



## A STUDY ON ANTENATAL MORBIDITIES IN A CORPORATION REFERRAL HOSPITAL, BANGALORE.

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**ABSTRACT** Maternal deaths have been described as the tip of the iceberg and maternal morbidity as the base. Over the last decade, identification of maternal morbidity emerged as an alternative investigation of maternal deaths. World-wide studies regarding maternal mortality are of highest importance but studies regarding obstetric morbidity are still sparse, hence in this context the present study was undertaken to know the morbidities in antenatal period.

**Objectives:**

1. To describe socio demographic profile of study subjects.
2. To assess the antenatal morbidities among study subjects.

**Subjects and Methods:** A longitudinal study done in a Municipal corporation referral hospital Banashankari attached to KIMS, Bangalore. A total of 250 pregnant women were included in the study by using purposive sampling method after fulfilling inclusion and exclusion criteria. Data was collected using pre-tested; semi structured proforma, which had details on socio-demographic variables, types of morbidities were noted done. Subsequently, all the pregnant women were followed up until delivery day and details were collected when they came to the hospital check-up or by telephonic conversations. **Results:** Among 250 study subjects, majority (46.4%) were in the age group of 21-25 years and mean age  $\pm$  SD was 23.7 $\pm$ 3.7 years. Majority i.e., 203(81.2%) had one/ more morbidities during the antenatal period. 46(18.4%) ,90(36.0%) 100(40.0%) pregnant women had anaemia in 1st, 2nd and 3rd trimester respectively. **Conclusion:** Majority of study subjects had one or more morbidities during their entire antenatal period and the most common morbidity was anaemia.

**KEYWORDS :** Anaemia, Morbidity, pregnant women.

**INTRODUCTION:**

Pregnancy is the most important eventuality in a women's life. Many women become unwell during pregnancy due to many reasons such as lack of medical care or ignorance. Pregnancy comprises a high risk of morbidity and mortality due to associated physiological stress. Many physiological changes that occur in the pregnant state and that occur in several systems such as the cardiovascular, respiratory, renal, hematologic and endocrine systems, all these stresses the reserve of the body and may compromise responses needed to strive against diseased state and if any disruption in this normal physiological change it leads to either morbidity or mortality.<sup>1</sup> Maternal morbidity is "any health condition attributed to and/or aggravated by pregnancy and childbirth that has a negative impact on the woman's wellbeing". In 2011 WHO published guidelines to record the most severe forms of such morbidity in the form of a "maternal near miss" defined as "the near death of a woman who has survived a complication occurring during pregnancy or childbirth or within 42 days of the termination of pregnancy".<sup>2</sup> Frequency of maternal morbidity can be considered as a supplementary indicator to maternal mortality. It has been suggested that for every woman who dies, 20 or 30 suffer morbidity that is related to pregnancy and childbirth and annually, up to 20 million women worldwide suffer morbidity which is related pregnancy and child birth.<sup>3</sup> Most common morbidities during antenatal period were antepartum haemorrhage (APH) (28%) and Pre-eclampsia/eclampsia (17.8%).<sup>4</sup> As the rapidly growing population has become a major concern for health planners and administrators in India since independence. As a result, there was launching of several programmes related to maternal and child health from time to time and updates its strategies in order to improve health status of women and children and fulfil the unmet need of the maternal child health care throughout the country. In order to bring greater impact through the RCH programme, it is important to recognise that reproductive, maternal and child health cannot be addressed in isolation as these are closely linked to the health status of the population in various stages of life cycle. Therefore, delivery of services during pregnancy and child birth requires a strong element of continuum care from community to facility level and vice versa. RMNCH+A approach essentially looks to address the major causes of mortality among women and children as well as the delays in accessing and utilising health care and services.<sup>5</sup> Most of the obstetric morbidities can be averted by preventive care, early detection of risk, appropriate & timely management of obstetric morbidities/

complications, referral, skilled care at birth and postnatal care.

Maternal mortality is considered as the most important indicator of maternal health, whereas maternal morbidity is of low concern. Studies on maternal morbidity and its outcome especially among urban areas in developing countries is very scarce.

Hence, the present study was undertaken to know the antenatal morbidities among women attending municipal corporation referral hospital.

**Methods and Methodology:**

The study was conducted at a Corporation Referral Hospital, Banashankari run by Bruhat Bangalore Mahanagara Palike (BBMP) attached to Kempegowda Institute of Medical Sciences, Bangalore. It was a longitudinal study, for period of 12 months (Jan 2017 – Jan 2018)

**Sample Size:** Based on published article in Indian Journal of Public Health: Morbidity of Preeclampsia/ eclampsia was 17.8%.<sup>4</sup>  $n = Z^2\alpha/2pq/d^2$   $\alpha = 0.05$ ,  $p = 0.178$ ,  $q = 0.822$ ,  $d = 5\%$ ,  $Z 0.025 = 1.96$ ,  $n = (1.96)^2 \times 0.178 \times 0.822 / (0.05)^2 = 225$  Add 10% for attrition =  $225 + 22 = 247 @ 250$

**Study Subjects:** All 2nd and 3rd trimester pregnant women attending antenatal clinic. Inclusion criteria: Pregnant women willing to give consent to participate in the study & 2nd trimester and 3rd trimester pregnant women attending ante- natal clinic. Pregnant women not available for follow up till delivery were excluded from the study.

- The study was initiated after getting the clearance from Institutional Ethical Committee and permission from Chief Health Officer, BBMP and Medical Superintendent, Municipal Corporation Referral Hospital, Banashankari. With purposive sampling method all the pregnant women belonging to 2 nd and 3rd trimester, visiting the study place for ante natal check-ups and gave consent to participate in the study were enrolled after fulfilling the inclusion criteria. All the study subjects were interviewed using a pretested; semi structured proforma, which had details on socio-demographic variables, antenatal check ups details, diseases or any morbidities identified through antenatal period were noted. Antecedent history of first trimester was also

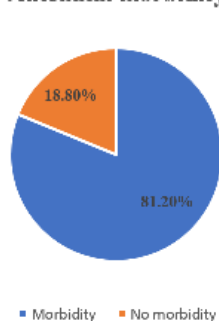
noted. Each study subject was followed up every three months at ante natal clinic or by telephonic method and details were noted from Thai card and also from hospital opd card. All the morbidities identified were cross verified with laboratory reports and diagnosis done by a treating obstetrician.

## RESULTS:

**Table-1 Sociodemographic details of study subjects (n=250)**

Variables	Category	Frequency (Percentage)
Age	≤ 20	63(25.2)
	21-25	116(46.4)
	26-30	62(24.8)
Religion	Hindu	166 (66.4)
	Muslim	83 (33.2)
	Christian	01 (0.4)
Education Status	Illiterate	18 (07.2)
	Primary School	02 (0.8)
	Middle School	29 (11.6)
	High School	123 (49.2)
	PUC	59 (23.6)
	Graduate	19 (07.6)
Area of residence	Urban Slum	141 (56.4)
	Urban Non - Slum	109 (43.6)
SES Scale	Upper	02 (0.8)
	Upper Middle	47 (18.8)
	Lower Middle	102 (40.8)
	Upper Lower	99 (39.6)

**Antenatal morbidity**



**Graph-1 Distribution of morbidities among pregnant women**

**Table 3- Morbidities during antenatal period (n=250)**

Variables	Category	*Frequency (Percentage)
1st trimester	Anaemia	46 (18.4)
	Hypothyroidism	19 (7.6)
	UTI	12 (4.8)
	Vaginal bleeding /Spotting	05 (2.0)
	Hyperemesis gravidarum	05 (2.0)
	Hyperthyroidism	03 (1.2)
2nd trimester	Anaemia	90 (36.0)
	UTI	52 (20.8)
	Hypothyroidism	31 (12.4)
	Placenta Previa	15 (6.0)
	GDM	10 (4.0)
	PIH	09 (3.6)
3rd trimester	Hyperthyroidism	04 (1.6)
	Anaemia	100 (40.0)
	WDPV	52 (20.8)
	Hypothyroidism	31 (12.4)
	UTI	29 (11.6)
	PIH	16 (6.4)
	Placenta Previa	16 (6.4)
	Oligohydraminos	15 (6.0)
GDM	10 (4.0)	

\*Multiple responses

The present study showed that, majority (46.4%) were in the age group of 21-25 years; followed by 25.2% less than/ equal to 20 years and 3.2% between 31-35 years and only one study subject (0.4%) was more than 35 years of age. The mean age  $\pm$  SD was 23.7 $\pm$ 3.7 years. Majority of the study subjects were Hindu by religion i.e., 166 (66.4%),

followed by Muslims (33.2%) and one Christian (0.4%).

In the present study, out of 250 study subjects, majority (49.2%) were studied up to high school, followed by PUC (23.6%). Majority 141 (56.4%) of the study subjects were residing in Urban slum and whereas 109 (43.6%) were residing in Urban Non- Slum. socio-economic status of the study subjects was assessed using Modified Kuppuswamy Socio Economic Status classification 2017. According to the scale, most of the study subjects belong to lower middle socio-economic status i.e., 102 (40.8%) followed by 99 (39.6%) belong to Upper lower socio economic status [Table-1]

Among 250 pregnant women, majority i.e., 203(81.2%) had one/ more morbidities during the antenatal period [Graph 1] 19 (7.6%) had hypothyroidism, 12(4.8%) had UTI, 05(2.0%) had vaginal spotting\*, 03(1.2%) had hyperthyroidism and 05(2.0%) had hyperemesis gravidarum during 1<sup>st</sup> trimester. \*Vaginal spotting was considered based on only symptom as there was no diagnostic reports availability 86(34.4%) of them had morbidities during the second trimester. Among them, majority 90(36.0%) had anaemia, 52(20.8%) urinary tract infection. 100(40.0%) pregnant women had anaemia, 52(20.8%) had Whitish Discharge Per vagina (WDPV) during third trimester. 1.6% had polyhydramnios. 10 women i.e., 4% of them had GDM [Table 3]

## DISCUSSION:

Maternal mortality acts as a surrogate marker for maternal health indicator world-wide whereas maternal morbidity has less consideration. In the present study showed that, out of 250 study subjects, majority (46.4%) were in the age group of 21-25 years; followed by 25.2% less than/ equal to 20 years and the mean age  $\pm$  SD was 23.7 $\pm$ 3.7 years. A study done by pragti chhabra et.al showed the mean age was 26.3  $\pm$  5 years and another community-based study has almost similar findings that majority were in the age group 20-24 years.<sup>6,7</sup> In the present study most of them were Hindu by religion i.e., 166 (66.4%), majority (49.2%) were studied up to high school, most of them 141 (56.4%) of the study subjects were residing in Urban slum and 102(40.8%) of the study subjects belong to lower middle socio-economic status i.e., 102 (40.8%). However, study done by Quraishi SR et.al in urban area of Sangali reported 33.77% are educated up to primary school, 87.48% were Hindu by religion.<sup>8</sup> In the present study 81.2% had one/ more morbidities during the antenatal period, the most common morbidity during antenatal period was anaemia i.e., 18.4%, 36% and 40% in 1st, 2nd and 3rd trimester respectively. Whereas in a hospital based study done by singh R et.al showed that 67.46% had morbidities during antenatal period and the majority 81.95% were anaemic<sup>9</sup> another study by Sanjeev et.al also observed that anaemia was the most common maternal morbidity.<sup>10</sup> However study done by priyanka karla showed contrast findings and the most common morbidity observed was haemorrhage (28% of antepartum haemorrhage)<sup>1</sup> and a cross sectional study done in Jamnagar showed that 70.4% had weakness as a common morbidity during antenatal.<sup>11</sup>

## Conclusion and recommendations:

- Majority of pregnant women had anaemia followed by UTI during antenatal period. Most of these morbidities can be addressed through proper health education with emphasis on nutrition and preventive measures.

**Conflict of Interest:** None

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