IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES
ISSN PRINT 2319 1775 Online 2320 7876
, Journal Volume 13, Iss 01, 2024

A DESCRIPTIVE CROSS SECTIONAL STUDY TO ASSESS THE PREVALENCE OF ANAEMIA AMONG THE COLLEGE STUDENTS .

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ABSTRACT

A descriptive study conducted to assess the prevalence of anaemia among the college students in the selected institutions at Dindigul district Tamilnadu. Totally 650 samples were recruited by using convenience sampling method. Digital hemoglobinometer used to check the hemoglobin level and self devised questionnaire used to collect the selected demo graphical variables. Statistical analysis revealed the majority of the college students are having mild anaemia,17.6% of students were having moderate anaemia, 12.1% were not having anaemia and only 4.6% were having severe anaemia. Also the demographic variables such as age, sex, dietary pattern, place of residence and de-worming significant association with the level of Hemoglobin at 0.05 level. But there was no significant association with the demographic variable Institution where they were studying. This study concluded that our young generation affected with anaemia in spite of vigorous and intensive anaemia control programs. So still we need to execute the tremendous measures to control and treat the anaemia. Also its imperative to execute the modifications in their dietary pattern and life style as a whole in order to brig out the healthy and productive younger generation.

Keywords: Prevalence, Anaemia, College students

INTRODUCTION

According to the World Health Organization (WHO), anaemia is a disorder in which the number of red blood cells or haemoglobin concentration within the red blood cells is below normal which subsequently results in the decreased oxygen-carrying capacity of blood

Anemia affects around 1.62 billion people worldwide, accounting for a quarter of the world's population (24.8%). When considering the WHO-recommended Hb the prevalence of anemia rises to 80–90%.as on the 2016 World Nutrition Assessment, India has the highest incidence of iron deficiency anemia, ranking 170th out of 180 nations of women with anemia. Malnourishment and poverty are both linked to iron deficiency anemia.(4)

Anaemia is a serious global public health problem that particularly affects young children, menstruating adolescent girls and women, and pregnant and postpartum women. WHO estimates

ISSN PRINT 2319 1775 Online 2320 7876
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that 40% of children 6–59 months of age, 37% of pregnant women, and 30% of women 15–49 years of age worldwide are anaemic(1)

STATEMENT OF THE STUDY

A descriptive cross sectional study to assess the prevalence of Anaemia among the college students in the selected institutions.

OBJECTIVES

- Assess the level of anaemia among college going students.
- Associate the selected demographic variables with the level of anaemia among college going students.

OPERATIONAL DEFINITION

Screening for anaemia by following the WHO classification by using Digital hemoglobinometer

WHO graded the hemoglobin level

- 10 to 11.9 g/dl - Mild anemia
- 7 g/dl to 9.9 g/dl - Moderate anemia
- <7 g/dl - Severe anemia.
- 12 g/ dl - Non anemic

Prevalence

The number of College students affected with mild, moderate and severe anaemia at the time of checking Hemoglobin with digital hemoglobinometer

Anaemia

College students those who are having the the hemoglobin level below 10gms/dl considered as anaemic.

College students

The boys and girls studying various under graduate courses in Engineering, arts and science college.

METHODOLOGY

RESEARCH APPROACH: Quantitative Descriptive Survey approach

RESEARCH DESIGN: Descriptive Study Design used for this study.

SETTING OF THE STUDY: Selected educational institutions at Dindigul District

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TARGET POPULATION: All the College students studying undergraduate courses in the Engineering, arts and science institutions

ACCESSIBLE POPULATION: All the college students studying undergraduate courses in the selected Engineering, arts and science institutions at Dindigul district.

SAMPLE: All the college students studying undergraduate courses who have fulfilled the inclusion criteria.

SAMPLING TECHNIQUE: Non probability convenience sampling technique used for this study

SAMPLE SIZE: 650

SAMPLING METHOD

INCLUSIVE CRITERIA

- All the students studying in the selected institutions
- Both Boys and girls included in the study
- All the students those who are present at the time of data collection

EXCLUSION CRITERIA

- Those who are not willing are excluded from the study.
- Those who were already diagnosed as anaemic and taking treatment for anaemia.

DEVELOPMENT & DESCRIPTION OF THE TOOL

PART I: Demographic Variables such as Age, sex, Place of residence, De-worming, Dietary pattern and the the institutional type.

PART II: College students are screened for anaemia by checking the level of Hemoglobin with the use of Digital Hemoglobinometer.

DATA COLLECTION PROCEDURE

Formal permission obtained from all the Head of the institutions

Written consent obtained from the study participants and ensured confidentiality.

The participants placed in the comfort position and needle brick was done in the finger tips with the recommended lancet. To operate the instrument, the investigator simply allows a drop of blood to fill the disposable cuvette by capillary action and inserts the cuvette into the instrument. The instrument analyzes the sample and displays the results in less than 10 seconds.Cotton swab was given after testing to keep in the bricked spot. Information on demographic variables were collected by using the structured questionnaire devised by the investigator. For every participant

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separate lancet used to get the sample. Strict aseptic precaution maintained throughout the procedure.

PLAN FOR DATA ANALYSIS

Descriptive Statistics such as frequency, percentage, mean and standard deviation used.

Inferential statistics such as Chi square used to check the association

RESULTS AND DISCUSSION

TABLE I: DISTRIBUTION OF DEMOGRAPHIC VARIABLES

N=650

S.N	Demographic variable	Categories	Frequency	%
1	Age	a) 17-19	457	70.3
		b) 20-22	190	29.2
		c) 23-25	3	0.46
		d) >25 yrs	-	-
2	Sex	a) Male	239	36.7
		b) Female	411	63.2
3	Dietary Pattern	a) Veg	68	10.4
		b) Non Veg	582	89.5
4	Place of residence	a) Rural	536	82.4
		b) Urban	114	17.5
5	De-worming	a) Yes	48	7.3
		b) No	602	92.6
6	College	a) Arts and Science	182	28
		b) Engineering	468	72

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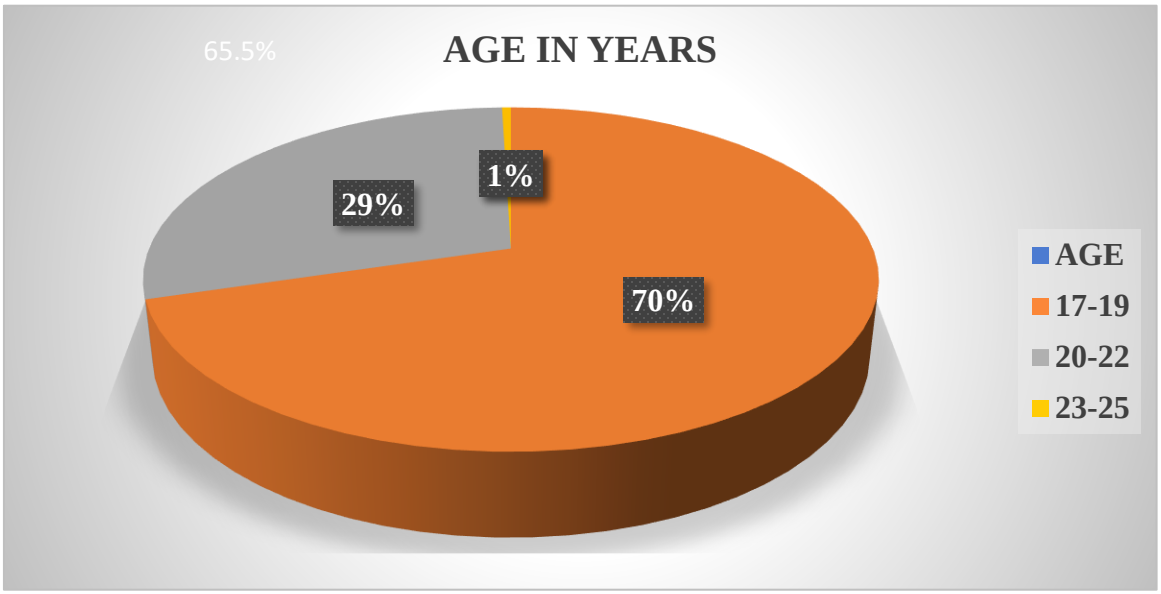
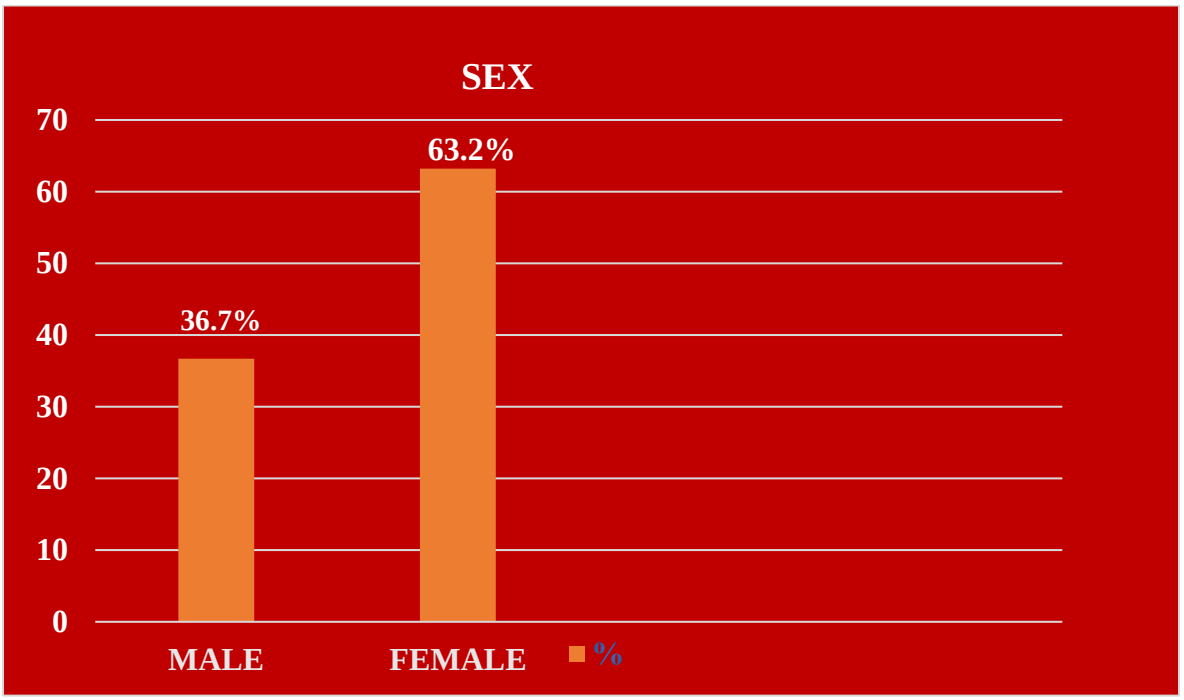
GRAPH I N=650



Majority of the students 70.3% were in the age group of 17 to 19 years, 29.2% were in the age group of 20 to 22 years, 0.46% were in the age group of 23 to 25 years and none of them were more than 25 years.

GRAPH II N=650



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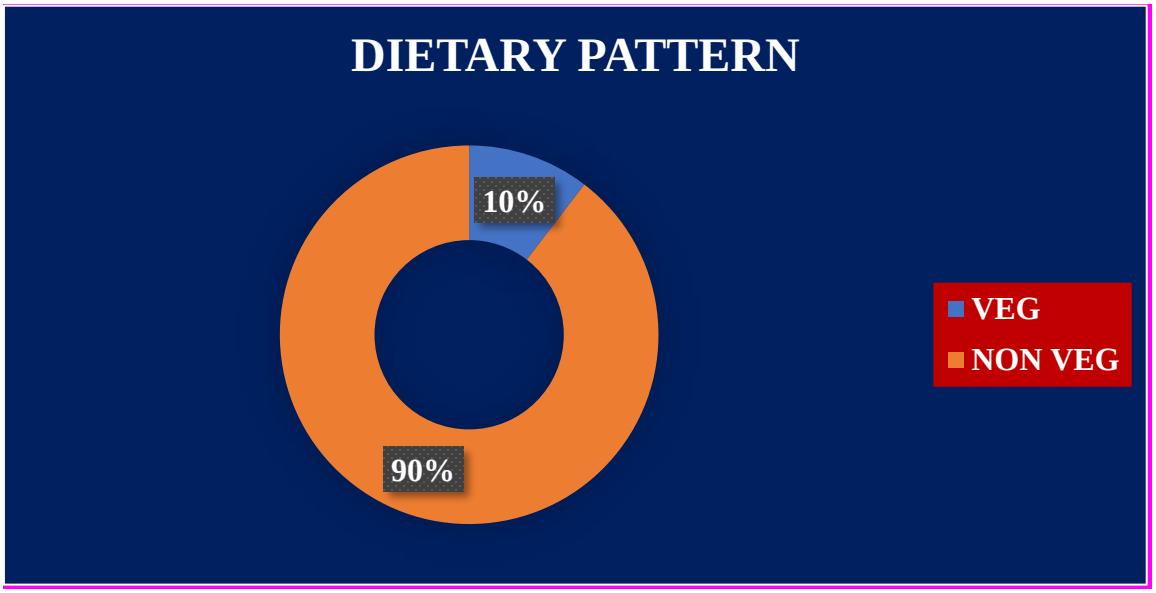
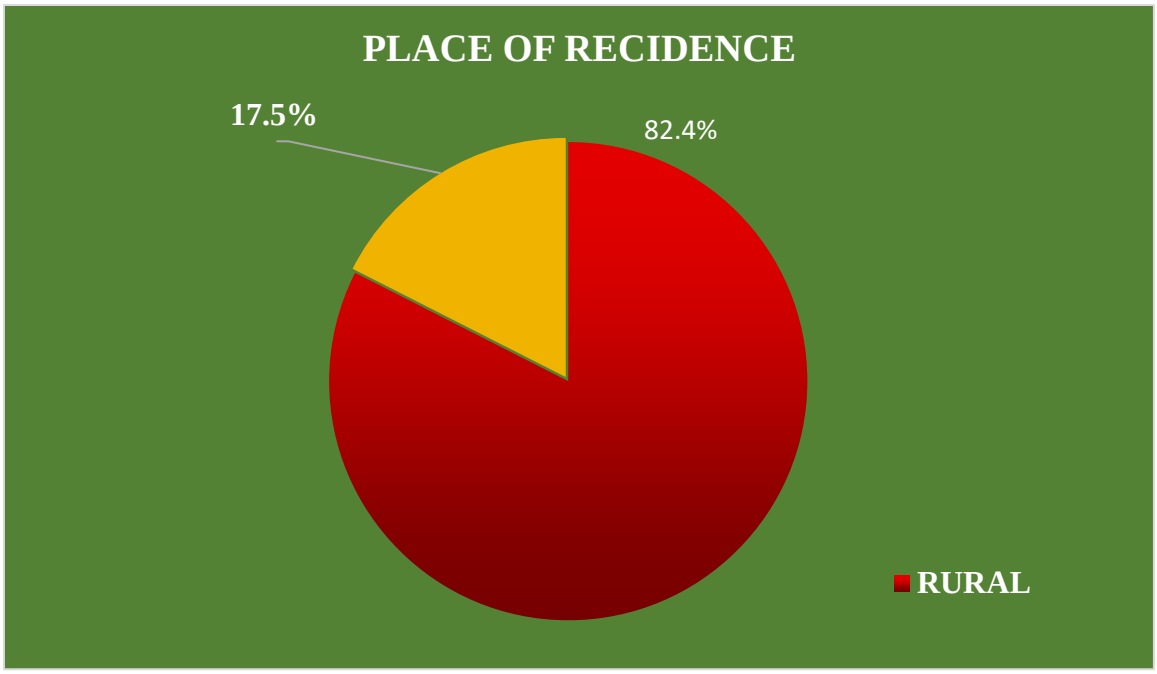
In this study majority (63.2%) of the participants were females and only 36.7% were males.

GRAPH III N=650



Among the study participants 89.5% were non- vegetarians and only 10.4% were vegetarians.

GRAPH IV N=650



In this study most of the study participants 82.4% were residing in the rural area and only 17.5% were residing in the urban area.

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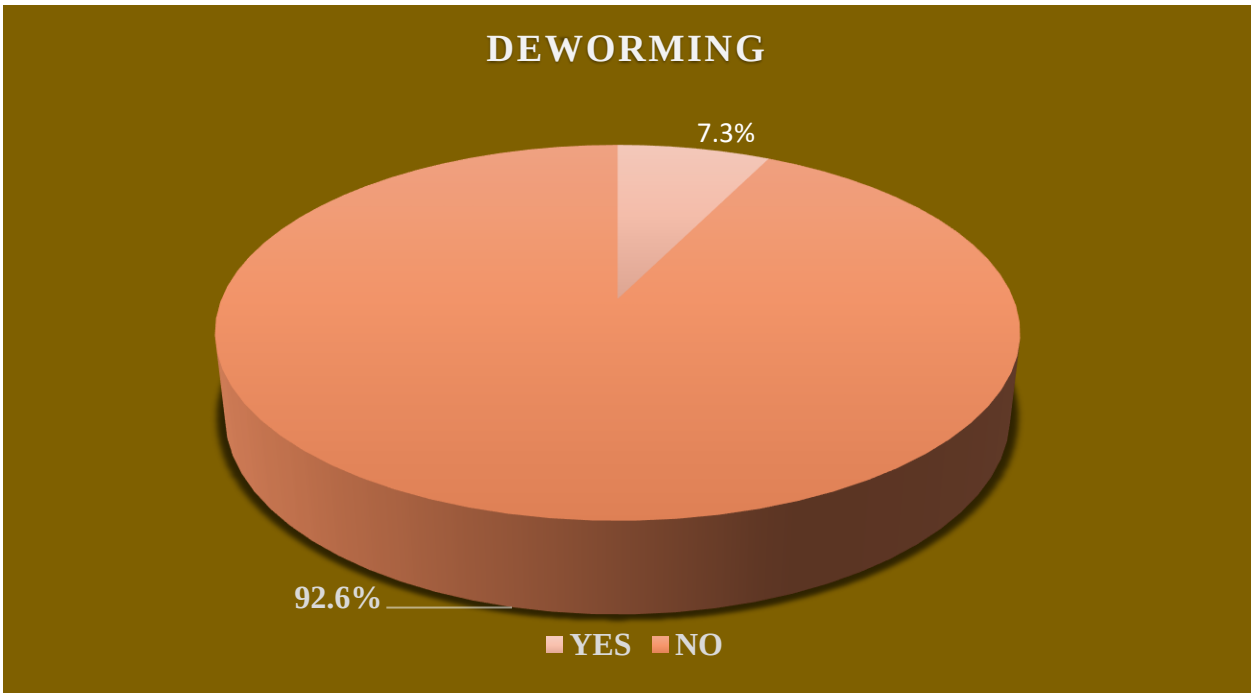
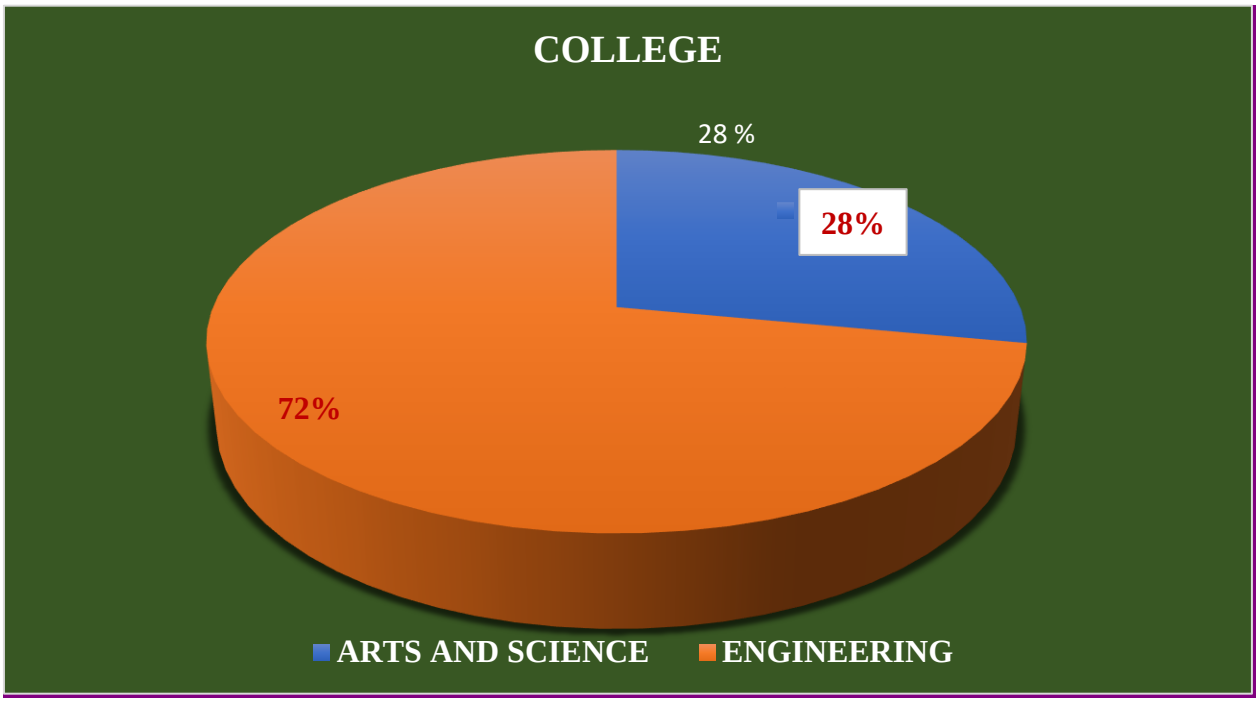
GRAPH V N=650



The majority of the study participants 92.6% were not consuming the de-worming tablet and only 7.3% were taking de-worming tablet regularly.

GRAPH VI N=650



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Among the participants majority of them 72% were from engineering college and only 28% were from arts college.

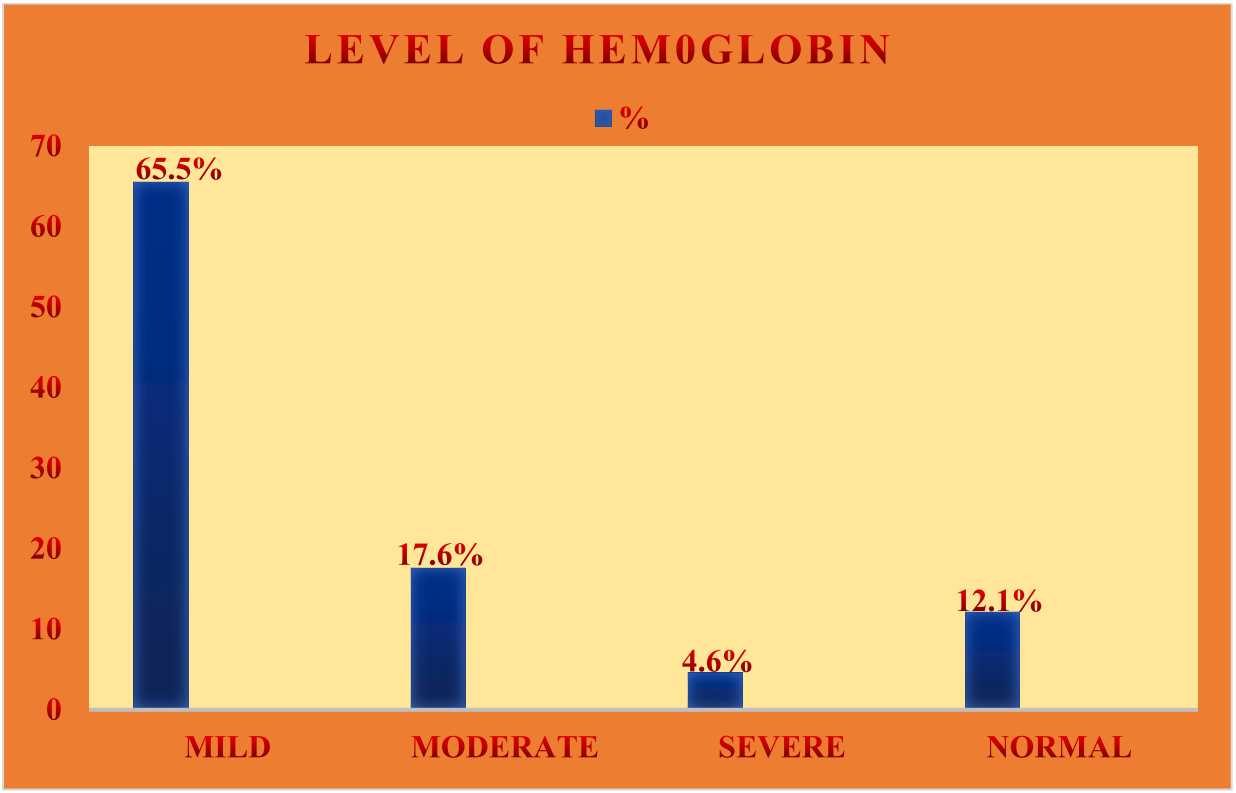
TABLE II: DISTRIBUTION OF LEVEL OF HEMOGLOBIN

N=650

LEVEL	MILD	MODERATE	SEVERE	NORMAL
Hb	426	115	30	79
Mean	0.65	0.17	0.46	0.12
%	65.5	17.6	4.6	12.1

Table II revealed that majority of the college students (65.5%) were having mild anaemia, 17.6% were having moderate anaemia, 12.1% were having normal hemoglobin (No anaemia) and only 4.6% were having severe anaemia.

GRAPH VII N=650



This study findings were consistent with the results of systematic review conducted by Varghese S et al (2022) included 24 studies conducted in various states of India among college students and published between the year January 2000 to December 2021: which revealed that analysis of

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reported studies shown high prevalence of anaemia among college students and more among female students.

TABLE III: ASSOCIATION **N=650**

S. N	VARIABLES	CATEGORY	MILD	MODE RATE	SEVE RE	NOR MAL	TOT AL	%	Chi square
1	Age	a) 17-19	280	86	26	65	457	70.3	28.97
		b)20-22	146	29	03	12	190	29.2	S**at 0.05
		c) 23-25	-	-	1	2	3	0.46	
		d) >25 yrs	-	-	-	-	-	-	
2	Sex	a)Male	190	7	4	38	239	36.7	67.38
		b) Female	236	108	26	41	411	63.2	S**at 0.05
3	Dietary Pattern	a) Veg	30	30	04	04	68	10.4	37.92
		b)Non Veg	396	85	26	75	582	89.5	S**at 0.05
4	Place of residence	Rural	382	85	23	46	536	82.4	54.1
		Urban	44	30	7	33	114	17.5	S**at 0.05
5	De-worming	Yes	25	4	-	18	48	7.3	34.29
		No	401	111	30	61	602	92.6	S**at 0.05
6	College	Ats and Science	129	23	08	22	182		4.5 **NS** at 0.05
		Engineering	301	92	22	53	468		

Table III showed the association of level of anaemia with the selected demographic variables. Chi square test revealed that the level of anaemia has the significant association with the demographic variables such as age, sex, dietary pattern, place of residence and de-worming at 0.05 level. But not having association with the demographic variable Institution where they were studying.

Present study contradictory to the study conducted by S. R. Kane et al explored that the demographical variables such as age place of residence, diet, worm infestation are not having the significant association with the level of anaemia(10)

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IMPLICATIONS OF THE STUDY

Nursing Education

Nursing Educators can disseminate the knowledge about the screening, management and prevention of anaemia. Equip the nursing students with the knowledge of causes, risk factors, treatment and detection of anemia and incorporate with their curriculum..

Nursing Practice

Conduction of screening camps for anaemia in the hospitals, educational institutions and in the community. Identify the sign and symptoms of anaemia and refer them to the appropriate health care services. Also nursing professionals can conduct campaigns to create an awareness to prevent anaemia among young adults.

Nursing Research

Multiple research studies should be conducted to identify the extend of the problem. Researchers can conduct various studies regarding the risk factors predisposing to anaemia such as Diet, Menstrual factors, De-worming. The vulnerable population should be screened and studied further to prevent the deterioration.

Nursing Administration

The Policy makers, administrators and Decision makers can plan and execute the meticulous and intensive interventions to detect and treat the anaemia. The leaders can make the health care services available to all the sectors of the population to prevent the anaemia.

RECOMMENDATIONS

- Research studies can be conducted among the vulnerable populations exclusively to detect the risk factors and the causes of anaemia such as adolescent girls, antenatal and postnatal women.
- De-worming should be emphasized vigorously among the students.
- Intervention studies can be conducted to assess the effectiveness of Iron and folic acid supplementation and Dietary Modifications to improve the hemoglobin level.
- Also need to study about the influence of Dietary factors and Practices with the hemoglobin level.
- Comparative studies can be conducted to rule out anemia between the Boys and Girls.
- Experimental studies should be carried out for the treatment of anaemia with the natural indigenous strategies such as consumption drum stick leaves,
- Intensive awareness programs should be conducted to bring out the life style modifications among the college students.

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ETHICAL CONSIDERATION

Informed consent obtained, confidentiality maintained and Privacy ensured throughout the study. Data collected from the participants only used for the study.

LIMITATION OF THE STUDY

Only assessed the Hemoglobin. Associated risk factors like menstrual Irregularities, dietary pattern, associated physical symptoms and family history were not assessed.

No specific treatment initiated, referred for the further follow up care.

CONCLUSION

Anaemia is a serious concern for the young children as it affects the cognitive performance, development (cognitive and behavioral), coordination, language development and scholastic achievement. Anaemia also increases the morbidity of infectious diseases.It can cause reduced work capacity in adults and has an impact on motor and mental development in children and adolescents. There is a strong evidence that iron deficiency can affect cognition in adolescents.

Various interventions have been undertaken during last 50 years such as green revolution, ICDS, food for work, mid day meal nutrition education and research etc. India was able to achieve self sufficiency in food grains since 1970 but the nutritional deficiencies remain with the same burden and nutritional anemia being one of the major concern (6).

Hence it becomes quite evident that alternative strategies- locally available, traditional food pattern should be tried to improve the nutritional anemia and reduce the morbidity. Also its vital to improve the nutritional behavior of our young generation through nutritional education.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

FUNDING

There is no funding source in this study.

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ISSN PRINT 2319 1775 Online 2320 7876
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