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Maternal mortality and Anaemia status: an overview

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ABSTRACT

Anaemia during pregnancy has become an important public health problem especially in developing countries. Globally in current era, Anaemia contributes to almost 1,20,000 maternal deaths, especially in low and middle income countries, out of which 18% of maternal mortality is attributed to iron deficiency. In India, anaemia is one of the most common and absolutely preventable causes of maternal death, accounting for almost 20% of total maternal deaths. This review was conducted with the aim of understanding magnitude of anaemia pregnant women, its possible impact on them.

KEYWORDS :

Introduction:

Health is an important ingredient of development. It supports development process, spurs economic growth and is a good measure of human wellbeing. Enhancement of health of the people is one of the major objectives of the process of development. It improves the productivity and skills of the people and reduces absenteeism from work.[1] Thus it increases income of poor people. Health directly improves the socioeconomic conditions of people in many ways[2]. Health and development of a country are interlinked. Health plays a crucial role in the economic development and poverty reduction. Some of the important indicators to measure trends of health status are Crude Birth Rate, Crude Death Rate, Infant Mortality Rate, maternal mortality ration, life Expectancy at birth etc.

Among these indicators maternal mortality ratio and infant mortality rate are very important as they symbolize the overall development of the country and state. Though India has made an appreciable progress in improving the overall health status of its population but it is far from satisfaction. The pace of decline of infant and child mortality on one hand and maternal mortality on the other hand has been quite low.

There is both interstate and intra state variation in MMR across the country. The MMR for the country is 178/100000 live births as per SRS 2010-2012. Sample Registration System (SRS) data indicates India has recorded a deep decline of 45.6% in MMR from 327 in 1999-2001 to 178 in 2010-12[3] and a fall of about 30% happened during 2006-12. The decline in MMR from 1990 to 2012 is 59%[4]. As per SRS 2010-12, among the major States, Maternal Mortality Ratio is lowest in Kerala (66) and highest in Assam (328). During 2010-12, the Maternal Mortality Ratio is higher than the national level estimate in the States of Bihar/ Jharkhand, Odisha, Madhya Pradesh/ Chattisgarh, Uttar Pradesh/ Uttarakhand, Rajasthan and Assam.

Maternal mortality and anaemia:

Anaemia exists as a noteworthy public health problem affecting almost 1.62 billion of the world's population. The burden falls primarily on Asian and African countries as they face many contributing factors like dietary factors, infectious disease, genetics and other factors which determine anaemia status. Globally in current era, Anaemia contributes to almost 1,20,000 maternal deaths, especially in low and middle income countries, out of which 18% of maternal mortality is attributed to iron deficiency. Several adverse health outcomes have already been associated with anaemia which includes perinatal and neonatal mortality, maternal morbidity and mortality, low birth weight and poor development.

South Asian countries have some of the highest rates of anaemia worldwide[12], and in India, more than half are anaemic and around one-third of women of reproductive age are underweight[13]. In this area which is troubled by high maternal mortality[14], around 13% of maternal deaths are attributable to anaemia[15]. According to world bank report prevalence of anaemia among pregnant women across the world is reported as 38% in the year 2011 where in south Asia is was reported as 52% in the year 2011.[7] India is among the countries groups in the world where prevalence of anaemia very high in all the age. Almost 22,000 people, mainly pregnant women, die every year in India from severe anaemia which is mostly due to iron-deficiency. India contributes to about 80 per cent of the maternal deaths due to anaemia in South Asia[2]. It is estimated that about 20%-40% of maternal deaths in India are due to anaemia. According to World Bank report, In India the prevalence of anaemia among pregnant women is 54% in the year 2011[7], whereas according to NFHS 3, the prevalence is 57.9%. In case of M.P., prevalence it is similar to national prevalence of 57.9%. In a study done in India, 4,456 antenatal women were assessed for anaemia, among them 17.9% (798) of them anaemic, out of which 2.15% (96) of them were found to be severely anaemic and six out of 96 women died due to severe anaemia[23].

"Definition of anaemia as per World Health Organization (WHO) differs by age, sex and pregnancy status. For children of 6 months to 5 year anaemia is defined as a Hgb level <11g/dl, children 5–11 years Hgb < 11.5 g/dl, adult males Hgb < 13 g/dl; non pregnant women Hgb <12g/dl and pregnant women Hgb < 11g/dl. {10.0–10.9g/d1 (mild), 7– 9.9g/dl (moderate) and <7g/ dl (severe)}[5,6]."

The patients with Hb less than 8.9 g% have 4–6-times higher risk of prolonged labour as compared to patients with Hb more than 11 g%. In case of odds ratios for abnormal delivery, there is a 4.8-times higher risk (95% CI 1.82, 12.7) in patients who has Hb less than 7.5 g%. The mean birth weight is maximum with Hb content 9.6–10.5 g%. Mild anaemia fared best in maternal and perinatal outcome. Severe anaemia was associated with increased low birth weight babies, induction rates, operative deliveries and prolonged labor[19].

Factors related to anaemia:

Anaemia is determined by several factors, but inadequate dietary intake of bio available iron, folic acid and food sources that inhibit iron absorption [20]. A study done in rural Bangladesh found the increased prevalence of anaemia related to vit B_{12} and zinc deficiency. As data from the National Nutrition Monitoring Board (NNMB) Surveys demonstrate, Indian women showed low intake of iron. The survey conducted by NNMB among women residing in rural areas of nine states indicate that the women's iron intake is around half of the recommended daily allowance[21].Other factors like recurrent infections caused due to primarily hookworm, intestinal parasites and schistosoma are also important cause of anaemia. Diseases like malaria, tuberculosis and HIV/AIDS are also causative factors for anaemia. In some studies, it was reported that, anaemic cases were 4 times likely to have history of excess menstrual bleeding prior to the index pregnancy 2 times likely to have hook worm infection and 3 times likely not to have shoe wearing habit, 3 times likely to have birth intervals less than 24 months between the previous pregnancy and index pregnancy[22]. However, the limited monitoring systems and population-based studies make it difficult to assess whether changing exposure to these risk factors may be contributing to rising anaemia prevalence.

Conclusion:

There is a huge gap in our knowledge regarding the adverse effects of anaemia among pregnant women. These disparities include insufficient documentation of effects of anaemia on mortality, morbidity, and well-being of pregnant women, and on the health and devel-

opment of infants. Similarly, the benefits of iron supplementation among pregnant women on these outcomes are unclear, even for women who had developed anaemia while pregnancy. However, there is significant evidence that iron deficiency anaemia among pregnant women increases the risk of preterm delivery and consequent low birth weight. Some studies also suggest an association between maternal iron status in pregnancy and the iron status among infants during postpartum period. Certainly, iron supplements improve the iron status of the mother during pregnancy and during the postpartum period.

Timely screening for anaemia, adequate treatment of anaemic women, and availability of food fortification (like wheat flour with iron and folic acid), fortification of milk sugar and salt with iron to build long term iron stores remains the major ways to reduce anaemia. Even cooking food in cast iron utensils improves iron content in diet. There is also need for better implementation of anaemia Control programme in all the states. The interstate differences of anaemia level observed may guide the planning and administrative department to alter the strategies for the control of anaemia especially in poor performing States. Improving the implementation and advocacy of the current policies response to anaemia prevention and control, jointly with addressing knowledge gaps behind these rising trends, will improve our capacity to address the multi factorial aetiology of anaemia within this population and in turn will alleviate India's burden of anaemia. The finding of a lessening of socioeconomic relative and absolute inequalities in anaemia requires further research to understand why this problem has such a high magnitude in this population.

REFERENCES

1. National Family Health Survey (NFHS 3), India, 2005-06, International Institute for Population Sciences, Mumbai, India | 2. Ezzati M, Lopus AD, Dogers A, Vander HS, Murray C. Selected major risk factors and global and regional burden of disease. Lancet 2002; 360 : 1347-60. | 3. Aimakhu CO, Olayemi O. Maternal haematocrit and pregnancy outcome in Nigerian women. West Afr J Med 2003; 22:18–21. | 4. Anorlu RI, Odum CU, Essien EE. Asymptomatic malaria parasitaemia in pregnant women at booking in a primary health care facility in a periurban community in Lagos, | Nigeria. Afr J Med Sci 2001; 30:39–41. | 5. Iron Deficiency Anemia: Assessment Prevention and Control. WHO, Geneva, 2001. | 6. Preventing and Controlling Iron Deficiency Anemia through Primary Health Care. WHO, Geneva, 1989. | 7. World bank report http://databank.worldbank.org/data/views/reports/tableview.aspx | 8. Park K. Health Care of the Community. In: Textbook of Preventive and Social Medicine, 20th Edn. : Banarsidas Bhanot, Jabalpur. 2009; pp. 802-803. | 9. Ministry of Health and Family Welfare: NHM Health Management Information System (HMIS) Portal. Time series data on CBR, CDR, IMR &TFR. [Online]. 2014 [cited 2014 Nov 15];[4 pages]. Available from: URL: https://nrhm-mis.nic.in/SitePages/HMIS-PeriodicReport.aspx | 10. Status of Child and Maternal Health in Madhya Pradesh and India. A comparative analysis from NFHS – III report | 11. Press Information Bureau Government of India Ministry of Health and Family Welfare | 12. Bhutta ZA, Gupta I, de'Silva H, et al. Maternal and child health: is South Asia ready for change? BMJ 2004;328:816–19. | 13. Arnold FPS, Arokiasamy P, Kothari M. Nutrition in India. National Family Health Survey (NFHS-3), India, 2005–06. Mumbai: International Institute for Population Sciences; Calverton, MA, USA: ICF Macro., 2009. | 14. Hogan MC, Foreman KJ, Naghavi M, et al. Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. Lancet 2010;375:1609–23. | 15. Khan KS, Wojdyla D, Say L, et al. WHO analysis of causes of maternal death: a systematic review. Lancet 2006;367:1066–74. | 16. De M, Halder A, Podder S, et al. Anemia and hemoglobinopathies in tribal population of Eastern and North-eastern India. Hematology 2006;11:371–3. | 17. Baig-Ansari N, Badruddin SH, Karmaliani R, et al. Anemia prevalence and risk factors in pregnant women in an urban area of Pakistan. Food Nutr Bull 2008;29:132–9. | 18. Malhotra P, Kumari S, Kumar R, et al. Prevalence of anemia in adult rural population of north India. J Assoc Physicians India 2004;52:18–20. | 19. Monika Malhotra J.B. Sharma S. Batra S. Sharma N.S. Murthy R. Arora. Maternal and perinatal outcome in varying degrees of anemia. International Journal of Gynecology and Obstetrics Volume 79, Issue 2, Pages 93–100, November 2002. http://dx.doi.org/10.1016/S0020-7292(02)00225-4 | 20. Ramachandran P. Nutrition transition in India: 1947–2007. New Delhi: Nutrition Foundation of India, 2007. | 21. NNMB. Diet & nutritional status of population and prevalence of hypertension among adults in rural areas. In: National Nutrition Monitoring Bureau. ed Hyderabad: National Institute of Nutrition, Monitoring Bureau. ed Hyderabad: National Institute of Nutrition, 2006:86–9. | 22. Belachew T, Legesse Y. Risk factors for anaemia among pregnant women attending antenatal clinic at Jimma University Hospital, southwest Ethiopia. Ethiopian Medical Journal. 2006, 44(3):211-220. | 23. Rohilla M, Ravendran A, Dhaliwal LK, Chopra S. Severe anaemia in Pregnancy: A tertiary hospital experience from northern India. Journal of Obstetrics and Gynaecology. 2010;30(7):694-96. |