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## A retrospective study to identify the maternal and fetal risk factors during antepartum and intra-partum among postnatal mothers at N.M.C.H, Nellore

**C Hemalatha and P Latha**

### Abstract

**Background:** The chance of a woman dying during pregnancy and childbirth is high due to various risk factors during antenatal and intranatal period such as, bleeding (antepartum and postpartum), preeclampsia, sepsis, prolonged labor, obstructed labor, and complications related to abortion etc.

**Aim:** The aim of the study was to identify the maternal and fetal risk factors during antepartum and intra-partum among post natal mothers.

**Objectives:** 1. to assess the maternal risk factors in ante partum and intrapartum period. 2. To assess the fetal risk factors in ante partum and intrapartum period. 3. To find out the association between maternal and fetal risk factors with the selected demographic variables.

**Methods:** A quantitative approach with descriptive design, 100 postnatal mothers were selected by using Non-probability convenience sampling technique.

**Results:** Majority of the mothers had mild maternal and fetal risk factors during antenatal and intranatal period. And there was a significant association found between maternal and fetal risk factors during antenatal and intra-natal period with demographic variables like age, education, occupation, parity and BMI.

**Conclusion:** The study concluded that majority of the mothers had mild maternal and fetal risk factors during antenatal and intra-natal period.

**Keywords:** Maternal And Fetal Risk Factors, Antepartum, Intra-partum, Postnatal Mothers

### Introduction

As the child grows in his mother's womb, it is at a delicate and vulnerable stage of life. Many of the choices the mother makes and her practices can affect the child for the rest of his life. Having a healthy pregnancy is one of the best ways to promote a healthy birth. Getting early and regular prenatal care improves the chances of a healthy pregnancy. There are several factors affecting growth of the intrauterine life contributing to the optimum<sup>[1]</sup>.

Some of the risk factors are, lower BMI, smoking & alcohol use during pregnancy, bleeding (antepartum and postpartum), preeclampsia, sepsis, preterm labour, prolonged labor, obstructed labor, complications related to abortion. The other risk factors are, advanced age, teenage pregnancy, anemia, RH incompatibility, hydramnios, malpresentations, placental insufficiency, exposure to pollution, teratogens and postpartum hemorrhage. And the Fetal risk factor includes chronic fetal hypoxia, low birth weight, intra uterine death, congenital malformation and unexplained causes<sup>[4]</sup>.

A retrospective study was conducted to assess the risk factors for antepartum fetal deaths. Subjects were selected from a birth cohort from a linked birth and death certificate database. Cases were 164 antepartum fetal deaths and controls were drawn from a random sample of 313 births surviving at least 28 days. Information was collected from birth and death certificates, hospital records and home interviews. Mothers with previous low birth weight infant, mothers with hypertension, diabetes, bleeding during pregnancy; no or inadequate prenatal care; congenital malformation and intrauterine growth restriction. The highest population attributable factors were for inadequacy of prenatal care (40%), hypertension (27%), intrauterine growth restriction (30%) and absence of a long-standing union (26%). Proximal biological risk factors are most important in antepartum fetal deaths. However, distal factors mother's low education and marital status are also significant.

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Improving access to and quality of prenatal care could have a large impact on fetal mortality.<sup>[5]</sup>

**Need for the study**

Smoking, alcohol consumption, and obesity were demonstrated to be independent risk factors even when adjusting for other relevant variables such as pre-existing diabetes, hypertension, maternal age and race. Because these are modifiable risk factors for stillbirth, preconception care should be directed at smoking and drinking cessation and optimizing pre-pregnancy weight. Women who quit smoking from their first to second pregnancy have been shown to reduce their risk of stillbirth to the same level as nonsmokers in the second pregnancy.<sup>[2,3]</sup>

A case-control study was conducted to determine the antenatal and intrapartum risk factors for severe birth asphyxia among babies delivered by women admitted as emergency obstetric referrals. Cases were newborn term babies (and their mothers) with a 5-minute Apgar score 4 or less (birth asphyxia). Controls were term newborn babies with a 5-minute Apgar score more than <sup>[4]</sup>. antepartum or intrapartum anaemia, antepartum hemorrhage and severe pre-eclampsia/eclampsia were significantly associated with birth asphyxia; the respective ORs and 95% CI were 1.73 (1.09-2.75), 5.65 (3.36-9.50), 2.12 (1.11-4.05) and 10.62 (2.92-38.47). Augmentation of labour with oxytocin, premature rupture of membranes, meconium staining of liquor amni, vacuum extraction, caesarean section, low birth weight and mal-presentations were significantly associated with birth asphyxia with ORs of 5.76 (2.20-15.05), 2.23 (1.31 -3.37), 6.40 (2.76-14.82), 2.16 (1.28-3.67), 2.36 (1.07-5.20) and 6.32 (3.57-11.20) respectively. Early recognition of these complications among emergency obstetric referrals, followed by prompt and appropriate management, may reduce the perinatal deaths from birth asphyxia.<sup>[6]</sup>

**Problem statement**

A Retrospective Study to Identify the Maternal and Fetal Risk Factors during Antepartum and Intrapartum among Postnatal Mothers at N.M.C.H, Nellore.

**Objectives**

1. To assess the maternal risk factors in ante partum and intrapartum period.
2. To assess the fetal risk factors in ante partum and intrapartum period.
3. To find out the association between maternal and fetal risk factors with the selected demographic variables.

**Delimitations**

The study is delimited to;

- Postnatal mothers attending NMCH, Nellore.
- The sample size is 100 Antenatal mothers.
- The duration for data collection is 6 weeks.

**Materials and methods**

**Research Approach:** Quantitative research approach

**Design:** Descriptive design.

**Setting:** This study was conducted among postnatal mothers at NMCH, Nellore.

**Population: Target Population:** The Target Population includes all postnatal Mothers.

**Accessible Population:** The postnatal mothers who were admitted in NMCH.

**Sample size:** The sample size of the study was 100 postnatal mothers.

**Sampling Technique:** Non-probability Convenience sampling technique.

**Sampling criteria**

**Inclusion Criteria**

- Primigravida and Multigravida Mothers
- Postnatal Mothers admitted in NMCH, Nellore.
- Postnatal Mothers who were willing to participate in the Study.

**Exclusion Criteria**

- Postnatal Mothers who are not present at the time of data collection
- Neonates with High Risk Conditions.

**Description of the Tool**

The tool consists of two sections

**Section-I:** Demographic data: It contains age, parity, Height, Weight, BML, education, family income, dietary pattern, type of family, family history of risk factors during antepartum and intra partum.

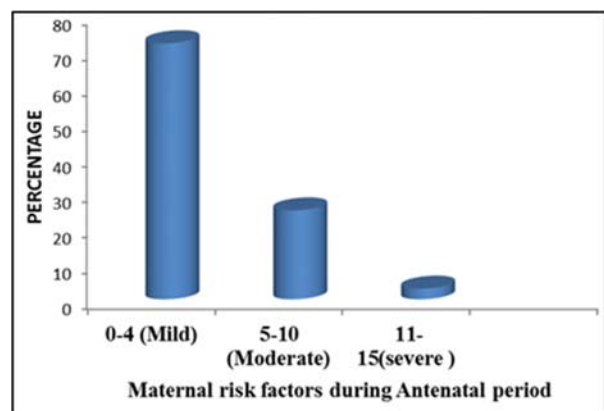
**Section-II:** A checklist to identify the risk factors during antenatal and intranatal period.

**Results & discussion**

**Table 1:** Frequency and Percentage distribution of Maternal Risk factors during Antenatal period (N=100)

Maternal risk factors during antenatal period	Frequency(N)	Percentage (%)
0-4 (Mild)	72	72
5-10 (Moderate)	25	25
11-15 (Severe)	3	3
Total	100	100

Table-1 shows that among 100 postnatal mothers, 72(72%) had Mild risk factors, 25(25%) had Moderate risk factors and 3(3) had severe maternal risk factors during antenatal period.

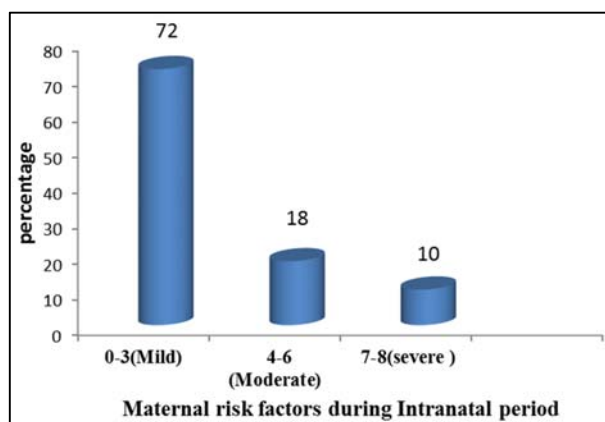


**Fig 1:** Percentage distribution of mothers based on Maternal Risk factors during Antenatal period

**Table 2:** Frequency and Percentage distribution of maternal risk factors during Intra-natal period (N=100)

Maternal risk factors during intra-natal period	Frequency(n)	Percentage (%)
0-3(Mild)	72	72
4-6 (Moderate)	18	18
7-8 (Severe )	10	10
Total	100	100

Table-2 shows that among 100 postnatal mothers, 72(72%) had Mild risk factors, 18(18%) had Moderate risk factors and 10(10) had severe maternal risk factors during intranatal period.

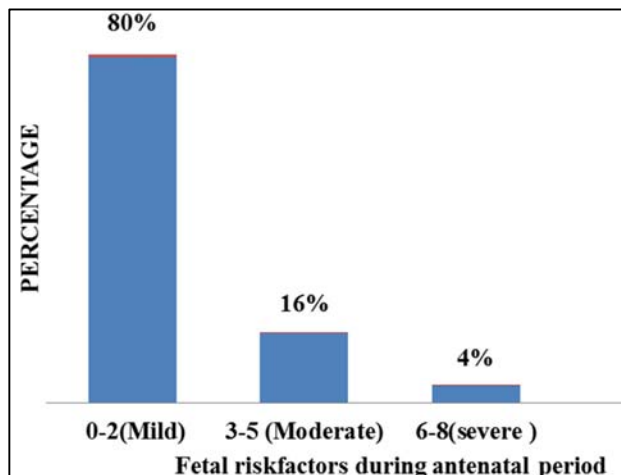


**Fig 2:** Percentage distributions of mothers based on Maternal Risk factors during Intranatal period

**Table 3:** Frequency and Percentage distribution of Fetal risk factors during antenatal (N=100)

Fetal Risk factors during antenatal period	Frequency (n)	Percentage (%)
0-2 (Mild)	80	80
3-5 (Moderate)	16	16
6-8 (Severe )	4	4
Total	100	100

Table-3 shows that among 100 postnatal mothers, 80(80%) had Mild risk factors, 16(16%) had Moderate risk factors and 4(4) had severe fetal risk factors during antenatal period.

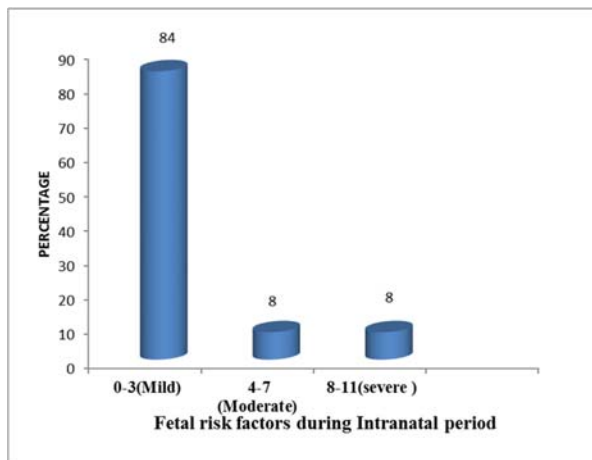


**Fig 3:** Percentage distributions of Fetal Risk factors during antenatal period

**Table 4:** Frequency and Percentage distribution of fetal risk factors during Intranatal (N=100)

Fetal Risk factors during antenatal period	Frequency (n)	Percentage (%)
0-3(Mild)	84	84
4-7 (Moderate)	8	8
8-11(severe )	8	8
Total	100	100

Table-4 shows that among 100 postnatal mothers, 84(84%) had Mild risk factors, 8(8%) had Moderate risk factors and 8(8) had severe fetal risk factors during intranatal period.



**Fig 4:** Percentage distributions of Fetal Risk factors during Intranatal period.

**Association between maternal and fetal risk factors during antenatal and intra-natal period with demographic variables of postnatal mothers**

There was a significant association found between maternal and fetal risk factors during antenatal and intra-natal period with demographic variables like age, education, occupation, parity and BMI.

**Major findings of the study**

- The study reveals that, among 100 postnatal mothers, majority of the mothers had mild maternal and fetal risk factors during antenatal and intra-natal period.
- There was a significant association found between maternal and fetal risk factors during antenatal and intra-natal period with demographic variables like age, education, occupation, parity and BMI.

**Conclusion**

- The study concluded that majority of the mothers had mild maternal and fetal risk factors during antenatal and intra-natal period.

**Recommendations**

- A similar study can be conducted for larger group of samples.
- An experimental design can be done to assess the effectiveness of information booklet on risk factors of pregnancy.
- A similar study can be done by using various methods of imparting knowledge and evaluating its effectiveness.

- A similar study can be done in different clinical settings.

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