



Rural-Urban disparities and socioeconomic determinants of prevalence of anaemia among pregnant women of reproductive age of 15-49 years.

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Abstract:- Anaemia among women of reproductive age of 15-49 years is a critical public health issue in India with adverse health implications of maternal morbidity and mortality. As per NFHS-4, the prevalence of anaemia among women of reproductive age in Uttar Pradesh was 52.7% and 52.4% in urban and rural areas respectively. A study was undertaken to estimate the prevalence of anaemia among women of reproductive age group of 15-49 years; and to examine rural-urban differentials and association of socioeconomic determinants with anaemia. The secondary data of the national family health survey-4 conducted in the year 2015-16 have been used in the study and analysis done for the state of Uttar Pradesh. Findings show that anaemia was more prevalent among women with low BMI in both urban (59.1%) and rural (55.4%) areas. The younger women in age group of 15-24 years were more anaemic compared to older women in urban and rural areas. Poorest wealth index 55.6% were higher anaemic compared to other groups in urban area. The women having higher educational status were more likely of having anaemia than the women having no formal education in both the urban and rural areas. Social groups i.e., poor women are more likely of having anaemia compared to other social groups after controlling for other factors in the model. Overweight women were 1.5 times more likely to be having anaemia than the women with low BMI in the urban and rural areas respectively after controlling for socioeconomic variables.

Keywords :- Anaemia, BMI, Reproductive Age, Wealth Index, Socioeconomic Determinants

Objective- To study the rural-urban disparities and socioeconomic determinants of prevalence of anaemia among women of reproductive age of 15-49 years. To study the various factors responsible for anemia. To know about the knowledge level and prevention techniques of anemic women in urban & rural PHC and CHC.

Introduction :- Anaemia is a condition in which the number of red blood cells are lower than normal and consequently their oxygen carrying capacity is insufficient to meet the body's physiologic needs. Though the etiology of anaemia is multifactorial but the most significant one is iron deficiency with approximately 50% of cases. Children, women of reproductive age group and pregnant women are at high risk of developing anaemia with extensive adverse health consequences as well as impact on social and economic development.

Globally, 1.24 billion people are estimated to be suffering from anaemia (iron deficiency). Further, the prevalence of anaemia is highest in the South Asia region. In 2011, 38% and 29% of pregnant and non-pregnant women respectively in reproductive age group of 15-49 years had anaemia worldwide.

Anaemia, a nutritional deficiency disorder remains a serious public health issue in India and the country has been grappling with the problem since many years

especially in the women of the reproductive age group. According to the NFHS-4 (2015-16), the prevalence of anaemia in women of reproductive age group in India was 53.1%. In the state of Uttar Pradesh, it was 52.4% relatively high as compared to the NFHS-3 (2005-06) of 49.9%.

[World Health Assembly Global targets of reducing anaemia by 50% in the women of reproductive age group by 2025 is a critical step taken to tackle the problem. In India, the national nutritional anaemia control programme (NNACP) launched in 1970, aims at decreasing the prevalence of anaemia in women of reproductive age. It was revised and expanded to include beneficiaries from all age groups viz., children aged 6-59 months, 5-10 years, adolescents aged 10-19 years, pregnant and lactating women and women in the reproductive age group under the national iron plus initiative (NIPI) programme in 2011. This programme the condition is worse and the prevalence of anemia in women of reproductive age group still remains high in India with interstate variations.

Anaemia is known to have serious implications on the health of women of reproductive age group and it leads to the high maternal mortality, low-birth weight babies, high prinalatal mortality and increased susceptibility to other infections. The socioeconomic factors like, literacy, religion, living conditions, family income, repeated births and access to healthcare facilities make the women susceptible to suffer from anaemia. The lack of access to the nutritional supplements further aggravates the condition. Such factors highlight the various sociocultural issues that influence anaemia status, including poverty, micronutrient deficiencies, cultural and religious practices, access to health services, and poor awareness of the disease condition and preventive measures. Thus, the aetiology of anaemia in india is multifactorial affecting large population and several studies have examined the associations between the anaemia and its socioeconomic determinants.

Furthermore, the identification and knowledge of the factors that contribute to anaemia is critical and indispensable to fast track the reduction of the disease. The understanding of the factors at individual, household and community level can explain the changes in the levels of anaemia and the factors most affecting the disease. Given the lack of evidence with regard to the associated factors/determinants, it becomes difficult for the policy makers to develop strategies to control this condition and thereby counter the impact of burden of disease by investing in the best interventions having maximum impact. With this background, efforts were made in this study to understand the association of some selected socioeconomic determinants with anaemia level in women of reproductive age of 15-49 years in urban and rural areas of uttar pradesh.

Objective of the study- To study the rural-urban disparities and socioeconomic determinants of prevalence of anaemia among women of reproductive age of 15-49 years. To study the various factor responsible for anemia. To know about the knowledge level and prevention techniques of anemic women in urban & rural PHC and CHC.

Research Methology- Research design- descriptive research has used , the study tool is a self designed questionnaire, which was structured to obtained information relating to rural and urban disparities and socioeconomic determinants of prevention of anemia among women of reproductive age of 15-49 YEARS and influencing factor such as age ,BMI, education status and wealth index.

Primary source include-

Discussion with women of reproductive age of 15-49YEARS.
 Data collected from questionnaire.
 Location study area- PHC & CHC
 Sample- 119 Women participated in the study.
 Inclusion criteria- the study subjects age of 15-49 YEARS.
 Study period- 2month internship under the guidance of superintendent Dr. Y.K. Singh in urban CHC, N.K road, Hazaratganj, Lucknow.
 15- Days under the guidance of M.O. Dr. Devendra Bharti in Rural PHC, Alam Nagar Hardoi.

Data analysis- through frequency distribution & mean of the data.

RESULT

Present the distribution of women of reproductive age 15-49 years by socioeconomic back ground characteristic according to the place of residence. In the age of 15-24 years, 25.3% of women were in rural area in comparison to 16.8% in urban areas. Overall, 18.4% of the women were overweight. One- quarter 19.2% of women in the rural areas had low BMI than the urban areas 12.6 %. Around 36.9% of the participants were in the poor category in rural areas in contrast to 19.3% in urban areas.

Age of women	Urban	Rural	Total
15-24	20	30	50
25- 34	15	18	33
35-49	19	17	36

In Percentage

Age of women	Urban	Rural	Total
15-24	16.8%	25.2%	42.0%
25- 34	12.6%	15.1%	27.7%
35-49	115.9%	14.2%	30.2%

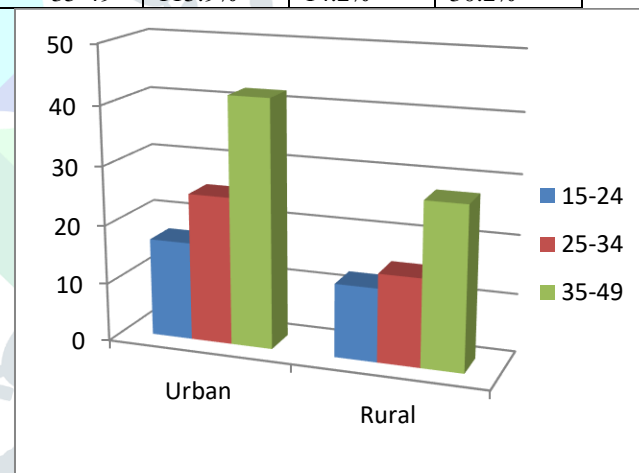


Table- 1 Distribution of women with respective age of 15-49 years by socioeconomically background characteristic according to the place of urban & rural.

Wealth Index	Urban	Rural	Total
Poor	23	44	67
Middle	25	15	40
Rich	8	4	12

In Percentage

Wealth Index	Urban	Rural	Total
Poor	19.3%	36.9%	56.3%
Middle	21.0%	12.6%	33.6%
Rich	8.1%	3.3%	10.0%

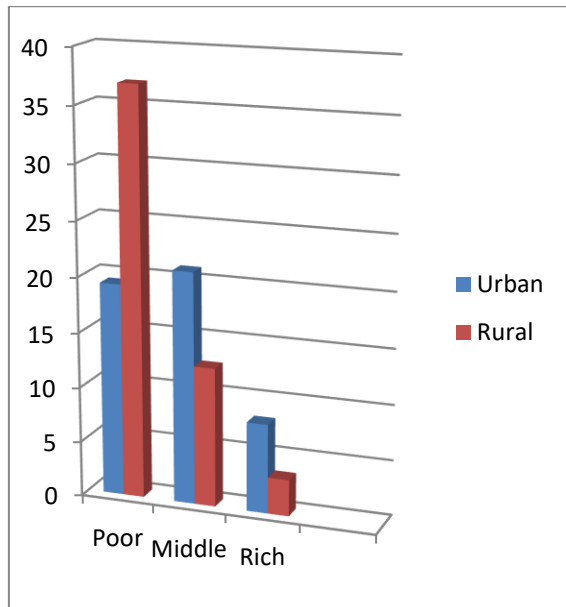
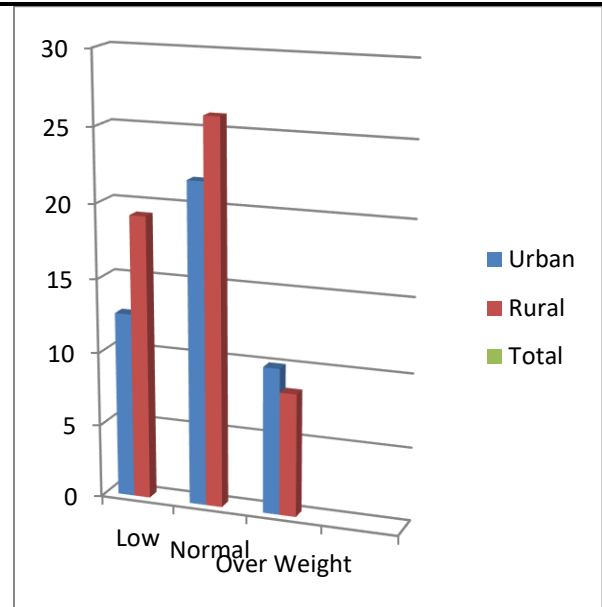


Table- 3 Distribution of women with BMI by socioeconomically background characteristic according to the place of urban & rural.

Education Status	Urban	Rural	Total
No Education	11	33	44
Primary	28	10	38
Secondary	15	06	21
Higher	16	00	16

Table- 2 Distribution of women with Wealth Index by socioeconomically background characteristic according to the place of urban & rural.

BMI	Urban	Rural	Total
Low	15	23	38
Normal	26	31	57
Over Weight	12	10	22

In Percentage

Education Status	Urban	Rural	Total
No Education	9.2%	27.7%	36.9%
Primary	23.5%	8.4%	31.9%
Secondary	12.6%	5.0%	17.6%
Higher	13.4%	0%	13.4%

In Percentage

BMI	Urban	Rural	Total
Low	12.6%	19.23%	31.9%
Normal	21.8%	26.0%	47.8%
Over Weight	10.0%	8.4%	18.4%

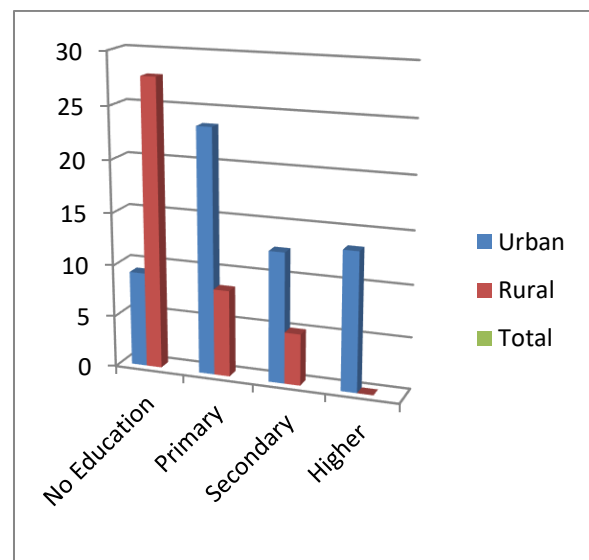


Table- 4 Distribution of women with Education Status by socioeconomically background characteristic according to the place of urban & rural.

It was found that 54.6% and 45.3% of women in 15-24 years age group were anemic in rural and urban areas respectively. Around 19.2% and 12.6% of women with low BMI were anemic in rural and urban areas respectively. Furthermore, 36.9% of women with no formal education were anemic in rural and urban areas respectively. Similarly, more than half of women belonging to poor wealth index were also anemic, it was found that Age of women, BMI, Educational status and wealth Index were statistically significant in both urban and rural areas.

The anemic women in rural areas in age group 15-24 years were more likely of having anemia than women in 35-49 years age group. Women having no formal education in both Urban and rural areas were more likely of having anemia than the women having higher education and further, it was found that overweight women, It was found that low BMI women more likely of having anemia than women with over weight in urban and rural areas respectively and it was also found that women having the poor wealth more likely of having anemia in comparison to women with Middle & Rich wealth index in Rural areas.

DISCUSSION

In this study, efforts were made to estimate the prevalence of anaemia level among women of reproductive age of 15-49 years in urban and rural areas of uttar pradesh. The chi square test of association and the binary multivariate logistic regression was done to study the association between the socioeconomic variables and status of anaemia level. It has been thought that such an attempt will benefit the policy makers in understanding the current situation and subsequent need for further programme and planning. All the selected socioeconomic variables viz, age of women, educational status, BMI and wealth index were found to be statistically significant and associated with anaemia. The study revealed that prevalence of anaemia level was high in women of younger age group (15-24 years) in comparison to other age groups in both rural and urban areas. The results are consistent with other studies [15], [16]. This indicates that poor nutritional status of young girls make them vulnerable to anaemia. There is a need to plan intervention programmes predominantly for adolescents and women of child bearing age to improve their iron status and increasing the haemoglobin levels through prophylaxis treatment, dietary modification and deworming. Women with no education are more likely of suffering from anaemia than the women having education. The findings are in consistence with other studies in india [13], [17]. It has been clearly depicted that women who are not educated, lack knowledge of how to remain healthy, no awareness of importance of nutritious food are often not in the habit of taking nutritious food. Therefore, focus should be on uneducated women who can cause adverse effects on their own health as well as the health of their family members. With regard to wealth index, it was found that women belonging to poorer wealth index are more likely to be suffering from anaemia. The findings have similarities with other studies [10] [15] [16]. The finding clearly indicates that women with poor economic status in rural areas fall victim to anaemia as they have less resources, low availability and affordability of nutritious food and lack knowledge and awareness about anaemia and ways to prevent. It thus becomes important for the government to make intervention strategies targetted at women belonging to lower economic status to pull them out of the vicious circle of anaemia. It is quite apparent that socioeconomic determinants play a very crucial and critical role in the prevention of anaemia. By recognizing and understanding these factors, the policy makers and programme managers can plan suitable strategies to pull out vast section of population out of anaemia.

CONCLUSION

The study revealed that prevalence of anaemia was higher among women in the age group of 15-24 years, having no education and belonging to poorer wealth quantile in rural and urban areas of

uttar pradesh. Anaemia continues to remain as a serious health problem due to various causes. Therefore, efforts should be geared towards early detection and treatment of anaemia.

Limitation- due to the cross-sectional design of the study, it was not possible to determine cause and effect relationship between socioeconomic variables and Anemia.

REFERENCES

1. Who. 2011 Haemoglobin Concentrations For The Diagnosis Of Anaemia And Assessment Of Severity.
2. Who. 2005. Worldwide Prevalance Of Anaemia 1993-2005,Who Global Database On Anaemia.
3. Vos T, Abajobir Aa, Abate Kh, Abbafati C, Abbas Km, Abd-Allah F, Et Al. 2017. Global, Regional, And National Incidence, Prevalence, And Years Lived With Disability For 328 Diseases And Injuries For 195 Countries, 1990–2016: A Systematic Analysis For The Global Burden Of Disease Study 2016. The Lancet. 390(10100):1211-59.
4. Nguyen Ph, Scott S, Avula R, Tran Lm, Menon P. 2018. Trends And Drivers Of Change In The Prevalence Of Anaemia Among 1 Million Women And Children In India, 2006 To 2016. Bmj Global Health. 3(5):E001010.
5. Who. 2014. Wha Global Nutrition Targets 2025: Anaemia Policy Brief2014
6. https://apps.who.int/iris/bitstream/handle/10665/149018/who_nmh_nhd_14.2_eng.pdf Accessed On 03 April 2020
7. Sharma H, Singh Sk, Srivastava S. 2018. Major Correlates Of Anaemia Among Women (Age 15-49) In India And Spatial Variation, Evidence From National Family Health Survey-4. 07.
8. Goi. 2015-16. India Fact Sheet, National Family Health Survey (Nfhs-4).
9. Goi. 2015-16. State Fact Sheet Uttar Pradesh, National Family Health Survey (Nfhs-4).
10. Kaur S, Deshmukh P, Garg B. 2006. Epidemiological Correlates Of Nutritional Anaemia In Adolescent Girls Of Rural Wardha. 31(4):255.
11. Bentley Me, Griffiths Pl. 2003. The Burden Of Anaemia Among Women In India. European Journal Of Clinical Nutrition. 57(1):52-60.
12. Piyusha Mahashabde Vka, Shireen Sharma, Ahmed Shahjada, H M Dabhi. 2014. Prevalence Of Anaemia And Its Socio-Demographic Determinants In Pregnant Women: A Cross-Sectional Study In Tertiary Health Care Setup In Central India. National Journal Of Community Medicine. 5(1):126-30.
13. Bhattacharjee S, Banerjee R, Roy Jk, Mandal S, Biswas R, Chakraborty M. Under Nutrition And Anaemia In Rural Adults- A Cross-Sectional
14. Singh P, Chaudhary V. 2015. Prevalence Of Anaemia And Its Socio Demographic Determinants Among Pregnant Women In Bareilly District, Uttar Pradesh. Indian Journal Of Community Health. 26:348-52.
15. Langare Sd, Rajderkar Ss, Naik Jd, Patil V. 2013. A

- Cross Sectional Study To Assess Certain Determinants Corelated With Anaemia In Pregnant Women Attending Antenatal Clinical Rural Health Training Centre In Western Maharashtra. *National Journal Of Community Medicine*. 4(3):454-6.
16. Kaur S, Deshmukh P, Garg B. 2006. Epidemiological Correlates Of Nutritional Anaemia In Adolescent Girls Of Rural Wardha. 31(4):255.
17. Bentley Me, Griffiths Pl. 2003. The Burden Of Anaemia Among Women In India. *European Journal Of Clinical Nutrition*. 57(1):52-60.
18. Piyusha Mahashabde Vka, Shireen Sharma, Ahmed Shahjada, H M Dabhi. 2014. Prevalence Of Anaemia And Its Socio-Demographic Determinants In Pregnant Women: A Cross-Sectional Study In Tertiary Health Care Setup In Central India. *National Journal Of Community Medicine*. 5(1):126-30.
19. Bhattacharjee S, Banerjee R, Roy Jk, Mandal S, Biswas R, Chakraborty M. Under Nutrition And Anaemia In Rural Adults- A Cross-Sectional Study In Rural North Bengal. *Indian J Prev Soc Med*. 41;(1&2):33-6. [[Google Scholar](#)]
20. Balarajan Y, Ramakrishnan U, Ozaltin E, Shankar Ah, Subramanian Sv. Anaemia In Low-Income And Middle-Income Countries. *Lancet*. 2011;378:2123-35. [[Pubmed](#)] [[Google Scholar](#)]
21. World Health Organization. Iron Deficiency Anaemia. Assessment, Prevention And Control. A Guide For Program Managers
22. 2012; http://whqlibdoc.who.int/Hq/2001/who_nhd_01.3.pdf (Accessed 28/03/2014)
23. Sinha Nk, Chattopadhyay Jc, Das Pk, Maiti S, Maiti K. Prevalence Of Anaemia And Its Possible Attributing Factors In Psychologically Healthy Women Of Reproductive Ages In Midnapore (Jangalmahal Area), India. *Indian Journal Of Community Health*. 25(3):226-32. [[Google Scholar](#)]

