Women's Experience on Preterm Birth Delivery: A Study on Three Sub-Districts of Manikganj, Bangladesh

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ABSTRACT

Preterm birth is a live birth occurring before 37 completed weeks of Gestation age, accounts for 10.6% of live births worldwide and 35% of all deaths among newborns. Thus the study aimed to understand women's lived experience on her preterm birth delivery. This study is explorative in nature that seeks to gather information about women's lived experience on her preterm delivery. For the purpose, this study employed mixed method design. Qualitative research was used to understand about inner views of women regarding her preterm delivery. So, in these part 13 In-Depth Interview (IDI) have taken using purposive sampling from the mother who gave birth preterm delivery (less than 37 weeks) in three sub districts of Manikganj. Purposive sampling has been used to select for the study purpose. On the other, Quantitative research was used to understand about the situation regarding preterm birth. Hence, the list of women (80) who delivered preterm baby in last three months (October, November and December 2023 had been collected from different birthing facilities of the study area (70 birthing hospitals). Survey method was conducted to collect data, these questionnaire were contained both close ended and open ended and data were collected from face to face survey as well as telephone survey. Findings shows that, Woman have a mixed experience about her preterm delivery. Now a day's women are taking Antenatal Care but they went for the Antenatal Care cheek up in 2nd and 3rd trimester. There are several reasons behind taking Antenatal Care lately: Poor economic condition, not concerns about pregnancy and lack of information for right place of taking service. Preterm baby management is a major concern issue for the lifesaving of the baby. Those who are likely to have breach or preterm delivery should be delivered in a hospital with excellent baby management or have Comprehensive emergency obstetric and newborn care (Cem ONC) facility.

INTRODUCTION

Preterm birth, defined as live births occurring before 37 completed weeks of Gestation age, accounts for 10.6% of live births worldwide and 35% of all deaths among newborns (01). Preterm neonates are at increased risk of a worldwide range of short and long term respiratory, infectious, metabolic and neurological morbidities, with higher risks of adverse outcomes at lower gestational age. (2). Over 80% of the world's preterm birth occurs in sub-Saharan Africa and Asian countries in low income setting. (3)

In Bangladesh, A report have published in 2018 estimated that in 2014 (the most recent data available) Bangladesh had the highest national PTB rate 19.1% (4). Different studies reported the incidence of preterm birth to be 22.3%, of which late preterm, moderate preterm and very preterm were 12.3%, 7.1% and 2.9% of live births respectively (5). Another study conducted in Sylhet between 2007 and 2009 reported the incidence of preterm birth to be 22.3% of live births. Births and relevant complications accounted for around 11% of neonatal mortalities in 2011. Bangladesh was ranked 7 th out of the ten countries with the highest number of preterm births in 2010 (6). Preterm birth is a syndrome induced by multifactorial aetiology (7). These factors include socio demographic, obstetric gynecologic and health related factors (6)

Furthermore, preterm infants carry increased risk of a range of neurodevelopmental impairments and disabilities, including behavioral problems, school learning difficulties, chronic lung disease, retinopathy of prematurity, hearing impairment, and lower growth attainment [8]. Preterm birth affects not only infants but

also their families who may have to spend substantial time and financial resources to ensure care for their preterm infants; thus, preterm birth has increasing cost implications for families and health services [9].

The study will assist us to know about women's and families' personal journeys, and barriers and facilitators to care-seeking and continuity of care during pregnancy, birth and after birth; including priorities and values around ANC use, ultrasound use, and maternity care use, and identification of pregnancy complications and signs of preterm labour. Moreover, the study will assist health care providers reduce the rates of neonatal and infant mortality by identifying risk factors that should be assessed in every pregnant woman. Therefore, the aim of this study is to explore the experience of women on her preterm delivery. We have conducted this study in Manikganj district. Manikganj, is a district in the Dhaka division. The district is comprised of seven Upazilas (sub district), each with an average population of 200,000. Compared to most of the districts in Bangladesh, this district has relatively higher antenatal care (ANC) coverage by a medically trained professional (85%) and an institutional delivery rate (~70%). The district has one district hospital, One Government Medical Collage, One Private Medical Collage, six upazila health complexes, and a network of public health facilities below the sub district level providing primary health care operated by the Ministry of Health and Family Welfare (MOHFW) of the Government of Bangladesh (Go B). In addition, there are about 36 private and NGO health facilities providing varying levels of care, including delivery care. But have selected three sub districts for conducting the study.

Objective of the Study

Overall Objective:

- ❑ To understand Women's lived experience on preterm birth delivery.

Broad Objective:

- ❑ To understand women's personal journey regarding her preterm birth delivery.
- ❑ To understand the barrier and facilitators to Care: during pregnancy, delivery and after delivery including priorities Antenatal care, Ultrasound and Child birth care.
- ❑ To identify the pregnancy complication and signs of preterm delivery.

METHODOLOGY

Study method:

This study is explorative in nature that seeks to gather information about women's lived experience on her preterm delivery. For the purpose, this study employed mixed method design that applies both Qualitative and Quantitative research methodology.

Qualitative research was used to understand about inner views of women regarding her preterm delivery. So, in these part In-Depth Interview (IDI) have taken using purposive sampling from the mother who gave birth preterm delivery (less than 37 weeks) in three sub districts of Manikganj. Purposive sampling has been used to select for the study purpose. On the other, Quantitative research was used to understand about the situation regarding preterm birth. Hence, the list of women who delivered preterm baby in last three months (October, November and December 2023 had been collected from different birthing facilities of the study area (70 birthing hospitals).

Study Area:

The Study has conducted in three sub district (Manikganj Sadar, Saturia, Ghior) of Manikganj District. There are some logical reasons behind area selection:

- ➢ Approximately 10,000- 12,000 births per year and 1200 preterm birth (less than 37 weeks);

- High proportion of facility births. (At par with National average or higher);
- Having two medical college and one district hospital that can provide Comprehensive emergency obstetric and newborn care (Cem ONC) facility, including caesarean section and these three hospital having minimum package of care for preterm newborn (care at birth, Kangaroo Mother Care, feeding support, respiratory support including Continuous positive airway pressure (CPAP) and Oxygen service).

Population of the Study:

As per definition of Preterm Women, Respondent was those women who gave birth before 37 completed weeks of Gestation Week.

Sampling Procedure and Sample size predetermines and Sources of Primary Data:

In Qualitative part, Purposive sampling has been used for this study and interviews were continued up to reaching saturation level. (13 IDI).

In Quantitative Part, we have listed 80 women, who gave birth before 37 weeks in last three months (October, November, and December of 2023) at different birthing facilities (70). After finalizing the questionnaire, Survey method was conducted to collect data, these questionnaire were contained both close ended and open ended and data were collected from face to face survey as well as telephone survey.

Secondary Data Collection:

Secondary data were collected from different governmental and NGO Publication, Research report, Journal etc.

Analysis and Interpretation of Data:

In Qualitative part, collected data has been analyzed in thematic directions. All interviewed (13 IDI) were recorded. After completion of the interview, the tapes were transcribed and translated into English. Transcription of qualitative data occurred in parallel to data collection. The transcriptions were then coded. After coding the themes were identified and reviewed.

In Quantitative part, All Collected data were analyzed by using Computer software Microsoft Excel. The findings from the analysis were present by table, charts and figures.

RESULT FROM THE STUDY

Socio-Demography Characteristic of the respondent:

Socio Demographic Characteristic of the Respondent		
	N= 80	**Percentage (%)**
Place of Living Area		
Manikganj Sadar	37	46.25
Ghior	20	25
Saturia	23	28.75
Age Range of the Respondents		

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Below 20	29	36.25
21-25	30	37.5
26-30	15	18.75
31- Upper	6	7.5
Education Level of the Respondent		
Primary	6	7.5
S.S.C	39	48.75
H.S.C	16	20
Bachelor/Degree	14	17.5
Masters	5	6.25
Occupation level Of the Respondent		
Garments Worker	2	2.5
Govt. Worker	6	7.5
Housewife	52	65
NGO Worker	2	2.5
Student	14	17.5
Business	4	5
Family Pattern of the Respondent		
Nuclear Family	30	37.5
Extended Family	50	62.5

The majority (46%) respondents were lived in Manikganj Sadar Area and rests of the respondents were lived in other two upazilla of Manikganj district. Almost half (48.75%) respondents have completed Secondary School of Certificate and have completed different level of schooling. It is significant that around 62.5% have lived in Extended family and most of the women are housewife (65%).

Antenatal Care (ANC) Service situation:

ANC checkup is very important for a pregnant Woman. Many woman are not taking ANC at the right time, so they are not aware of the problems of her pregnancy, there are many reasons behind not taking ANC at the right time, we have seen that most of the mothers are doing ANC checkup in the third trimester of their pregnancy, There are lots of reason behind taking ANC Later, In govt facility, they have go in a fixed time and fixed date. It is not easy for a woman to taking ANC such a tide schedule as they have engaged in different household work.

Cheek up related information

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	N=80	Percentage (%)
No of taking Antenatal Care visit		
One	2	2.5
Two	16	20
Three	36	45
Four	20	25
More than 4	6	7.5
Timestar of 1st Antenatal Care		
First Timestar	22	27.5
Second Timestar	49	61.25
Third Timestar	9	11.25
Place of taking Antenatal Care		
Private Hospital	55	68.75
Public Hospital	25	31.25
No of taking Ultrasound		
One	24	30
Two	43	53.75
Three	10	12.5
Four	3	3.75
Timestar of 1st Ultrasound		
One	18	22.5
Two	33	41.25
Three	29	36.25
Place of taking Ultrasound		
Private Hospital	72	90
Public Hospital	8	10

Earliest ANC checkup is required as soon as possible, as earliest ANC give an idea about the weight of the baby, the condition of the baby, but it appears that most of the mothers are doing ANC checkup at the very end of their pregnancy, there are various reasons behind it. Many are not sure about her pregnancy, family economic status, and cost of ANC etc.

According to a mother (recently gave birth),

I didn't understand that I was pregnant at first, then when I realized later, I didn't go to the hospital, as family members said that it would be better to go after a few days, so we can assure about expected date of delivery, so I was late. ***(IDI, Recently gave birth women, 21, Manikganj)***

By doing an Utrasonogram, it can easily identify the Gestation Age (GA) of women's Pregnancy, the condition of baby and as well as woman's overall condition, so the Ultrasonogram should be done as soon as possible, but most mothers do not want to do ultrasound earlier, because of the cost of Ultrasound are involved, they think that the Ultrasonogram can be done at the last moment of pregnancy. They think that last moment Ultrasound can explain the sex of baby, the weight of baby, the expected date of delivery etc. so, they do it later.

According to a mother (recently gave birth),

I am doing Ultrasonogram very late; I have to go to Manikganj to do Ultrasound, so I have done Ultrasound lately at the Gestation date of 35 weeks. By doing this Ultrasound I have ensured about the sex of baby and expected date of delivery. It was a boy baby. ***(IDI, Recently gave birth women, 22, Manikganj)***

Government hospitals also don't do routine Ultrasonograms, as private hospitals cost more, so woman go for the late ultrasounds.

According to a mother (recently gave birth),

When my labor pain had started, we went to Doyle hospital (Private Hospital) for delivery, after delivery, the doctor said that the baby was delivered preterm and having low birth.so the baby was referred from Doyal Hospital to Sadar Hospital, where baby was admitted to SCANU. ***(IDI, Recently gave birth women, 17, Ghior)***

Pregnancy Related Information		
	N=80	Percentage (%)
Age of Marriage		
Below 18	28	35
18-22	44	55
23-27	8	10
Age of 1st Pregnancy		
Below 18	12	15
18-24	61	76.25
25-30	7	8.75
Number of Child		
One	46	57.5
Two	24	30

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Three	8	10
Four	2	2.5
Place of Delivery		
Tertiary Level Hospital	12	15
Secondary Level Hospital	8	10
Private Hospital	58	72.5
Home	2	2.5
Mode of Delivery		
Caesarian Section	62	77.5
Normal Vaginal Delivery	18	22.5

Age of marriage:

Time of marriage for a girl is very important. In the context of our country, the age of marriage is set at 18, but we found that around 35% of women have married before the age of 18. Though Bangladesh has the highest prevalence of child marriage rate (51%) in South Asia and is among the 10 countries worldwide with the highest levels, says by UNICEF.

Again, about 15 % of girls have their first child before the age of 18. Almost half of the woman has delivered for the baby for the first time. According to a mother (recently delivered),

I got married three days after I finished my S.S.C examination and had conceived on my first period after marriage. ***(IDI, Recently gave birth women, 17, Ghior)***

Mode of delivery

There are about 70 delivery centers in the three upazila of Manikganj district, including both government and private centers. We found that that about 77% deliveries are doing by caesarean section and the remaining deliveries are through normal vaginal delivery. The national prevalence of cesarean section deliveries in Bangladesh was 32% wherein the division of Dhaka and Khulna showed highest prevalence (42.7%) while Sylhet showed the lowest (22.6%).

According to a mother (recently gave birth),

First I went to the hospital for my delivery, I went to the government hospital, it was night, and there was no doctor, I couldn't do the ultrasound there then, and I went to a private hospital to deliver the baby, the doctor said that my physical condition was not good, so I had to have a caesarean section. ***(IDI, Recently gave birth women, 21, Manikganj)***

A recently delivered woman have said that,

If I want to go to the hospital, i have to go by ten o clock in the morning, I can't go as i have a lot of work at home in the morning. Ifiwent to the afternoon, i can't find a doctor in the hospital. ***(IDI, Recently gave birth women, 27, Saturia)***

Right Place for delivery:

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A correct delivery center has much important for the delivery of woman, especially for those with a risk of breech or preterm delivery. Those who are likely to have breached or preterm delivery should be delivered in a hospital with excellent baby management or have CEMOC facility. But most people are not aware of this or don't have enough information, so they go elsewhere for delivery.

A recently delivered woman have said that,

If I had known that my baby would be born early and my baby would have to be admitted for SCANU, I would not have gone anywhere for delivery, I would have gone to that hospital where have the SCANU facility, my baby has suffered a lot. ***(IDI, Recently gave birth women, 21, Manikganj)***

Special Service for Preterm baby:

Premature babies have required special care, especially premature babies are suffering from lots of complications including breathing problems, and often seen that premature babies are underweighting, if the baby is not stable then the baby need to Special Care Neonatal Unit (SCANU) support. There are two types of Preterm babyhave identified. We found (57.5%) are the early preterm those are born before Gestation age of 32 weeks and (42.5%) were late preterm. From our data, we found that almost (63.75%) babies needed SCANU support, as most of the babies were preterm & unstable. Similarly those babies weights were less than 2000 gm also required KMC services. Around (20%) women have got KMC service.

Last baby's Profile		
	N=80	**Percentage (%)**
Sex of the baby		
Female	33	41.25
Male	47	58.75
Weeks of Delivery		
(24-28) Weeks	14	17.5
(29-32) Weeks	32	40
(33-36) Weeks	34	42.5
Birth Weight Range		
Below 1499	14	17.5
1500-1999	40	50
2000-2499	24	30
2500- Upper	2	2.5
Special Service		
Special Care Neonatal Unit (SCANU)	51	63.75
Kangaroo Mother Care (KMC) Service	11	20.37037

A recently delivered woman have said that,

I have delivered a preterm baby at the Gestation age of 34 weeks approximately 1800 gm. After seeing my baby the Pediatrician has referred my baby to SCANU. Nurses are doing all the care of my baby at SCANU. ***(IDI, Recently gave birth women, 20, Saturia)***

A recently delivered woman have said that,

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In front of SCANU, the hospital authority have arranged a meeting and informed us how to take care of baby, how to bath the baby and how to feed the baby after reaching home. ***(IDI, Recently gave birth women, 25, Ghior)***

Preterm induction:

Complication found by the respondent during Pregnancy		
	N=80	Percentage (%)
Antepartum Haemorrhage (APH)	17	21.25
Prelabor Rupture of Membranes (PROM)	42	52.5
Less Fetal Movement (LFM)	43	53.75
High Blood Pressure	12	15
Vomiting	54	67.5
Urinary Infection	24	30

A premature baby can be born due to various physical problems of the mother during her pregnancy. In case of some mother, it has seen that she has high blood pressure, vomiting problem during pregnancy, urinary infection, less fetal movement and also PROM. Sometime one patient also faced several problems too. From our data we found that most of the pregnant have vomiting issue (67.5%) during her pregnancy. Less fetal movement, high blood pressure and urinary infection stimulate to preterm delivery. From the data set, we found that around 53% women faced LFM issue during her pregnancy. A recently delivered woman have said that,

During my pregnancy, i suddenly noticed that the baby was not moving anymore (LFM), then I got worried, then I rushed to the hospital and the delivery was done after going to the hospital. ***(IDI, Recently gave birth women, 18, Saturia)***

DISCUSSION

Bangladesh was ranked 7th on the top-10 country list for high preterm birth rates in 2010 [1]. Although recent global estimates reported that sub-Saharan Africa and South Asia account for the majority (60%) of the globally estimated 14.9 million annual preterm births [1], available data on preterm birth rates from South Asian countries are scarce. Our estimate of 22.3% is consistent with data from similar regional community-based research sites in southern Nepal (NNIPS, Sarlahi, Nepal - 19%, (1)

Present study revealed that around 62.5% have lived in Extended family and most of the women are housewife (65%). Another study by Mili Khatun found that around 75% women were housewife and approximate 60% lead extended family. (10)

Age of marriage and first birth is an important issue. Present study revealed that around 15 % of girls have their first child before the age of 18. Almost half of the woman has delivered for the baby for the first time. Another study found that 26.5% of women who gave birth for the first time were below the 18 years. (11)

Education is the dimension of socioeconomic status that most strongly and consistently predicts health status A low level of education limits a person's access to employment and other social resources, which in turn limits

his/her capacity to integrate within society and thereby increases the risk of subsequent poverty. Maternal education below Secondary level plays as a risk factor for preterm birth. (12-13)

We found that male sex was associated with preterm birth relative to girls, in our study we found around 58% are male which is consistent with previous studies in which 55% of all preterm births are boys (14).

Studies from several developing countries have found that "no ANC visit" is a significant risk factor for preterm birth, ranging from 1.3 times to 7 times higher than for women having any ANC visit .Visits to ANC centers and/or receiving ANC may raise awareness of the need for skilled delivery care (15) or give women and their families' familiarity with the health services available at health centers or the skills of the service providers, thus enabling them to navigate and receive necessary care when a crises arises (16).

We found (57.5%) are the early preterm those are born before Gestation age of 32 weeks and (42.5%) were late preterm. From our data, we found that almost (63.75%) babies needed SCANU support, as most of the babies were preterm & unstable. Similarly those babies weights were less than 2000 gm also required KMC services. Similarly another study also revealed that 62.5% preterm unstable baby needed SCANU support for saving the life of the preterm baby. (17) So, from discussion we have known a mixed experience of women regarding her preterm delivery.

RECOMMENDATIONS FROM THE STUDY

From the study we have recommended in two different ways.

For Medical Service Sector:

- Increase the **provision of ANC checkup** facilities at lower level hospital
- Provision of **USG service 24/7** in every hospital.
- Increase **Workforce** in the hospital.
- Strong **linkage between Lower level hospitals to upper level hospital** must ensure.
- Focus on **Hospital delivery** by medically trained person.
- Provision of Special Care Neonatal Unit **(SCANU)** should ensure at level 2 hospital.

In Social Awareness:

- Early Marriage should stopped from the society.
- Woman should take first pregnancy after 20 age of years.
- Pregnant woman should be encouraged to get earliest ANC & USG.
- People should be aware about the care preterm baby.

STRENGTH &LIMITATIONS OF THE STUDY

Perhaps this was the first time we attempted to investigate women's experience regarding her preterm delivery at Manikganj. As these study followed Mixed methodology, so it can easily identified about women's lived experience both Statistically & Explanatory on her preterm delivery. All information were used confidentially only for these study. However we have some limitations. First, the lists of mothers were collected from different birthing facility of Manikganj. It was not possible to collect all data, mostly those who were delivered in home. Second, gestational age was calculated from last menstrual period and by doing Ultrasound, these might sometimes be prone to errors. Third, some potential confounders such as previous preterm births,

preterm stillbirth, cervical length, maternal malaria, infections, biological and genetic markers, etc were not included in the study. Fourth, we were not conducted any interviewed those woman, whose babies were died. Lastly, some information was collected on the basis of recall bias method.

CONCLUSION

Preterm birth is a leading cause of neonatal and infant mortality as well as short- and long- term disability. In these studies women's experience regarding her preterm delivery were full of sufferings. Proper timing of marriage must have to followed, the national guideline about 18 and 1st pregnancy should take after 20 years old. As well as, a correct delivery center has much important for the delivery of woman, especially for those with a risk of breech or preterm delivery. Those who are likely to have breach or preterm delivery should be delivered in a hospital with excellent baby management or have CEMOC facility. Additionally all lower level (primary) facilities including the private sector where births occur in the geographically defined health administrative area should linked to the high level facility.

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