

**IMPACT OF RATIONAL SOCIO DEMOGRAPHIC PARAMETERS IN PREGNANCY  
AND CHILD BIRTH**Venu Madhav Tadi\*, Prasanthi Nelaturi\*, Triven Sadam\* and Naveena Ganji<sup>1</sup>

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**INTRODUCTION**

Improving maternal health is one of WHO's key priorities. WHO is working to reduce maternal mortality by establishing integrated management of pregnancy and child birth.

IMPAC - Integrated Management of Pregnancy and Childbirth is the package of guidelines and tools which respond to key areas of maternal and perinatal health programmes and is central to the Department's technical assistance activities to support countries in strategic and systematic ways to improve maternal, perinatal and newborn health.

IMPAC is a global tool based on the latest available scientific evidence and targets health systems and health workers, families and communities. IMPAC's aim is to increase pregnant women's access to high-quality health services, and thus reduce child and maternal mortality. It addresses factors crucial for access to skilled care before, during and after pregnancy and childbirth.<sup>[1,2]</sup>

Anemia occurs in up to one third of women during the 3rd trimester. The most common causes are Iron deficiency and Folate deficiency.<sup>[3]</sup> Maternal morbidity resulting from anemia includes diminished work capacity and physical performances have been reported as a result mostly of iron deficiency anemia. Anemia leads to abnormalities in host defense and neurological dysfunction. Increased risks of premature labor and low birth weight have also been reported in association with anemia in pregnancy.<sup>[4]</sup>

Preeclampsia develops after 20 wk gestation; it develops postpartum in 25% of cases. Swelling of the face or hands and hyper reflexia are relatively specific findings for preeclampsia. Preeclampsia is severe if it causes significant organ dysfunction (detected clinically or by testing). HELLP syndrome occurs in 10 to 20% of women with severe preeclampsia or eclampsia. Delivery is usually indicated when the pregnancy is  $\geq 37$  wk, severe problems develop, or the fetal lungs are mature.<sup>[5]</sup>

**METHOD**

- Subjects who satisfy study criteria taken in to the study and informed consent form was taken from each patient.

- Subject information was collected in a patient data collection form and details of subjects were secured.
- The following socio demographic details of the patient were collected in the study

- A. Age wise distribution
- B. Educational status
- C. Food habits
- D. Occupational status
- E. Region
- F. Allergies
- G. Blood group
- H. Age of menstruation
- I. Marital life
- J. Body mass index

**Study design**

- A prospective observational study was conducted in Obstetrics and Gynecology department.
- The subjects included in the study based on inclusion and exclusion criteria.
- In a total of 105 subjects included in the study, 21 subjects were drop outs (because they did not attend the follow up).

**Inclusion Criteria**

- The postnatal woman who diagnosed with Preeclampsia, Anemia and Preeclampsia & anemia were included in the study.

**Exclusion Criteria**

- The postnatal women diagnosed with other conditions are excluded from the study.

**Period and place of the study**

- A prospective observational study was conducted on antenatal women in Department of Obstetrics and

Gynecology, Tertiary Care Hospital, Narsaraopeta, Guntur District Andhra Pradesh.

- The study period - February 2019 to July 2020.

**RESULTS****SOCIODEMOGRAPHIC PARAMETERS**

Parameter	Range	Preeclampsia (total=44)		Anemia (total=25)		Preeclampsia and anemia (total=15)	
		Number	Frequency (%)	Number	Frequency (%)	Number	Frequency (%)
Age (years)	≤20	14	31.81	9	36	8	53.33
	21-25	23	52.2	12	48	4	26.66
	26-30	5	11.36	4	16	3	20
	>30	2	4.54	0	0	0	0
Region	Rural	32	72.72	20	80	12	80
	Urban	12	27.28	5	20	3	20
Occupational status	Housewife and job	15	34.09	9	36	9	60
	Cooli	29	65.90	16	64	6	40
Educational status	illiterate	12	27.27	6	24	2	13.33
	Primary	8	18.18	4	16	1	6.66
	Secondary	20	45.45	13	52	11	73.33
	Higher	4	9.09	2	8	1	6.66
Age of menstruation	≤10 years	1	2.27	2	8	0	0
	11-12 years	6	13.6	9	36	2	13.33
	13-14 years	34	77.27	11	44	12	80
	>15 years	3	6.81	3	12	1	6.66
Marital life	≤1 year	16	36.66	6	24	4	26.66
	2-5 years	23	52.27	14	56	9	60
	6-9 years	2	4.54	3	12	0	0
	≥10 years	3	6.81	2	8	2	13.33
Allergies	Food	9	20.45	3	12	3	20
	no	35	79.54	22	88	12	80
Food habits	Vegetarian	9	11.36	5	20	6	40
	Non vegetarians	35	79.54	20	80	9	60
Blood group	A <sup>+</sup>	11	25	3	12	0	0
	B <sup>+</sup>	12	27.27	8	32	3	15
	AB <sup>+</sup>	3	6.81	2	8	2	13.33
	O <sup>+</sup>	18	40.90	12	48	10	66.66
Past OBG history	Abortion	10	22.74	0	0	2	13.33
	Death of fetus	5	11.36	0	0	2	13.33
Gravid	G1	21	47.72	10	40	7	46.66
	G2	13	29.54	13	52	4	26.66
	G3	6	13.63	2	8	3	20
	≥G4	1	2.27	0	0	1	6.66
Baby weight	ELBW	1	2.27	0	0	0	0
	VLBW	8	18.18	2	8	4	26.66
	LBM	9	20.45	11	44	7	46.66
	NBM	20	45.45	12	48	3	20
	Abortion & dead fetus	7	15.90	0	0	1	6.6
Baby sex	Male	19	43.18	12	48	6	40
	Female	20	45.45	13	52	10	60
	Abortion and death	5	11.35	0	0	0	0
Type of delivery	LSCS	25	56.81	12	48	9	60
	Vaginal	19	43.19	13	52	6	40
Number of hospital stay days	6-7 days	16	36.66	14	56	4	26.66
	8-9 days	13	29.54	8	32	3	20
	10-11 days	9	20.45	2	8	6	40
	>11 days	6	13.63	1	4	2	13.33

On the basis of age wise distribution, preeclampsia patients are more in the age ranging between 21-25 years and this is less in the age group of  $\geq 30$  years and anemic patients are more in the ranging between 21-25 years and it is found to be nil in age group above 30 years.

Based on the educational status the patients with preeclampsia, anemia, and both were found to be more in case of secondary education than compared to illiterate, and higher education. In case of higher education anemic patients were found to be more when compared to preeclampsia patients. Based on the parameter of food habits, non- vegetarians are found to have higher in cases of preeclampsia, anemia and both compared to vegetarians.

Based on the occupational status, the preeclampsia was found to be more in case of daily wage pregnant women compared to house wives, and this is also same in case of anemia but, in the combined case of preeclampsia and anemia house wives were found to be more than the preeclampsia and anemia.

Based on the regional variation, preeclampsia, anemia and both preeclampsia and anemia pregnant women were found to be more in rural areas than urban areas. Based on the allergic conditions less number of patients was found to be having food allergies and most of the patients do not have any allergies.

Based on the above results preeclampsia , anemia , and both preeclampsia and anemia were found to be more in 'O' type blood group and this is very less in 'AB' blood group. But in case of 'A' blood group the combination of preeclampsia and anemia were found to be nil.

Based on the age of menstruation, preeclampsia, anemia and both preeclampsia and anemia were found to be more in the age of 13-14 years condition is very less in the age of 10years / below 10 years.

Based on the marital life of women conceived between 2-5 years after marriage in the cases of preeclampsia , anemia and both preeclampsia and anemia were more found to be nil, the women conceived between 6-9 years of marital life.

**BODY MASS INDEX**

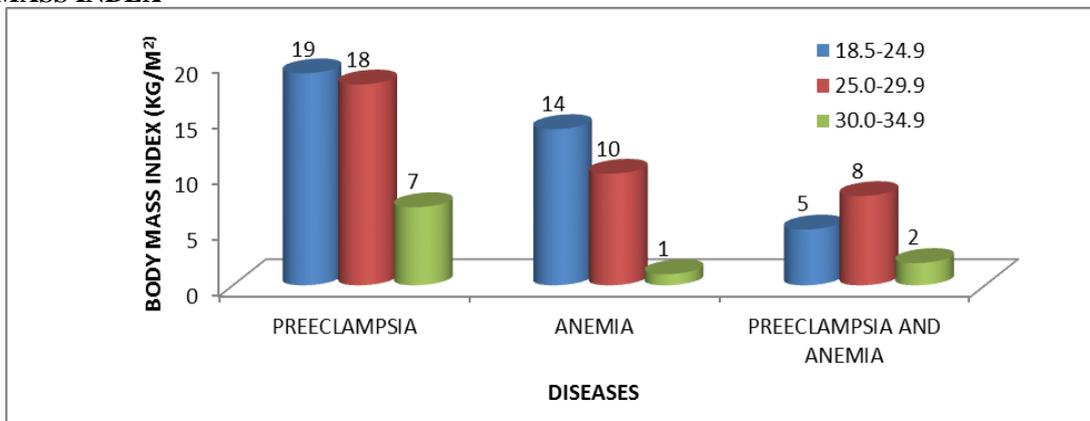


Figure 1: Body mass index of subjects.

Based on the above results preeclampsia patients were found to be more in BMI ranging between 18.5-24.9 and

this range is more in case of both preeclampsia and anemia patients.

**CHIEF COMPLAINTS**

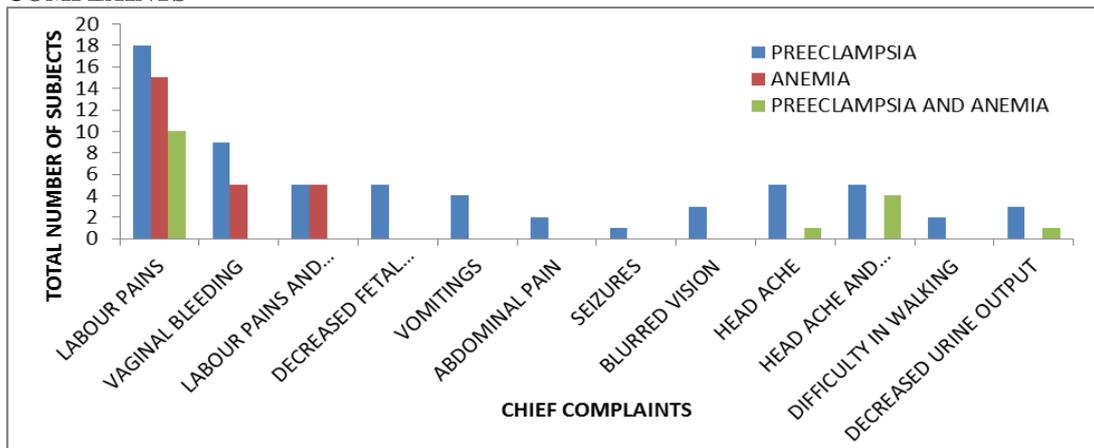
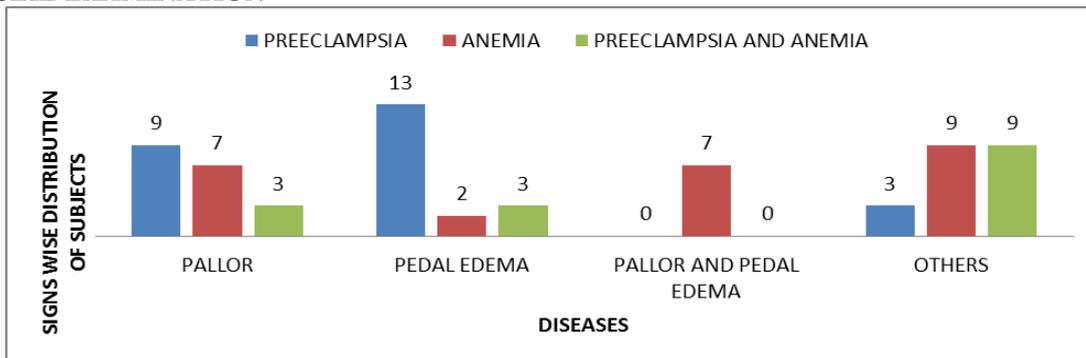


Figure 2: Chief complaints.

Based on the above chief complaints of preeclampsia, anemia and both preeclampsia and anemia mostly observed symptom was labour pains and rarely observed

symptoms are seizures, headache and blurred vision, and decreased urine output.

**PHYSICAL EXAMINATION**

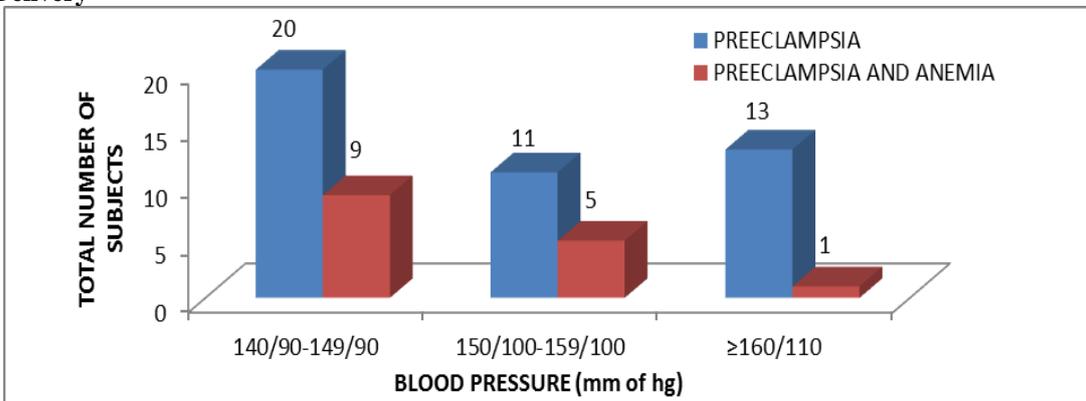


**Figure 3: Physical examination of subjects**

Based on results of physical examination preeclampsia, anemia, and both preeclampsia and anemia were found to be having pallor. Likewise only preeclampsia pregnant women were found to be having edema. Apart from

these combinations frothing and facial puffiness was observed in three cases. Only anemic patients were found to have both pallor and pedal edema.

**BLOOD PRESSURE Before Delivery**

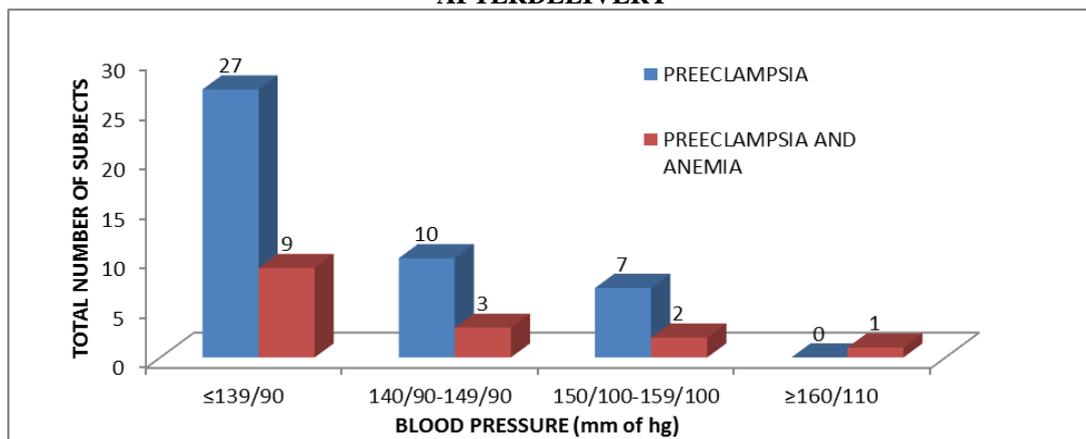


**Figure 4: Blood pressure of subjects before delivery.**

Based on the above results preeclampsia patients are more in the BP ranging between 140/90mmhg to 140/90

and blood pressure, but in the case of both preeclampsia and anemia the BP observed was more than 160/110.

**AFTERDELIVERY**



**Figure 5: Blood pressure of subjects after delivery.**

Blood pressure after delivery preeclampsia women are more in the BP ranging between 139/90 but in the case of

both preeclampsia and anemia the BP observed was more than 160/110.

### PRETERM DELIVERES

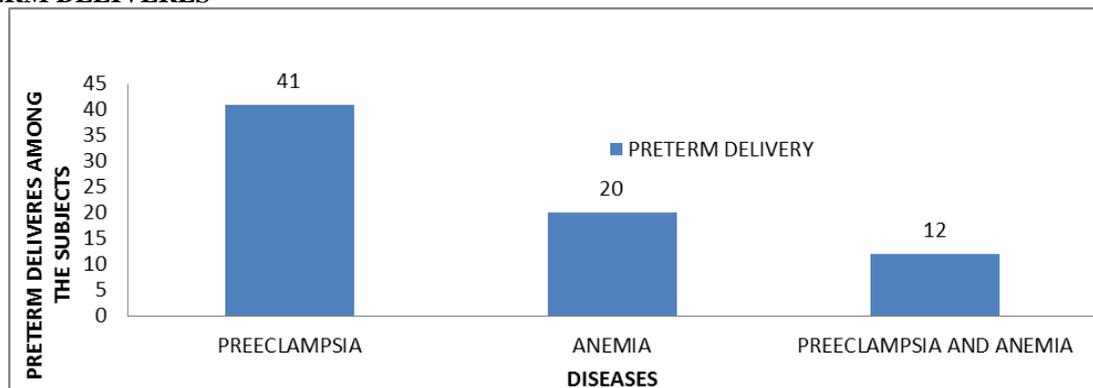


Figure 6: Preterm deliveries of subjects.

Based on the results of preterm delivery most of the patients undergone preterm delivery. And this is very less in case of both preeclampsia and anemia and more in preeclampsia.

### DISCUSSION

Every day in 2015, about 830 women died due to complications of pregnancy and child birth. Almost all of these deaths occurred in low-resource settings, and most could have been prevented. The primary causes of death are hemorrhage, hypertension, infections, and indirect causes, mostly due to interaction between pre-existing medical conditions and pregnancy.

The risk of a woman in a developing country dying from a maternal-related cause during her lifetime is about 33 times higher compared to a woman living in a developed country. Maternal mortality is a health indicator that shows very wide gaps between rich and poor, urban and rural areas, both between countries and within them.<sup>[6]</sup>

About 23.80% people were uneducated in our study, 76% of people coming from rural area. Understanding of prenatal care and postnatal new born care by the pregnant women is also important for a pregnant woman. Educating the pregnant women in their local language is also crucial step in IMPAC.

Around 69% people were found to be cooli, because of poor economical status, those pregnant women were not getting enough balance diet and they are not coming for regular checkup also.

In combination with obstetric hemorrhage, anemia is estimated to be responsible for 17–46% of cases of maternal death.<sup>[7]</sup> In our study also we also found that, 16.66% of people having the chief complaints of both hemorrhage and anemia.

Woman who get married at below the age of <20 years (36.9%) and conceived the pregnancy above 25(16.6%)

years<sup>[8]</sup>, suffered with so many complications like abortions, anemia, seizures and preeclampsia etc in their pregnant life (before and after delivery). So educating the woman about ideal age of getting married and conceiving pregnancy also play a role in IMPAC.

Because of pregnant mother suffered with any complications also having an impact on babies, most commonly the babies suffered with underweight (20%), hypoxia (5%) and jaundice (1.1%) etc.

Because of all the complications the pregnant women stay more days in a hospital. It increases the burden to the patient and also to the government (total health care system).

### CONCLUSION

Our study conclude that educating the pregnant women about the importance of regular visit to the hospital, ideal age of getting married &conceiving pregnancy and post natal care help full to reduce the complications in the present and future of both pregnant women and babies also. So we think all these steps play a crucial role in the IMPAC.

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