International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 9 Issue 4, Jul-Aug 2025 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

A Study to Assess the Effectiveness of Planned Teaching Programe (PTP) Interms of Knowledge Regarding Anaemia and its Prevalence among the Adolescent Girls in the Selected Schools at Lucknow

Mrs. Sony Verma[1], Mrs. Monika Bhushan[2], Mr. Himanshu Kumar[3]

[1]M.Sc. Nursing (Child Health Nursing), Assistant Professor,
[2]M.Sc. Nursing (Community Health Nursing), Lecturer,
[1,2]Faculty of Nursing, Uttar Pradesh University of Medical Sciences, Saifai, Uttar Pradesh, India
[3]M.Sc. Nursing (Child Health Nursing), Tutor,
Dr. Achal Singh Yadav Nursing and Para Medical College, Lucknow, Uttar Pradesh, India

ABSTRACT

Anaemia is a critical public health problem in India that affects women and children throughout the lifecycle. Anaemia in girls limits their development, learning ability, reduces concentration in daily tasks, increases their vulnerability to infection, increases school dropout rates, reduces physical fitness and work productivity. Adolescent period is signalized by marked physical activity and rapid growth spurt; therefore, they need additional nutritional supplements and are at utmost risk of developing nutritional anaemia. This study was carried out to find out the prevalence of anaemia among adolescent girls. ***In adolescents, anaemia has been linked to affecting physical disorders, growth, and mental retardation and also increases reproductive morbidities among adolescent girls during their womanhood. Unfortunately, the anaemia intervention program, such as the National Nutrition Anaemia*** Prophylaxis Programme, primarily targets infants, young children, pregnant and lactation women, and not adolescents. Therefore, this study tries to fill this gap and study the prevalence of anaemia and the associated factors among adolescent boys and girls residing in Lucknow India. **Prevalence of anaemia was higher among adolescent girls than in boys.** Lower education status, rural residence, late adolescence, no exposure to mass media, and stunting were the predictors of moderate/severe anaemia among adolescents. Anaemia among adolescents must be addressed through effective public health policy targeting adolescents residing in rural areas. There is a need to disseminate information about anaemia-related programs, such as National Iron Plus Initiative (NIPI), through mass media, and subsequently, the public health system may be prepared to tailor the needs of adolescent boys and girls.

KEYWORDS: *Adolescence, anaemia, nutritional supplementations, socioeconomic status, Planned Teaching Programe (PTP)*

How to cite this paper: Mrs. Sony Verma | Mrs. Monika Bhushan | Mr. Himanshu Kumar "A Study to Assess the Effectiveness of Planned Teaching Programe (PTP) Interms of Knowledge Regarding Anaemia and its Prevalence among the Adolescent Girls in the Selected Schools at Lucknow" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-9 | Issue-4, August 2025, pp.431-436, URL: www.ijtsrd.com/papers/ijtsrd97251.pdf

IJTSRD97251

INTRODUCTION

Adolescence is an opportune time for interventions to address anemia, as it is an important time of growth and development. Missing out on nutrition education and IFA supplementation at this time may push young boys and girls further into the cycle of iron deficiency and anaemia. In adolescent girls, apart from meeting growth needs, sufficient iron intake is also essential before and during pregnancy. Iron is one of the essential nutrient required by our body , as it cannot made by our body on its own. Iron is so important to your body that is has been referred to as the body's gold. Most of the iron in your body is found as part of

proteins called hemoglobin, which is found in red blood cells of blood. Hemoglobin in blood carries the oxygen you breathe into your lungs to all tissues throughout the body. Human blood contains a red pigment called haemoglobin, which is rich in iron.

CAUSES OF ANAEMIA: There are many different types of anaemia. They could be nutritional or non - nutritional causes (heavy/chronic bleeding, infections, genetic disorders or cancers). Nutritional anaemia, particularly, is the most widely prevalent form of anaemia in the country. Causes of **Iron Deficiency Anemia** and nutritional anaemia are:

1. Poor Dietary intake of iron resulting in deficiency of iron in the body and thus Iron deficiency anaemia
2. Low bio-availability of iron- Habitual intake of cereal based diet high in phytate and poor consumption of iron absorption enhancers such as vitamin C result in low availability of iron.
3. Dietary deficiency of vitamins such as Folic Acid, Vitamin C, Vitamin B12.

NON-NUTRITIONAL CAUSES OF ANAEMIA:

- Accelerated increase in requirement for iron during adolescent period
- Hookworm infestation
- Infections such as Malaria
- Loss of blood in case of heavy menstrual bleeding.
- Teenage marriage and early pregnancy

RISK FACTOR:

- Women of child bearing age who have blood loss through menstruation. Pregnant and lactating women who have an increased requirement of iron
- Adolescents and children who have rapid growth phases.
- People with poor dietary intake of iron through a deficient diet.

SIGNS AND SYMPTOMS OF ANAEMIA: Definitive diagnosis of anaemia can only be made by a blood test that measures Haemoglobin(Hb) levels in the blood. The test for Hb is carried out in health centres. However there are some signs that may assist in identifying anaemia. They include:

- Whiteness or pallor in the inner rims of the eyelid, tongue, overall skin, nails, palms
- Soreness of the mouth, with cracks at the corners.
- Dizziness, tiredness, fatigue and low energy
- Unusually rapid heartbeat, particularly with exercise
- Shortness of breath and frequent headaches, particularly with exercise
- Lack of interest in play and studies
- Difficulty/ inability to concentrate
- Leg cramps
- Lowered resistance to infections

IDENTIFICATION OF ANAEMIA :

1. **PALMAR PALLOR-** To see if the child has palmar pallor, look at the skin of the palm. Hold the child's palm open by grasping it gently from the side. Do not stretch the fingers backwards. This may cause pallor by blocking the blood supply. Compare the colour of the child's palm with your own palm and with the palms of other children. If the skin of the palm is pale, the child has some palmar pallor. If the skin of the palm is very pale or so pale that it looks white, the child has severe palmar pallor.

2. **NAIL BED PALLOR**- Look for pallor of the flesh underneath the nails. Pallor of tongue, nail, conjunctiva (lower eyelids) of eyes, fatigue, weakness, dizziness, drowsiness, loss of appetite and swelling (odema) of feet.

- Pallor of inner side of lower eyelid- pull the lower eyelid downwards and outwards and look for pallor or whiteness of inner side of lower eyelid
- Pallor of tongue- asks the child to protrude his/her tongue out and look for paleness of surface of tongue.
- If an adolescent looks pale, fatigued or listless and anemia is suspected, refer her/him to the nearest PHC.
- ask for symptoms of weakness, dizziness, drowsiness, loss of appetite, craving for mud/clay, passage of worms in stool, loss of concentration.

MODERATE TO SEVERE ANEMIA:

- Yellowness of tongue, nail, palm and conjunctiva of eye
- Fatigue and loss of appetite
- Breathlessness
- Swelling (oedema) of feet

PREVENTION AND CONTROL OF ANAEMIA IN ADOLESCENTS:

Primary prevention of anaemia is achieved through well- balanced diet rich in iron and other vitamins and minerals involved in iron absorption or in the production of RBCs/Haemoglobin.

A. ***Balanced diet rich in Iron*** : Adolescence is a significant period for physical growth and sexual maturation. Adolescents need to eat a balanced diet i.e. a diet that provides all nutrients (carbohydrates, proteins, fats, vitamins and minerals) in required amounts and proportions for maintaining health and general well-being.

FUNCTIONS OF VARIOUS FOOD COMPONENTS AND IT'IS IMPORTANT FOR ADOLESCENTS GIRL:

- Proteins are required for body building and help in repair and maintenance of body tissues. **Egg, milk, pulses, fish, meat, ground nut** are some examples of body building foods.
- Fats are high-energy foods and provide fat-soluble vitamins. **Oil, ghee, butter, cheese, egg, fat of meat, fish, ground nut oil, and mustard oil** are some examples of fat.
- Carbohydrates form the major component of most diets and are the main source of energy. **Rice, potato, sugar, banana, jaggery, sugarcane, honey** are the examples.
- Vitamins and minerals are required in small quantities. They play an important role in growth, repair and regulation of vital body functions. **Fruits and vegetables** are the examples of protective food.
- Calcium needs during adolescence is greater in adolescence because of rapid increase in lean body mass and skeletal growth. **Milk and milk** products are rich source of calcium.

- **OBJECTIVES OF THE STUDY:-**
- To assess the pre-existing knowledge level of adolescent girl regarding anaemia and its prevalence in selected schools of Lucknow, U.P.
- To determine the effectiveness of planned teaching programme among the adolescent girl regarding anaemia and its prevalence in selected school of Lucknow, U.P.

METHODOLOGY:-

- **Research Approach:** Quantitative approach – Experimental
- **Research Design:** True-experimental pre-test-post test design
- **Population:** In this study population consists of adolescent girls from selected school of Lucknow, U.P.
- **Site and setting of the study:** The selected schools were the sites & the class rooms of the selected schools were the setting.
- **Sampling Technique:** Probability technique adapting simple Random technique
- **Sample and Sample Size:** Adolescence girl in selected schools at Lucknow District. Total sample size consists of 60 (Experimental group 30 samples & control group 30 samples)

- **Variables:**

1. **Independent Variable:** Planned Teaching Programme
2. **Dependent Variable:** knowledge on Planned Teaching Programme Regarding anaemia and its prevalence of adolescence girl

- **Tools:**

A. **Part 1:** It consists of the socio demographic data of the participants under the study.

B. **Part 2:** It consists of a structured knowledge questionnaire to assess the knowledge level regarding anaemia and its prevalence among the adolescence girl from selected school of Lucknow, U.P.

C. **Part 3:** It consists of planned teaching programme on anaemia and its prevalence among the adolescence girl from selected school of Lucknow, U.P

RESULT:-

- It shows in experimental group mean post test knowledge score was 13.8 which were higher than the pre-test knowledge score of 10.3. The mean difference obtained was 3.5 and calculated't' value was 5.3 with df of 29 which was significant as 2.05.
- It shows in control group the mean post test knowledge score was 10.7 which were higher than the pre-test knowledge score of 10.1. The mean difference obtained was 0.6 and calculated't' value was 33.01 with df of 58 which was significant as 2.02.
- This suggests that PTP was effective to increase the knowledge among the adolescence girl from selected school of Lucknow, U.P
- It shows in experimental group, pre-test knowledge scores of adolecence girl were 57% poor, 43% average and 0% excellent while in post-test the knowledge score of adolescent girl were 53% average, 37% excellent and 10% poor.
- It shows, In control group, pre-test knowledge scores of dolescent girl were 57% poor, 43% average and 0% excellent while in post-test the knowledge score of adolescent girl were 47% average, 47% poor and 6% excellent.
- It shows in experimental group the mean post test knowledge score was 13.8 which were higher than the pre-test knowledge score of 10.3. The mean difference obtained was 3.5 and calculated't' value (paired t- test) was 5.3 with df of 29 which was significant as 2.05. Calculated't' value (unpaired t-test) was 33.01 with df of 58 which was significant as 2.02.
- In control group the mean post test knowledge score was 10.7 which were higher than the pre-

test knowledge score of 10.1. The mean difference obtained was 0.6.

- It shows, in experimental group, the association between pre-test knowledge with selected demographic variables that is age, gender, qualification, socio-economical status non-significant and marital status of the adolencent girl is significance. Hence H2 is accepted.
- In control group, there is no significant association between the knowledge on anemia and its prevalence of adolescent girl in the control group with their selected demographic variables. Hence H2 is not accepted.

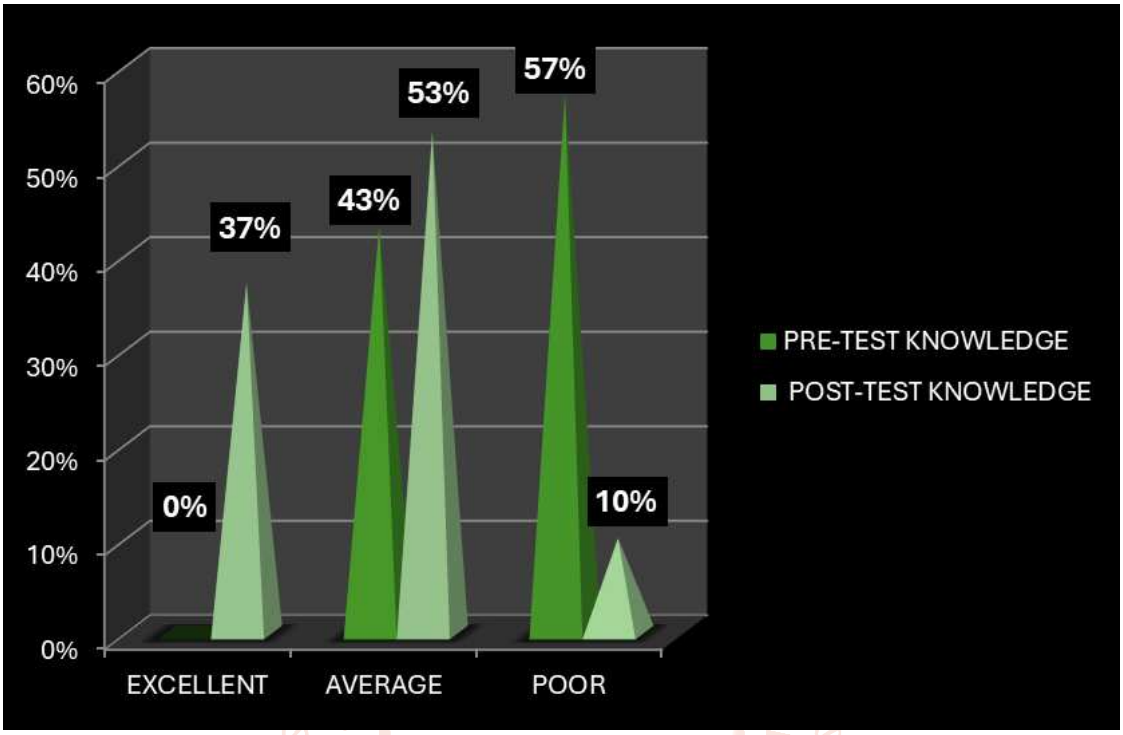

Fig 1 : Pyramid diagram showing differences between Pre-test and post-test knowledge score regarding anemia and its prevalent among adolescent girl in experimental group.

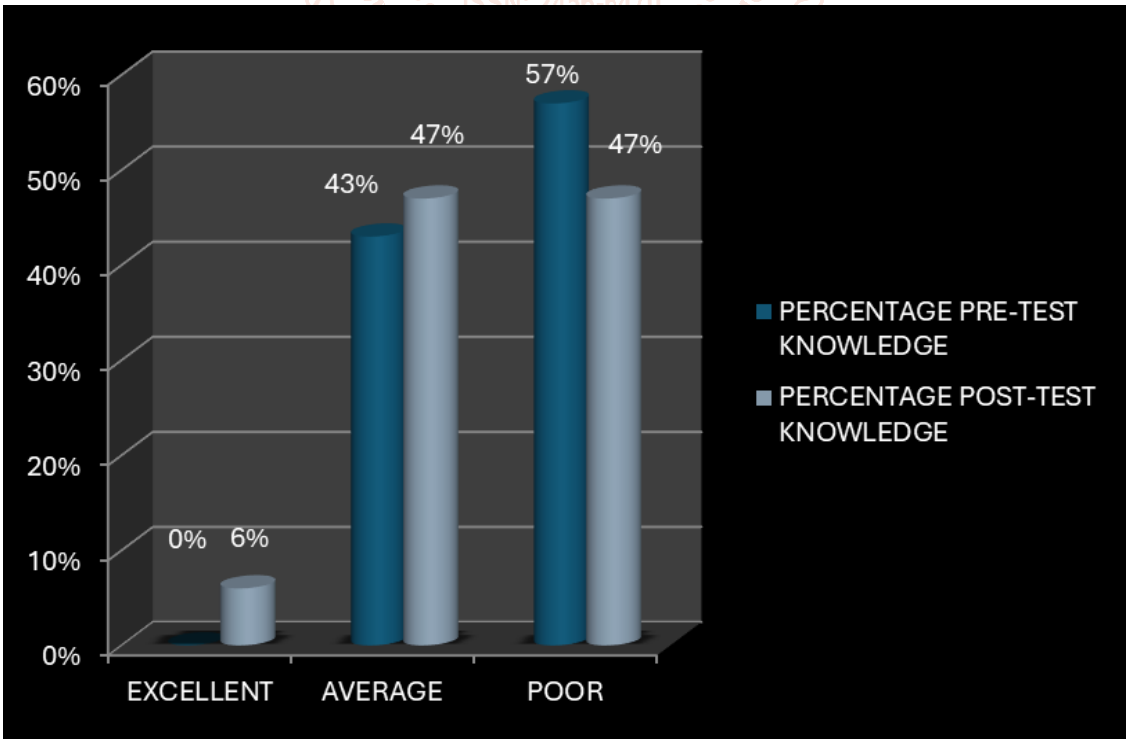

Fig 2 : Cylindrical diagram showing differences between Pre-test and post-test knowledge score regarding anemia and its prevalent among the adolescent girl in control group.

EFFECTIVENESS OF PLANNED TEACHING PROGRAMME REGARDING ANEMIA AND ITS PREVALENT AMONG THE ADOLESCENT GIRL

(N1=30), (N2=30)

Group	Pre-test/ Post-test	Mean	Standard deviation	Mean difference	't' value	df
Experimental group	Pre-test	10.3	2.06	3.5	5.3	29
	Post-test	13.8	2.79			
Control group	Pre-test	10.1	3.6	0.6	33.01	58
	Post-test	10.7	3.06			

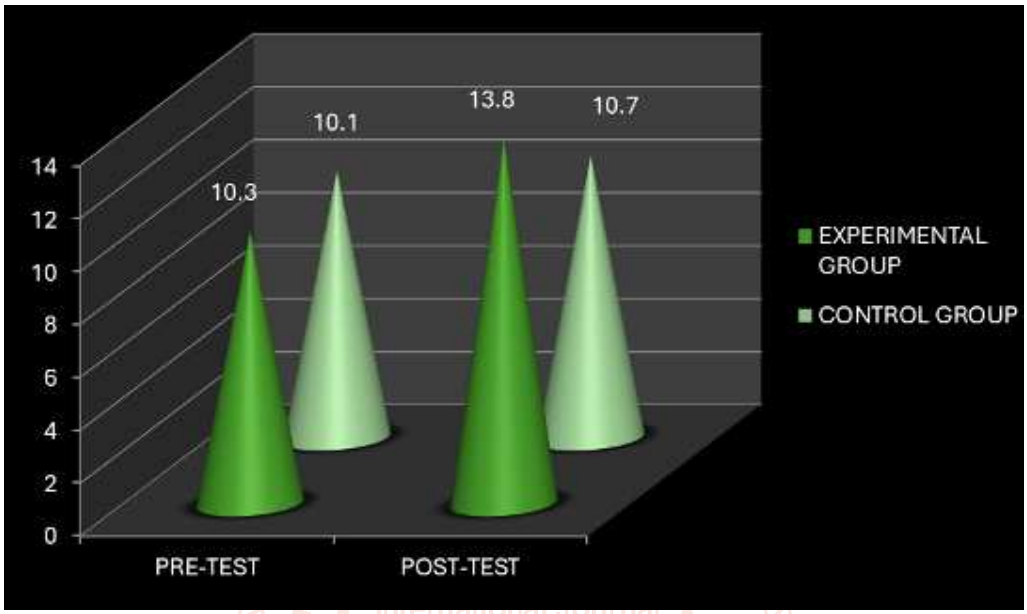

Fig 3: Cone diagram showing total comparison between pre-test and post-test knowledge score regarding anemia and its prevalence among the adolescent girl of experimental and control group.

CONCLUSION:

The prevalence of anaemia among adolescent boys and girls in the study area is a public health concern. The current study noticed that the prevalence of anaemia was higher among female adolescents than in male adolescents. Furthermore, moderate/severe anaemia was higher among late adolescents, adolescents without schooling, adolescents without media exposure, and rural adolescents. Strategies to improve iron status among adolescent boys and girls might reduce anaemia. However, in the current study, the association between IFA tablets and anaemia among female adolescents was not on the expected lines. Anaemia among adolescents must be addressed through effective public health policy targeting adolescents residing in poor households and rural areas. There is a need to disseminate information about anaemia-related programs, such as National Iron Plus Initiative (NIPI), through mass media, and subsequently, the public health system may be prepared to tailor the needs of adolescent boys and girls.

REFERENCES

[1] Shah BK, Gupta P. Weekly vs daily iron and folic acid supplementation in adolescent Nepalese girls. *Arch Paediatr Adolesc Med.* 2002;156:131–5.

[2] Kaur S, Deshmukh PR, Garg BS. Epidemiological correlates of nutritional anaemia in adolescent girls of rural Wardha. *Indian J Community Med.* 2006;31:255–8.

[3] Chatterjee R. Nutritional needs of adolescents. *Paediatrics Today.* 2008;3:110–

[4] Kurtz KM, Johnson WC. Washington, DC: International Centre for Research on Women; 1994. The Nutrition and Lives of Adolescents in Developing Countries. The Nutrition of Adolescent Girls Reach Program.

[5] Programming for adolescent health and development: WHO Tech. Rep. Sr. no. 886. 1996

[6] Kishore J. *National Health Programs of India.* 6th ed. New Delhi: Century Publications; 2006. pp. 82–4.

[7] Lal S, Pankaj A, editors. *Textbook of Community Medicine (Preventive and Social Medicine)* 1st ed. New Delhi: CBS Publishers and Distributors; 2007. pp. 166–8.

[8] Shobha S, Sharada D. Efficacy of twice weekly iron supplementation in anemic adolescent girls. *Indian Paediatr.* 2003;40:1186–90.

[9] Shekhar A. The iron status of adolescents girls and its effect on their physical fitness. *Indian J Nutr Diet.* 2005;42:451–6.

[10] Aggarwal KN. Assessment of prevalence of anemia and iron stores in response to daily/weekly iron folate supplements in adolescent girls(10-18) from urban slums of East Delhi. UNICEF Contract No. 95/0075. 1998:i–9.

[11] Rajaratnam J, Abel R, Asokan JS, Jonathan P. Prevalence of anaemia among the adolescent girls of rural Tamil Nadu. *Indian Paediatr.* 2000;37:532–6.

[12] Sen A, Kanani SJ. Deleterious functional impact of anaemia on young adolescent school girls. *Indian Paediatr.* 2006;43:219–26.

[13] Singh J, Singh JV, Srivastava AK, Suryakant Health status of the adolescent girls in the slums of Lucknow. *Indian J Community Med.* 2006;31:102–3.

[14] Toteja GS, Singh P, Dhillon BS, Saxena BN, Ahmed FU, Singh RP, et al. Prevalence of anemia amongst pregnant women and adolescent girls in 16 districts of India. *Food Nutr Bull.* 2006;27:311–6.

[15] Gawarika R, Gawarika S, Mishra AK. Prevalence of anemia in adolescent girls belonging to different economic groups. *Indian J Community Med.* 2006;31:287–8.

[16] Bulliyy G, Mallic G, Sethy GS, Kar SK. Hemoglobin status of non-school going adolescent girls in three districts of Orissa, India. *Int J Adolesc Med Health.* 2007;19:395–406.

[17] Chaudhary SM, Dhage VR. Study of anaemia among adolescent females in the urban areas of Nagpur. *Indian J Community Med.* 2008;33:245–8.

[18] Rawat CMS, Garg SK, Singh JV, Bhatnagar M. Socio-demographic correlates of anaemia among adolescent girls in rural areas of the district Meerut (UP) *Indian J Community Med.* 2001;26:173–5.

[19] Basu S, Hazarika R, Parmar V. Prevalence of anaemia among the school going adolescents of Chandigarh. *Indian Paediatr.* 2005;42:593–8.

[20] Kapoor G, Aneja S. Nutritional disorders in adolescent girls. *Indian Paediatr.* 1992;29:969–73.