

Awareness of anemia in pregnancy among the caregivers of pregnant women in Saveetha Medical College Hospital

Padmavathi Narahari*, Hephzibah kirubamani**

* Assistant Professor, Department of Obstetrics and Gynecology, Saveetha Medical College, Saveetha University, Chennai, Tamil Nadu, India

** Professor, Department of Obstetrics and Gynecology, Saveetha Medical College, Saveetha University, Chennai, Tamil Nadu, India

Abstract- Anemia is the most common nutritional deficiency disorder in the world. WHO has estimated that prevalence of anemia in developed and developing countries in pregnant women is 14 per cent in developed and 51 per cent in developing countries and 65-75 per cent in India. Anemia is one of the important factor which decides the outcome of pregnancy. Affects of anemia among pregnant women includes increased risk of low birth-weight or prematurity, perinatal and neonatal mortality, increased risk of maternal morbidity and mortality. Anaemia is estimated to contribute to more than 115,000 maternal deaths and 591,000 perinatal deaths globally per year(4).

This study is focused on the awareness of affects of anemia in pregnancy among the persons who are taking care of these women at home(caregivers). Indian customs have food taboos and implementation of supplemental iron during pregnancy experiences a kickback because of the common belief that any drug in pregnancy can cause teratogenicity(malformed fetus). We have taken the help of a questionnaire which targets the knowledge of anemia in various aspects like affects in pregnancy, sources of food which can improve anemia, foods which can affect the absorption of iron etc. among these caregivers.

AIM: To find out the awareness of anemia in pregnancy among the caregivers of pregnant women reporting to Saveetha Medical College and Hospital.

RESULTS: Among 300 participants, 70% were unaware of the symptoms of anemia, 100% were unaware of the cardiac complications, postpartum hemorrhage, maternal mortality due to anemia in pregnancy; however more than 70% were aware of the diet rich in iron and proteins which can improve anemia 100% of the participants were unaware that iron tablets should not be taken with tea or coffee or milk. No significant difference was found between the level of awareness and the demographic variables like sex, age, income, literacy or caregiver's relation with the patient.

CONCLUSION: Participants were totally unaware of the grave complications of anemia. It needs to be re-emphasized that through media-radio, television (which contributed to the sources of health information in 48.4% of the participants) we can impart more knowledge to the general population regarding the complications of anemia and need for regular follow up with their doctor(who contributed to sources of health information in 46.3% of the participants) for decreasing the maternal mortality in India. Distribution of pamphlets with information regarding these aspects of anemia to the caregivers will definitely improve the knowledge of anemia among these people.

Index Terms- Anemia, pregnant women, awareness, knowledge.

I. INTRODUCTION

Anaemia has major consequences on human health as well as social and economic development. Anaemia is the world's second leading cause of disability and is responsible for about 1 million deaths a year, of which three-quarters occur in Africa and South-east Asia⁸. In terms of lost years of healthy life, Iron Deficiency Anaemia causes 25 million cases of Disability Adjusted Life Years (DALYs); this accounts for 2.4 per cent of the total DALYs worldwide⁹. In the World Health Organisation (WHO)/World Bank rankings, IDA is the third leading cause of DALYs lost for females aged 15–44 years^{10, 11}. Physical and cognitive losses due to IDA cost developing countries up to 4.05 per cent loss in gross domestic product (GDP) per annum, thereby stalling social and economic development¹². When results are expressed as a percentage of GDP these losses are 1.18 per cent of GDP in India.

The consequences of anaemia in women are enormous as the condition adversely affects both their productive and reproductive capabilities. . Among women, iron deficiency prevalence is higher than among men due to menstrual iron losses and the extreme iron demands of a growing foetus during pregnancies, which are approximately two times the demands in the non-pregnant state. Worldwide, it is estimated that about 20 per cent of maternal deaths are caused by anaemia; in addition, anaemia contributes partly to 50 per cent of all maternal deaths¹⁴. First, anaemia reduces women's energy and capacity for work and can therefore threaten household food security and income. Second, severe anaemia in pregnancy impairs oxygen delivery to the foetus and interferes with normal intra-uterine growth, resulting in intrauterine growth retardation, stillbirth, LBW and neonatal deaths. Therefore, anaemia is a major contributor to poor pregnancy and birth outcomes in developing countries as it predisposes to premature delivery, increased perinatal mortality and increased risk of death during delivery and postpartum . One of the primary aims of antenatal care is to prevent and treat anemia during pregnancy, since the safety of labour and the puerperal state, to say nothing of the future health, depend upon the state of the patient's hematological reserve

Implementation of any programme to reduce the incidence and prevalence of anemia in pregnant women needs participation of the beneficiaries which again is affected by the awareness of the benefits among the caregivers

Hence there is a potential need to reinforce the knowledge of anemia in pregnancy among the caregivers.

This need to educate the caregivers lead us to conduct this study.

II. OBJECTIVES

- a) To describe the background of the caregivers who will be interviewed.
- b) To ascertain the level of awareness in the target population
- c) To propose methods for increasing awareness in the target population

III. MATERIALS AND METHODOLOGY

Study population: caregivers of the pregnant women with anemia attending saveetha hospital

Study area: Saveetha Medical College hospital, Thandalam.

Study period: Aug2013 to jan2014

Sample selection

All anemic antenatal patients attending OP and IP were included

INCLUSION CRITERIA

All pregnant women with Hemoglobin <11 gm%

Definition of the caregiver: one who is taking care of the pregnant woman at home.

EXCLUSION CRITERIA

Caregivers of women with other medical disorders like hypothyroidism, heart disease, hypertension.

Attenders who do not take care of the woman at home.

PROCEDURE

Study was begun after approval from the institutional ethical board.

The caregivers of pregnant women who were anaemic by inclusion criteria were taken into the study. After informing them about the research and taking consent, a questionnaire was read by the caregiver or the investigator for which they had to answer according to the options given. The questionnaire was analysed on a scale to measure awareness of anemia among these caregivers.

Sample size : 300

Statistical analysis: Results were analyzed by descriptive and inferential statistics. Chi square test was used to establish whether there was any significant difference in knowledge among various demographic variables.

IV. RESULTS

Background of the caregivers :

Among the 300 caregivers involved in the study, 91.3% were females and 8.7% were males.

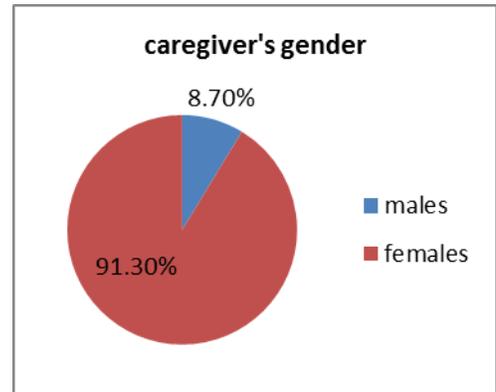


figure1:GENDER DISTRIBUTION

Relationship of the caregivers with the patients: among 300, 51.7% were mothers, 32.3% were mother in law, a small proportion of 7.3% were the sibling, whereas 8.7% were the husbands

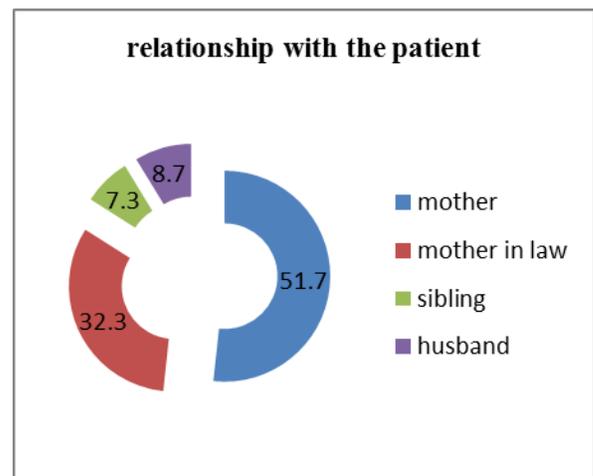


FIGURE2:RELATION WITH PATIENT

Literacy of the caregivers: Among 300, 41.3% were illiterate, 38% had a primary education, 14.7% had made it upto 10th/12th, and only 6% were graduates/postgraduates.

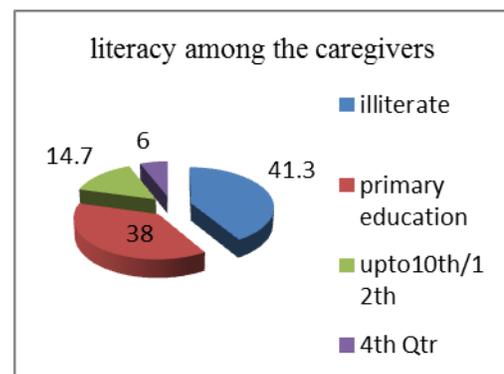


FIGURE 3:LITERACY STATUS

Income of the caregivers: among 300, 5.7% were earning >10,000 per month, 19.7% were earning 3-5,000 per month and 30.7% had income between 5-10,000 per month. A large proportion about 44% did not want to reveal their income.

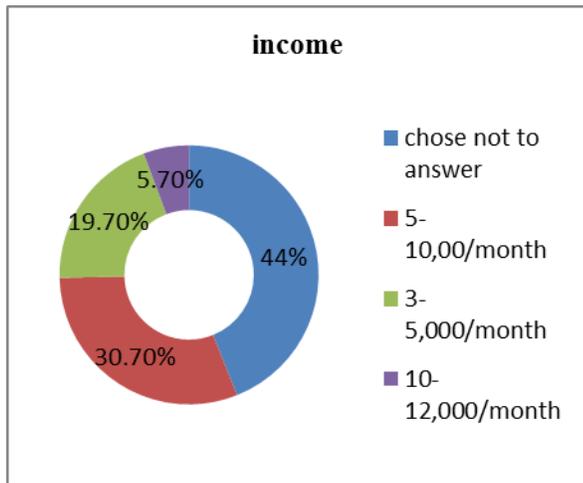


FIGURE 4: FINANCIAL STATUS

Sources of health information among the caregivers: Among 300, 43.6% depended on their physician for health information, 27.7% depended on radio, 20.7% on television and 8% on newspaper.

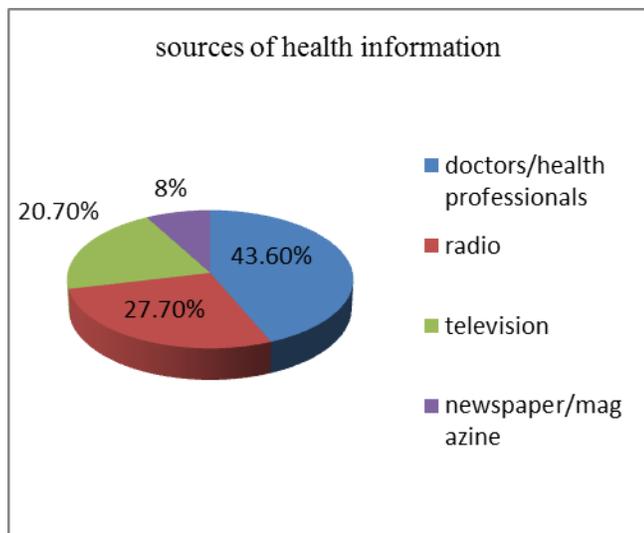


FIGURE 5: HEALTH INFORMATION SOURCE

Knowledge of the common causes of anemia

Cause of anemia/awareness	Nutritional deficiency	Worm infestation
Aware	75 (25.1%)	76 (25.3%)
Unaware	224 (74.9%)	165 (55%)

Denied the cause	1 (0.3%)	59 (19.7%)
------------------	----------	------------

Knowledge of symptoms and signs of anemia

	symptoms	signs
Aware	90(30%)	198(66%)
Unaware	210(70%)	102(34%)

Knowledge regarding food which can improve anemia

	Diet rich in Iron and protein can improve anemia	Pulses and egg as sources of iron	Green leaves, jiggery, beetroot as sources of iron	Lemon, amla, orange, guava as sources of vit.C	Non-veg meals improve anemia
Aware	212 (70.7%)	125 (41.7%)	180 (60%)	121 (40.3%)	250 (83.3%)
Unaware	88 (29.3%)	175 (58.3%)	120 (40%)	179 (59.7%)	50 (16.7%)

Knowledge of affects of anemia in pregnancy

	Anemia affects pregnancy	heart failure	UTI	HTN/APH	Affects labour	PPH
aware	237 (79%)	0	0	0	116 (38.7%)	0
unaware	63 (21%)	300 (100%)	300 (100%)	300 (100%)	184 (61.3%)	300 (100%)

Knowledge of affects on maternal and perinatal mortality and morbidity

	Preterm labour	Affects newborn	Low birth weight babies	New born infections	Fetal anemia	Maternal mortality
aware	0	225 (75%)	0	35 (11.7%)	210 (70%)	0
unaware	300 (100%)	75 (25%)	300 (100%)	265 (88.3%)	90 (30%)	300 (100%)

Knowledge regarding contraception and spacing between pregnancies

	Contraceptive methods	Minimum spacing of 2 years between pregnancies
aware	205(68.3%)	54(18%)
unaware	95(31.7%)	246(82%)

Knowledge of iron supplements and blood transfusion in pregnancy

	Iron supplements necessary in pregnancy	Blood transfusion in severe anemia	Iron supplements not to be taken with tea and coffee
aware	145(48.3%)	63(21%)	0
unaware	155(51.7%)	237(79%)	300(100%)

Chi square test was done on the variables of demography to establish any difference in the knowledge among the caregivers based on sex; literacy etc. which did not reveal any positive association.

V. DISCUSSION

The results of the study reveal the following data-Among 300 participants, 224(74.9%) were unaware of the commonest cause of anemia as nutritional deficiency.

And 165(55%) were not aware that worm infestation also can lead to anemia.

Among 300 participants, 210(70%) participants said they were unaware of symptoms of anemia whereas 90(30%) were aware.

Of the 300, 102 (34%) were aware of the signs of anemia like pallor whereas 198(66%) were not aware.

Regarding the knowledge of diet which can improve anemia, 180(60%) among the 300 participants said they knew that greenleafy vegetables and jiggery can improve anemia, also 250(83.3%) participants said non-vegetarian diet helps improve anemia.

Although 237(79%) were aware that anemia can affect pregnancy, none of the participants were aware of the fact that anemia can lead to heart failure, urinary tract infection, hypertension, postpartum hemorrhage and maternal mortality.

Out of 300 participants, 205(68.3%) were aware of the contraceptive methods whereas 246(82%) did not know that minimum spacing advisable between two pregnancies is two years.

Although 145(48.3%) participants were aware of the need to take iron supplements during pregnancy, 237(79%) were unaware of the need for transfusion of blood in severe anemia and none of the participants were aware that iron tablets should not be taken with tea, coffee or milk.

There was no significant difference in knowledge of anemia in pregnancy with the sex, age, literacy or income of the caregiver.

VI. CONCLUSION

In conclusion, overall awareness among the participants regarding anemia in pregnancy was 38%.

Participants were unaware of the grave complications of anemia like heart failure, postpartum hemorrhage and maternal mortality.

Anemia being a major contributor to the maternal mortality and morbidity due to its complications in pregnancy, it is a need of the hour to disseminate this basic knowledge which can have an impact on our health care system.

There was no significant difference in the knowledge of anemia among the caregivers based on their sex, literacy, income and socioeconomic status.

It needs to be re-emphasized that through media-radio, television (which contributed to the sources of health information in 48.4% of the participants) we can impart more knowledge to the general population regarding the complications of anemia and need for regular follow up with their doctor (who contributed to sources of health information in 46.3% of the participants) for decreasing the maternal mortality in India.

APPENDIX

QUESTIONNAIRE BACKGROUND

1. Have you ever been diagnosed with anemia? a) Yes b) No
2. Are you caregiver of pregnant woman diagnosed with anemia? a) Yes b) No
3. Do you have a medical background or fall into any of the following category- doctor, nurse, and medical technician? a) Yes b) No
4. Caregiver's gender a) male b) female
5. Relationship with the patient. Caregiver is— a) mother b) father c) mother in law d) father in law e) sibling f) spouse g) not related
6. Level of education of the caregiver being interviewed a) illiterate b) primary education c) upto 12th std d) graduate/post-graduate
7. Approximate monthly household income a) <3000 b) 3k-5k c) 5k-10k d) 10k-20k e) >20k f) I choose not to answer
8. What are the sources of information do you use routinely for health a) internet b) my doctor or health professional c) relative or friend talks, seminars or health awareness camp d) radio e) television f) newspaper or magazine g) other

KNOWLEDGE OF ANEMIA

1. Have you ever heard of anemia? a) Yes b) No
2. Nutritional deficiency is the commonest cause of anemia in pregnant women. a) True b) False c) I don't know
3. Worms in the intestines can cause anemia.

- a)True b)False c) I don't know
4. Facial pallor, conjunctival pallor, white nails are features of anemia.
a)True b)False c) I don't know
5. Breathlessness, fatigue are the symptoms of anemia.
a)True b)False c) I don't know
6. Diet rich in protein, iron and vitamin C can improve anemia
a)True b)False c) I don't know
7. Pulses and egg are rich sources of protein.
a)True b)False c) I don't know
8. Green leafy vegetables, drumsticks, beetroot, jiggery are rich sources of iron.
a)True b)False c) I don't know
9. Lemon, amla, orange, guava are rich sources of vitamin c.
a)True b)False c) I don't know
10. Non-veg meals especially red meat and liver good in improving anemia.
a)True b)False c) I don't know
11. Anemia can affect pregnancy.
a)True b)False c) I don't know
12. Anemia can cause heart failure in pregnancy.
a)True b)False c) I don't know
13. Anemia can precipitate urinary infections in pregnancy.
a)True b)False c) I don't know
14. Anemia can aggravate bleeding in pregnancy and hypertension
a)True b)False c) I don't know
15. Anemia can affect labour .
a)True b)False c) I don't know
16. Anemia can cause preterm labor?
a)True b)False c) I don't know
17. Anemia can cause increased bleeding after delivery.
a)True b)False c) I don't know
18. Anemia can affect the newborn.
a)True b)False c) I don't know
19. Anemia can lead to low birth weight babies.
a)True b)False c) I don't know
20. Anemia can lead to newborn infections.
a)True b)False c) I don't know
21. Anemia in pregnancy can cause anemia in the newborn later in the life.
a)True b)False c) I don't know
22. Anemia can cause maternal mortality .
a)True b)False c) I don't know
23. Anemia in pregnancy can be prevented.
a)True b)False c) I don't know
24. Iron supplements are necessary in pregnancy.
a)True b)False c) I don't know
25. There is high prevalence of anemia in pregnancy in India.

- a)True b)False c) I don't know
26. Are you worried of developing anemia? a)Yes b)No
27. Have you heard of blood transfusion? a)Yes b)No
28. Blood transfusion is necessary in severe anemia.
a)True b)False c) I don't know
29. Are you ready to donate blood if your patient requires? a)Yes b)No
30. Iron tablets should not be taken with tea, coffee or milk.
a)True b)False c) I don't know
31. Are you aware of contraceptive methods? a)Yes b)No
32. Minimum spacing between each pregnancy must be 2years. a)True b)False c) I don't know

ACKNOWLEDGMENT

We express our acknowledgement to Dr Gopi Biostatistician who helped in evaluating the information obtained into statistical data and gave conclusions on the results .

REFERENCES

- [1] Bodnar LM, Scanlon, et al: high prevalence of postpartum anemia among low income women. Am JOG 2001
- [2] ACOG: Nutrition and woman. Education Bulletin no.229, oct 1996
- [3] Centre for Disease Control and Prevention: criteria for anemia in children and child-bearing aged women
- [4] Pritchard JA, Scott DE: iron demands in pregnancy.1970
- [5] Bayoune f, Subirran- Bisset C et al: iron therapy in iron deficiency anemia in pregnancy: intravenous verses oral route.AJOG 2002
- [6] Letsky EA:Hematological disorders. In Barron W M: Medical disorders of pregnancy, 3rd edition, p 267
- [7] Ezzati M, Lopez AD, Rodgers AA, Murray CJL. Comparative quantification of health risks: global and regional burden of disease attributable to selected major risk factors. Geneva, Switzerland: World Health Organization, 2004.
- [8] Worldwide prevalence of anaemia 1993–2005 WHO Global Database on Anaemia

AUTHORS

First Author – Padmavathi Narahari, MBBS, MS, Saveetha University, naraharipadma@gmail.com.

Second Author – Hephzibah kirubamani , M.D,D.G.O,PhD,D.Sc,FRCOG, Saveetha University, hepsi1002@yahoo.co.in.

Correspondence Author – Padmavathi Narahari, MBBS, MS, Saveetha University. naraharipadma@gmail.com 10/27, Bunder Garden, 3rd Street, Perambur, Chennai-11.09677134787