

# Increased Risk of Preterm Labour in Younger Pregnant Females

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## ABSTRACT

**Objective:** To determine the risk of preterm birth in younger pregnant females.

**Study Design:** Retrospective study,

**Place and Duration of Study:** This study was carried out at the Obst. and Gynae National Hospital Sargodha from September 2011 to December 2011.

**Materials and Methods:** All of the 76 women who were admitted with preterm labor were included in the study. They were assessed according to ACOG criteria. The admitted patients were managed according to the standard protocol. Gestational age was calculated and preterm pregnancy was confirmed by scan. Associated maternal risk factors and pregnancy complications were also evaluated.

**Results:** There were 76 women who admitted with the complaint of preterm labor. Out of these, 29 (38%) were in true labor and delivered. Rest of them was in threatened labor and managed accordingly. 69.7 % of the women who delivered as preterm were in the age group of 15 -25 years. Associated maternal risk factors and pregnancy complication were also determined.

**Conclusion:** It is concluded from this study that preterm labor associated with preterm birth is more prevalent in younger pregnant females.

**Key Words:** Preterm birth, Preterm labour, Younger Pregnant

## INTRODUCTION

Preterm birth is one of the leading problems in the field of reproductive medicine. It denotes the delivery that occurs at more than 20 and less than 37 weeks of gestational age.<sup>1</sup> The increasing incidence of preterm births has diverted the attention to evaluate its various aspects.<sup>2</sup> Preterm birth may follow the preterm labor or it may be spontaneous. Preterm labor is defined as the start of the regular uterine contractions along with the associated cervical changes after 20 weeks and before 37 weeks of gestation or 259 days of pregnancy. If the associated cervical changes are absent then this process is termed as threatened preterm labor.<sup>3</sup> It usually precedes the Preterm birth. Spontaneous Preterm birth is the start of the process of parturition without any overt maternal or fetal illness.<sup>4</sup>

In this study we retrospectively followed the women who were admitted with the preterm labor to the Gynecology and Obstetrics Department of DHQ hospital Sargodha for antenatal evaluation from September 2011 to December 2011.

## MATERIALS AND METHODS

All of the 76 women who were admitted with the preterm labor to the Gynecology and Obstetrics Department of DHQ hospital Sargodha from September 2011 to December 2011 were included in this study. Data was collected retrospectively from the admission charts. Preterm labor was confirmed for every patient according to ACOG criteria which labeled the patient having preterm labor if the patient had 4 contractions in

20 minutes or 8 in 60 minutes in addition to progressive changes in the cervix and cervical dilatation more than 1 cm with cervical effacement of 80 percent or more. The gestational age was calculated from the first day of the last menstrual period and confirmed by the ultrasound scan. The pregnancy was taken as preterm if it was less than 259 days. The admitted patients were managed according to the standard protocol after admission.<sup>5</sup>

The presence of maternal risk factors associated with preterm birth such as hypertension, asthma, and infectious diseases were also determined. Data about pregnancy complications such as diabetes, hypertension, anemia and vaginal bleeding was collected by the evaluation of hospital admission charts. The patients were followed upto the delivery and the gestational age at the time of delivery was determined. The patients were studied according to their age groups, associated risk factors, and complications of pregnancy and outcomes of pregnancy. Data was entered and analyzed using computer program SPSS- 11.

## RESULTS

During the time period from September 2011 to December 2011, total number of pregnant women who attended the National Hospital Sargodha was 327. Out of this 76 were admitted with preterm labor. They were divided into various groups according to maternal age (Table 1). Out of these patients, 29 were found to be with true labor and delivered afterwards. Associated maternal risk factors

and pregnancy complications were determined (Table 2 and Table 3).

**Table No.1; Maternal age associated with preterm birth**

Maternal age	No. of patients	Percentage
15 – 25	53	69.73
26 – 35	19	25
36 – 45	4	5.26

**Table No.2: Maternal risk factors associated with preterm birth**

Maternal factors	No. of patients	Percentage
Hypertension	6	7.8
Asthma	0	0
Hepatitis B	0	0
Hepatitis C	2	2.6

**Table No.3: Associated pregnancy complications**

Complication	No. of patients	Percentage
Diabetes	5	6.50
Anemia	35	46.05
Vaginal bleeding	17	22.36
PROM	14	18.42

## DISCUSSION

In this retrospective study, we included 76 women with preterm labor who were admitted to the Gynecology and Obstetrics Department of DHQ hospital Sargodha from September 2011 to December 2011. They were assessed according to ACOG criteria for preterm labor. It was found that 29 women were in true preterm labor and no therapeutic measure taken proved to be successful to stop the preterm delivery. It is reported that the frequency of contractions in patients who end with preterm delivery is relatively more.<sup>6</sup>

In the present study, only the preterm births following the preterm labor were included. However reports are available which show that in addition to preterm labor, maternal and fetal indications also lead to preterm birth. This is because of better facilities in maternal and fetal management.<sup>7, 8</sup> It is stated in the published data that 40 – 45 % of the preterm births usually follow the preterm labor.<sup>9</sup>

In this study, we evaluated the maternal risk factors associated with the preterm birth. It was found that presence of hypertension, respiratory problems like asthma and infectious diseases like hepatitis can increase the risk of preterm birth. It is suggested that infections trigger the preterm labor by the activation of immune system and the production of inflammatory cytokines leading to the synthesis of prostaglandins which in turn stimulate the uterine contractions.<sup>10, 11</sup>

The relation of pregnancy complications like diabetes, low Hb level and vaginal bleeding was also determined

in this study. Systemic review shows that severe maternal anemia can lead to preterm birth.<sup>12</sup>

## CONCLUSION

It is concluded from this study that preterm labor associated with preterm birth is more prevalent in younger pregnant females. The development of preterm labor even in the absence of cervical changes should be considered as a potential risk for preterm birth.

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