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A study on Prevalence of Anaemia amongst adolescent girls of Patna Town

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Abstract : *The present study was undertaken to assess the prevalence of Anaemia amongst adolescent girls of Patna town. It also aimed at finding out the awareness of girls about Anaemia. 100 girl students from Patna Women's College were selected by purposive-cum-incident sampling method. Percentage was drawn of respondents' orientation. 35% respondents did not know the normal level of haemoglobin in the blood. 45% did not have proper diet. It was found that 42% have 5 day menstrual span. 60% girls felt the need for proper haemoglobin level test. The study focused on awareness, physical problems and symptoms*

of the disease. The findings of the study indicate that as far as anaemia is concerned girls' perceptions show that it is not merely a physical health problem but also a social and cultural problem. Though girl students had knowledge that good and adequate food would prevent anaemia, they were very ignorant about it. Whatever the knowledge they had was superficial knowledge.

Key words : *Reproductive health, Malnourishment, Foeticide, Adolescence, Deficiency disease.*

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Introduction:

Adolescence is the period of change from childhood to the maturity or adulthood (*Carrol Lutz et al, 2001*). It usually begins at the age of twelve and may continue up to the age of nineteen. During adolescence, the final stage of childhood growth occurs. Physical growth and development are rapid and sexual maturity is attained. Energy, protein, vitamins and minerals are needed in increased amounts. Adolescent girls often lack enough calcium in their diet. Major problems in the adolescent are self prescribed reduction in diet and poor choice of food (*Carrol Lutz and Karen Przytulski, 2001*).

Teenagers are often fatigued, anxious and under emotional stress (Dwyer, J.T., et al. 1969). These factors may have an adverse effect on the retention of nutrients. Students who were taking examinations and young women who were upset were found to have negative nitrogen and mineral balances. Emotional difficulties may stem from feeling of social inadequacy or the pressure of school work. When there is conflict within the home because of the teenagers' food choices, or their failure to accept responsibilities or the way they use money, dating hours and so on, the emotions generated not only determine food intake for some adolescents but also modify the nutrient utilisation. (Debashri Ray, 2004).

The statement as the National Nutrition Policy 1993 has pointed out major nutritional problems in India. It includes iron deficiency, vitamin deficiency, protein energy malnutrition and children with low birth weight. Various criteria of the nutritional status show that there are not only regional differences, but also gender bias. (National Family Survey-3(2005-2006) showed that 56 percent girls of 17 to 22 are anaemic.)

Adolescents (10 – 18 years) constitute nearly 25% of the population. This is a period characterized by rapid increase in weight and hormonal changes resulting in sexual maturation causing wide swings of emotions. In addition it is an anabolic phase of life and warrants increased nutrient requirements per unit body weight. Hence health and nutritional status of girls is most important (Swaminathan, 2008).

The major nutritional problems of adolescent girls in India include Chronic Energy Deficiency, Iron Deficiency Anaemia (IDA) and Iodine Deficiency Disorders (IDD) besides low calcium intakes affecting the deposition of critical bone mass during this important period of growth. Adolescents are

also vulnerable to certain reproductive health hazards like pregnancy related mortality and morbidity, unwanted pregnancies, illegal abortions and sexually transmitted diseases.

As far as anaemia is concerned it is one of the important indicators to know the nutritional status. It would be very useful to understand what rural women have to say about their own anaemic state. The reasons according to women behind anaemia and their perceptions about the impacts of inadequate nutrition provide insights into the socio-cultural context of anaemia in women. It helps to realize that it is not only a health problem of medical origin but it is a social problem having implications on women's health. The socio – cultural context of anaemia needs to be studied as it has far – reaching implications. It affects women's productivity. Women cannot effectively contribute to the economy. Besides this, it gives rise to the vicious circle of the women/mothers giving birth to the underweight babies. Thus, it affects the future generations also (Kulkarni 2007, 12).

Anaemia means that either the level of red blood cells or the level of haemoglobin is lower than normal. This means the red blood cells have to work harder to get oxygen around the body. Red blood cells are produced in the bone marrow and they have a life expectancy of approximately four months.

Each red blood cell contains a complicated protein called haemoglobin. This protein gives red blood cells their characteristic colour. The much-needed oxygen molecules bind to haemoglobin and thus oxygen gets transported to all the cells through blood with the help of haemoglobin. Anemia occurs either through the reduced production of red blood cells or an increased loss of red blood cells.

Symptoms of anaemia:

- Pale skin
- Fatigue
- Weakness
- Breathlessness

- Tiring easily
- Frequent headaches
- Racing heart or palpitation
- Chestpain
- Becoming irritated easily
- Lack of concentration
- Cracked or reddened tongue
- Loss of appetite
- Strange food craving.

(Anguilar & Galbes, 1969)

Types of anaemia :

1. **Iron Deficiency Anaemia :-** This is the most common form of anaemia that affects 20% of women, 50% of pregnant women and 3% of men. This is caused by a shortage of the mineral iron in the body. The bone marrow needs iron to make haemoglobin and without adequate iron, the body cannot produce enough haemoglobin for the red blood cells. (Agrawal 2006, 12)

Causes of Iron Deficiency Anaemia: An inability to absorb iron, increased demands in physiological states, dietary deficiency of iron

2. **Megaloblastic Anaemia:-** Megaloblastic anaemia is a type of anaemia characterized by very large red blood cells. In addition to the cells being large, the inner contents of each cell are not completely developed. This malformation causes the bone marrow to produce fewer cells and sometimes the cells die earlier than the 120-day life expectancy. Instead of being round or disc-shaped, the red blood cells can be oval.

Causes of Megaloblastic Anaemia: Digestive diseases, Malabsorption, Medication – included folic acid deficiency, Folic acid and vitamin B 12 dietary deficiency.

3. **Sickle Cell Anaemia:-** Sickle cell anaemia is an inherited form of anaemia characterized by the presence of an abnormal form of haemoglobin. Under normal circumstances, the red blood cells are flexible and round, and they move easily through the blood vessels to carry oxygen to all parts of the body. In people with sickle cell anaemia, the red blood cells become rigid and sticky and are shaped like sickles. These irregular-shaped blood cells die prematurely, resulting in haemolysis and loss of blood. As these are not flexible they can get stuck when travelling through small blood vessels, which can slow or block blood flow and oxygen to certain parts of the body.

Signs and Symptoms : Anaemia, Periodic episodes of pain, Jaundice, Frequent infections, Stunted growth.

Significance of the study :

Adolescents are in different stages of development with varied requirements. They may be living in different circumstances with different backgrounds. They may be with different needs and diverse problems. But certain basic problems are intrinsic to their existence. They comprise 22% of the population. This is the most important formative period of their growth. Habits, trends, and behaviour picked up during adolescence have lifelong impact. This is the last chance to correct the growth lag and malnutrition. In the view of a staggering rise in adolescents indulging in unprotected sex – many become prone to HIV. They have simple but wide pervading crucial reproductive health needs – menstrual hygiene, contraception, safety from RTI and HIV/AIDS.

So, it becomes all the more important to instill awareness in them, about their basic needs. It is also required to empower them and equip them with all the knowledge and information. Life skills

can help them effectively to deal with themselves. It would also enhance their productive capacity.

Adolescents have significant energy, drive with abundant innovation ideas. The future productivity of any nation is fully dependent on the adolescents. Hence, it is essential that healthy development of adolescents is carried out in a positive manner. In fact, adolescents have a range of health problems that cause anaemia. It is a common observation that adolescents do not access the existing health services despite having definite health problems. This is the burning health issue that is why we have selected this topic.

Objectives of the study:

1. To enquire about the awareness and knowledge of anaemia among adolescent girls.
2. To know the physical problems faced by adolescent girl suffering from anaemia.
3. To identify the symptoms of anaemia in adolescent girls.

Hypotheses:

1. There would be significant effect of awareness level of prevalence and prevention of anaemia.
2. Level of Education would serve as the key factor in facilitating awareness towards preventing anaemia for sound health.
3. There would be significant effect of SES and home environment on prevalence and prevention of anaemia.

Methodology:

The study was conducted in Patna town. 100 Adolescent girls from Patna Women's College, Patna were selected by the researcher who visited different departments of Patna Women's College. Those who ever were available and fulfilled the purpose of the present study were selected as the sample of the present study.

The data was collected amongst the students on the awareness and knowledge of anaemia with respect to the general health problems. The result was analyzed from three broad dimensions that included the following areas:-

1. General information.
2. Awareness level about the anaemia.
3. Impact of economic and living environment on health.

Results and Discussions:

The tables and explanations given provide interesting insights into the issue of anaemia in adolescent girls.

Table-1: Number and Percentage in the Awareness of Anaemia (N=100)

S.No.	Awareness level	Number	Percentage
1.	Yes	83	83
2.	No	17	17
	Total	100	100

From the above given details it is concluded that majority of the respondents were aware of anaemia. Adolescence is, in a way, formative stage for any girl and this is the stage before entering motherhood when their body requirement changes. Therefore the awareness regarding such deficiencies is important amongst these girls and it was heartening to see that majority of the girls were aware of this stage of deficiency.

Table-2: Number and Percentage in the Status of Menstruation (N=100)

S.No.	Status of Menstruation	Number	Percentage
1.	Regular	47	47
2.	Irregular	53	53
	Total	100	100

It is clear from the table that 47% of respondents have regular menstruation cycle and the majority is suffering from the problem of irregular menstruation. It affects their capacity for work. According to the young adult women weakness leads to complaints like irregular periods. The result was not satisfactory.

Table-3: Number and Percentage regarding Duration of Menstruation (N=100)

S.No.	Duration of Menstruation	Number	Percentage
1.	2 days	1	1
2.	3 days	21	21
3.	4 days	36	36
4.	5 days	42	42
	Total	100	100

This reveals that the average span of menstrual cycle is 5 days which reflects or indicates the prevalence of widespread anaemia. This issue calls for increased awareness on this particular topic to ensure better health status.

Table-4: Number and Percentage in the Test of Anaemia (N=100)

S.No.	Test done	Number	Percentage
1.	Yes	60	60
2.	No	40	40

The result indicates that a good amount (60%) of the girls got their haemoglobin tested. This was a good indicator. At the same time, it was found that this check was not done on a regular basis (it was done only when they were not well). This result shows that they are disease conscious not health conscious but the problem needs to be sorted for the girls who did not go for haemoglobin test, and a system of medical checkup could be a possible solution.

Table-5: Number and Percentage in the Problem related to health (N=100)

S. No.	Duration of Menstruation	Number	Percentage
1.	Unusual tiredness and fatigue	47	47
2.	Unusual weakness	31	31
3.	Breathlessness	7	7
4.	Behavioral changes	7	7
	All	8	8
	Total	100	100

Table 7 is revealing the fact that girl students are suffering from a number of problems which is the cause of concern. The result suggests preliminary symptoms of anaemia among the mass. The result shows that each and every girl is suffering from one or the other problems. Though they cannot be solely attributed to anaemia, a proper medical checkup is needed to establish the fact.

Table-6: Number and Percentage in the Awareness about iron requirement (N=100)

S.No.	Awareness level	Number	Percentage
1.	Yes	81	81
2.	No	19	19
	Total	100	100

It is very clear from the above table that good number of respondents were aware of the requirement of iron. As the changes takes place in the female's life the requirement varies. But some girls did not know the fact. So the awareness in this regard was found low in some girls who needed to increase their awareness.

Table-7: Number and Percentage in the Intake of tea/coffee (N=100)

S.No.	Intake of tea/coffee	Number	Percentage
1.	Once	40	40
2.	Twice	33	33
3.	Thrice	6	6
4.	Many	10	10
5.	Don't take	11	11
	Total	100	100

Table reveals that almost all the respondents take tea/coffee once, twice, and thrice or many times in a day. Only few respondents did not take. Drinking excessive tea/coffee may be the reasons of anaemia because it inhibits the absorption of iron.

Table-8: Number and Percentage in the Nutritional Deficiency (N=100)

S.No.	Problems	Number	Percentage
1.	Poor dietary intake	45	45
2.	Intestinal infection	6	6
3.	Chronic diseases (like T.B.)	2	2
4.	None	47	47
	Total	100	100

From the given table it is clear that majority of respondents are suffering from one or any other kind of problems. It is very surprisingly that only few respondents were not suffering from any kind of diseases or poor dietary intake.

Table-9: Number and Percentage in the Awareness related Haemoglobin level (N=100)

S. No.	Problems coffee	Number	Percentage
1.	Below 10g/dl haemoglobin	28	28
2.	Above 10g/dl haemoglobin	37	37
3.	Don't know	35	35
	Total	100	100

The study reveals that girls are unaware of the exact level or percentage of haemoglobin present in the body. They are of the opinion that girls with 10 gm/dl of haemoglobin are not anaemic. As far as knowledge is concerned they don't have concrete knowledge.

Table-10: Number and Percentage in the Awareness related iron/folic acid supplementation (N=100)

S.No.	Awareness level	Number	Percentage
1.	Yes	60	60
2.	No	40	40
	Total	100	100

The table reveals that majority of respondents were aware that additional iron (300-350gm) and folic acid (60gm/day) is needed for the maintenance of the growth of foetus and health of the pregnant women. But some respondents were not aware of one of the important fact. Thus there is a satisfactory awareness level among the respondents.

Conclusion:

It is concluded that there has been a considerable rise in educational standards coinciding with an increased income as reflected by the data. But higher education is yet to make its mark on 1/4th of students pursuing it. General information and awareness about health was substantiated by a majority (83%) of the students being aware about anaemia. But awareness about health consciousness is still lagging behind as less than half percentage (40%) of the girls have never had their blood test done due to ignorance and lack

of need felt by them. Gender bias and discrimination is also reflected in the fact that 53% students have irregular period. This indicates unequal status and disparity towards girls and women.

Another noteworthy fact highlighted was that a majority 47% of the girls suffered from fatigue, unusual tiredness and exhaustion. This clearly displays the pathetic status of females in the society and their lack of exposure to health related information. Their intake of a balanced diet 45% is also inappropriate but they have general basic information about different stages in female's lives. Their information about anaemia is very general and casual and they lack in depth information about how to ameliorate that. 40% were unaware that intake of vitamin B6, B12 and vitamin C, folate and protein reduce anaemia.

Their dietary habits reflected that although being aware of the proper calorie intake, their food habit was irregular and inappropriate. Their fruit consumption was low and green leafy vegetables were randomly consumed according to their availability. One praiseworthy fact is that only a negligible percentage 2% suffers from chronic diseases. But one vital information still lacking in their priority list is their negligible information about additional iron intake required at reproductive age to maintain iron balancing during pregnancy. More than half of the girls were unaware of the supplementation daily consumption of folic acid. Their information about RDA of iron is also negligible. Thus, this information gathered revealed a lot about the health consciousness, health standard and general information the girls had about these important issues.

Thus, if we want to make India into a strong nation, the time to act is now. We cannot progress with a sizeable population ignorant about health standards. Only improved health standard can ensure a strong healthy and prosperous nation with an increased productive capacity.

Recommendations:

This project highlights the major issues concerning the adolescent of today. In order to make

the findings more effective, we need to incorporate and integrate them in a very subtle manner in our curriculum. Without proper implementation and execution the findings will remain redundant. In order to achieve the objectives we need to:-

- Integrate the concerned topics with the study materials and other allied topics.
- Maximize use of audio visual aids to create a large impact.
- Hold timely workshop to ensure awareness.
- Form a group of health experts and facilities.
- Provide effective and proactive counselling.
- Form a counselling cell.
- Organize health quizzes, seminars to bring about active participation.
- Acknowledge the efforts of responsible students in their endeavour to create an understanding on these issues.

Thus, mass participation, awareness and active cooperation will ensure optimum result. This alone will ensure and fulfill the objectives of our project.

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