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Research Article

Prevalence, Risk Factors, and Perinatal Outcomes of Anemia Among Pregnant Women

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Abstract

Introduction: Anemia is a crucial common health problem affecting the developed as well as the developing world. Around the world, malnutrition is the most common cause for child and maternal death. The aim of the study is to determine the prevalence and outcome of anemia in pregnancy and her new.

Methodology: Quantitative approach with descriptive survey method was used. Data were collected from 107 pregnant women using the non-probability purposive sampling technique.

Result: The majority 103 (96.2%) of pregnant women are belong to the age of 20–30 years and mostly 62 (57.9%) were Hindu. The mode of delivery of pregnant anemic women shows that the majority 21 (70%) of women delivered vaginally. The majority of the mothers, 103 (96.3%), did not have a previous history of abortion. The distribution of weight of the newborn at birth states that the majority of newborns weighed above 2.5 kg (69%). The distribution of pregnant mothers based on associated risk factors reveals that only 5 (4.7%) pregnant women had thyroid problems, gestational DM, and epilepsy one each. The prevalence of anemia based on severity showed that most of the mothers 85 (78.4%) had moderate anemia as per the WHO classification.

Conclusion: The study concludes that moderate anemia is prevalent among pregnant women. Some of the health problems associated with anemia are thyroid problems, gestational DM, and epilepsy.

Keywords: Anemia, perinatal outcome, pregnant women, prevalence, risk factor

Introduction

During pregnancy, undernutrition and malnutrition cause maternal and fetal deaths, with fetal growth retardation contributing about 80% neonatal and 40% infant deaths including stunting growth in the early 2 years of the child's life, also include maternal deaths at delivery. Anemia is one of the main causes for poor maternal health, which is widely seen in developed as well as developing countries.[1]

In Southeast Asia, 80% of maternal deaths are caused due to anemia, whereas in India, anemia is the second most common cause of maternal death. Anemia in pregnancy can lead to intrauterine growth retardation, poor neonatal health, and perinatal health.[1]

According to the World Health Organization (WHO) report, worldwide, half a billion reproductive-age women are affected by anemia. Out of this, 38% of the anemic women were pregnant.[2] Anemia is considered as one of the most common complications during pregnancy, which usually results due to the physiological changes that occur during pregnancy. This

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problem is mainly seen in developing countries where there is no proper diet, malnutrition, poor vitamin supplements during pregnancy, inadequate iron and folic acid intake, etc. Iron deficiency anemia is the most common type of anemia, which mainly affects women during their reproductive age.[3] In pregnancy, there is an increased demand for dietary nutrients and due to the improper diet and absence of nutritional supplements, the severity of the anemia increases.[4]

Anemia in pregnancy could also be due to blood loss, various infections, chronic diseases, parasites, and chronic hemolysis, and several factors have been considered as contributing factors, such as an improper lifestyle, multiple pregnancies, consumption of alcohol, smoking, and various disorders of menstruation. Due to anemia, there may be an increased risk for preterm deliveries, heart failure, postpartum hemorrhage, and sometimes even death. Newborns may be delivered with low birth weight, birth asphyxia, or perinatal death. Newborns born from anemic mothers are at a greater risk of being physically and mentally impaired and exhibit poor school performance in later periods of life.[5]

Several times, anemia in pregnancy may become the contributing factor to maternal mortality and morbidity. There are various factors responsible for anemia during pregnancy, such as an increase in gestational age, multiparity, no spacing between births, if the women has history of increased menstrual bleeding, an intestinal worm infection, and any blood loss during pregnancy. Sometimes, anemic mothers exhibit some medical health problems such as nutritional deficiency-related problems, thyroid-related disorders, or hypertensive disorder.[6]

Various related studies have shown an association between anemia and maternal mortality. Anemia in pregnancy not only affects the health of the woman but also may result in neonatal complications like growth retardation, low birth weight babies, IUFD, or stillbirth. In developing countries like India, the prevalence of anemia among pregnant women is high due to poverty, inadequate availability of medical services, unawareness regarding dietary intake, inadequate nutritional intake, family size, hookworm infestation, improper guidance regarding nutrition, etc.[7] Considering all these reasons, the investigator took the initiation to explore the prevalence and find the perinatal outcome.

Objectives of the study

a. To assess the prevalence of anemia among registered pregnant women.
b. To find the risk factors associated with anemia in pregnancy.
c. To assess the perinatal outcomes among anemic mothers.

Research Methodology

A quantitative research approach with an explorative descriptive research design was used in this present study. The target population is comprised of all pregnant women above 20 years of age. The participants were chosen using a non-probability purposive sampling technique based on inclusion criteria, and the process continued until 107 representative samples were selected.

A questionnaire was designed by the researcher to assess the risk factors and perinatal outcome. Demographic data were collected to understand frequency percentages. Data were collected after the approval from the ethical committee. Data were collected at the Tertiary Care Maternity Hospital. The participants who were coming under the inclusion criteria were instructed to fill a consent form to be a part of this study and explained them the purpose of the study. Registered pregnant mothers were interviewed, and data were also collected from the antenatal card. A total of 107 registered pregnant mothers consented and participated in the study.

Results

Section A

Distribution of pregnant women based on demographic characteristics.

Table 1 shows that majority 103 (96.2%) of pregnant women between the age group of 20–30 years and mostly 62 (57.9%) women were Hindus and had secondary school education 49 (45.8%).

Figure 1 shows that majority 78 (73%) of the women were unemployed (housewife).

Figure 2 shows that majority 62 (57.9%) were in their second pregnancy.

Table 1 states that the majority of the women have more than 2 years of married life – 71 (66.4%) and only 4 (3.7%)

Table 1: Distribution of pregnant women based on demographic characteristics

Demographic characteristics	*f*	%
Age in years		
20–30	103	96.2
31–40	3	2.9
41 and above	1	0.9
Religion		
Hindu	62	57.9
Muslim	45	42.1
Educational status		
Illiterate	2	1.9
Primary	40	37.4
SSC	49	45.8
Graduate	16	14.9
Birth Spacing		
≥1 year	28	26.2
2 years	36	33.6
3 years and above	43	40.2
Duration of Marriage		
<2 years	36	33.6
More than 2 years	71	66.4
Previous Abortion		
Yes	4	3.7
No	103	96.3
Received iron supplements		
Yes	102	95.3
No	5	4.7

women had a previous abortion. The majority of women had birth spacing of 43 (40.2%) 3 years and above. Most of the women, 102 (95.3%), received iron supplements during the second trimester.

Section B: Prevalence of anemia based on severity

Figure 3 shows that most of the mothers 85 (78.4%) had moderate anemia as per the WHO classification.

Section C: Distribution of pregnant mothers based on risk factors

Table 2 reveals that only 5(4.7%) pregnant women had thyroid problems, gestational D.M, and epilepsy one each.

Section C: Distribution of maternal and neonatal outcome

Figure 4 shows that majority 21(70%) of women delivered vaginally.

Figure 5 states that majority of the women had normal labor 25(83.3%).

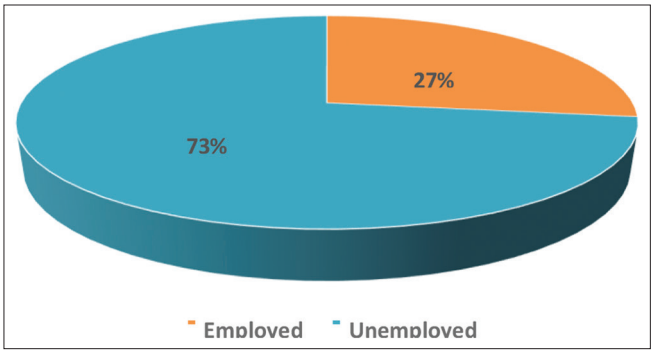

Figure 1: Distribution of pregnant women based on occupation

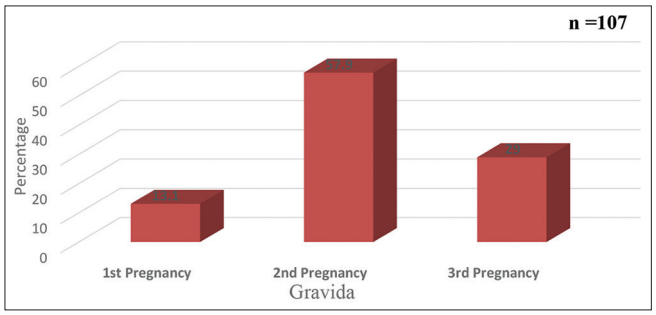

Figure 2: Distribution of pregnant women based on gravida

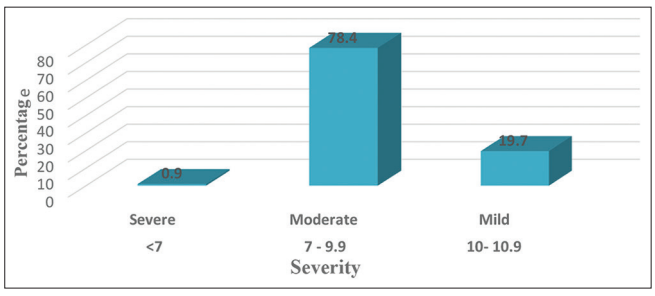

Figure 3: Prevalence of anemia based on severity

Table 3 shows that majority of newborn delivered normally 20 (66.7%) only 5 (16.7%) had IUGR. Most of the newborns are appropriately for the age of gestation 20 (69%) and majority had good Apgar score more than 6 in one min 25 (86.2%).

Table 3 depicts that the majority did not receive resuscitation 27 (93.1%), and no one had congenital abnormality. Only 2 (6.7%) mortalities were reported among them, one was IUFD and another one was premature newborn that died after 2 days.

Figure 6 states that majority newborn weighed above 2.5 kg (69%).

Discussion

The present study shows that under the age group of 20–30 years, the majority of 103 (96.2%) pregnant women were present. A similar result was observed in a study conducted by Ravishankar Suryanarayana, which showed that anemia was common in the 21–30 years of age group (66.1%),[4] and another similar study conducted by Meharun-Nissa Khaskheli showed that the majority of the women were belong to the age group of 21–30 years, with 170 (55.73%), while 60 (19.67%) women were below 20 years of age.[8]

The present study shows the prevalence of anemia that majority of the mothers 85 (78.4%) had moderate anemia as per the WHO classification. Similar study results were shown by

Table 2: Distribution of pregnant mothers based on risk factors

Risk factors	*f*	%
Thyroid problems	5	4.7
Gestational DM	1	0.9
Epilepsy	1	0.9
No problems	100	93.5

Table 3: Distribution of newborn based on their outcome

Neonatal Out Come	*f*	%
Neonatal birth outcome		
Normal	20	66.7
IUGR	5	16.7
Prematurity	4	13.3
IUFD	1	3.3
Type of gestational age		
SGA	9	31
AGA	20	69
Apgar score (<6 in 1 min)		
Yes	4	13.8
No	25	86.2
Received any resuscitation during birth		
Yes	2	6.9
No	27	93.1
Any congenital anomaly		
Yes	0	0
No	30	100
Hemoglobin level of the newborn		
<13.5	2	6.9
>13.5	27	93.1
Neonatal mortality		
Yes	2	6.7
No	28	93.3

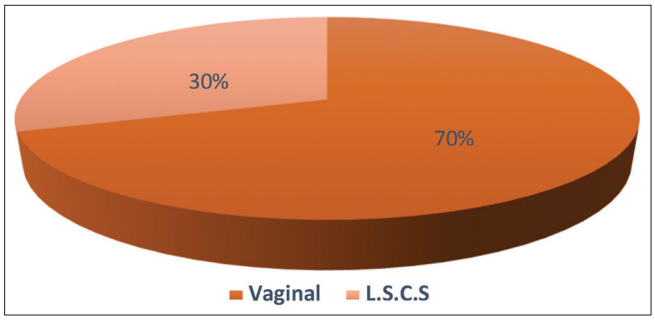

Figure 4: Mode of delivery of pregnant anemic women

Figure 5: Type of labor among anemic pregnant women

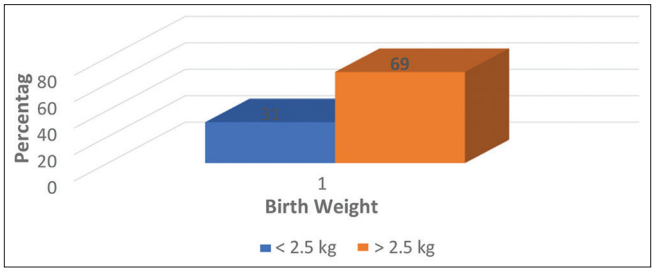

Figure 6: Distribution of weight of the newborn at birth

Judith Angelitta Noronha that the maximum and minimum prevalence of severe anemia affecting pregnant women is 20 and 2.7%,[9] and another similar study was conducted by Huifeng Shi. Among 18,948,443 pregnant females, 17.78% were diagnosed with anemia during pregnancy, where 9.04% having mild anemia, 2.62% having moderate anemia, and 0.21% having severe anemia.[10]

Conclusion

This study clarified that anemia is prevalent among pregnant women, particularly moderate anemia. Anemia during pregnancy not only affects the health status of the mother but also impacts birth outcomes. Prematurity and low birth weight are the most common neonatal complications. Since the sample size was small, overall prevalence and outcome were not able to be evaluated as per the objectives.

Conflict of Interest

The author declares that we have received support and guidance from MGM New Bombay College of Nursing for the submitted work; we have not received any financial support from any organizations that might have an interest in the submitted work in the previous years; and the authors received no financial support for the research, authorship, and publication of the article.

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