

# Poverty a Burning Global Issue Leading to Anemia in India

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**Abstract** Anemia is the disease that affected mostly the poor population of world. The main cause of this disease is the blood deficiency. To see the reasons of the disease this study has been conducted on the DHS (Demographic and Health Survey) of India from year 2006-2007. The variable of anemia was categorized into 1. Severe 2. Moderate 3. Mild and 4. Not anemic. The 4<sup>th</sup> category was used as the reference category for the interpretation of results. The best suited technique for this study was multilogistic model. The results exhibited that the uneducated females had more probability to be severely affected from the anemia. A large income inequality was observed in data the poorest had more chances of the occurrence of anemic condition. The chances of occurrence of three types of anemia in poor persons were 2.370, 2.204, and 1.678 respectively. It was recommended that the Government should improve education and the purchasing power of all classes of society. These steps will help to remove the income inequality and poverty in the country.

**Keywords:** anemia, education, inequality, poverty

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## 1. Introduction

Poverty is the major issue of developing countries. It proves to be a big hurdle for the development of a country. In a society when most of the people got deprivation from their basic necessities of life, leads to the situation of poverty [1]. A poor person has no ability to feed his children properly. His income also does not allow him to provide his children better education. They have problems to buy cloth to shelter their children from the environment externalities. Poverty is a major issue still present in developed countries like Germany [2]. According to OECD (Organization of Economic Co-operation and Development) poverty existed when a person's income cannot enable him to purchase a specific basket of good in a given period of time. Comparative poverty can be determined by comparing wealth of the economy with the income of a person. Income inequality and poverty has a close relationship [3]. They jointly resulted in low socioeconomic status. These factors cause health inequality in the country. In developing countries health facilities are available free of cost in big cities. But the dilemma of corruption severely affected it. Poor have no equal access to the free medicines as the rich persons of the society. In developing nation a large number of populations are consisted on lower class. So the economy is more dependent on poor as compared to rich [4]. No doubt the rich are polishing their children with high class education and also nourishing them with suitable food.

These rich are only a small population of economy. They have no effective impact on the economy. Rather they are creating more inequality because they also occupied high class jobs. At the same time poor are deprived of from their rights [5].

Anemia is a big burning issue in the 3<sup>rd</sup> world countries. The occurrence of this disease is more in poor people. The main symptom of this disease is the blood deficiency. There are many reasons of blood deficiency but the major reason is the lack of availability of balanced diet. The basic nutrients of food are all necessary for human body. They work like a fuel in the body. As the body has more fuel, it will work more efficiently. This fuel also helped to generate hemoglobin in red blood cells [6]. The required level of hemoglobin in females is 12-13 g/dl. When the hemoglobin level reduces from 11 g/dl then this disease occurred. The favorite victims of anemia are children and females. In children when they are in growth stage they need more food [5]. If they failed to obtain that level of food then the red blood cells in their body decreased. This food deficiency leads to the anemia in children. It creates many abnormalities in early childhood stage. They have to face weakness in their body throughout whole life [7]. The children became not only physically weak but they also have to face mental sickness. Their blood level reduces such critically that they need blood infusion during their whole life. There is also problem of availability of rare blood groups. The children who are carrying rare blood groups will soon meet their death day. That also increases the child mortality rate [8].

The other victim of anemia is the pregnant women. A pregnant woman requires more diet containing all nutrients. At this time fetus is taking food from his mother. Food is transfused through the placenta inside the fetus. After the birth the child is dependent on his mother feed. The children who deprived of their mother feed have to face more complications in life as compared to the children who completed their two years course of mother feed. Anemic mother is also a reason of anemic child [9].

Anemia is of different types such as 1. Blood deficiency anemia 2. Aplastic anemia 3. Sickle cell anemia 4. Iron deficiency anemia. In pregnant women the main issue is of iron deficiency anemia. The balanced diet is not to the access of all human beings. As in developing countries the people are mostly unemployed [10]. They do not have access to the basic necessities of life. Female has to do jobs to fulfill their economic needs of life. When pregnant female go out for work she has to face more physical fatigue. She remains busy in her job because it is her earning source. She forgets about her diet. The hectic job leads female towards an anemic condition [11].

In rural areas there is more poverty and women has to work in fields forcibly. The distance between houses and fields are large. They have to move for that place without any vehicle. They walk towards the fields by carrying heavy weights [12]. Females feel reluctant to visit lady doctors rather they prefer to consult their area Dai to whom they considered more experienced as compared to the lady doctor. Mostly females take help of the consultant Dae at the time of delivery. The uneducated females do not know how to control blood during delivery. Due to excessive wastage of blood the female become victim of blood deficiency. That is the alarming condition for a female because the blood wastage is the major cause of anemia [13].

India is considered as a poor country. Its most of the population is residing in the villages. They have less awareness about the importance of food during the pregnancy level. In developing countries education level is very low [14]. The craze to look smart and up to date is also the cause of anemic condition. Girls see different ads and inspires from the figures of models. They copy their

costumes and desire to make their appearance like them. For this purpose they start dieting and remove balanced food from their routine life. After marriage when such females became pregnant they have to face more weakness than other females [15]. This study will address the reasons that are the leading cause of anemia.

## 2. Materials and Methods

This research has been done to see the effect of poverty on anemia. Study has been completed by taking data from DHS (Demographic and Health Survey) of India from year 2006-2007. Poverty was determined from the wealth Index variable that was consisted on five categories. 1 Poorest, 2 Poor, 3 Middle, 4 Rich, 5 Richest. The other control variables were female education female working out Age currently pregnant. All variables were in categorical form. Anemia was used as dependent variable and it had three categories 1 Severe 2 Moderate 3 Mild 4 Not anemic. Here the suitable economic model used to explain the study was multilogistic regression model. The equation for multilogistic regression analysis is given below

$$Y_{(a,b)i} = \ln \frac{\Pr(Y = a, b)}{\Pr(Y = c)} = \alpha_{a,b} + \sum_{j=1}^J \beta_{(a,b)j} (Z)_{ij}$$

$$Y = \beta^1 X_{1+} + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Y = Anemia categorized into 1 Severe anemia 2 Moderate anemia and 3 Mild anemia

X1 = Female Education categorized into 1 Uneducated 2 Primary 3 Secondary 4 Higher

X2 = Wealth Index 1 Poorest 2 Poor 3 Middle 4 Rich 5 Richest

X3 = Awareness categorized into 1 No 2 Yes

X4 = Mother's Employment categorized into 1 Employed 2 Unemployed

X5 = Residential area categorized into 1 Urban 2 Rural.

## 3. Results and Discussions

**Table 1. Results for variables effecting anemia in India**

Independent Variable	Severe anemia	Odd ratio	Moderate anemia	Odd Ratio	Mild anemia	Odd Ratio
Intercept	-1.763		1.188		2.667	
Women Education						
Uneducated	1.567	4.791	.924	2.520	.643	1.903
Primary	.800	2.226	.251	1.285	-.054	.947
Secondary	.164	1.178	-.313	.731	-.556	.575
Higher	0b		0b		0b	
Wealth Index						
Poorest	.738	2.092	.608	1.838	.296	1.345
Poor	-.135	.874	-.335	.715	-.567	.567
Middle	-.187	.829	-.601	.548	-.752	.471
Rich	-.406	.666	-.536	.585	-.653	.521
Richest	0b		0b		0b	
Awareness						
No	.440	1.553	.370	1.448	.337	1.400
Yes	0b		0b		0b	
Mother's Employment						
No	.477	1.611	.338	1.402	.315	1.371
Yes	0b		0b		0b	
Residential Area						
Urban	.142	.868	.069	1.071	.170	1.162
Rural	0b		0b		0b	

It was executed from the Table 1 that the uneducated females had increased the probability of severe anemia about 2.967 as compared to the highly educated females. At the same time these females had 1.562 more likelihood to be moderate anemic and the probability of occurrence of mild anemia was 1.097 more than the highly educated females. In another study [13] evaluated similar results that the education was the significant factor affecting the anemia. Only the highly educated females had more risk of anemia. Mother's employment was an important factor that was influencing anemia. It was demonstrated that mothers who were not working out of their homes had more probability to become victim of mild moderate and severe anemia. The probability mild anemia was increased to 1.611 as compared to the females who had the opportunity to go out for work. In the same way the probabilities of moderate and severe anemia was 1.402 and 1.371 respectively. Similarly in another study [14] found that the working women were healthier as they have their own income to spend on themselves. They didn't have need to borrow from anyone at home or out of their home. It was further confirmed that the people who had lack of awareness had more chances to face anemia as compared to those who had more awareness. Similarly [15] examined that the awareness had a negative impact on anemia. Awareness made a person more conscious about the protection from disease. The urban people had more access to the health facilities and availability of food. So it was obvious from the results that the urban residents had 1.126 more probability to had severe anemia compared to rural people. They had also more chances to become diseased by moderate and mild anemia. No doubt they had opportunities but the craze of fashion was also an increasing dilemma in the urban area. Imitating the style and physique of actors the youngsters loss their health. The wish to be look smart and up to date made them pale faced. The study also cleared the fact that unbalanced food created blood deficiency. The chances of occurrence of mild and moderate anemia in urban people were 1.071 and 1.162 respectively. In another study [12] concluded quiet different results, according to him the rural people had to face more diseases than urban people. A large inequality was evaluated from the study in case of poor and rich people's anemic condition. The poorest persons had 2.370 more likelihood to become victim of severe anemia as compared to the richest person of the country. While the probabilities of moderate and mild anemia were respectively 2.204 and 1.678 respectively. A similar picture was exhibited in middle class. Severe anemia had 1.927 more likelihood to diseased the middle class persons of the society. The rich had 1.049 more probability to had severity of anemic condition than the richest person of the society. [3] obtained similar results in case of iron deficiency anemia, the rich had less chances to be anemic than the poor.

#### 4. Conclusion and Recommendation

This study concluded that there was a large income inequality among the people of India. The poor females were exhibited more severity in anemic condition. The condition of moderate and mild anemia was also more in the poorest persons of the country. The illiterate people had less knowledge about the balanced diet. The subsistence level of food is the main factor affecting the health of a person. The poor persons had limited purchasing power and awareness. Due to that their health destroyed by the blood deficiency. People exhibited pale face that lead to the anemic condition. It was strongly recommended that the Government should improve education level. To reduce income inequality Government should reduce inflation so that the poor and rich had an equal access to the balanced diet and health facilities.

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