

CHAPTER: 12

ASSESSMENT OF PREVALENCE OF ANAEMIA AND ASSOCIATED FACTORS AMONG WOMEN OF REPRODUCTIVE AGE IN RAJASTHAN

Priyanka Sharma

Student, IIHMR University

Dr. Arindam Das

Professor, IIHMR University

DOI: <https://doi.org/10.52458/9789388996990.2023.eb.ch-12>

Ch.Id:- IIHMR/NSP/EB/PHMP/2023/Ch-12

INTRODUCTION

A reduction in the quantity of red blood cells or in the amount of hemoglobin present in these cells is known as anemia. Anaemia reduces the amount of hemoglobin in the blood, which lowers the blood's ability to deliver oxygen to the tissues and, ultimately, the organs. Several variables, including age, sex, elevation of the place of residence, smoking habits, and pregnant status, affect the necessary hemoglobin concentration to satisfy physiological requirements [1]. The primary reason for anemia is a shortage of iron, responsible for nearly half of all global cases of anemia. Iron Deficiency Anemia (IDA) results from a significant lack of iron, leading to a reduction in hemoglobin levels in the blood. This condition poses adverse health effects, particularly for children, adolescents, and pregnant women [2]. Additional causes of anemia encompass deficiencies in vitamin A, B12, and folic acid, bleeding, parasitic infections like malaria and hookworms causing helminthic infestations, as well as other inherited conditions like sickle cell disease and thalassemia, along with chronic diseases such as renal failure and cancer, among others [3]. Pregnant women, women aged 15–49, adolescents, and children under the age of five are among the population categories most at risk for anemia [4]. Africa and Asia have the greatest rates of anemia prevalence, exceeding 35 percent. 0.8–1.5 percent of the same population suffer from severe anemia, which can have a fatal effect as well as detrimental effects on cognitive and functional abilities. The WHO South-east Asia Region's demographics with the highest prevalence of anaemia include pregnant women (11.5 million), children under the age of five (96.7 million), and non-pregnant women (190 million) [4].

Rationale

Anemia continues to pose a substantial public health challenge globally, especially in developing nations. In Rajasthan, as previously indicated, 47 percent of women aged 15–49 years are grappling with anemia. The objective of this research is to pinpoint districts in Rajasthan experiencing heightened rates of anemia and to discern potential social, economic, demographic, and health factors contributing to the

prevalence of anemia. Its goal is to pinpoint high-risk population groups and associated factors, aiding in the enhanced implementation of targeted control measures to mitigate the issue of anemia.

RESEARCH OBJECTIVE

1. To assess the prevalence of anaemia in various districts of Rajasthan.
2. To determine some common factors leading to anaemia
3. To examine the strength of association of anaemia with the identified factors.

RESEARCH METHODOLOGY

The study relied on a secondary analysis of data derived from the National Family Health Survey 2015-16 (NFHS-4). This survey provided a cross-sectional dataset containing information on women's body weight, hemoglobin levels, and relevant socio-demographic factors. The study population included 41,965 women aged 15 to 49 years, drawn from the NFHS-4 dataset specific to the state of Rajasthan. NFHS-4 employed a stratified two-stage sampling method, covering both urban and rural areas. Using the 2011 census as the sampling frame, Primary Sampling Units (PSUs) were chosen, with villages representing rural areas and Census Enumeration Blocks (CEBs) representing urban areas. Within each rural stratum, villages were selected using Probability Proportional to Size (PPS).

In the second phase, 22 randomly selected homes from each selected urban and rural cluster were taken from a systematic sampling process. NFHS-4 aimed to obtain a sample representative of 15 percent of homes by conducting interviews in every other household in thirty percent of the selected clusters. Remarkably, 28,522 of the 28,586 clusters chosen nationwide had fieldwork finished. In terms of ethical considerations, this study complied with the ethical requirements for using pre-existing datasets for research because it used secondary data from NFHS-4 without obtaining additional ethical clearance.

RESULTS & DISCUSSION

The occurrence of anemia among women of reproductive age in various districts of Rajasthan was determined using information from the National Family Health Survey 2015-16. Among these districts, the top five exhibiting the highest prevalence rates were Banswara (75.7%), Dungarpur (73%), Udaipur (69.5%), Baran (65.4%), and Bundi (63.6%). The analysis further investigated the factors contributing to anemia. Graphs depicted that anemia was more widespread in rural areas, among women with lower educational attainment, those in poorer wealth categories, and those with a body mass index (BMI) below 18.5. Additionally, scheduled tribe women and those with five or more children exhibited higher anaemia rates. Logistic regression analysis revealed significant associations; for instance, uneducated women had higher odds of anaemia compared to those with higher education. The odds were also elevated for women residing in rural areas, those in poorer wealth categories, and those classified as underweight. The number of children ever born was associated with increasing odds of anaemia. These findings provided insights into the multifaceted factors contributing to anaemia prevalence among women in Rajasthan.

CONCLUSION

This study presented the existing prevalence of anemia among women of reproductive age in Rajasthan. According to reports, 47.8% of Rajasthani women between the ages of 15 and 49 suffered from anaemia overall. Notably, Banswara (75.7%), Dungarpur (73%), Udaipur (69.5%), Baran (65.4%), and Bundi (63.6%) were the districts with the highest rates. These findings underscored the significant challenge of anemia among women of reproductive age in the region. Consequently, further research was essential to investigate the frequency and root causes of anemia and other nutritional deficiencies. Such investigations should consider factors such as place of residence, current pregnancy, educational attainment, wealth index, BMI, and the total number of children born. Research addressing these factors would help in the early diagnosis and proper management of anemia. The educational level and socio-economic status of all women should be improved.

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