



Original Article

A Prospective Study of Morbidity Pattern among Pregnant Women Attending at Tertiary Care Hospital

S Vennela¹, D Swathi¹, U Padmalatha¹, T Soundarya¹, CH Alekhya^{1,*}, A Rajani¹, G Ravi²

¹Department of Pharmacy Practice, MNR College of Pharmacy, Sangareddy, Telangana State, India.

²Department of Pharmaceutics, MNR College of Pharmacy, Sangareddy, Telangana State, India.

ARTICLE INFO

A B S T R A C T

Received: 03 Nov 2019
Accepted: 21 Dec 2019

Background: About half a million women die every year of causes related to obstetrics complication. Complication can arise at any time during pregnancy; child birth and post-natal period and in absence of intervention, there is a high fetomaternal morbidity and mortality. **Objective:** The aim of the study was to know the morbidity pattern among pregnant women attending the tertiary care hospital.

Setting: At a tertiary care Hospital in the Gynecology department.

Method: A prospective interventional study was conducted on pregnant women for six months. Data regarding maternal socio-demographic profile and antenatal profile was collected. The subjects are assessed for morbidities and were counselled.

Main outcome measure: To find out morbidities among pregnant subjects and to make an attempt to reduce risk associated with pregnancy.

Results: A total 200 pregnant women attended the health centre of whom, 95% patients had at least one morbidity pattern or complaints. In our study moderate Anemia (55.64%), Mild (2%), UTI (28.01%), Thyroid (8%), GDM (4.5%), and Pregnancy induced hypertension (3.5%) were the most common morbidities. Further, morbidity pattern like, pregnancy associated common complains, mild anemia abnormal presentation, abortion, preterm labor was reported.

Conclusion: Maternal morbidity is notably high, although most of the common problems were not life threatening. They are more likely to have marked influence on their well-being and health status in the long run. Most conditions could be addressed through provision of health promotion and preventive interventions.

Keywords: Antenatal; Obstetric complication; Outcome of pregnancy; morbidity.

Corresponding author *

Mrs. CH. Alekhya
Asst. Professor
Dept. of Pharmacy Practice, MNR College of Pharmacy
MNR Nagar, Sangareddy-502294, Telangana State, India.
E-mail: chilivari.alekhya@gmail.com

1. INTRODUCTION

Pregnancy is a vital stage in every woman's life. It is a period of expectant waiting and one that all women aspire to experience at least once in their life time. Pregnancy is a physiological state of stress on the body and by itself makes women prone to many disorders and diseases. This, coupled with complications of pregnancy can have various severe deleterious effects on the health of the mother and the fetus. The most common causes of maternal complications can arise anytime during pregnancy, child birth and post-natal period and in absence of skilled intervention, there is a high feto-maternal morbidity and mortality. In India, data show that 70% of mothers who had four or more antenatal checkups, delivered in institutions compared with 7% for those who had no antenatal checkups. Most of the maternal deaths occur due to hypertension, infections, obstructed labor, and unsafe abortion. WHO report 2005 shows that one woman dies of pregnancy and child birth related complications every minute, i.e. more than half a million every year. While most pregnancies and births are uneventful, all pregnancies are at risk. Around 15% of all pregnant women develop a potentially life-threatening complication that calls for skilled care and some will require a major obstetrical intervention to survive (WHO, 2000) [1]. Pregnancy and child birth are the natural physiological phenomenon but unfortunately its consequences are still the leading cause of death, disease and disability among women of reproductive age in developing countries more than any other single health problem. High maternal and neonatal mortality rates are associated with inadequate and poor quality maternal health care, including antenatal care, skilled attendant at birth and postnatal care. . Antenatal care is recognized as a key maternal service in improving a wide range of health outcomes for women and children. It provides an opportunity to provide interventions for improving maternal nutrition, to encourage skilled attendant at birth and use of facilities for emergency obstetric care [2]. Of all maternal deaths, 80% can be potentially avoided by interventions during pregnancy, child birth, and the postpartum period, that are feasible in most countries [3].

Early identification and prompt management of severe obstetric morbidity (SOM) is crucial. The low socio-economic and educational status leads to underutilization of services. Many maternal health programmers focus on interventions that often do not reach the poor [4].

The main objective of the present study is highlighting the problems among pregnant women are very indecisive and hence this study was undertaken with an objective to determine the prevalence of morbidities among pregnant women [5].

Ethics Approval No: IEC/MNRP/Prot/2019/004

2. MATERIALS AND METHODS

A prospective interventional study was conducted on pregnant women attending to the antenatal clinic of MNR tertiary care hospital, Fasalwadi, Sangareddy for a period of six months. All the pregnant women attending to the antenatal clinic were included in the study. The non-pregnant women and pregnant women who had undergone IVF were excluded.

Method

Obtaining clearance certificate from Institutional Ethical Committee.

For obtaining the ethical clearance certificate and application along with study protocol which include the proposed title, study site, inclusion and exclusion criteria, objective and methodology about the work to be carried out was submitted to chairman of the institutional ethical committee of MNR Hospital.

Collection of data:

The informed consent forms were obtained from the recruited pregnant women. Pregnant women attending to antenatal clinic were observed for the morbidity study and all necessary information recorded as mentioned in the case report form.

Analysis of data:

The data of the selected patients were collected through case sheets, investigational reports, and personal interview and recorded in CRF which includes personal demographic details, complaints, diagnosis and prescribed treatment.

3. RESULTS AND DISCUSSION

A total 200 pregnant women had attended antenatal clinic during the period of study. Out of 200 pregnant women 95% of pregnant women experienced one or more morbidities.

In our study, 29 subjects were in the age group of 15-20 years, majority of subjects (96) patients were in the age group of 21-25 years, 55 patients were in the age group of 26-35 years, and 20 subjects were in the age group of 35 and above. Extremes of age (age below 20 years and above 35 years) are known to be associated with higher incidence of GHTN. Thus, ideal age of marriage is a prerequisite for fruitful pregnancy outcome is 20-30 yrs [6].

The results were depicted in Figure1. Majority of the pregnant women belongs to second trimester 42.5%. The results were depicted in Figure2. Gravidity is the number of times that a woman has been pregnant. Regarding gravidity, 49% pregnancies were of second gravida, 37.5% of primigravida, and 13.5% of multigravida. The results were depicted in figure 3. Parity is the number of times that the woman has given birth to a fetus with a gestational age of 24 weeks regardless of whether the child was born alive or was still born. Women in multiparty are expected to be older and repeated pregnancies /lactation would have exhausted their iron storage. In parity distribution, 40.5% had null parity, 38.5% were having single parity, 14% had 2 parities, 5% had 3 parities, and 2% had 4 and above parities. The results were depicted in Figure 4.

In our study there was association between anemia and birth interval and parity. Pregnant women with birth interval of less than 12 months have higher risk of anemia because of exhausted iron storage and body requires time to restore the iron storage. Ideal birth interval would be 2-3yrs. In our study, majority of pregnant women (43.5%) had a birth interval of <12 months followed by 30% with >24 months, and 26.5% with 12-24 months. The results were depicted in Figure 5. Regarding education, 78 are illiterate, 24 had primary education, 31 had secondary education, 60 had matriculation, and 7 had graduation. The results were depicted in Figure 6.

Out of 200 subjects 143 (55.64%) subjects were with anemia, 7 (2.72%) subjects were with pregnancy induced hypertension, 9 (4.5%) subjects were with gestational DM, 72 (28%) subjects were with UTI, 16 (8%) subjects were with thyroid disorder. The results were depicted in Figure 7. Among the 143 anemic subjects' majority of the study population has moderate degree of anemia (59%) followed by 28.5% of patients have the normal range of hemoglobin, severe degree of anemia (10.5%), mild degree of anemia (2%). The results were depicted in Figure 8 of these anemic subjects, in I trimester of pregnancy the subjects with moderate anemia were high followed by severe anemia. In II trimester of pregnancy the subjects with moderate anemia were high followed by severe anemia, and mid anemia. In III trimester of pregnancy the subjects with moderate anemia were high followed by severe anemia, and mild anemia. The results were depicted in Figure 9.

Out of the total subjects, abnormal urine report was observed in 36% of pregnant women among this group, 17% of pregnant women had pus cells in their urine. Albumin, RBC, and sugar in urine were observed in 13.5%, 5%, and 2.5% of pregnant women respectively. The results are tabulated in Table 1. Out of 200 cases collected, among the UTI subjects the majority has moderate degree of UTI 24 (33.33%) subjects followed by severe degree of UTI 45 (62.5%) and mild degree of UTI 3 (4.16%). The results are tabulated in Table No.11 and depicted in Figure 10. Among the UTI positive subjects there was higher rate of infection in the III trimester (68%) compared to II trimester (16.66%) and I trimester (15.27%). The results were depicted in Figure 11.

Among 16 pregnant women with thyroid disorder, majority of them were in the age group of 21-25 followed by 25% were in the age group of 26-30, 12.5% were in the age group of 20 years. The results were depicted in Figure 12. Among various thyroid disorders in pregnant women the prevalence of subclinical hypothyroidism was highest (4%) followed by subclinical hyperthyroidism (2%), and overt hypothyroidism (2%). The results were depicted in Figure 13.

Out of 9 pregnant women with DM, 7 are with pregnancy induced DM, 2 are with previous history of DM. The results are tabulated in Table 3. Out of 200 pregnant women, 7 (3.5%) were found to be hypertensive. The results are

tabulated in table 5. Among 7 hypertensive pregnant women 5 are with pregnancy induced hypertension and 2 are with previous history of hypertension. The results are tabulated in table 5. Regarding delivery outcome, 42 deliveries were observed among them 14 subjects had normal delivery, 7 subjects had normal delivery with episiotomy, and 21 subjects were delivered by LSCS. The results are tabulated and depicted in Figure 14.

In the study we observed complications like low birth weight and preterm labor among pregnant women with anemia. Out of 42 deliveries, we have observed complications like low birth weight in 25 deliveries, 7 with preterm labor, and 10 had normal labor. The results were depicted in Figure 15.

In the study, individual subjects are counselled regarding their morbidities and follow up was done to observe the impact of patient counselling in improving health and reducing complications. All the anemic subjects were counselled regarding their medications, dietary intake such as to take iron rich foods like meat, fish, egg, dried beans, and fortified grains and also the foods which are rich in folic acid, such as dried beans, dark green leafy vegetables, wheat and orange juice and regarding complications like low birth weight, preterm labor, pre-eclampsia, and Intercurrent infections. In this study there was association between UTI and unsatisfactory personal hygiene. All the UTI subjects were counselled regarding their medications, life style modifications about their personal hygiene, more water intake and complications like anemia, low birth weight, preterm birth, and perinatal death. All the pregnant women with thyroid disorder were counselled regarding their diet like, to avoid fiber rich foods and their thyroid levels were maintained on medications like by levothyroxine and complications like abortion, still birth, preterm delivery, and low birth weight. All the hypertensive subjects were counselled regarding medications, their life style modifications like Dietary approaches to stop hypertension (DASH) therapy, reduce the salt intake in their diet and complications like preterm labor, sepsis, eclampsia, shock, and post-partum hemorrhage. The pregnant women with DM were counselled regarding their diet like to avoid carbohydrate rich foods as they increase the blood sugar levels, to take protein rich foods, green leafy vegetables, and complications like preterm labor, fetal macrosomia, and diabetic retinopathy of pregnant women. Most of them improved by following the guidelines given by clinical pharmacist so it is very essential to educate pregnant women with GDM about their diet and lifestyle changes to get healthy delivery outcome. Outcome after counselling was showed in Table 6.

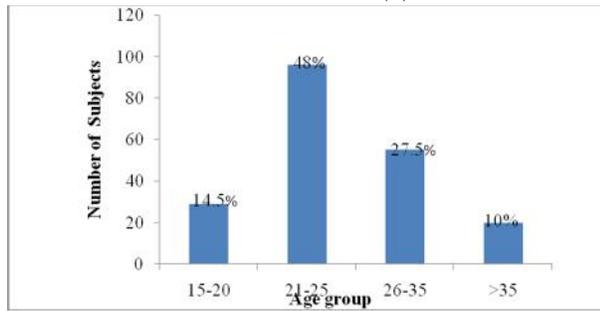


Fig 1: Age group distribution of study population

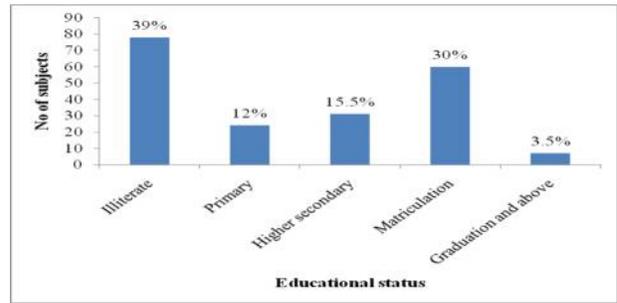


Fig 6: Educational status

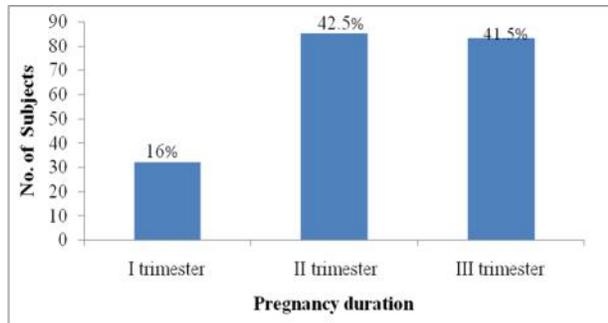


Fig 2: pregnancy duration of study population

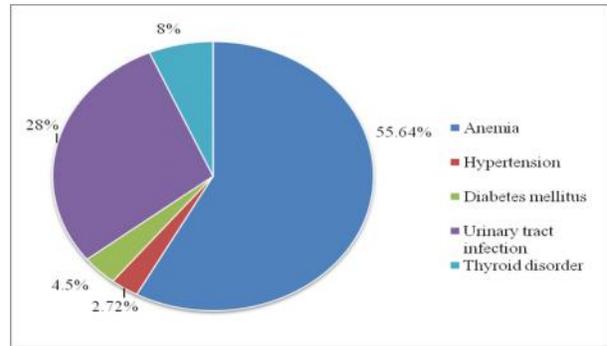


Fig 7: Distribution of maternal morbidity among pregnant women.

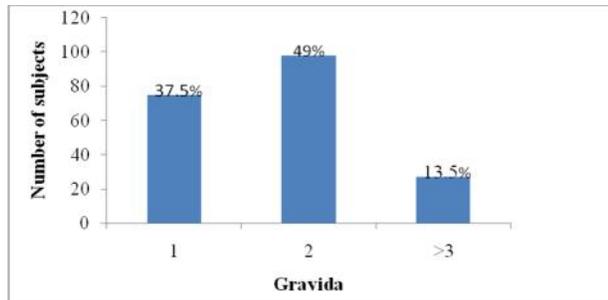


Fig 3: Gravida distribution

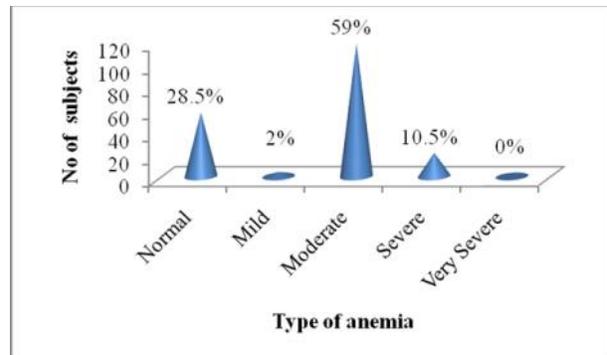


Fig 8: Severity of anemia among pregnant women

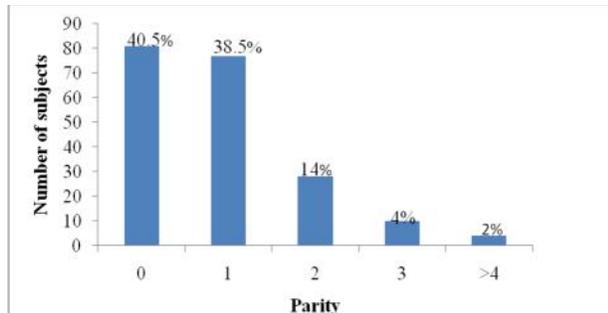


Fig 4: Parity distribution

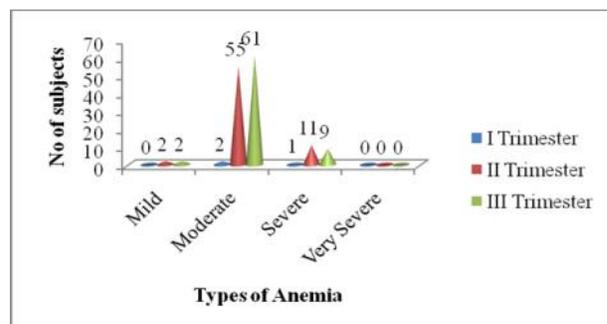


Fig 9: Prevalence of anemia according to trimester

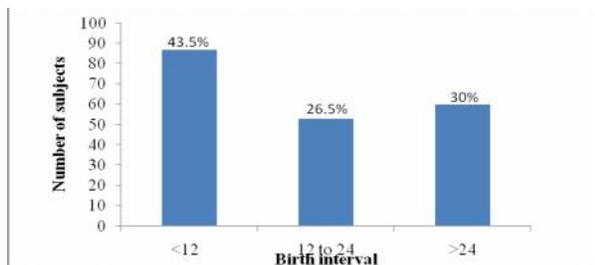


Fig 5: Birth interval

Table 1: Assessment of urine report among pregnant women

	Number of patients	Percentage (%)
Overall UR results		
Normal UFR	128	64
Abnormal UFR	72	36
Pus cells in urine		
Present	34	17
Absent	166	83
RBC in urine		

Present	10	5
Absent	190	95
Albumin in urine		
Present	27	13.5
Absent	173	86.5
Sugar in urine		
Present	5	2.5
Absent	195	97.5

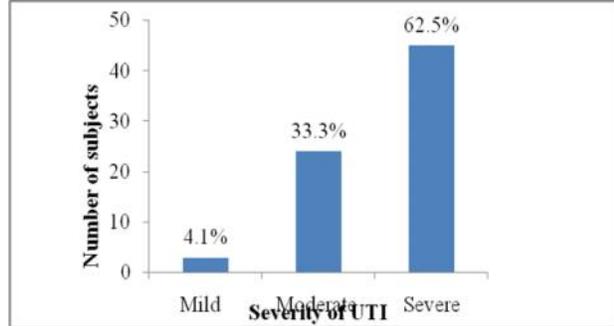


Fig 10: Severity of urinary tract infections among pregnant women.

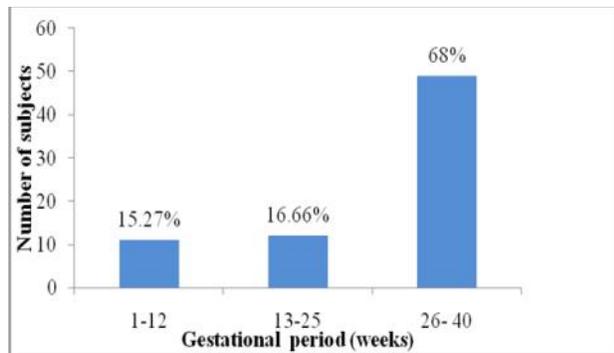


Fig 11: Prevalence of UTI in pregnant women in relation to gestational age.

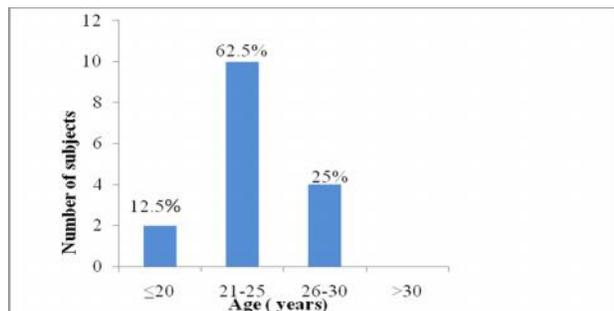


Fig 12: Age distribution of thyroid disorder

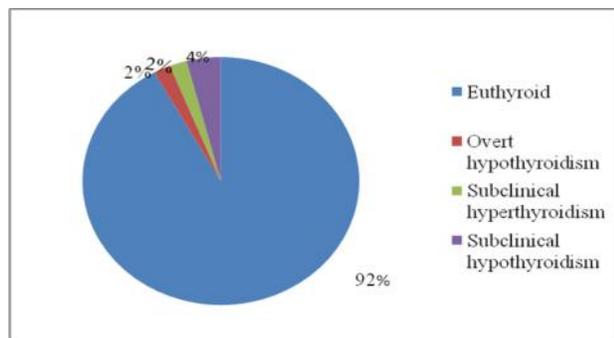


Fig 13: Percentage of various thyroid disorders in study population

Table 2: Distribution of various thyroid disorders in study population

No. of patients with thyroid disorder	No. of subjects with pregnancy induced thyroid	No. of subjects with previous history of thyroid
16	12	4

Table 3: Distribution of DM in study population

No. of patients with DM	No. of subjects with pregnancy induced DM	No. subjects with previous history of thyroid
9	7	2

Table 4: Blood pressure of pregnant women in early pregnancy

Blood pressure (mmHg)	Number of subjects	Percentage (%)
<120/80	193	96.5
>120/80	7	3.5

Table 5: Distribution of Hypertension

No. of patients with HTN	No. of subjects with pregnancy induced HTN	No. of subjects with previous history of HTN
7	5	2

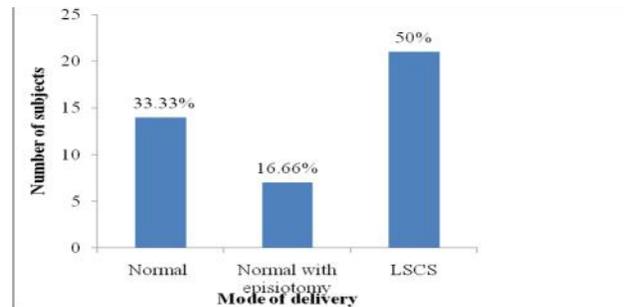


Fig 14: Mode of delivery

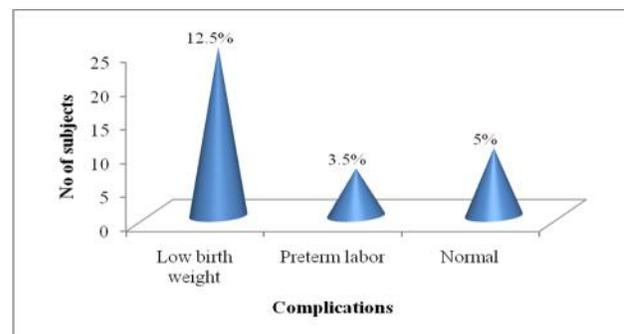


Fig 15: Percentage of observed complications

Table 6: Outcome after counselling

Morbidities	Number of subjects counselled	Number of subjects benefited
Anemia	143	134
Urinary tract infection	72	53
Diabetes mellitus	9	8
Thyroid disorder	16	14
Hypertension	7	7

4. CONCLUSION

In conclusion of our study, prevalence of morbidities among pregnant women occurred predominantly and the maternal

morbidity is notably high, while most of them are not life threatening but showed marked or greater influence on the well-being and long term health status of pregnant women. The morbidities that have been included in our study are the anemia, hypertension, diabetes mellitus, thyroid, and UTI. Among all of the morbidities, the most common morbidity which is seen among the pregnant women is anemia and then UTI is the second most prevailing morbidity in the pregnant women, and then in some cases combined morbidities were also found. Clinical pharmacists play a major role in this study to reduce the morbidities that is through effective counselling to the patient regarding the morbidity, like dietary patterns, regular exercise etc. The results provided an insight that is through the promotion of health education at community levels is necessary to create awareness about importance of antenatal care, institutional delivery and post-natal care in addition with increasing rate of literacy rate and women empowerment.

Conflict of Interest: None

Source of Funding: Nil

5. ACKNOWLEDGEMENTS

Authors are very thankful to the management of MNR Educational Trust and Medical Superintendent of MNR Hospital, Sangareddy for providing the facilities and enabling us to carry out the study and also authors are very much thankful to Dr. V. Alagarsamy, Professor & Principal, MNR College of Pharmacy, Sangareddy for his constant support and encouragement.

6. REFERENCES

1. Jalpa S, Kripa P. Morbidity Pattern Study among Pregnant Women Attending Antenatal Clinic at Community Health Centre. *Ind J Phar Practice*. 2017;10:45-9
2. Shital SD, Charuhas VA, Sanjay SK, Sunita SS. Ante natal Care Utilization and Delivery services In a Tertiary Care Hospital. *Int J Community Med Public Health*. 2016;3:276-81.
3. Manik SS, Mamta KS. Pattern of Obstetrics Complication among Pregnant Females Admitted In a tertiary Care Centre in Central India. *Int. J. Reprod. Contracept Obstet Gynecol* 2015;4:338-43.
4. Reena RP, Umadevi N, Ajitha Bk; Severe Obstetric Morbidity: Prevalence, Risk Factors and Outcome. *National J Community Med* 2015; 6: 33-5.
5. Ravishankar S, Anil NS, Muninarayana C, Prathima S, Sheela SR. Prevalence Of anemia among pregnant women in rural population of Kolor District. *Int J Med Sci Public Health* 2016;5:454-8.
6. Emmanuel IU, Jhon OO. Incidence of gestational hypertension among pregnant women (2006-2015) in Enugu state, south east Nigeria: A retrospective study. *Int J Community Med Public Health* 2017; 4: 357-62.