Original Research Paper

Obstetrics & Gynaecology

PREGNANT WOMEN WITH SEVERE ANAEMIA IN LABOUR: PREVELENCE, SOCIODEMOGRAPHIC DETERMINANT AND OBSTETRICS OUTCOME

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ABSTRACT **Background:** Anaemia is most common hematological issue encountered during pregnancy and one of the major cause for maternal and perinatal morbidity due to disturbed physiological milieu. Our objective was to study the pregnancy outcome in women with severe anaemia in labour. **Method:** A Prospective observational study was conducted by collecting data from medical records of around 100 consecutive consenting women with severe anaemia in labour with >28weeks of pregnancy which admitted in a labour room of a tertiary health care center of south Gujarat over a period of one year after HREC approval. **Results:** In our study Majority of the subjects (73 %) were in the age group of 19 – 29 years, Majority (70%) subjects were unbooked. 75% subjects were with severe anaemia (Hb = 4 – 7 gm/dl) and 25% subjects were of very severe anaemia (Hb < 4 gm/dl). Majority of the (69 %) subjects were multipara and (31%) subjects were primipara. In multipara, majority (73.91%) subjects were having < 2 years of birth spacing interval. 84% subjects had microcytic hypochromic anaemia. 62% subjects had vaginal delivery and 36% subjects were undergone for Emergency LSCS. **Conclusion:** Increasing utilization of healthcare facility at every step(rural/urban) by needy women can improve obstetric & perinatal outcome associated with maternal anaemia. To overcome complications of anemia during pregnancy & in labour early detection of cases & early catching of mild to moderate cases of anaemia & their timely management required. All these can improve our clinical & Reproductive outcome.

KEYWORDS : Severe Anaemia in labour, Socio-demographic factors, obstetric parameters.

INTRODUCTION

Anaemia among pregnant women is a serious global health concern. The prevalence of anaemia during pregnancy is 18% in developed countries and 56% in developing nations [1]. According to the latest World Health Organization (WHO) report of 2016, the global prevalence of anaemia during pregnancy is 40.1 %, varying from 17 % in Canada to over 60 % in some African countries [2].In, India nearly 40 – 90 % of pregnant women are anaemic, India alone contributes to about 80 % of the maternal deaths due to anaemia in South Asia [3]. There is a marginal decrease in prevalence of anaemia in pregnant women in India from 58 % in NFHS – 3 (National Family Health Survey 2005 – 06) to 50 % in NFHS – 4 surveys (2015 – 16) [4] may be due strengthening of health services. According to the NFHS – 4, 53 % of non-pregnant women (in age group of 15 – 19 years) and 58.5 % of children in the age group of 6 – 59 months had anaemia [5].

Anaemia is responsible for 20 – 40 % of direct and indirect maternal deaths because of increased susceptibility to cardiac failure, sepsis and association with preeclampsia, antepartum haemorrhage and thrombocytopenia. Risk of preterm delivery, low birth weight, prematurity, intrauterine growth retardation, intrauterine death and birth asphyxia is increased causing increased perinatal morbidity and mortality.

MATERIALS AND METHODOLOGY

An observational study was conducted collecting data from medical records of around 100 consecutive consenting subjects admitted in a tertiary health care center of south Gujarat over a period of 1 year after HREC approval. All women with Severe Anaemia in labour delivering in tertiary health care center of South Gujarat were enrolled in this study. All Mothers and babies were followed till discharge from hospital.

Sample size: As per 2019 labour room data, 100 consecutive subjects.

Inclusion criteria:
• All consenting women in labour with > 28 weeks having severe anaemia admitted in Obstetrics and Gynaecology department of a tertiary care hospital.

Exclusion criteria:
• Women with < 28 weeks pregnancy with severe anaemia.
• Women with mild and moderate anaemia.

RESULTS

A total of 100 pregnant women with severe anaemia were identified during the study period.

TABLE: 1 SOCIO-DEMOGRAPHIC FACTORS (N = 100)	
AGE (YEARS)	
< 19	5%
19-29	73%
> 30	22%
RELIGION	
HINDU	85%
MUSLIM	11%
OTHER	4%
SOCIOECONOMICAL CLASS	
UPPER	0 %
UPPER MIDDLE	04 %
LOWER MIDDLE	30 %
UPPER LOWER	16 %
LOWER	50 %
EDUCATION	
ILLITERATE	68%
SCHOOL	28%
DEGREE	04%
DOMICILE STATE	
GUJARAT	53 %
MAHARASHTRA	13 %
BIHAR	23 %
OTHER	11 %
OCCUPATION	

HOUSE WIFE	85%
LABOURER	15%
DIET	
VEGETARIAN	56%
MIXED	46%
BMI	
UNDERWEIGHT	23%
NORMAL	56%
OVERWEIGHT	21%

The mean age of our subjects was 24 years. Most of the subjects (73%) belonged to age group of 19-29 years, 22 % age of subjects were in the age group of > 30 years and the least that is 5 % were in the age group of < 19 years. Majority of subjects belonged from LOWER socio- economic class as according to modified kuppuswamy classification. Most of the subjects were illiterate (68%). Out of 100 subjects, 53% subjects live in Gujarat and other 47% subjects were migration population belongs to Maharashtra, Bihar and other area. Based on education, out of 100 subjects, majority that is 68 subjects were illiterate, 28 subjects had education in school only and 4 subjects had degree. Based on occupation, out of 100 subjects, 85 subjects were house wives and 15 subjects were labourers. In this study, out of 100 subjects, 54 % subjects were vegetarian and 46 % subjects were taking mix diet. Out of 100 subjects, majority 56% subjects were having normal range BMI, and 23% subjects were underweight and 21% subjects were overweight.

TABLE-2: OBSTETRICS VARIABLES (N=100)	
GESTATIONAL AGE AT DELIVERY(WEEKS)	
28 – 34	27 %
34 – 37	39 %
37 – 40	28 %
> 40	06 %
PARITY	
PRIMIGRAVIDA	31 %
MULTIGRAVIDA	69 %
BOOKING STATUS	
REGISTERED	30%
REFERRED	34%
EMERGENCY	36%
CONTRACEPTION	
USED	14%
NOT USED	86%
INTERDELIVERY INTERVAL (N = 69)	
<2 YEAR	51 (26%)
> 2 YEARS	18 (74%)
MODE OF DELIVERY	
VAGINAL DELIVERY	62 %
LSCS	36 %
LAPROTOMY	02 %

Majority of the (69 %) subjects were multipara and (31%) subjects were primipara. Out of 100 subjects, majority 39% were admitted to hospital with gestational age 34-37 weeks. And remaining 27% were with gestational age 28-34 weeks; 28 % between 37-40 weeks and 6% between > 40 weeks.

Out of 100 subjects of the study population, 36 % subjects were of emergency, 34 % subjects were referred from different health facilities and 30 % subjects were registered at our institute. Out of 69 subjects, who are multipara, majority 51(73.91%) subjects were having <2 years of birth spacing interval; which is most common causative factor for development of anaemia and 18(26.08%) subjects were having > 2 years of birth spacing interval. In our study, out of 100 subjects, 14 subjects had used contraceptive measures before current pregnancy.

Out of 100 subjects, 62 % were delivered vaginally; 36% were delivered by Cesarean section and 2% had Laparotomy due to ruptured uterus.

TABLE-3: ANAEMIA PARAMETERS (N=100)	
ANAEMIA	
VERY SEVERE (<4 GM/DL)	25 %
SEVERE (4-7 GM/DL)	75 %
PERIPHERAL SMEAR	
MICROCYTIC HYPOCHROMIC	84%
MACROCYTIC	06%
SICKLE CELL	10%
TRETMENT TAKEN	
No any treatment taken	39 %
Only Oral haematinics	37 %
Oral haematinics + Deworming	03 %
Oral haematinics + Blood Transfusion	15 %
Parenteral Iron + Inj. Vit. B12 (Without any oral haematinics)	06

Out of 100 subjects, 75 subjects were with severe anaemia (Hb = 4 – 7 gm/dl) and 25 subjects were of very severe anaemia (Hb < 4 gm/dl). Out of 100 subjects, Majority 84 subjects had microcytic hypochromic picture in peripheral smear. As Iron deficiency is most common cause for development of anemia. 10 subjects are having sickle cells anaemia. 6 subjects were with macrocytic picture. Due to nutritional deficiency, Megaloblastic anaemia. Out of 100 subjects, 61 subjects have taken treatment for anaemia during pregnancy. Amongst them, 37 subjects had taken only oral haematinics. 3 subjects had taken oral haematinics along with deworming treatment with tab. Albendazole (400mg) 1 HS. 15 subjects had been gone through blood transfusion along with oral haematinics. 6 subjects had taken parenteral iron with Inj. Vitamin B12 without any oral haematinics. 39 subjects had not taken any treatment for anaemia during their antenatal period.

DISCUSSION

Out of 100 subjects, 25 subjects having very severe anaemia (<4 gm/dl) and 75 subjects having severe anaemia(4-7 gm/dl). In this prospective observational study, majority 73 % subjects were in the age group of 19 – 29 years. childhood & adolescence nutritional status is important measures for prevenation of anaemia in adolescent group. The Mean age of our study participants was 24 years. In this study, 30 % subjects were booked at our institute and 70% subjects were unbooked (referred + emergency).This shows in unbooked subjects increase incidence of anaemia due to lack of or less number of antenatal visits . According to that out of 100 subjects, Majority of the subjects belong to lower socio-economic class that is 50 % and Only 4 % subjects belong to upper middle socio-economic class. anaemia & malnutrition are common in lower class , which correlate with our findings also. In our study, 68 % subjects were illiterate. Lack of knowledge, worm infestation, lack of maintain personal hygiene and care, inadequate dietary supplementation, bed habit like alcoholism, cigarette smoking, Poor access to health care facility can lead to development of anaemia. Out of 100 subjects 23 % subjects were underweight, which correlate with nutritional anaemia common among them due to inadequate dietary habit. Good nutrition and adequate calories are essential for pregnant women. Primary antenatal care & subsequent antenatal visit at district hospital or tertiary care centres are having crucial role in detection & treatment of anaemia. No significant difference in association of anaemia in women having vegetarian or mixed diet. In this study, out of 100 subjects, 75 subjects were with severe anaemia (Hb = 4 – 7 gm/dl) and 25 subjects were of very severe anaemia (Hb < 4 gm/dl).

Out of 75 subjects with severe anaemia, majority 49 (65.33 %) subjects were multipara, and 26(34.66%) subjects were primipara.

Multiparaity & short inter delivery interval has direct effect on maternal nutritional status. By increasing awareness for use

of contraception for birth spacing & with counselling for same incidence of anaemia can be reduced. In our study, Out of 100 subjects,

- 62 subjects had vaginal delivery
- 36 subjects were undergone for Emergency LSCS for various reasons.
- 02 subjects were undergone for laparotomy.

Majority of the subjects presented with weakness/easy fatiguability. Out of 100 subjects, 61 subjects have taken treatment for anaemia during pregnancy and 39 subjects had not taken any treatment for anaemia during their antenatal period. This data further shows importance of antenatal care & visits. Correction of anaemia in antenatal period improve haemoglobin level and reduce morbidity.

- Out of 100 subjects, Majority 84 subjects had microcytic hypochromic picture in peripheral smear. As Iron deficiency is most common cause for development of anaemia in Nutritional anaemia.
- 10 subjects are having sickle cells anaemia, as sickle cell anaemia is hereditary disease, more common in south Gujarat due to consanguineous marriage.
- 6 subjects were with macrocytic picture. Due to nutritional deficiency, Megaloblastic anaemia.

CONCLUSION

Anaemia affects significantly Maternal & Perinatal outcome in terms of increasing maternal & perinatal morbidity & mortality. Keeping emphasis on prior antenatal visits, early diagnosis & targeted timely treatment of such cases can increase maternal & perinatal salvage rate in hospitals. Increasing utilization of healthcare facility at every step(rural/urban) by needy women can improve obstetric & perinatal outcome associated with maternal anaemia. To overcome complications of anemia during pregnancy & in labour early detection of cases & early catching of mild to moderate cases of anaemia & their timely management required. All these can improve our clinical & Reproductive outcome. Improving childhood & adolescence nutritional status specially in girl child. Improvement in female Education & Literacy, which will Furter increase employment opportunities. This can finally change her thoughts for late marriage & fewer children. All these together can avert complications that occurs due to teenage pregnancy. With different health education modalities (flow chart, pictures, audio -visual media, role play) & with proper counselling of women her family starting from Antenatal period can change their mindsets for usage of contraception. This can increase inter delivery interval (birth spacing) & by that reduction in maternal Anaemia. All women should get adequate Antenatal care & at least 4 Antenatal visits (recommended by WHO), 1st before /at 20weeks, 2nd by 28 weeks, 3rd between 32-34 weeks & 4th at full term. Improvement in community-based maternity care & rural healthcare facility.

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee.

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