13, 14, 18] Among all patients, USG was done only in 14% of cases and a majority of cases (13%) revealed breech presentation. In 86% of cases, no investigation was done due to emergency presentation and admission at night and clinical diagnosis were obvious. In our study, out of 100 cases, in 89% LUCS, in 6% vaginal delivery with episiotomy, in 4% vaginal delivery, and in 1% other procedures were performed.

The high rate of caesarean section and also emergency caesarcan section is probably due to late presentation and maternal and fetal distress [16,19]. Among the study population, the frequency of healthy mothers and healthy babies in the illiterate group was 37.7%, and in the literate group 62.3%.the frequency of unhealthy/ dead babies in the literate group was 61.5% and in the literate group was 38.5%. These findings are probably due to proper antenatal check-ups, proper nutrition, and proper evaluation of pregnancy in a literate group [20,21,22,23]. Complications due to mal-presentation can be prevented by regular antenatal check-ups, and ultrasonographic examination at the onset of labor to determine fetal lie and position within the uterine cavity. Continuous monitoring to detect abnormalities in the fetal heart rate. Artificial rupture of the membrane should be avoided until the presenting part is well applied to the cervix. At the time of spontaneous membrane rupture, a prompt, careful pelvic examination should be performed to rule out any cord prolapse [20]. If we are aware of these points, then early neonatal mortality and morbidity as well as maternal mortality should be reduced.

Limitation of the study

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

CONCLUSION & RECOMMENDATION

As this study deals with the outcome of pregnancy in mal-presentation, so maternal and perinatal morbidity and mortality is an important issues. To get rid of complications due to mal-presentation, people should be aware of health education, proper nutrition, family planning, antenatal check-up, literacy, and removal of superstition. Vehicle opportunity must be improved. Family planning plays an important role to reduce family size, thereby decreasing the chance of mal-presentation by: a) Reducing "small premature baby" which is a risk factor for mal-presentation b) Preventing deformity of the maternal pelvis c) Improving maternal nutrition, which prevents osteocalcin and small for date fetus. All the patients we have to manage in the hospital either by LUCS or vaginal delivery or sometimes required internal podalic version and breech extraction. Complications of mal-presentation can be prevented by regular antenatal check-ups to detect all mispresented pregnant women and advise them to deliver in a well-equipped hospital. Improvement of nutritional status and awareness of the patients could be developed by means of motivation and extension of the appropriate health service at field levels. Thus, maternal and perinatal mortality and morbidity due to ma-

presentation and its complications can be reduced.

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