PUNE RESEARCH DISCOVERY ISSN 2455-9202
AN INTERNATIONAL JOURNAL OF ADVANCED STUDIES VOL 4, ISSUE 1

ANAEMIC STATUS OF WOMEN IN THE REPRODUCTIVE AGE GROUP IN INDIA

V. SARAVANAKUMAR,
Research Investigator,
Population Research Centre (PRC) Gandhigram,
[TN] INDIA

DR. S. RAVICHANDRAN,
Chief,
Population Research Centre (PRC) Gandhigram Institute of Rural Health and Family Welfare. **[TN] INDIA**

DR. C. SIVAPRAGASAM,
Professor, Gandhigram Rural Institute (Deemed University), Gandhigram Post, Dindigul District. **[TN] INDIA**

ABSTRACT

As per the latest global nutritional report, fifty percent of women in the reproductive age group (15-49) are anemic in India. Nutritional deficiency, poor sanitation, improper AN care and unhygienic behaviour were the major causes for any anaemia among women in India will lead to maternal and infant death. There existed inter state and rural urban differentials in anamic status of women. The main objective of the study is to examine the anaemic status of women in the reproductive age groups and to find the determinants of anaemic status of women. The data from NFHS-4 and HMIS were considered for analysis. This paper will highlight the anaemic status of women in the high focus and non high focused states and the rural urban differentials existed in India. Intake of Sidhdha / Ayurvedic medicines during AN care and awareness creation among women will reduce the anaemia among women in India.
Keywords: *Anaemia, Reproductive age, Nutritional deficiency, awareness*

INTRODUCTION

Anemia is one of the most common and widespread nutritional deficiency disorders in the world. According to the World Health Organization (WHO) anemia is defined as "a condition in which the number of red blood cells or heir oxygen-carrying capacity is insufficient to meet the physiological needs" (WHO, 2011). The prevalence of anaemia is

only 14 percent in developing countries but it is higher (51 percent) in the developing countries. In India, anaemia among pregnant and lactating women is a serious concern for public health policy. In India, 20-40% of maternal deaths are due to anemia, which is the second most common cause of maternal death. This paper will highlight the prevalence of anaemia among women in the reproductive age group in Indian states.

A cross sectional study of anaemia among women in the reproductive age group 15-49 years in Tamil Nadu highlighted that socio demographic, menstrual, obstetric, contraceptive, dietary, environmental, and behavioral factors were associated with anemia in reproductive age group (Chellavel Ganapathy et.al., 2017).

Due to blood loss from menstruation, women are at risk of iron deficiency during the reproductive years. (Dutta DC, 2005). The prevalence of anemia among women in the reproductive age group of 15-49 years in Tamil Nadu was 53.3 percent which is higher in rural areas than in urban (NFHS-3, 2005-06) but it was only 32.7 percent according to DLHS-3 (2012-13).

Anaemia among women causes adverse consequences on maternal and child health outcomes such as low birth weight, neonatal and maternal mortality (Agarwal et al. 2006; Balarajan, Ramakrishnan, Ozaltin, Shankar, & Subramanian, 2011; Goli & Arokiasamy, 2014; Singh, Goli, & Parsuraman, 2014; Goli, Doshi & Arokiasamy, 2013; Kalaivani, 2009; Kassebaum et al., 2014; Kozuki, Lee, & Katz, 2012; McLean, Cogswell, Egli, Wojdyla, & de Benoist, 2009; Sharma, Patnaik, Garg, & Ramachandran, 2008; Steer, 2000; Toteja et al., 2006; Vijayalakshmi & Mercy, 1994). The prevalence of anaemia varied by age, economic status, pregnancy and lactation (Bentley & Griffiths, 2003; Florentino, 2003; Haidar, 2010; McLean et al., 2009; Sharma et al., 2008; Vijayalakshmi & Mercy, 1994; Wadgave, 2011). Reviews of the relevant literature highlighted the prevalence of anaemia among women in the reproductive age groups, causes and the factors associated with it.

Methodology:

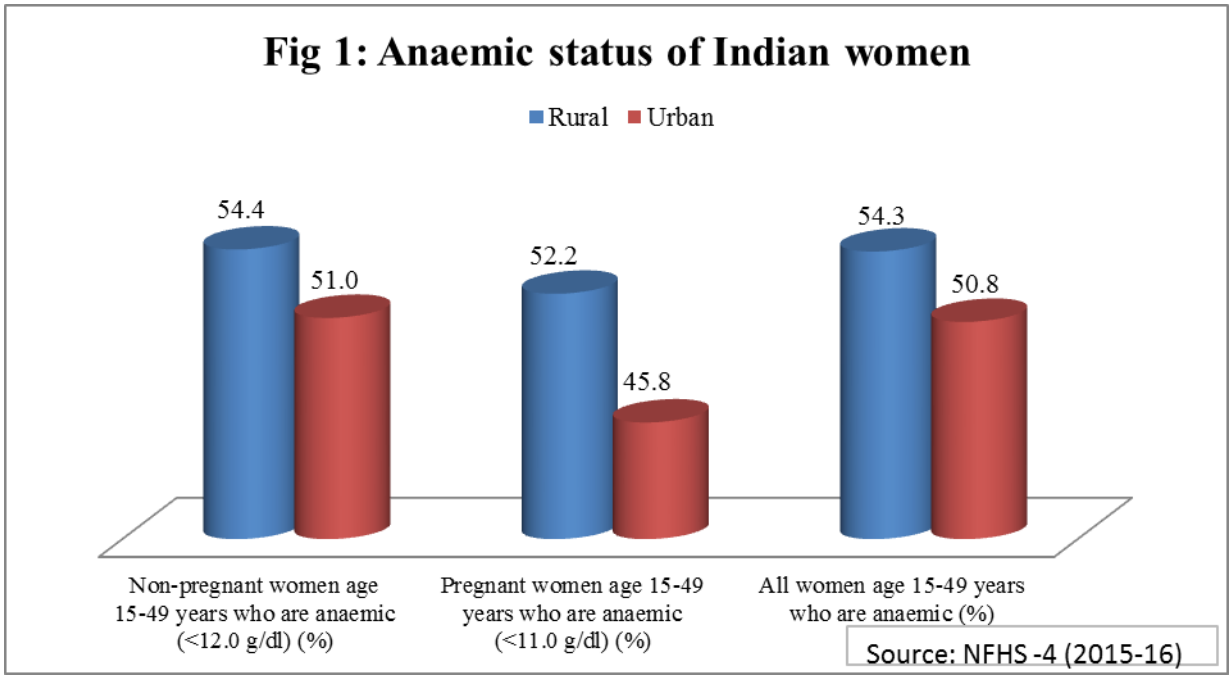
The analysis is carried out with the help of secondary data collected from various sources namely, DLHS, NFHS, HMIS and the published reports. The objective of the study is to estimate the prevalence of anemia among women in the reproductive age (15-49) in India and states and to find out the factors associated with it.

Results and discussion:

Regarding anaemic status of women and children, rural urban differentials exists in India. Regarding children age 6-59 months who are anaemic (<11.0 g/dl) in rural India, 36 percent

of the states were below the Indian average, similarly, non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) (39 percent), Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) (28 percent), All women age 15-49 years who are anaemic (42 percent) and men age 15-49 years who are anaemic (<13.0 g/dl) 36 percent of the states were below the Indian average. Though the performance of the states in urban areas was better compared with rural areas, a higher proportion of the states with anaemic status of women and children were below the Indian average.

According to NFHS 4 (2015-16) reports, a higher proportion of women in rural areas were anaemic than in urban areas (Fig 1).



Fifty four percent of non-pregnant women in rural age 15-49 years who are anaemic (<12.0 g/dl) (urban: 51 percent), Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) in rural (52 percent) (urban: 46 percent), All women age 15-49 years in rural who are anaemic (54 percent) (urban: 51 percent) respectively.

The trend of anaemic status of ever women in India and states is presented in Table 1.

Table:1 Anaemic status of ever married women in India and states

States and Union Territories	Anaemia among ever married women (%)	NFHS-4 (2015-16) (%)

	NFHS-2 (1998-	NFHS-3 (2005-06)	NFHS-4 (2015-16)	Anaemia among pregnant	IFA consumption in
India	**51.8**	**56.5**	**53.0**	**50.3**	**30.3**
Andaman & Nicobar Islands	na	na	65.7	61.4	58.4
Andhra Pradesh	49.8	62.9	60.0	52.9	56.2
Arunachal Pradesh	62.5	50.6	40.3	33.8	8.3
Assam	69.7	69.5	46.0	44.8	32.0
Bihar	63.4	67.4	60.3	58.3	9.7
Chandigarh	na	na	75.9	na	44.9
Chhattisgarh	na	57.5	47.0	41.5	30.3
Dadra & Nagar Haveli	na	na	79.5	67.9	43.9
Daman & Diu	na	na	58.9	na	38.3
Delhi	40.5	44.3	52.5	45.1	49.9
Goa	36.4	38	31.3	26.7	67.4
Gujarat	46.3	55.3	54.9	51.3	36.8
Haryana	47.0	56.1	62.7	55	32.5
Himachal Pradesh	40.5	43.3	53.4	50.2	49.4
Jammu & Kashmir	58.7	52.1	40.3	38.1	30.2
Jharkhand	na	69.5	65.2	62.6	15.3
Karnataka	42.4	51.5	44.8	45.4	45.3
Kerala	22.7	32.8	34.2	22.6	67.1
Lakshadweep	na	na	45.7	36.5	82.1
Madhya Pradesh	54.3	56	52.5	54.6	23.6
Maharashtra	48.5	48.4	48.0	49.3	40.6
Manipur	28.9	35.7	26.4	26	39.2
Meghalaya	63.3	47.2	56.2	53.1	36.2
Mizoram	48.0	38.6	22.5	24.5	53.8
Nagaland	38.4	na	23.9	28.9	4.4
Odisha	63.0	61.2	51.0	47.6	36.5
Puducherry	na	na	52.4	26	66.3
Punjab	41.4	38	53.5	42	42.6

Table:1 Anaemic status of ever married women in India and states (Cont..)

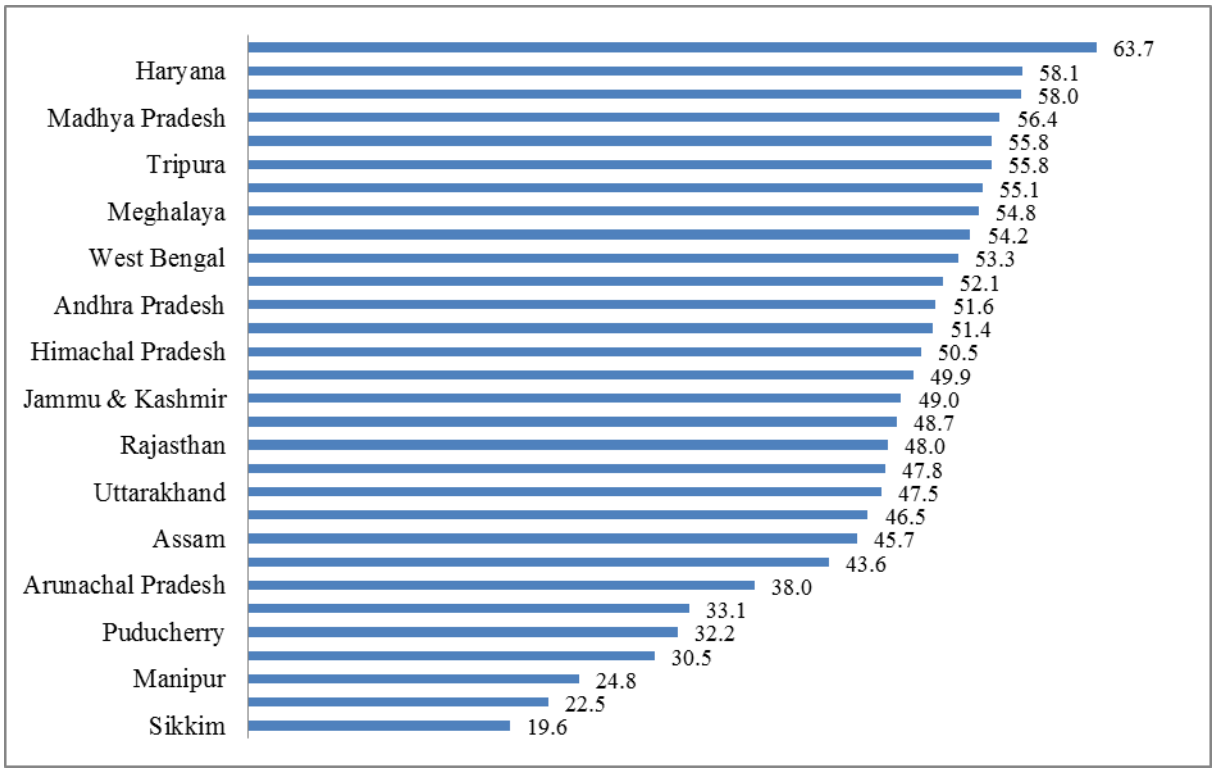
States and Union Territories	**Anaemia among ever married women (%)**			**NFHS-4 (2015-16) (%)**	
	NFHS-2 (1998-99)	NFHS-3 (2005-06)	NFHS-4 (2015-16)	Anaemia among pregnant	IFA consumption in
Rajasthan	48.5	53.1	46.8	46.6	17.3

Sikkim	na	60	34.9	23.6	52.8
Tamil Nadu	56.5	53.2	55.1	44.4	64.0
Telangana	na	na	56.7	49.8	52.8
Tripura	61.1	65.1	54.5	54.4	13.4
Uttar Pradesh	48.7	49.9	52.4	51	12.9
Uttarakhand	na	55.2	45.2	46.5	24.9
West Bengal	62.7	63.2	62.5	53.6	28.1

In India, more than fifty percent of ever married women were anaemic, the trend was not yet improved from the previous decades. Anaemia among pregnant women was reported as 50 percent as per NFHS 4 reports and the IFA consumption in pregnancy is only 30 percent and the performance of nearly 10 states was very poor which is lower than Indian average.

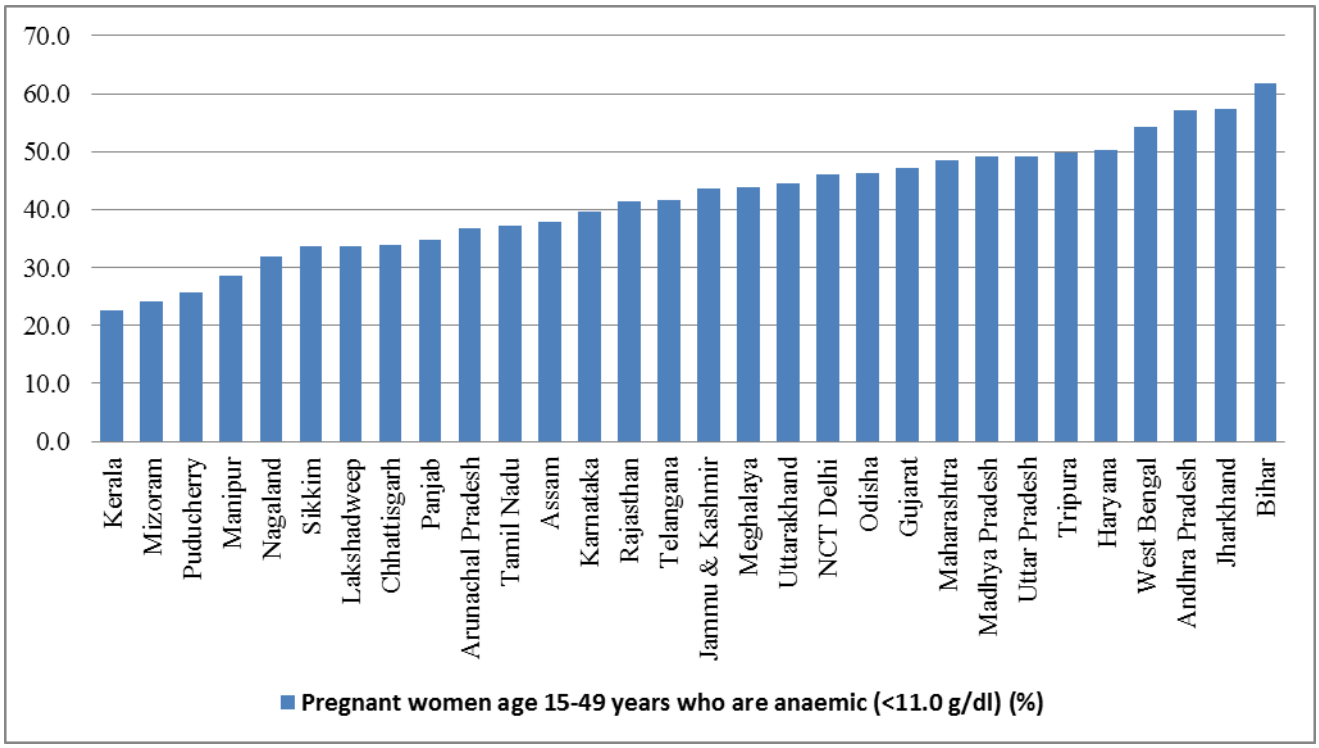
Though Government have implemented various health programs and policy decisions, there exist rural urban gap in achieving health goals. Regarding pregnant women in rural areas age 15-49 years who are anaemic, the performance of the states namely, Haryana, Madhya Pradesh, Tiripura, Meghalaya, West Bengal, Andhra Pradesh and Himachal Pradesh was poor as per NFHS 4 (2015-16) and is presented in Fig.2.

Fig.2 Pregnant women (Rural) age 15-49 years who are anaemic (<11.0 g/dl) (%)



Regarding pregnant women in urban areas age 15-49 years who are anaemic, the performance of the states namely, Bihar, Jharkhand, Andhra Pradesh and West Bengal was poor as per NFHS 4 (2015-16) and is presented in Fig.3.

Fig 3: Pregnant women (Urban) age 15-49 years who are anaemic (<11.0 g/dl) (%)



The same situation prevails for non pregnant women, all women age 15-49 years and children age 6-59 months and their anaemic status is poor in rural areas compared with urban areas. This clearly shows that the consumption of IFA during pregnancy is poor due to lack of monitoring of government programs and lack of awareness of pregnant women.

The performance of high focused and non high focused states and UTs based on Indian average is described in Table 2. The analysis is based on non pregnant, pregnant, all women age 15-49 years and children age 6-59 months. Regarding non pregnant women age 15-49 years who are anaemic (<12.0 g/dl), the performance of HFS state, Jharkhand and the performance of NHF states, Haryana, West Bengal, Andaman and Nicobar Islands and Dada nagar haveli is poor compared with other states and UTs.

Regarding pregnant women age 15-49 years who are anaemic (<11.0 g/dl), the performance of HFS state, Jharkhand and the performance of NHF states, Haryana, West Bengal, Andaman and Nicobar Islands and Dadra Bagar Haveli is poor compared with other states and UTs. Regarding all women age 15-49 years who are anaemic, the performance of HFS state, Jharkhand and the NHF states Haryana, West Bengal, Andaman and Dadra Nagar

Haveli is poor. Also, regarding anaemic status of children age 6-59 months who are anaemic (<11.0 g/dl), the performance of HF states Jharkhand and Madhya Pradesh and the performance of NHF states namely Haryana, Dadra Nagar Haveli and Daman and Diu is poor compared with other states and UTs.

Table 2: The performance of high focused and non high focused states and UTs.

Performance of high focused and non high focused states		Non-pregnant women age 15-49 years who are anaemic (<12.0 g/dl) (%)	Pregnant women age 15-49 years who are anaemic (<11.0 g/dl) (%)	All women age 15-49 years who are anaemic (%)	Children age 6-59 months who are anaemic (<11.0 g/dl) (%)
High Focused	Good	Manipur Mizoram Nagaland	Sikkim	Manipur Mizoram Nagaland	Assam Chhattisgarh Manipur Mizoram Nagaland
	Bad	Jharkhand	Bihar Jharkhand Madhya Pradesh Tripura	Jharkhand	Jharkhand Madhya Pradesh
Non High Focused	Good	Goa Kerala	Goa Dadra & Nagar Haveli Daman & Diu Lakshadweep	Goa Kerala	Goa Kerala
	Bad	Haryana West Bengal Andaman & Nicobar Islands Dadra & Nagar Haveli	Haryana Andaman & Nicobar Islands	Haryana West Bengal Andaman & Nicobar Islands Dadra & Nagar Haveli	Haryana Dadra & Nagar Haveli Daman & Diu

CONCLUSION AND SUGGESTION:

The inter state and inter district differentials in achieving anaemic status of women and children still prevails in India though government have implemented various health schemes for the decades due to lack of monitoring of government programs and lack of awareness among women including pregnant women. Awareness about nutritional diet and infections and implementation of AYUSH medicines to the pregnant women will help the women to improve the anaemic status of women and children in future.

REFERENCES:

Agarwal, K. N., Agarwal, D. K., Sharma, A., Sharma, K., Prasad, K., Kalita, M. C. Kumari, P. (2006). Prevalence of anaemia in pregnant & lactating women in India. Indian Journal of Medical Research, 124, 173-184.

Balarajan, Y., Ramakrishnan, U., Ozaltin, E., Shankar, A. H., & Subramanian, S. V. (2011).

Bentley, M. E., & Griffiths, P. L. (2003). The burden of anaemia among women in India. European Journal of Clinical Nutrition, 57, 52-60.

Chellavel Ganapathi K, Sathish Kumar K, (2017), A cross-sectional study of anemia among women of reproductive age group (15-49 years) in a rural population of Tamil Nadu, International Journal of Medical Science and Public Health, 2017, Vol 6, Issue 3.

Dutta DC. Text Book of Gynaecology. 4th ed. Calcutta: New Central Publication; 2005. p. 74-80, 175-86.

Florentino, R. F. (2003). The burden of iron deficiency and anaemia in Asia: Challenges in prevention and control. Nutrition goals for Asia-vision 2020; Proceedings. IX Asian Congress of Nutrition, 313-318.

Goli, S., Doshi, R., & Arokiasamy, P. (2013). Pathways of economic inequalities in maternal and child health in Urban India: A decomposition analysis. PLoS ONE, 8, e58573. doi:10.1371/journal.pone.0058573

Haidar, J. (2010). Prevalence of anaemia, deficiencies of iron and folic acid and their determinants in Ethiopian women. Journal of Health, Population and Nutrition, 28, 359-368.

Kalaivani, K. (2009). Prevalence & consequences of anaemia in pregnancy. Indian Journal of Medical Research, 130, 627-633.

Kassebaum, N. J., Jasrasaria, R., Naghavi, M., Wulf, S. K., Johns, N., Lozano, R., . . . Murray, C. (2014). A systematic analysis of global anaemia burden from 1990 to 2010. Blood, 123, 615-624.

Kozuki, N., Lee, A. C., & Katz, J. (2012). Moderate to severe, but not mild, maternal anaemia is associated with increased risk of small-for-gestational-age outcomes. Journal of Nutrition, 142,358-362.

McLean, E., Cogswell, M., Egli, I., Wojdyla, D., & de Benoist, B. (2009). Worldwide prevalence of anaemia, WHO Vitamin and Mineral Nutrition Information System, 1993–2005. Public Health Nutrition, 12, 444-454.

National Family Health Survey (NFHS)-3 (2005-2006). Tamil Nadu: Fact sheet.

Sharma, A., Patnaik, R., Garg, S., & Ramachandran, P. (2008). Detection & management of anaemia in pregnancy in an urban primary health care institution. Indian Journal of Medical Research, 128, 45-51.

Steer, P. J. (2000). Maternal haemoglobin concentration and birth weight. American Journal of Clinical Nutrition, 71, 1285S-1287S.

Toteja, G. S., Singh, P., Dhillon, B. S., Saxena, B. N., Ahmad, F. U., Singh, R. P., . . . Mohan, U. (2006). Prevalence of anaemia among pregnant women and adolescent girls in 16 districts of India. Food and Nutrition Bulletin, 27, 311-315.

Vijayalakshmi, P., & Mercy, P. (1994). Birth weight in relation to the iron status of the pregnant women. The Indian Journal of Nutrition and Dietetics, 31, 1-7.

Wadgave, H. V. (2011). Burden of anaemia among the pregnant women in rural Area. Health Line, 2, 76-77.