

Awareness about Anaemia among Young Girls in Rural Areas of Ghaziabad, Uttar Pradesh

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Abstract

Anaemia, also referred to as low red blood cell counts, is a condition rather than an illness. It is clear that most people's busy schedules drive them to overlook their general physical health. In young girls, anaemia is a prevalent issue that, if addressed, can cause major complications. It has been demonstrated that young girls, at their growing age, are more likely to develop iron-deficient anaemia. The female body often requires more iron to make up for the blood lost during the menstrual cycle. Particularly in rural places, girls consume less food than boys do either because of patriarchal society culture or because of low economic status. In terms of the frequency of anaemia, India ranks among the top nations in Southeast Asia, according to a WHO assessment. To know the prevalence of anaemia among young girls in rural areas, a cross-sectional study conducted among 200 adolescent girls found that 52% of the girls were non-anaemic and aware, and 48% were anaemic at either a mild, medium, or severe level. It is also found that there is a significant relationship between anaemia and socioeconomic status and dietary modification.

Keyword: Anaemia, Awareness, Deficiency of Iron, Iron Deficient.

Introduction

Anaemia is a condition that reduces the ability of healthy red blood cells to carry oxygen. It is also known as blood disease. There are many types of anaemia, of which iron deficiency anaemia is the most common. It is clear that most people generally avoid physical health due to their busy lifestyles. Anaemia is a common problem among young girls and can lead to serious problems if left untreated. I have. When blood does not contain enough healthy red blood cells, organs and tissues are not supplied with enough oxygen, which can lead to anaemia. It can cause headache, tiredness, weakness, fatigue, shortness of breath etc.

As we all know, human body makes three types of blood cells, white blood cells, red blood cells and platelets. White blood cells also known as **white corpuscle** or **leukocyte**, defends the body against many diseases and infections by putting away cellular debris and foreign materials. It also develops antibodies in our body by

destroying infectious agents and cancer cells. White blood cells play a vital role in keeping our body disease free. It also helps in boosting the stamina of the body by protecting it from disease. It works like an army which travel through the tissues and blood stream and try to identify the area where infection is occurring. After identification, it fights with the invaders or so called outer organism which causes infections.

Platelets or in biological term thrombocytes form bone marrow in our bones. It is sponge like material and performs a major role in blood clotting. Red blood cells (RBC) transport Oxygen (O_2) from the lungs to the body tissues and transport carbon dioxide (CO_2) from the body tissues to the lungs. It also helps in prevent bleeding by making blood clot in the injured area. A normal human being has platelet count 150000 to 450000 per micro litre of blood.

According to the National Family Health Survey 5 (2019–21), the prevalence of anaemia is 25.0 percent in men (15–49 years old) and 57.0 percent in women (15–49 years old) among six categories. 32.1% of teenage boys (15–19 years old), 59.1% of teenage girls, 52.2 percent of pregnant mothers (15–49 years old), and 67.1 percent of young children (6–59 months old) were affected.

There are different types of anaemia and every type of Anaemia causes by different kinds of deficiencies. One of the most prominent types seen generally in young girls is iron deficiency Anaemia. It happens due to lacking of iron in our body. Iron is needed by bone marrow to make haemoglobin and without proper amount of iron; our red blood cells can't form haemoglobin. Blood loss, heavy menstrual cycle, stomach ulcer etc. are few problems caused by iron Anaemia.

Vitamin deficiency Anaemia is also seen in young girls after iron deficiency Anaemia. Lacking of vitamin in our red blood cells causes Vitamin deficiency Anaemia. Without adequate amount of vitamin and folic acid, our body doesn't produce healthy red blood cells. Aplastic Anaemia, Haemolytic Anaemia, Sickle cell Anaemia etc. are also varied types of Anaemia caused by different causes.

It is advised by the doctors to consume green leaves and vegetables. Brown rice, red meat, tofu, beans, eggs, fish etc. are also iron rich foods. It not only gives nutrition to our body but also keeps more and more active.

At young age, human body persist several hormonal and physical changes and it needs more nutritious foods to compensate that changes but generally girls and women avoid their health due to their carrier growth or hectic lifestyle. It is also evident that due to Anaemia in pregnancy of these young women results premature baby, anaemic baby or low birth weight baby which is a very serious issue and need to address and make girls or women aware about Anaemia.

As we all know the nutrient deficiency is not only the problem of the India, it is a global issue but it is very prominent in developing countries. If we look the India's ranking in Global Hunger Index (GHI) in last four year then we will find the rank is proportionally increasing which raise the question on the availability of adequate amount of food to the large population. In 2021, India was on 101st position in 116 countries. In 2020, country was on 94th position in 107 countries. In 2019, India was at the 102nd position in 117 countries. Country was on 103rd position in 2017 among 119 countries.

It is noticed that young women are more prone to iron deficient Anaemia then men. Generally, in order to compensate blood loss during the menstrual cycle women body need more iron. In women especially in rural areas, the food intake or the nutrition intake is less in compare to men.

Centres for Disease Control and Prevention, 2018 report revealing that in United States, around 3 million people are Anaemic. It shows that Anaemia is not leaving the people of the developed country also. Busy and hectic lifestyle in this ever growing world is making people physically unfit.

According to the report of **National Family Health Survey – 4 (NFHS-4) 2015-16** on prevalence of Anaemia in Uttar Baster Kanker districts, 67.7% women of rural areas in Chhattisgarh are anaemic. **Health Live, 2021** report also revealed that India was on 170th position in terms of Anaemia among women.

In **1997, WHO** also bring together for a meeting of regional consultation of experts to focus malnutrition issue among young girls in South-East Asian countries.

Lancet journal 2019 series report is saying that gender inequality is also a reason to affect the women's health. It is also creating obstacles to achieve sustainable developmental goals. Poor eating habits, lacking of iron and vitamin C in food items, repeated child bearing etc. in women are main causes of affecting their health. It is seen that the developing countries like India still have male dominated societies where, women are expected to fulfil all the responsibilities. In order to satisfy the need of all the family responsibilities, she never finds time for herself for her care. These kinds of ignorance also causing health disease like Anaemia, stress, anxiety etc.

A research publish on the **paediatric today**, with topic prevalence of Anaemia in young girls of rural area of Tamil Nadu reveals that India is among the top rankers in terms of high prevalence of Anaemia in adolescence. It becomes more problematic if we compare India with other developing countries. Adolescence group in India faces many nutritional challenges in their growing age and they require the healthy daily diet to keep them physically fit.

Statement of the Problem

The WHO website reports that 40% of pregnant women globally are believed to be anaemic. Furthermore, it reports that 42% of kids under five are anaemic, which is a concerning figure that needs immediate treatment. According to the Global Hunger Index for 2021, India is ranked 101st out of 116 countries, demonstrating how implausible it is to expect our sizable people to eat a diet that is nourishing or wholesome.

Objective

1. To determine the prevalence of anaemia in young rural girls.
2. To understand the causes and frequency of anaemia in young rural girls.

Material and Method

This was a cross-sectional study done over 200 females from a high school in Matiyala village, one of the rural areas of Ghaziabad. Here, convenient sampling is used to select the school. After getting permission from the school authority, a medical camp is organised with the help of a prominent laboratory in Ghaziabad, and blood samples of the students between the ages of 15 and 19 are also taken. They were also given a questionnaire to test the level of awareness about anaemia among young girls in Ghaziabad. The questionnaire consisted of their health situation, menstrual cycle, demography, and socioeconomic status. Here, only those students were included in the study who gave the consent of their parents. If some students are ill or have a menstrual cycle, they are excluded from giving blood samples. After performing the CBC (complete blood count) to detect anaemia in the vein of the sample, reports were produced and analysed to know the prevalence of Anaemia.

Result

Table 1: Percentage distribution of students based on severity of Aneamia

Indicators	Number of Students	Percentage
Non Anaemic(Hb levels >12 g/dl)	104	52%
Mild Anaemia(Hb levels 10-11.9 g/dl)	40	41.67%
Moderate Anaemia(Hb levels 9.9-7 g/ml)	36	37.5%
Severe Anaemia(<7 g/ml)	20	20.83%

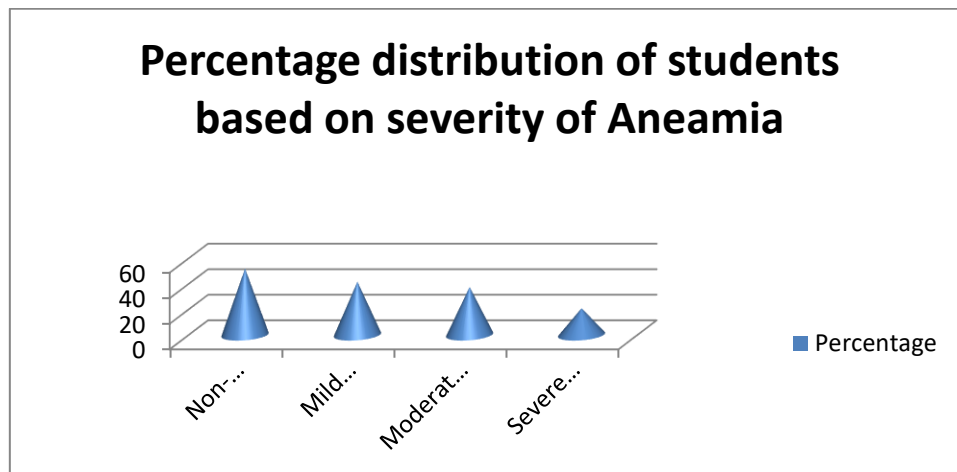
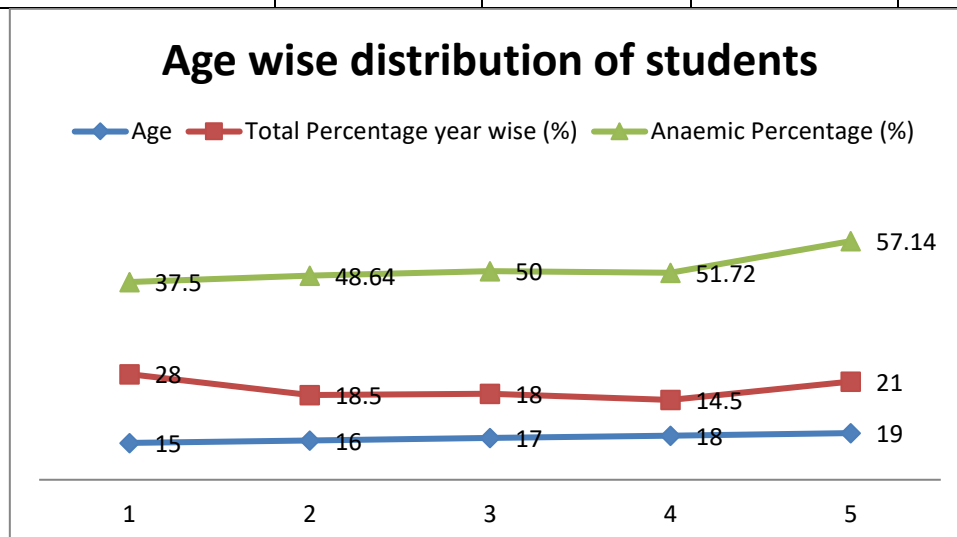


Chart 1: Distribution of students based on severity of Aneamia

Among 200 young girls, it was found that 48% (n = 96) girls were aneamic and 52% (n = 104) girls were non-anaemic.

Table 2: Age wise distribution of students

Age	Total Participation (n=200)		Total Anaemic(all type) Participation (n=96)	
	Total Number	Percentage (%)	Total Number	Percentage (%)
15	56	28	21	37.5
16	37	18.5	18	48.64
17	36	18	18	50
18	29	14.5	15	51.72
19	42	21	24	57.14



Graph 2: Age wise distribution of students

As graph 2 shows, Aneamia is growing with the age. It is also predicting that the girls of the rural area at their growing age are more prone to Anaemia.

Table 3: Prevalence of Anaemia based on diet pattern

Preference diet	Total Participation (n=200)		Total Anaemic Participation (n=96)	
	Total Number(x)	Percentage (%)	Total Number(y)	Percentage (%) $(x/y*100)$
Vegetarian	122	61	78	65.93
Non Vegetarian	78	39	18	23.07

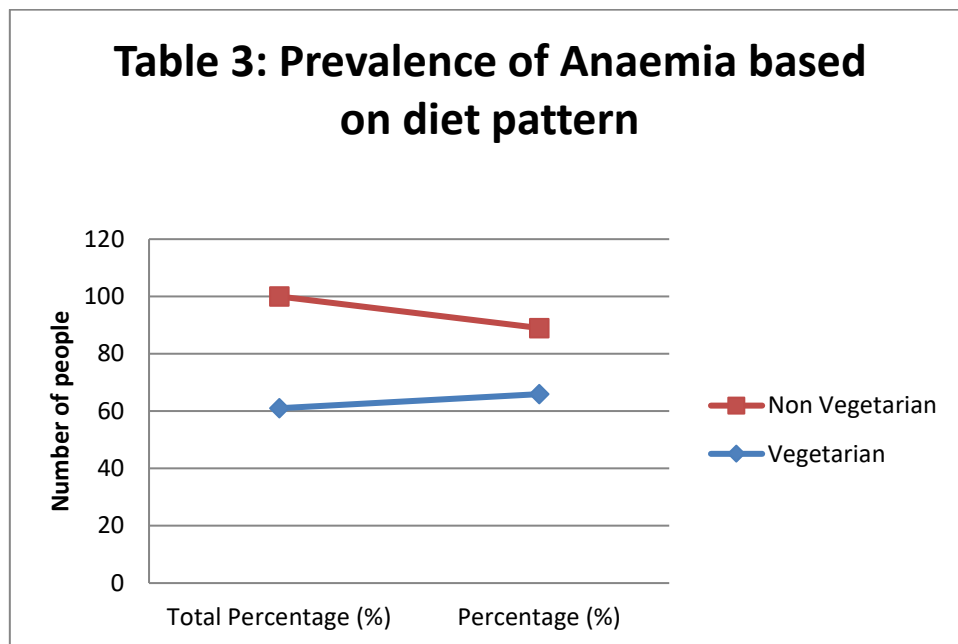


Chart 3: Prevalence of Anaemia based on diet pattern

As shown in graph 3 and table 3, both report that the prevalence of anaemia in women who are taking a non-vegetarian diet is less than that of a vegetarian diet.

Table 4: Prevalence of Anaemia based on economic status

Economic Status	Total Participation (n=200)		Total Anaemic Participation (n=96)	
	Total Number(x)	Percentage (%)	Total Number(y)	Percentage (%) $(x/y*100)$
High	57	28.5	12	21.05
Middle	74	37	35	47.29
Low	69	34.5	49	71.09

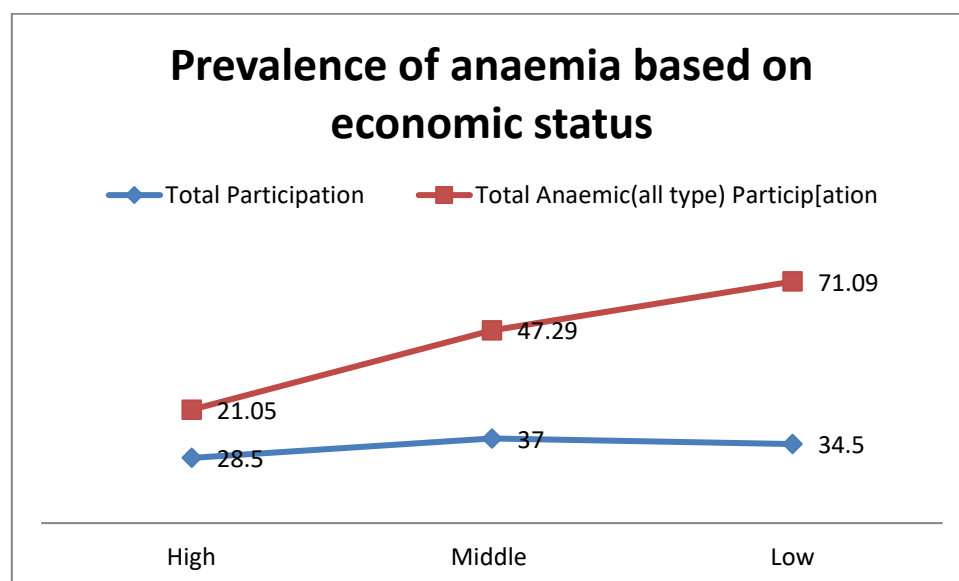


Chart 4: Prevalence of Anaemia based on economic status

The above data in Table 4 and Chart 4 show that most of the entire sample belongs to the middle class, but the prevalence of anaemia in the low middle class is higher.

Discussion

The above study is revealing that more than half of the population i.e., 52% were non anaemic and the rest girls (42%) with their early growing stages are more prone to anaemia. These girls need to be special attention either by providing them guidance or organising them a camp for the awareness about anaemia. Teenagers in rural schools have a serious public health issue with anaemia. Adolescent girls' medication adherence with relation to taking iron and folic acid tablets needs to be improved, and there is a need for a consistent supply of these tablets. A community's anaemia problem is of extremely high scale, according to WHO and UNICEF, when the prevalence rate rises above 40%. Throughout the world, anaemia is among the most prevalent dietary issues. The incidence and prevalence of nutritional anaemia around the world show that developing nations like India have a disproportionately high incidence because of things like poverty, inadequate diet and nutrition, worm infestations, early pregnancy and lactation in women, and subpar health care. According to a WHO research, India has one of the highest rates of anaemia prevalence among South East Asian nations. Due to their high level of physical activity and fast development spurt, adolescents are most vulnerable to acquiring nutritional anaemia and consequently require additional nutritional supplements. The purpose of this study was to determine how common anaemia is in teenage girls. This study also looks for links between anaemia and poor dietary habits and socioeconomic level.

Nutritional deficiency in developing nations is a prevalent condition and it generally happens due to the avoidance of nutritious diet in daily life and sometimes also due to the low affordability status. According to the **report of the WHO**, India is among the top South East Asian countries in terms of the prevalence of anaemia. The government is also trying to make women aware of anaemia and is also providing iron and calcium tablets in the Anganbari Kendra and local government dispensaries or hospitals.

As per the report of the World Health Organisation, 808 women die every day while delivering babies due to pregnancy-related causes. This report also said that almost 300,000 women died in 2017 while giving birth to babies. It shows the requirement for health awareness in rural as well as urban areas also. These adolescence girls would be the future mothers. If they will not get attention at their starting growth age then they may have negative consequences in future also. In order to promote health awareness among people, academicians, researchers, and social scientists also raised the concern of including health communication in the curriculum.

Conclusion and Recommendation

The aforementioned study indicates that anaemia is a serious problem that young girls in rural regions should be advised to have checked out. It's reasonable to conclude, based on data analysis, that rural households with low or moderate incomes are the main targets of this major health concern. Although the government is running several programmes to completely eradicate anaemia in villages through a range of techniques, some people remain mostly unaware of the issue. Periodic evaluations will help more women achieve anaemia-free health in addition to implementing the strategy. Women can fight anaemia and other ailments brought on by malnutrition by promoting female education and providing them with nutrition education sessions.

Acknowledgements

I would like to express my sincere gratitude to everyone who helped me complete my research study or involved in this study directly or indirectly. I also like to thank my mentor, Dr. Vinay Vikram Singh, Head of Department, SJMC, United University, Prayagraj, from the bottom of my heart.

Funding

No

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