



## EPIDEMIOLOGICAL STUDY ON COMPLICATIONS OF PREGNANCY

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### ABSTRACT

Pregnancy is the time during which one or more offspring develops inside a woman. An embryo is the developing offspring during the first eight weeks following conception, after which, the term *fetus* is used until birth. About 213 million pregnancies occurred in 2012, of which, 190 million were in the developing world. Globally, about 800 women die every day of preventable causes related to pregnancy and childbirth and the shocking fact that 20 per cent of these women were from India. Annually, it was estimated that 55,000 women die due to preventable pregnancy-related causes in India. The survey was conducted during 2014-15 to determine the major complications in pregnancy and possible treatment options available. A total of 90 physicians from

three districts were surveyed for their opinion on the complications in the pregnancy and the possible treatment options were recorded. It was observed that the complications in pregnancy were increased with age and it was observed in 44.3% of women over the age of 45. Miscarriage remain major complication in pregnancy (27.7%) followed by low amniotic fluid (24.2%), premature labor (21%) and pre-eclampsia (13.5%).

**KEYWORDS:** Complications in Pregnancy, Premature labor, Pre-eclampsia, Amniotic fluid.

### INTRODUCTION

Pregnancy is the time during which one or more offspring develops inside a woman.<sup>[1]</sup> Pregnancy can occur by sexual intercourse or assisted reproductive

technology.<sup>[2]</sup> Childbirth typically occurs around 40 weeks from the last menstrual period (LMP).<sup>[3]</sup> This is just over nine months, When measured from conception it is about 38 weeks.

An embryo is the developing offspring during the first eight weeks following conception, after which, the term *fetus* is used until birth. Symptoms of early pregnancy may include missed periods, tender breasts, nausea and vomiting, hunger and frequent urination. Pregnancy may be confirmed with a pregnancy test.<sup>[4]</sup> About 213 million pregnancies occurred in 2012, of which, 190 million were in the developing world and 23 million were in the developed world.<sup>[5]</sup> The number of pregnancies in women ages 15 to 44 is 133 per 1,000 women. About 10% to 15% of recognized pregnancies end in miscarriage.

Globally, about 800 women die every day due to pregnancy related complications and 20 per cent of these women were from India. In 2013, complications of pregnancy resulted in 293,000 deaths, down from 377,000 deaths in 1990.<sup>[6]</sup> Annually, it was estimated that 55,000 women die due to preventable pregnancy-related causes in India. The risk of death from complications of pregnancy (Maternal Mortality) was decreased during the past decades.

Common causes include maternal bleeding, complications of abortion, high blood pressure of pregnancy, maternal sepsis and obstructed labor. Globally, 40% of pregnancies are unplanned. Half of unplanned pregnancies are aborted. Among unintended pregnancies in the United States, 60% of the women used birth control to some extent during the month pregnancy occurred.<sup>[7]</sup>

The Maternal Mortality Ratio – the number of maternal deaths per 100,000 live births reduced from 212 in 2007 to 197 in 2012 and it is further reduced to 174 in 2015. The Govt of India played an important role in this through the programs like Janani Shishu Suraksha Karyakaram (JSSK).<sup>[8]</sup>

Antenatal care (ANC) is intended to detect and treat or prevent complications of pregnancy.<sup>[9]</sup> Ectopic pregnancy, Toxemia (pregnancy induced hypertension PIH), precursor of eclampsia, Diabetes, Infections, Anemia, Birth defects/chromosomal anomalies screening. Miscarriage, low amniotic fluid, premature labor, pre eclampsia, gestational diabetes, placenta previa and ectopic pregnancy were the some of the important complications observed in the pregnant women.<sup>[10],[11]</sup>

The present study was undertaken to determine the percentage distribution of pregnancy complications, its preventive measures and suitable treatment options.

## MATERIALS AND METHODS

### Designing of survey form

A well prepared survey questionnaire was distributed randomly to the physicians in the selected three districts (Kadapa, Kurnool and Chittoor) which comprised of closed/open ended questions. Those physicians who were interested to participate in the survey were asked to answer the questions.

### Distribution of questionnaires

Survey form was distributed to the selected physicians in the areas. The physicians who cooperated were interviewed and information was collected from physician through survey form. A total of 90 physicians from the selected three districts are surveyed. Physicians are selected based on their qualification viz., MBBS (DGO), MBBS (OBG) and their opinion on the different complications of the pregnancy were recorded. The main complications were recorded were miscarriage, low amniotic fluid and premature labor.

### Data analysis

Data collected during survey were analyzed by using online Chi-square test. The P-values obtained and interpreted.

**Table No. 1: % Distribution of complications in different age groups.**

S.No	Age group in years	% distribution
1,	18-25	15.36
2.	25-35	22.78
3.	35-45	34.46
4.	>45	44.33

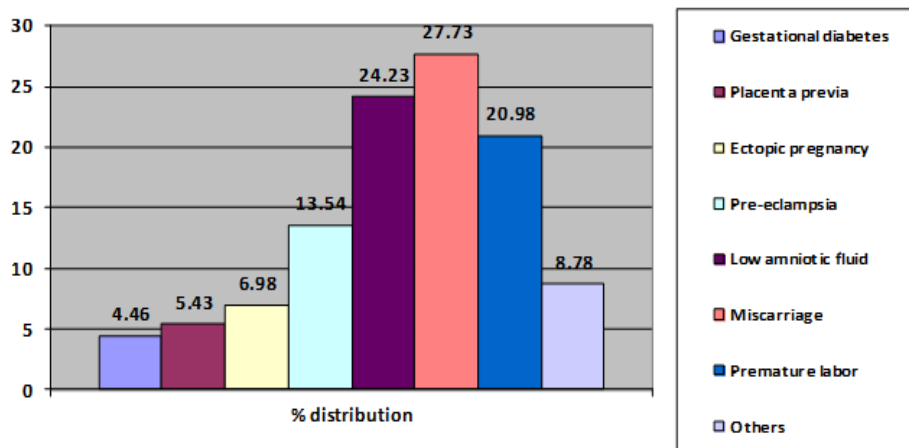


Fig. No. 1: Percentage distribution of complications among pregnant women.

Table No. 2:

S. No	Symptoms	% Distribution
1.	Edema	45.07
2.	Epigastric pain	14.11
3.	Obesity	31.69
4.	Diabetes	7.35
5.	Multiple gestations	25.34
6.	Dysfunction of blood cells	7.71
7.	Kidney diseases	9.45
8.	others	8.48

Table No. 3:

S. No	Symptoms	% distribution
1,	Hemorrhage	57.5
2.	Anemia	38.46
3.	Placental abruption	20.61
4.	Cramps	13.43
5.	Shock	10.92
6.	Others	10.92

Table No. 4:

S.No	Symptoms	% Distribution
1,	Birth defects	18.76
2.	Miscarriage	17.23
3.	Increase trauma	12.53
4.	Others	13.24

## RESULTS

From the survey it was evident that complications in the pregnancy increase with the age. Almost 44.3% of pregnant women who were at the age of above 45 years are associated with

complications in the pregnancy (Table No.1). It is observed that miscarriage (early pregnancy loss) remain major complication in pregnancy (27.7%) followed by low amniotic fluid (24.2%), premature labor (21%) and pre-eclampsia (13.5%) (Figure N0.1).

Physicians also responded that Bleeding and cramping were the most common symptoms of miscarriage in pregnant women and also short period between the pregnancies, pre-eclampsia,<sup>[13]</sup> uterine or cervical abnormalities, PPRM (preterm premature rupture of membranes), placenta previa and placental abruptions are the important risk factors for premature labor.<sup>[14]</sup> From the research it is evident that obesity and multiple gestations are important symptoms in pre-eclampsia and observed in 45.07%, 31.69% and 25.34% of the patients respectively (Table No.2).

From the data analysis it was identified that hemorrhage, anemia and placental abruptions are important symptoms generally observed in pregnant women and majorly responsible for placenta previa.<sup>[15]</sup> (Table N0.3). Gestational diabetes was another complication in pregnancy that was observed in approximately 4.46% of the pregnant women. Birth defects, miscarriage and increased trauma were the important symptoms of gestational diabetes in pregnant women<sup>[16]</sup> and observed in 18.76%, 17.23% and 12.53% of the pregnant women. (Table N0.4).

## DISCUSSION

Complete and accurate identification of all pregnancy related complications and proper actions could be taken to reduce the pregnancy related deaths. The actions taken to decrease pregnancy-related mortality will be determined by the findings of the review process and analysis. Reducing the mortality rate of childbirth purely dependant on the extent of reducing the complications. implementing nutrition programs; improving preconception care; and improving diagnosis and treatment of sexually transmitted diseases to prevent ectopic pregnancy and intrapartum and postpartum infections; adherence to their physicians' instructions or recommendations; and improving prenatal care, labor and delivery techniques, and postpartum follow-up. These strategies reduce the complications in a quite satisfactory manner.

## CONCLUSION

Though, the risk of death from complications of pregnancy has decreased during past few decades in India, it continues to remain higher than developed countries. It was observed that

maximum numbers of complications were recorded in the age group of above the age of 45 years (44.3%). Miscarriage remains the major complication in the pregnancy followed by low amniotic fluid (24.2%), premature labor (21%) and pre-eclampsia (13.5%).

## REFERENCES

1. Annonymus<sup>1</sup>, The Pregnancy book, NHS constitution, DH publications orderline, 2013.
2. Shehan, Constance L. The Wiley Blackwell Encyclopedia of Family Studies, John Wiley & Sons, 2017; (4): 406.
3. Abman, Steven H. (2011). Fetal and neonatal physiology, Philadelphia: Elsevier/Saunders, 4<sup>th</sup> edition, 2011; 46–47.
4. Taylor, D; James, EA (2011). "An evidence-based guideline for unintended pregnancy prevention". *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 2011; 40(6): 782–93.
5. Sedgh, G; Singh, S; Hussain, R, "Intended and unintended pregnancies worldwide in 2012 and recent trends". *Studies in Family Planning.*, 2014; 45(3): 301–14.
6. GBD 2013 Mortality and Causes of Death, Collaborators (17 December 2014). "Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013". *Lancet.*, 385: 117–171.
7. Joseph Hurt K, Matthew W. Guile, Jessica L. Bienstock, Harold E. Fox, Edward E. Wallach (eds.). *The Johns Hopkins manual of gynecology and obstetrics* (4<sup>th</sup> ed.). Philadelphia: Wolters Kluwer Health / Lippincott Williams & Wilkins, 2016; 382.
8. Lama Rimawi, "Premature Infant". *Disease & Conditions Encyclopedia*. Discovery Communications, LLC. Archived from the original on 19 January 2008.
9. Ornella Lincetto, Seipati Mothebesoane-Anoh, Patricia Gomez, Stephen Munjanja, Antenatal Care, *Opportunities for Africa's Newborns*; 2005; 51-62.
10. WHO. World Health Report, Make every mother and child count, Geneva, Switzerland: World Health Organization, 2005.
11. Bryce J, Boschi-Pinto C, Shibuya K, Black RE. WHO estimates of the causes of death in children. *Lancet*, 2005; 365: 1147-1152.
12. Frost F, Starzyk P, George S, McLaughlin JF. Birth complication reporting: the effect of birth certificate design. *Am J Public Health*, 1984; 74: 505–506.
13. Dekker G, Sibai B. Primary, secondary and tertiary prevention of preeclampsia. *Lancet*, 2001; 357: 209–15.

14. Gross T, Sokol RJ, King KC. Obesity in pregnancy: risks and outcome. *Obstet Gynecol.*, 1980; 56: 446–450.
15. Czeizel AE, Rockenbauer J, Siffel CS, Varga E. Description and mission evaluation of the Hungarian Case–Control Surveillance of Congenital Abnormalities, 1980–1996. *Teratology*, 2001; 63: 176–85.
16. Cnattingius S, Bergström R, Lipworth L, Kramer MS. Prepregnancy weight and the risk of adverse pregnancy outcomes. *N Engl J Med.*, 1998; 338: 147–152.