Knowledge Regarding Causes and Prevention of Anemia Among Adolescent Girls

Ms.Nanda C T[1], Mr.Adwaid P Prasobh[2], Ms.Malavika K[3], Ms.Anna G Thayyil[4], Ms.Malavika Madhu[5], Ms.Jyothika M Suresh[6], Mrs. Rehana Rani T P[7], Dr.Lt. Col.Rosy.K.O[8]
[1,2,3,4,5,6,7,8] *Department of Midwifery/Obstetrics and Gynecology Nursing, Aswini College of Nursing, Thrissur, Kerala, India*

***Abstract*—Anemia is a major public health problem worldwide, among the adolescents who face increased nutritional need during their critical growth years. Therefore, improving knowledge regarding the causes and prevention of anemia among adolescent girls is essential for promoting healthy nutritional practices and preventing long term health complications. Hence the study was undertaken to assess the level of knowledge regarding the causes and prevention of anemia, to find the association between level of knowledge regarding the causes and prevention of anemia among adolescent girls with their selected socio demographic variables, to prepare and provide information booklet regarding the causes and prevention of anemia. A descriptive design was adopted for this study and conducted over 60 adolescent girls in St. Augustine Higher Secondary school Kuttanellur, Thrissur, who were selected by convenience sampling technique. The findings revealed that 1.7% of the adolescent girls has adequate knowledge, 71.6% have moderate knowledge, 26.6% have inadequate knowledge regarding causes and prevention of anemia. The study concluded that adolescent girls were having lack of adequate knowledge regarding the causes and prevention of anemia and if they get enough knowledge regarding the same, their long-term health complication can be prevented. The analysis showed significant association between level of knowledge with their selected demographic variable such as birth order (p= 0.0) and consumption of iron supplements (p= 0.042).**

Objectives-The study's objectives multifaceted,To assess the knowledge regarding causes and prevention of anemia among adolescent girls,To find the association between knowledge regarding causes and prevention of anemia among adolescent girls with their selected socio demographic variables,To prepare and distribute an information booklet regarding causes and prevention of anemia.

Result-The findings of the study were illuminating, most of the students 43(71.6%) had moderate knowledge regarding causes and prevention of anemia and there is significant association between level of knowledge with their selected demographic variable such as birth order (p= 0.0) and consumption of iron supplements (p= 0.042).

Conclusion- The findings suggest a need for strengthening educational interventions, particularly through school-based health programs and awareness campaigns. Providing accurate and detailed information about iron-rich nutrition, the importance of supplementation, and early detection can help improve their knowledge levels. The investigators felt deep sense of satisfaction and fulfillment for undertaking this study.

I. INTRODUCTION

Life is a continuous journey of physiological transitions, where the vitality of the human spirit depends heavily on the biological harmony within. [1] Every stage of the human life cycle has its own unique rhythm, but none is as transformative as adolescence. This is the season of rapid growth, a delicate bridge between the innocence of childhood and the responsibilities of womanhood. Just as a young plant requires the richest soil and the most consistent water to reach its full height, the adolescent girl requires an abundance of nutritional support to fuel her expanding horizons.[2]

The adolescent girl is often viewed as the future cornerstone of the family and the guardian of the next generation's health. It is a period where the body's need for nutritional resilience is at its peak, yet it is often the time when dietary habits are most erratic.[2]Anemia, characterized by a deficiency in red blood cells or hemoglobin, is not merely a medical statistic; it is a silent thief of potential. For the adolescent girl, it manifests as cognitive fatigue, reduced physical stamina, and a weakened immune

system, directly hindering her academic performance and personal development.

The iron requirement for adolescents' girls is 2.4gms and boys 1.8gms of iron.[4] World health organization (WHO) reports that iron deficiency is the most common nutritional disorder in the world. As many as 4-5million people, [66-80%] of the world's population suffer from anemia. In developing countries anemia is mainly exacerbated by malaria, worm infestations and less dietary intake.

According to WHO, iron deficiency is the most common nutritional disorder in the world, affecting 4-5 million people [66-80%]. In India, it is caused by inadequate reserves at birth, poor dietary intake, hookworm infestations, high phytate rice diets, intake of coffee and tea with food which inhibits iron absorption, menstruation, malaria and infections.

Prevention through health education is the most powerful tool. By bridging the "knowledge gap" regarding iron-rich diets, role of Vitamin C, and impact of menstrual loss, the vicious cycle of depletion can be broken and the future generation can flourish in strength rather than frailty.

II. METHODS

A non-experimental descriptive research design was used in this study in which a knowledge oriented questionnaire was used to assess knowledge regarding causes and prevention of anemia among adolescent girls in St. Augustine Higher Secondary School Kuttanellur, Thrissur.The objectives of the study includes (1) To assess the knowledge regarding causes and prevention of anemia among adolescent girls, (2) To find the association between knowledge regarding causes and prevention of anemia among adolescent girls with their selected socio demographic variables, (3)To prepare and distribute an information booklet regarding causes and prevention of anemia. The convenient sampling technique was used to select the 60 members of adolescent girls to evaluate the knowledge regarding causes and prevention of anemia.

The Adolescent girls who were leave on the day of data collection, adolescent girls who were not willing to participate were excluded from the study.

The data collection proforma consist of two sections, first section included data regarding socio demographic data elicited are age, religion, education of the father, Type of family, income, birth order, area of residence, food pattern, age of menarche attained, family history of anemia, consumption of iron supplements.The second section includes structured knowledge questionnaire having 20 question regarding causes and prevention of anemia. The correct response carried one and wrong response carried none.

The Interpretation of Knowledge Level

Level of knowledge	Scoring range	Percentage interpretation
Inadequate knowledge	0-6	0%-33%
Moderate knowledge	7-13	33%-66%
Adequate knowledge	14-17	67%-85%
Excellent	18-20	86%-100%

A formal permission to conduct the study was obtained from the Principal, Aswini College of Nursing. Followed by the permission from the Principal of St. Augustine Higher Secondary School Kuttanellur, Thrissur for the collection of data.The tool was developed by the researcher, after a review of recent relevant literature.After obtaining content validity the study was conducted among adolescent girls following the inclusion and exclusion criteria. Both descriptive and inferential statistics (frequency, percentage, chi square) was used to analyse the data.

III.RESULTS

Section A

Data On Demographic Variables Includes:

- On the basis of age 3(5%) were 16 years old, 57(95%) were 17 years old.
- On the basis of religion 33(55%) were Hindus, 27(45%) were Christians.
- On the basis of education of father 25(41.7%) were below 10, 21(35%) were higher secondary,12(20%) was graduate, 2(3.3%) were post graduate.
- On the basis of family type 42(70%) were belonging to nuclear family, 15(25%) were belonging to joint family and 3(5%) were belonging to extended family.
- On the basis of income,17(28.3%) was had 20000 to 25000, 19(31.7%) were have 25000 to 30000 17(28.3%) were have 30000 to 40000 and 7(11.7%) were have above 40000.

- On the basis of Birth order 32(53.3%) were firstchlid,25(41.7%) was second child,3(5%) was third child.
- On the basis of Area of residence 15 (25%) were belongs to rural,31 (51.7%) was belonged to semi-rural,14(23.3%) was belonged to urban.
- On the basis of food pattern 8(13.3%) were vegetarians, 5(8.3%) were non vegetarians, 47(78.3%) were follows mixed diet.
- On the basis of age of menarche attained 32(53.5%) were attained in between 10-12,27(45%) was attained in between 13-15, 1(1.7) was attained in above 15 years.
- On the basis of history anemia in family depicts 18(30%) have history of anemia in family and 42(70%) doesn't have any history of anemia in family.
- On the basis of consumption of iron supplements 19(31.7%) were taken iron supplements, 41(61.3%) were doesn't taken iron supplements.

Section B

Data On Level of Knowledge Regarding Causes and Prevention of Anemia

Sl No	Grading	Frequency	Percentage
1	Inadequate knowledge	16	26.7
2	Moderate knowledge	43	71.6
3	Adequate knowledge	1	1.7

The table shows the frequency and percentage distribution of level of knowledge regarding causes and prevention of anemia among adolescent girls. Out of 60 samples 16(26.7%) have inadequate knowledge, 43(71.6%) have moderate knowledge and 1(1.7%) have adequate knowledge regarding causes and prevention of anemia.

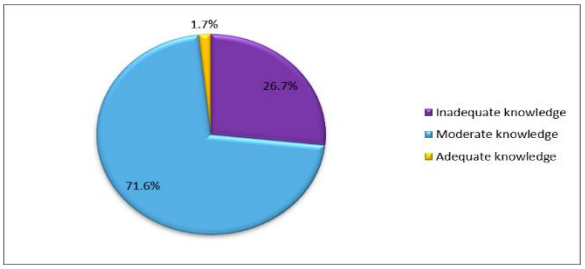

Figure 1: Percentage Distribution of the Adolescent Girls According to The Level of Knowledge Regarding Causes and Prevention of Anemia

Section C

Data on association between level of knowledge regarding causes and prevention of anemia with thweir selected socio demographic variables. Chi square calculated the value of our age, religion, education of the father, Type of family, income, birth order, area of residence, food pattern, age of menarche attained, family history of anemia, consumption of iron supplements, and there is significant association between level of knowledge with birth order and consumption of iron supplements. Hence H_1 is accepted.

IV. DISCUSSION

The discussion is based on the objective of the study, the first objective to assess the level of knowledge regarding causes and prevention of anemia among adolescent girls.

The current study revealed that among 60 students, 16(26.3%) had inadequate knowledge about causes and prevention of anemia whereas 43(71.6%) has moderate knowledge and 1(1.7%) had adequate knowledge regarding causes and prevention of anemia.

The present study findings were supported by "A study to assess the knowledge regarding anaemia and its prevention among adolescent girls (12–18 years)" in a Junior High School at Kochhabhawar, Jhansi, Uttar Pradesh. The main objective of the study was to assess the level of knowledge regarding anaemia and its prevention among adolescent girls and to determine the need for training in its management. A descriptive survey research design was adopted for the study. The sample consisted of 100 adolescent girls aged 12–18 years, selected using purposive sampling technique. Data were collected using a self-structured questionnaire. The findings of the study revealed that the majority of participants had moderate knowledge (85%), while 12% had inadequate knowledge and only 3% had adequate knowledge regarding anaemia. Regarding prevention, 78% had moderate knowledge, 18% had adequate knowledge, and 4% had inadequate knowledge.

The second study objective is to find the association between level of knowledge regarding causes and prevention of anemia among adolescent girls with their selected socio demographic variables.

The present study findings revealed that there was significant association between knowledge of

adolescent girls with selected demographic variables such as age (χ^2 =1.248), religion(χ^2=0.991), education of father (χ^2=2.679), Type of family (χ^2=1.668), Income (χ^2=10.579), birth order (χ^2=21.294), Area of residence (χ^2=4.595), Food pattern (χ^2=9.290), Age of menarche attained (χ^2=1.345), history of anemia in family (χ^2=1.881), Consumption of iron supplements (χ^2=6.338).

The present study findings were supported by "A Cross-sectional Study on Anaemia related Knowledge and Dietary Practices in School going Adolescents in Gaya District of Bihar, India". The study was carried out among 300 school-going adolescents aged 14–17 years from five villages in Gaya district, Bihar. Data were collected using a structured questionnaire through face-to-face interviews, and statistical analysis was performed using appropriate software. The findings revealed that although 61% of adolescents had heard about anaemia, only 48% considered it as a health problem and it also reveal that there is a significant association between knowledge and demographic profile.[29]

As per the third objective to prepare and provide an information booklet regarding causes and prevention of anemia.

An information booklet was prepared by investigator about Anemia and its definition causes, risk factors, sign and symptoms, diagnosis, and its prevention. After assessing the knowledge, information booklet was distributed to the sample in English language.

V. CONCLUSION

Anemia is a common nutritional disorder and a significant public health problem affecting individuals across all age groups, particularly in developing countries. It is characterized by a decrease in the number of red blood cells or the level of haemoglobin in the blood, leading to reduced oxygen-carrying capacity. Adolescent girls are especially vulnerable to anemia due to rapid growth, increased nutritional requirements, and menstrual blood loss. Anemia during adolescence can have serious consequences, including fatigue, decreased cognitive performance, weakened immunity, and complications in future pregnancies.

The results showed that only 1.7% of population having adequate knowledge, and the majority of subjects (71.6%) have moderate knowledge and 26.3% have inadequate knowledge. The present study concludes that the majority of adolescent girls possess a moderate level of knowledge regarding anemia. The findings suggest a need for strengthening educational interventions, particularly through school-based health programs and awareness campaigns.The findings of the study have several implications in the field of nursing practice, nursing administration, nursing education and nursing research.

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