ORIGINAL ARTICLE - PUBLIC HEALTH

TREND OF SEVERE ANAEMIA AMONG THE ANTENATAL MOTHERS IN MAYILADUTHURAI DISTRICT, TAMIL NADU , INDIA -2022

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Abstract

BACKGROUND : Anaemia is the major preventable cause and it warrants a public health concern in antenatal mothers since it affects both the mother and child and to the extreme it leads to death. Improper nutritional intake, poor socio-economic status and varied compliance to the oral iron therapy are the major preventable causes for anaemia in pregnant mothers.

OBJECTIVES : To describe the Trends of Severe Anemia among Antenatal Mother with respect to age, parity, in Mayiladuthurai district, Tamil Nadu during 1st April 2018 to 31st March 2022, Tamil Nadu, India

METHODS : The data will be collected and entered in excel sheets. Proportion and means will be calculated. The quantitative data will be analysed. All the data will be obtained from PICME portal (Pregnancy Infant Cohort Monitoring Evaluation)

RESULTS : There is a increase in antenatal registration through PICME platform from 2018 through 2022 (51.24% to 95.62%). Screening of Antenatal Mothers increased gradually from 60.06% – 95.41%.Detection of severe Anaemia cases increased from 42 cases to 103 cases (of 6993 and 10796 respectively) warrants for effective management and prevention of complications.

CONCLUSION : In this study Detection of severe anaemia in antenatal mothers is increased because of the effective screening of anaemia is increased in the antenatal mothers from 60% to 95%.

RECOMMENDATIONS : Early detection and identification of severe anaemia warrants needful implementation of services plays a major role maintenance of maternal and child health indicators in satisfactory limit which again reinforces the effectiveness of ongoing programme Severe anaemia is having morbidity and mortality risk in both mother and infant vs POST PARTUM HEMORRHAGE, INFECTION, SEPSIS & LOW BIRTHWEIGHT, PREMAURITY, STILL BIRTHS AND NEURAL TUBE DEFECT, LBW, PRETERM DELEVARIES, STILL BIRTH, NTD. With proper implementation of Anaemia Mukt Bharath, Intensified Iron Plus Initiative, WIFS Adolescent WIFS , National Deworming Programme we can prevent the anaemia.

KEYWORDS : Anaemia, Antenatal Mother, Trends of Severe Anemia, screening of anaemia, child health indicators, maternal health indicators

INTRODUCTION

Gestation, a physiological state, is an anabolic process that demands higher input to meet the needs of the growing foetus and supporting tissue. This mismatch between resources and consumption adds to nutritional deficiencies in mothers. Iron deficiency anaemia (IDA) is the most prevalent form and ranked as the third leading cause of disability adjusted life years lost for females aged 15–44 years by the World Health Organization (WHO).[1] Physiological changes like hemodilution, intended for saving quality blood losses at the time of delivery, also lead to anaemia. It is after consideration of these physiological factors that haemoglobin concentration less than 11 gm/dl and hematocrit less than 33 gm% has been defined as anaemia by WHO. Furthermore, for diagnosis of anaemia during the second trimester of pregnancy, the haemoglobin cut-off reduces to 10.5.[2] Total iron demand in pregnancy is about 900 mg (with a range of 700–1400 mg), of which about 500– contribution to maternal deaths due to anaemia in South Asian countries, which constitutes half of the global maternal deaths.[3]

Severe anaemia has innumerable maternal and foetal complications like low birth weight, premature delivery, intrauterine growth restriction, increased risk of 600 mg is accounted by the uterus and its contents. Around 150–200 mg is lost in the blood loss at delivery and a similar amount is expended in lactation.[4] Anaemia in pregnant women remains unacceptably high in developing countries as compared to developed countries. Our country is under a heavy burden of this disease, with 50.4% of pregnant women suffering from anaemia as per NFHS-4. There is an 80% birth asphyxia, low APGAR score at birth, increased perinatal and maternal mortality. Those with moderate anaemia experience decreased working efficiency and are prone to infections. Eclampsia, antepartum and postpartum haemorrhage are frequently

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associated. Screening , early detection and treatment of anemia improves the quality of overall pregnancy outcome in the mother and child. The purpose of this study is to foresee the importance of screening of antenatal mothers for anemia, especially severe anemia .

AIMS & OBJECTIVE

To describe the Trends of Severe Anemia among Antenatal Mother with respect to age, parity, in Mayiladuthurai district, Tamil Nadu during 1st April, 2018 to 31st march 2022, Tamil Nadu, India.

METHODOLOGY

STUDY DESIGN DURATION AND SOURCE OF THE DATA

A cross sectional study on screening of anemia is done on 62,467 Ante natal mothers, who were registered in PICME platform in the district of Mayiladuthurai during the period of 1-3-2018 to 31-03-2022. Data on their Hemoglobin values during their antenatal period were collected through Reproductive and Child Health (RCH) and Laboratory registers that were maintained in the PHC's. Screening and early detection of anemia is compared for each year and analysed and plotted in a simple bar diagram for easy understanding.

Collected from AN registers, RCH Registers, High Risk AN Registers and also Haemoglobin values confirmed with Iron Sucrose registers and Laboratory registers from PHCs.

ETHICAL CONSIDERATIONS

The study was approved by Institutional Ethical Committee, Directorate of Public Health & Preventive Medicine, Chennai.

STATISTICAL ANALYSIS

1. All the data will be obtained from PICME (Pregnancy Infant Cohort Monitoring Evaluation)

2. The data will be collected and entered in excel sheets. Proportion and means will be calculated. The quantitative data will be analysed

RESULTS

1. There is an increase in antenatal registration through PICME platform from 2018 to 2022 (51.24% to 95.62%).

2. Screening of Antenatal Mothers increased gradually from 60.06% – 95.41%.

3. Detection of severe Anaemia cases increased from 42 cases to 103 cases of (6693 and 10796 respectively) warrants for effective management and prevention of complications

Table 1. Proportion (%) of Severe Anemia

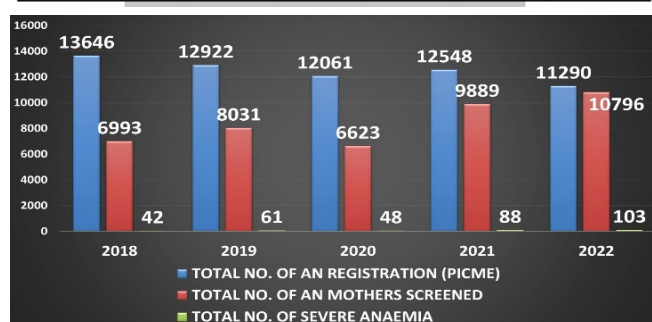| Year	2018	2019	2020	2021	2022
TOTAL NO. OF AN MOTHER REGISTERED IN PICME	13646	12922	12061	12548	11290
TOTAL NO. OF ANAEMIA	6993	8031	6623	9889	10796
TOTAL NO. OF SEVERE ANAEMIA	42	61	48	88	103
Proportion of Severe Anaemia	0.5	0.7	0.9	0.9	1.5

Figure 1 :Total Antenatal Mothers Registered Vs Severe Anaemia
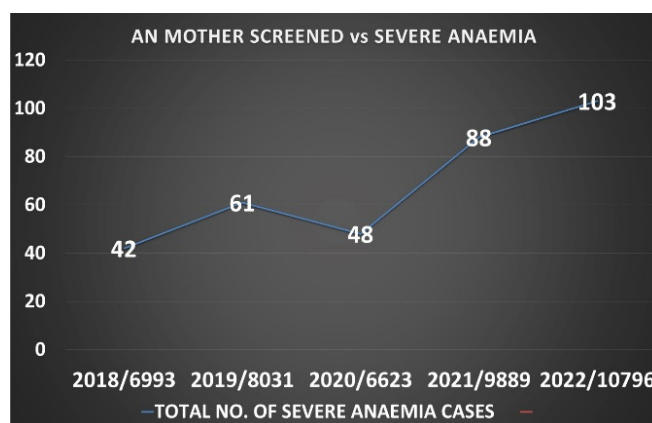

Figure 2. Total No. of Severe Anaemia Cases from 2018 – 2022

In Figure 1 Explains about increasing trend of severe Anaemia cases with increasing in screening, In the year 2021 among the 12,548 ante natal mothers who were screened for anemia 9,889 mothers were diagnosed with anemia out of which 88 mothers were diagnosed with severe anemia. In the year 2022, 11,290 antenatal mothers were registered in PICME till 31-10-22, out of which 10,796 were screened for anemia out of which 103 mothers turned out to have severe anemia. 10-03-2023

With increased screening there is increasing incidence

of severe anemia among the study population which clearly states the significance of screening of anemia.
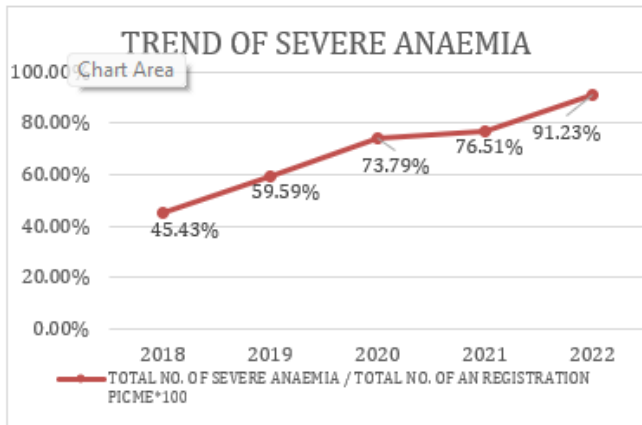

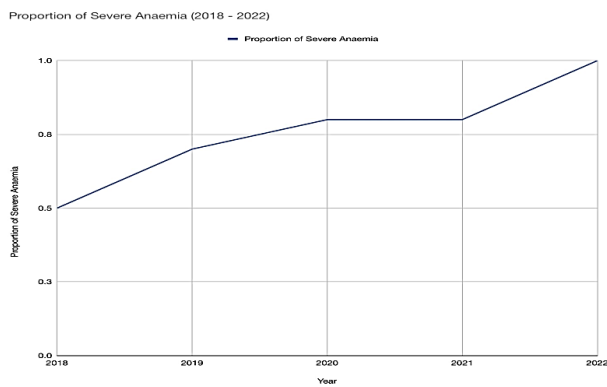*Figure 3: Percentage of Severe Anemia cases from 2018 to 2022 vs AN Registration*

Figure 4 : Proportion of severe anaemia (2018 -2022)

In Figure 3 Explains the proportion of severe anaemia cases increases from 2018 to 2022 among the number of antenatal mothers Screened is also increases from 2018 to 2022. This also Conforms the effectiveness of screening in Anaemia in Antenatal mothers and early detection of severe anaemia Among antenatal mothers.
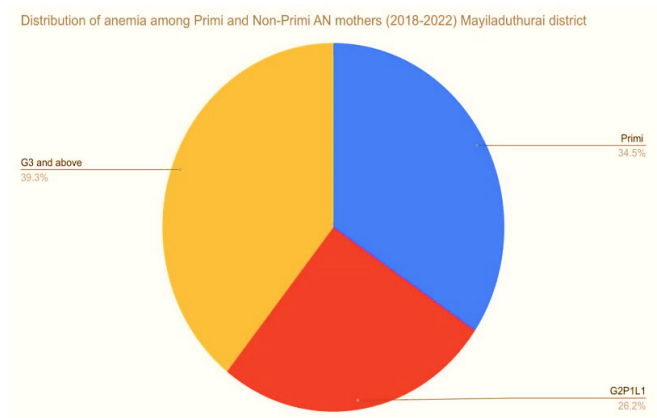

Figure 5 : Depicts gravida wise distribution in antenatal mothers

In Figure 4 Expain The pie chart shows the percentage of distribution of Severe anaemia among the pregnant mothers. The percentage of PRIMI Gravida is 34.5%. Percentage of second gravida 26.2%. Percentage of gravida 3 and above is 39.3%.

These results warrents an health education about the iron rich food, nutritional intake Iron folic acid sublimentation during pregnancy. Birth interval more than 3 years. A Study constituent of gravid 3 and above more risk of severe anaemia
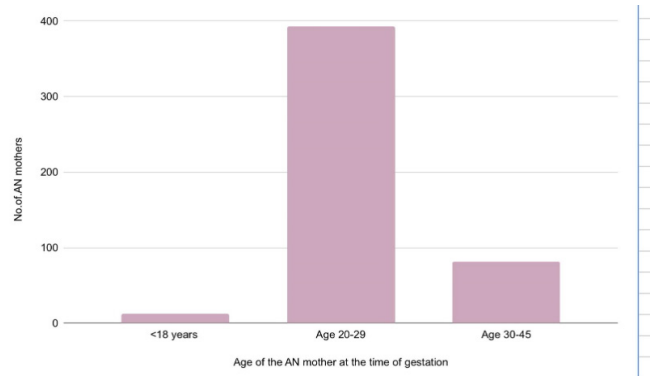

Figure 6 : shows the age wise distribution of severe anaemia Cases among the antenatal mothers

Figure 4 Explains Severe anaemia is more the 20 - 29 Age group population and also in this age group only Maximum number of ANC registration will be seen. So proper dietry advice and checking the compliance for regular intake of IFA tablets early detection and management of anemia cases will reduce the adverse events in pregnancy outcome. Anemia is more common in the women with birth interval less than < 1 year.

DISCUSSION

The purpose of this cross Sectional study is to find the prevalence of anemia in pregnant women correlate with indices and study the significance of identification of severe anemia. Of the 13,646 ante natal mothers registered in PICME in the year 2018, 6,993 were screened for anemia out of which 42 mothers were diagnosed with severe anemia. In the year 2019 among 12,922 ante natal mothers registered in PICME, 8031 were screened for anemia out of which 61 was diagnosed with severe anemia. Among 12,061 ante natal mothers registered in PICME in the year 2020 6,623 mothers were screened for anemia, of which 48 mothers were diagnosed with severe anemia. High order birth mothers uncovered mother found to be more severe anaemia and constitute more maternal Mortality Rate

The primary care physician who is the first contact point for an AN Mother, plays a crucial role in the early identification and management of anemia.

CONCLUSION

Detection of severe anaemia in AN mothers is increased because of the effective screening of anaemia is increased in the AN mothers from 60% in 2018 to 95%in 2022

Early detection and identification of severe anaemia warrants needful implementation of services plays a major role maintenance of Maternal Health indicators in satisfactory limit which again reinforces the effectiveness of on going Programme

Severe anaemia is having MORBIDITY AND MORTALITY risk in both mother and infant viz., PPH,INFECTION, SEPSIS, LBW, PRETERM DELEVAIRIES, STILL BIRTH, NTD With proper implementation of ANAEMIA MUKTH BHARATH, INTENSIFIED IRON PLUS INITIATIVE, WIFS,ADOLESCENT WIFS we can prevent the complication due to anaemia

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