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Outcome of Severe Anemia in Pregnancy; Experience at a Tertiary Care Hospital

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ABSTRACT

Objective: The study was aimed at observing demographic diversity among pregnant women admitted to the labour room with Hemoglobin of less than 7gm/dl. It also observed perinatal and maternal outcomes and their associated complications. **Study Design:** Retrospective observational study. **Settings:** Gynae Unit I, Jinnah Hospital, Lahore Pakistan. **Duration:** 1st January 2022 to 30th June 2022. **Methods:** It is a retrospective observational study carried out in Gynae Unit I, Jinnah Hospital Lahore in between 1st January 2022 to 30th June 2022. All Patients presenting with Hemoglobin less than 7gm/dl and admitted in the Labour room were included in the study, and followed until delivery. A predesigned performa was filled for each of the 63 patients after their consent. **Results:** During the study period, 2130 deliveries were carried out in the labour room, out of which 63 patients had a recorded level of Hemoglobin below 7gm/dl. The prevalence of severe anemia in our study was 2.9%. Most patients (51) were in the age group 20-35 years. Majority of the patients (45) were un-booked while only 18 were booked patients. 40 patients were in the gestational age group of 34-37 weeks. 30 were gravida 2-5, 25 of parity more than 5 and only 13 primigravida's. 29 out of 63 patients had no complications while 34 had complications. **Conclusion:** Severe Anemia is a preventable cause, the focus needs to be on early and proper antenatal check-up's, early diagnosis, and timely referral from rural and less equipped medical centres to better equipped hospitals.

Keywords: *Anemia, Maternal outcome, Perinatal Outcome, Pregnancy.*

INTRODUCTION

The World Health Organization criteria of anemia in pregnancy is anything less than 11 grams/dl in the first and third and 10.5 gm/dl in the second trimester. It is not only associated with increased maternal morbidity and mortality.

Anemia is still the leading cause of increased maternal mortality and morbidity in Pakistan and other developing countries.[1] Literature review shows that it is more prevalent in developing countries (56%) compared to just 18% in developed countries.[2,3]. In India, it is 87 % which is a quite high and alarming figure.[4,5,6]

The significance of anemia is not only limited to increased maternal morbidity and mortality but also to different maternal complications like preeclampsia and increased maternal mortality.[7] Anemia can occur at all stages of life but is more common in pregnancy.

The WHO criteria of anemia in pregnancy are any hemoglobin less than 11 grams /dl in first and third trimester and 10.5 gm/dl in second trimester. It is further classified as mild, moderate, and severe depending upon the level of Hemoglobin.[9]

Table 1: Severity of Anemia

Severity	Hemoglobin Range gm/dl
Mild	10.0-10.9
Moderate	7.0-10.0
Severe	4.0-7.0
Very Severe	<4.0

METHODS

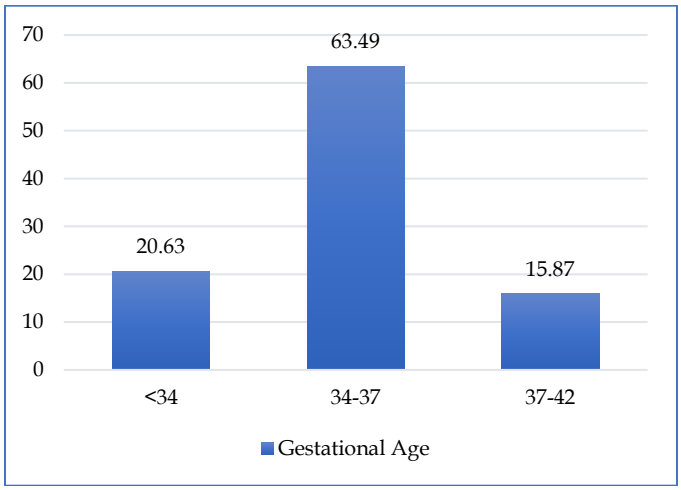
A retrospective observational study was carried out in Gynae Unit II of Jinnah Hospital. This is a 1550 bedded hospital associated with Allama Iqbal Medical College. It is a 6-month study and all the women who presented in labor room or OPD of Gynae Unit I with hemoglobin of less than 7 gm/dl were included in the study. All pregnant women with singleton pregnancy and hemoglobin of less than 7 gm/dl admitted in the labour room between the study period January-June 2022 were included in the study. A total of 63 patients were included in the study. Pregnant patients having twins and medical complications like diabetes, hypertension and cardiac diseases were excluded from the study. The ERB for this study is 152/5/26-09-2023-S1ERB.

RESULTS

Table 2: Presentation of Patients

Presentation		No. of Patients	Percentage (%)
Hemoglobin %	4-7gm/dl	57	90.48%
	<4gm/dl	6	9.52%
Age	<20	2	3.17%
	20-35	51	80.95%
	>35	10	15.87%
Booking Status	Booked	18	28.57%
	Un-booked	45	71.42%
Gestational Age in Weeks	<34	13	20.63%
	34-37	40	63.49%
	37-42	10	15.87%
Gravidity	Primigravida	13	20.63%
	Gravida 2-5	30	40.62%
	Parity >5	20	31.75%

Figure 1: Gestational age

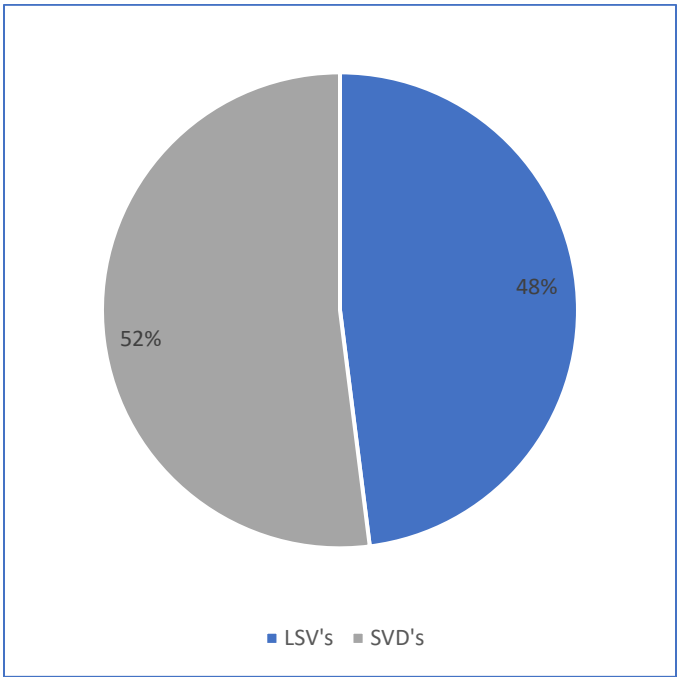


During the study period total of 2130 deliveries took place, out of which, 1275 were SVD's and 855 were CSV's. Out of these, 63 patients had hemoglobin of less than 7 gm/dl. 57 (90.48%) patients had Hb from 4 to 7 gm/dl while 6 (9.52%) had Hb less than 4g/dl. 2 (3.17%) patients were less than 20 years of age. While 51 (80.95%) were in the age group 21 to 35 and 10 (15.87%) patients were above 35 years of age. 45 (71.42%) were un-booked patients while 18 (28.57%) were booked. 30 (40.62%) patients had parity of 2 to 5. 20 (31.75%) patients had parity more than 13% and 13 (20.63%) were primigravida's. 40 (63.49%) women were from 37 to 42 weeks of gestation. 13 (20.63%) were less than 34 weeks and 10 (15.87%) were from 34 to 37 completed weeks of gestation.

Table 3: Mode of Delivery

Mode of Delivery	Number	Percentage (%)
LSV'S	30	47.62%
SVD	33	52.38%

Figure 2: Mode of delivery

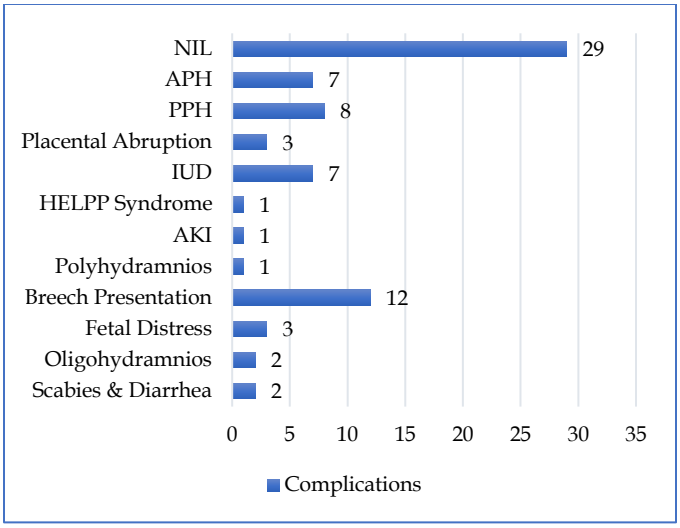


33 patients (52.38%) had spontaneous vaginal delivery while 30 (47.62%) had LSCS. Outcome of babies were 40 females and 23 males. 46 weighed between 2 to 3 kg while 9 were less than 2 kg and 8 were more than 3 kg. Furthermore, 29 (46.03%) patients had no complication while rest had associated complications as shown in Table 4.

Table 4: Complications

Complications	Number	Percentage (%)
NIL	29	46.03%
APH	7	11.11%
PPH	8	12.70%
Placental Abruption	3	4.76%
IUD	7	11.11%
HELLP Syndrome	1	1.59%
AKI	1	1.59%
Polyhydramnios	1	1.59%
Breech Presentation	12	19.05%
Fetal Distress	3	4.76%
Oligohydramnios	2	3.17%
Scabies and Diarrhea	2	3.17%

Figure 3: Complications



DISCUSSION

Anemia in pregnancy is a serious health issue in developing countries like Pakistan.[11] There are multiple factors responsible for this. Poverty, illiteracy, lack of awareness and lack of compliance are major contributory factors.[12] While severe Anemia is still common (as shown in this study), the continued presence of very severe anemia is more alarming since it can lead to sudden death of the patient and cardiac failure even with normal vaginal bleeding at the time of delivery.[14] This can lead to an increase in maternal mortality. Large literature review shows that mild anemia is most common and moderate anemia is next common as compared to severe anemia.[10]

In our study we included patients having hemoglobin less than 7gm /dl. literature review shows that severity of anemia is related to preeclampsia and low birth weight babies. Regarding outcome of babies, 46 babies were born with the weight between 2-3kg. This may be correlated to the presence of anemia in women.[15] Only 8 babies were above 3kg. To follow and see the long-term medical implications of maternal anemia on these babies would need a new study and involvement of pediatricians.

The prevalence of anemia in our study was 2.9% which is comparable to the study done by Shilpa in Gujrat, India in 2018 where it was found to be 5.6%.[10] The prevalence of anemia was more common in unbooked patients in our study[16], this observation is also supported by different literature reviews which observed severe anemia in unbooked patients.[10] Since most patients in our study were unbooked, an emphasis on early booking of patients may improve the overall health of pregnant females.

In our study it is more common in women having gravidity of 2 to 4 while literature review shows it to be more common in patients with parity of 5 or more.[10] While Anemia is more common in multigravida's[13] which may be attributed to repeated childbirths, it's high occurrence in primigravida's is alarming.

The prevalence of anemia was common in 20 to 35 years of age in our study. Some literature shows the increased prevalence in girls under 24 due to early marriages and decreased iron stores.[17] 51 patients belong to a very young group which suggests that we should concentrate on antenatal classes in OPD's in early pregnancy so that we may create awareness about the role of proper and balanced diet in pregnancy.[18]

CONCLUSION

Severe Anemia is still an alarming and serious concern in pregnant women despite being a preventable condition. It has higher presentation in younger and unbooked patients and therefore this demographic needs to be the primary recipient of any work in this field. Improvement in early antenatal services, awareness in young females about the early signs and symptoms of anemia, and timely treatment before delivery need to be at the forefront of any efforts to combat anemia and improve maternal health.

LIMITATIONS

The duration of the study was six months and could therefore only include a limited number of patients. A longer duration and across different hospitals in Punjab could provide a clearer picture of any underlying geographical distributions.

SUGGESTIONS / RECOMMENDATIONS

The study provides three main recommendations: There is a need to create awareness in young females about the early signs and symptoms of anemia. Early Antenatal check-up for early detection of complications such as Anemia would lead to early correction. Lastly, provision

of free Oral + Injectable Iron in government hospitals would increase access to correction mechanisms across all socio-economic groups.

CONFLICT OF INTEREST / DISCLOSURE

None Declared

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