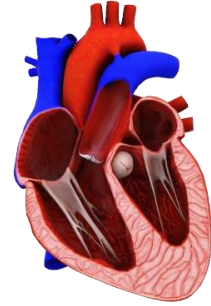


STUDENT STUDY PROJECT

(2021-2022)



SUBJECT : ZOOLOGY

TITLE: A Scientific Investigation of Lifestyle Patterns and some Health Parameters of certain stakeholders from Government Degree College, Shadnagar, Ranga Reddy district employing Empirical and Survey Methods.

Student Participants:

- | | | | |
|-------------------|------------------|----------------------|------------------|
| 1. K. Shireesha | B.Sc(BZC) III Yr | 16. M. Mahesh | B.Sc(BZC) III Yr |
| 2. S. Swathi | B.Sc(BZC) III Yr | 17. M. Aparna | B.Sc(BZC) III Yr |
| 3. B. Sheelu | B.Sc(BZS) II Yr | 18. M. Navaneetha | B.Sc(BZC) III Yr |
| 4. G. Manasa | B.Sc(BZC) II Yr | 19. P. Anusha | B.Sc(BZC) III Yr |
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| 7. N. Sindhuja | B.Sc(BZC) III Yr | 22. K. Gayathri | B.Sc(BZC) I Yr |
| 8. U.Balakrishna | B.Sc(BZC) III Yr | 23. K. Sandhya Rani | B.Sc(BZC) I Yr |
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| 12. K. Anitha | B.Sc(BZC) III Yr | 27. Y. Neeraja | B.Sc(BZC) III Yr |
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| 14. K. Mounika | B.Sc(BZC) III Yr | 29. D. Mahipal | B.Sc(BZC) II Yr |
| 15. K. Divya | B.Sc(BZC) IIIYr | 30. P. Ravinder | B.Sc(BZC) II Yr |

MENTOR : **Dr N RAJKUMAR, M.Sc.,Ph.D.,ADBI, SET**
Asst. Prof. of Zoology

COLLEGE : **GOVT. DEGREE COLLEGE, SHADNAGAR**
RANGA REDDY DISTRICT – 509216.

DECLARATION

We hereby declare that the Jignasa - Students Study Project entitled “A Scientific Investigation of Lifestyle Patterns and some Health Parameters of certain stakeholders from Government Degree College, Shadnagar, Ranga Reddy district employing Empirical and Survey Methods” is submitted by us in original project work and it has been carried out under the supervision and guidance of **Dr. N. Rajkumar**, Asst. Prof. of Zoology, Government Degree College, Shadnagar.

- | | | | |
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Place: Shadnagar

Date: 31-12-2021

ACKNOWLEDGEMENTS

We would like to express our sincere thanks to **Dr. N. Rajkumar**, Asst. prof. of Zoology for his vital support, guidance and encouragement, without which, this project would not have come forth. We would also express our sincere thanks to **Sri G. Bhanu Prakash**, Principal (FAC) of this college for his encouragement and blessings. We take this opportunity to thank other Staff Members and Students for extending their cooperation and best wishes in accomplishing this Student Study Project.

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Place: Shadnagar

Date: 31-12-2021

CERTIFICATE

This is to certify that the Jignasa – Student Study Project entitled “A Scientific Investigation of Lifestyle Patterns and some Health Parameters of certain stakeholders from Government Degree College, Shadnagar, Ranga Reddy district employing Empirical and Survey Methods” submitted is a bonafide Project done by the following set of students:

- | | | | | |
|-------------------|------------------|-----|------------------|------------------|
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Place: Shadnagar

Date: 31-12-2021

In-Charge
Dept of Zoology
Dr N Rajkumar
Asst Prof of Zoology
Govt Degree College
Shadnagar, Ranga Reddy

INTRODUCTION

Title : “A Scientific Investigation of Lifestyle Patterns and some Health Parameters of certain stakeholders from Government Degree College, Shadnagar, Ranga Reddy district employing Empirical and Survey Methods”.

Hypothesis : To test whether the subjects under study are healthy or unhealthy.

Aims :

1. To assess the risks associated with lifestyle based Noncommunicable diseases.
2. To evaluate certain general health parameters, such as Temperature, Pulse, Haemoglobin percentage, Weight, Height, Body Mass Index and Blood group typing.

Objectives :

1. To measure the risks associated with lifestyle-based Noncommunicable diseases like
 - i) Blood pressure
 - ii) Random blood glucose levels
 - iii) Lipid profile including Cholesterol, Triglycerides, HDLs and LDLs.
2. To collect primary data relating to lifestyle patterns of Undergraduate students, Teaching and Non-teaching Staff using Questionnaire method.
3. To make suggestions and recommendations to reduce the risks of lifestyle patterns that lead to Noncommunicable diseases and premature deaths.

REVIEW OF LITERATURE

The body mass index (BMI) is the metric currently in use for defining anthropometric height/weight characteristics in adults and for classifying (categorizing) them into groups. The common interpretation is that it represents an index of an individual's fatness. It also is widely used as a risk factor for the development of or the prevalence of several health issues. In addition, it is widely used in determining public health policies. The BMI has been useful in population-based studies by virtue of its wide acceptance in defining specific categories of body mass as a health issue.

BMI is used as an indicator of the relative healthiness of a person. The Centre for Disease Control (CDC) and the World Health Organization (WHO) recognize that people who are overweight or underweight are at higher risk for certain health conditions. BMI also enables health professionals to discuss bodyweight objectively with their patients.

Body mass index (BMI) is a measure of body fat based on height and weight. It is a useful indicator of underweight, healthy weight, overweight or obese of the subject under investigation. It is a good gauge of one's risk for diseases that can occur with more body fat.

It was initially developed by **Lambert Adolphe Jacques Quetelet**, a Belgian astronomer, mathematician, statistician and sociologist. He called it as "social physics" (1830-1850).

BMI is also known as Quetelet Index. **Ansel Keys**, an American scientist in the area of diet and health, has introduced the term "Body Mass Index" in his paper published in 'Journal of chronic diseases' in July 1972. In France, Israel, Italy and Spain, legislation has been introduced banning usage of fashion show models having a BMI below 18. This is done in order to fight anorexia (an emotional disorder characterized by an obsessive desire to lose weight by refusing to eat) among models and people interested in fashion.

Blood glucose monitoring observes for patterns in the fluctuation of blood glucose (sugar) levels that occur in response to diet, exercise, medications, and or pathological processes associated with blood glucose fluctuations such as diabetes. Unusually high or low blood glucose levels can potentially lead to acute and or chronic, life-threatening conditions.

Knowledge of the predisposing risk factors is vital in the modification of lifestyle behaviors conducive to optimal cardiovascular health. Measuring and appropriately disseminating knowledge of the modifiable risk factors at an early age is an essential preventive educational approach. Strategies to achieve even a modest lowering of the levels of blood pressure in the population of children and young adults are therefore important public health goals.

A normal resting heart rate for adults ranges from 60 to 100 beats per minute. Generally, a lower heart rate at rest implies more efficient heart function and better cardiovascular fitness. For example, a well-trained athlete might have a normal resting heart rate closer to 40 beats per minute.

Carrillo-Larco et al. reviewed around 200 previous studies from across Latin America and the Caribbean. This revealed that, since 2005, low HDL cholesterol has been the most common type of dyslipidaemia in this region, followed by elevated triglycerides, and third, high LDL cholesterol. These patterns have changed little over the years.

RESEARCH METHODOLOGY:

Sample size: 60 (UG students = 46; Teaching & Non-teaching Staff=14)

Methodology:

- 1. Experimental method**
- 2. Questionnaire method/ Survey method**

Parameters studied

Instruments / Method adopted

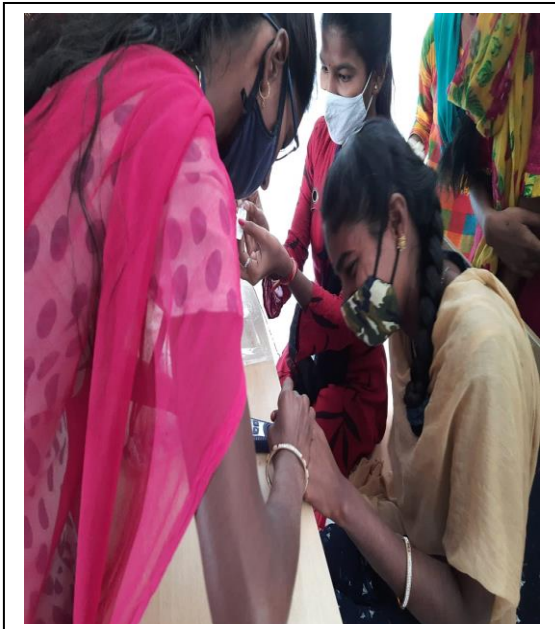
- | | |
|--------------------------------|---|
| 1. Body weight | Weighing machine (KRUPS) |
| 2. Body height | Measuring tape |
| 3. Body Mass Index | Online BMI calculator |
| 4. Blood typing | Blood group Test Kit (Sera A, B & D) |
| 5. Temperature | Clinical Thermometer (SMIC Gold) |
| 6. Blood pressure | Omron BP monitoring machine |
| 7. Pulse | Omron BP monitoring machine |
| 8. Hb %
5000 | Fully Automated Hematology Analyzer BC- |
| 9. Random Blood Glucose levels | Accu-Chek Active Glucometer |
| 10. Lipid profile | CHOD-PAP Methodology (Cholesterol) |
| 11. Lipid profile | GPO-TOPS Methodology (Triglycerides) |
| 12. Lifestyle pattern | Questionnaire method (15 Questions) |



Students measuring Height in cm of the Subjects under study using Measuring Tape



Student measuring Weight in Kg using Weighing Machine of the Subjects



Students measuring Random Blood Glucose using Glucometer





Technician from Local Diagnostic Centre drawing blood sample from students for haematological parameters



Students measuring Random Blood Glucose using Glucometer



Technician from Local Diagnostic Centre drawing blood sample for hematological parameters





Students measuring Height in cm of the Staff using Measuring Tape



Students measuring Blood Pressure & Pulse of the Staff using Automatic BP Monitoring Machine



RESULTS AND DISCUSSION

Table # 1: Empirical Data (BMI & Other Haematological parameters) of UG Students

S.No	Name of the Student	Program/Year	Age	Wt in Kg	Ht in Cm	BMI	Random Blood Glucose in mg/DL	BP in mm Hg	Temp. in degree Celsius	Pulse	Blood group
1	K. Mohan	B.A III	20	50	170	17.3	108	108/97	35.5	96	O +
2	B. Siddartha	B.A III	20	45	175	14.69	106	117/72	36	89	O +
3	P. Narsimhulu	B.A III	20	50	165	18.36	97	94/86	36.4	82	A+
4	B. Bhavani	B.A III	20	44	147	20.36	110	102/65	37	86	B+
5	M. Sabitha	B.A. I	18	40	156	16.43	102	99/68	35	82	O+
6	K. Shirisha	B.A. I	18	35	156	14.38	99	114/74	34	90	A+
7	G. Chandana	B.A. I	18	40	146	18.76	104	104/76	36	97	O+
8	K. Poojitha	B.A. I	18	36	152	15.58	107	96/65	36	106	O+
9	N. Jessika	B.A. I	18	43	140	19.63	183	111/69	36	86	O+
10	S. Poojitha	B.A. I	18	36	152	15.58	107	106/78	37	129	A+
11	K. Bhavani	B.A. I	18	35	151	15.35	87	107/77	35	106	A+
12	K. Nandini	B.A. I	17	30	145	14.26	136	107/64	33	112	O+
13	M. Srilatha	B.A. I	18	35	158	15.97	98	112/75	34	48	O+
14	Nasreem Begum	B.A. I	19	34	149	15.31	118	109/65	36	104	O+
15	V. Prakash	B.A. I	18	60	174	19.81	98	118/76	35.5	88	A+
16	V. Vinod	B.A. I	19	45	167	16.13	88	104/75	37	101	O+
17	S. Siddartha	B.A. I	18	45	165	16.52	91	106/70	36	99	A+
18	P. Simhadri	B.A. I	18	42	135	23.04	92	135/85	34	111	B+
19	P. Suresh	B.A. I	18	60	179	18.72	93	127/84	36	101	O+
20	T. Praveen	B.A. I	19	46	169	16.1	114	124/67	37	80	B+
21	S. Mahesh	B.A. I	19	31	152	13.41	122	59/74	36	83	O+
22	D. Mounika	B.Sc.II MPC	18	34	151	14.91	106	90/63	35.5	92	B+
23	P. Akhila	B.Sc.II MPC	18	35	146	16.41	121	94/65	37	110	O+
24	K. Satyanarayana	B.Com III	19	50	170	17.3	78	105/61	37	82	O+
25	J. Ramesh	B.Com III	21	70	170	24.5	91	101/79	37	86	B+
26	G. Chandana	B.Com III	21	46	162	17.52	98	99/63	36.5	87	O+
27	B. Anitha	B.Com III	21	40	164	14.87	100	85/55	34	91	O+
28	Haseena	B.Com III	20	64	160	22.99	86	104/68	36	101	B+
29	K. Mounika	B.Sc. III	19	45	159	21.75	71	103/61	36.5	113	B+
30	V. Shailaja	B.Sc. III	20	45	159	17.79	83	114/63	36.5	92	O+
31	B. Sheelu	B.Sc II BZS	20	74	165	27.18	83	129/73	35	88	O+
32	K. Supriya	B.Sc II BZC	21	55	145	26.15	83	116/77	35.8	94	A+
33	B. Sravani	B.Sc II BZC	19	46	167	16.49	50	112/73	36	125	O+
34	K. Shirisha	B.Sc III BZC	20	49	147	22.67	69	134/74	34	94	O+
35	M. Suresh	B.Sc II BZC	18	58	173	19.37	60	134/64	37	93	B+
36	S. Swathi	B.Sc III BZC	19	35	157	14.19	99	113/72	34.9	92	A+
37	G. Manasa	B.Sc II BZC	18	40	152	17.31	81	100/82	35	122	B+
38	P. Ravinder	B.Sc II BZC	21	50	166	18.14	66	100/79	36	80	A+

39	K. Pavani	B.Sc II BZC	18	36	149	16.21	90	109/71	35.9	95	B+
40	Parveen Begum	B.A. III	20	44	147	20.36	87	100/72	37	88	O+
41	M. Navaneetha	B.Sc III	20	43	153	18.26	93	107/67	36.1	80	B+
42	K. Anitha	B.Sc III	19	45	156	18.49	58	106/74	36.5	91	O+
43	P. Archana	B.Sc III	19	47	154	19.31	88	98/73	36.7	118	B+
44	A. Prathyusha	B.A II	19	51	168	18.06	69	114/74	37	82	O+
45	J. Aruna	B.Sc II BZC	18	39	165	14.32	48	91/61	34	85	B+
46	V. Vijay	B.Com I	18	49	155	20.96	67	118/74	36	89	O+

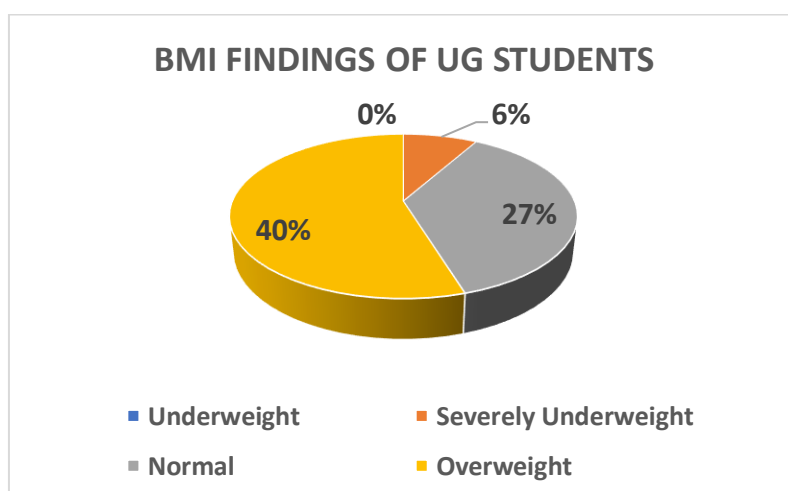
Discussion:

It is clear from the empirical data collected from the undergraduate students of this college with a sample size of 46 that the students were in the age group of 17 to 21 years (Table #1). Similarly, the range of body weights of the students varied from 30 kg to 74 kg. Likewise, the range of heights of the students differs from as low as 135 cm to as high as 179 cm. From the analysis of the collected data, it is obvious that the Body Mass Indices of the students showed a minimum value of 13.41 and maximum value of 27.18.

Table #2: BMI FINDINGS OF UG STUDENTS IN PERCENTAGE

S.No.	Category	Percentage	Remarks
1	Underweight	37%	Students
2	Severely Underweight	28%	
3	Normal	31%	
4	Overweight	4%	

Figure #1: Pie Chart showing BMI Findings of select UG Students in Percentage



It is obvious from the BMI Findings as shown in table #2 and corresponding pie chart (Figure#1) that the 37% of the students are categorized in underweight category, 28% under severely underweight category, 31% under normal category while 4% were overweight.

The random blood sugar results of the select UG students showed a minimum value of 48 mg/dL and a maximum value of 183 mg/dL. The normal value of random blood sugar level is less than 200 mg per decilitre. From these findings it is clear that none of the students were in diabetic range.

The analysis of blood pressure readings of students (Table#3) indicated that 80% of the students showed normal blood pressure values, 17% of the them were included under Prehypertension category while 3% of them were falling under Hypertension Stage1 (Figure#2).

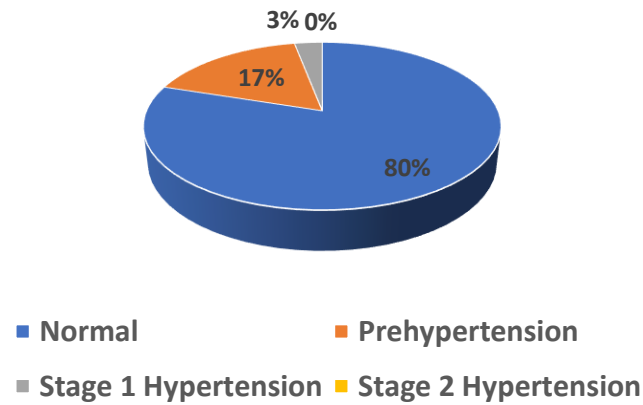
Table #3: BLOOD PRESSURE FINDINGS OF SELECT UG STUDENTS IN PERCENTAGE

BP Category	No. of Subjects (Students)	Percentage
Normal	37	80%
Prehypertension	8	17%
Stage 1 Hypertension	1	3%
Stage 2 Hypertension	0	0%

Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	Less than 120	AND	Less than 80
Prehypertension	120-139	OR	80 – 89
High Blood Pressure (Hypertension) Stage 1	140 – 159	OR	90 – 99
High Blood Pressure (Hypertension) Stage 2	160 or higher	OR	100 or higher
Hypertensive Crisis (Emergency care needed)	Higher than 180	OR	Higher than 110

Figure #2: Pie Chart showing Blood Pressure Status of select UG Students in Percentage

BLOOD PRESSURE CATEGORIES OF STUDENTS IN PERCENTAGE

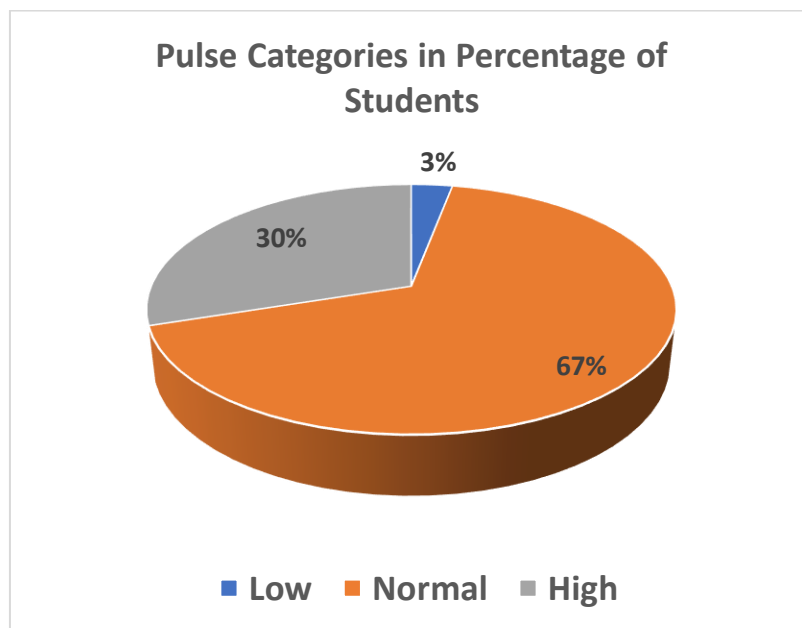


The results indicated that all the students' temperature was equal to or less than normal body temperature. None of them were febrile.

Table #4: PULSE FINDINGS OF SELECT UG STUDENTS IN PERCENTAGE

Pulse Category	No. of Subjects	Percentage
Low	1	3%
Normal	31	67%
High	14	30%

Figure #3: Pie Chart showing Pulse Categories of select UG Students in Percentage

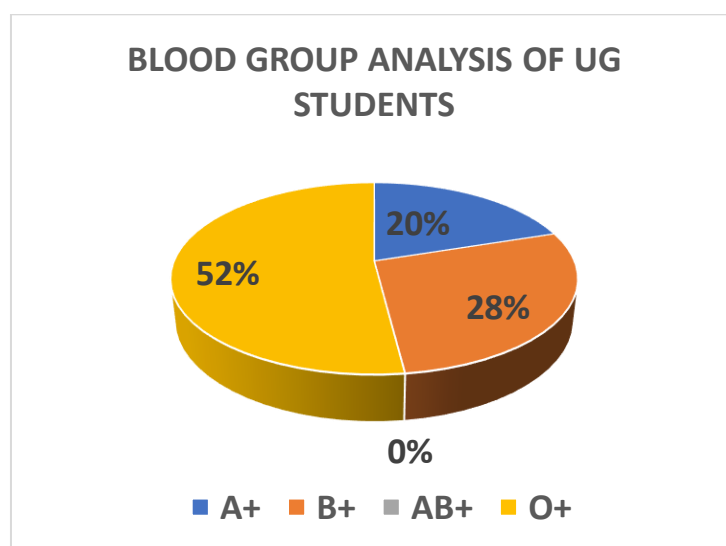


Similarly, the pulse readings of students (Table# 4) understudy indicated that 67% of them showed normal pulse rate, 30% of the exhibited higher pulse rate while only 3% showed lower pulse rate (Figure# 3).

Table # 5: BLOOD GROUP FINDINGS OF SELECT UG STUDENTS IN PERCENTAGE

Blood Group	No. of Subjects (Students)	Percentage
A+	9	20 %
B+	13	28 %
AB+	0	0 %
O+	24	52 %

Figure # 4: Pie Chart showing Blood Group Analysis of select UG Students in Percentage



Likewise, the analysis of blood group data of the students (Table # 5) exhibited 52% of them were of O positive, 28% of them were of B positive, while 20% of them were of A positive and none of them showed AB positive or negative blood group (Figure # 4).

Table # 6: Empirical Data (BMI & Other Haematological parameters) of Staff

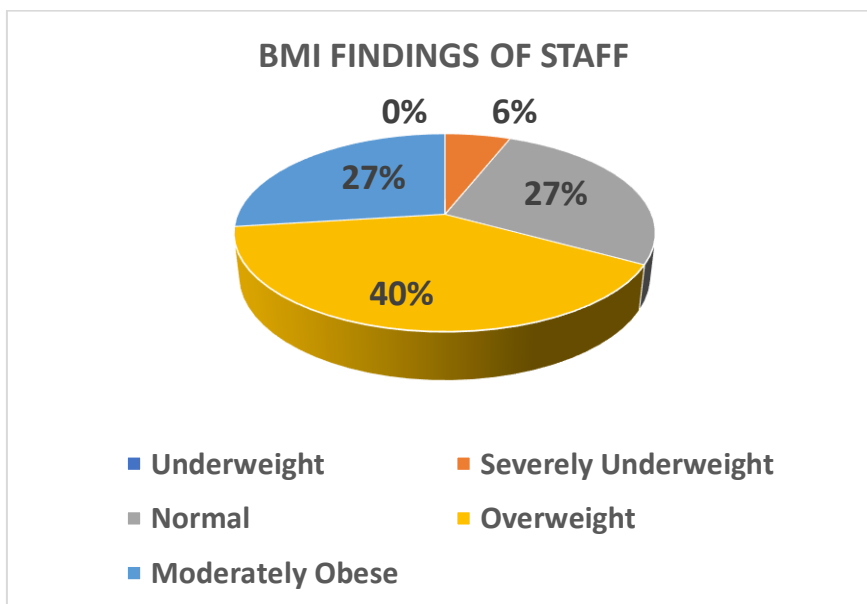
S. No	Name of the Staff	Subject	Age	Wt in Kg	Ht in Cm	BMI	Random Blood Glucose in mg/DL	BP in mm Hg	Temperature in degree Celsius	Pulse	Blood group
1	B. Srinivas	History	36	74	166	26.9	122	136/88	36.5	91	A+
2	Dr. Uttara Phalguni	Botany	48	62	152	26.8	105	118/80	37	95	O+
3	L. Raghavender	Telugu	32	60	171	20.5	97	106/66	37	88	B+
4	S. Gowramma	Political Science	34	64	157	26	135	106/81	34	93	B+
5	K. Anuradha	Commerce	37	83	162	31.6	136	113/73	35.7	59	B+
6	Nuzhath Naseem	Physics	39	73	156	30	94	158/109	35.6	97	AB+
7	K. Sai Krishna	Commerce	28	70	174	23.1	117	119/81	36.5	95	A+
8	Karthik	Sericulture	26	95	185	22.8	70	103/61	36	78	B+
9	Dr. M. Srilatha	Chemistry	40	69	155	28.7	94	106/70	37.2	97	O+
10	B. Yadaiah	Computer Science	36	55	164	20.4	122	132/98	37	90	B+
11	Dr. N. Rajkumar	Zoology	52	75	170	26	110	119/80	37	80	A+
12	Dr. S. Ravinder Reddy	Economics	48	81	176	26.1	110	151/96	36.4	88	AB+
13	P. Swaroopa	TSKC Mentor	29	67	149	30.1	123	127/79	36	95	AB+
14	Ramanjaneyulu	OS	36	95	166	34.5	113	120/80	36	80	B+
15	K. Prathap Rao	Jr. Asst.	56	35	164	13	110	125/84	37	81	O+

It is clear from the empirical data collected from the teaching and nonteaching staff of this college (Table # 6) with a sample size of 15 that the staff were in the age group of 26 to 56 years. Similarly, the range of body weights of the staff varies from 35 kg to 95 kg. Likewise, the range of heights of the staff differs from as low as 149 cm to as high as 185 cm. From the analysis of the collected data, it is obvious that the Body Mass Indices of the staff showed a minimum value of 13 and maximum value of 35.

Table # 7: BMI FINDINGS OF STAFF IN PERCENTAGE

S.No.	Category	Percentage	Remarks
1	Underweight	0%	Staff
2	Severely Underweight	6%	
3	Normal	27%	
4	Overweight	40%	
5	Moderately Obese	27%	

Figure # 5: Pie Chart showing BMI Findings of Staff in Percentage



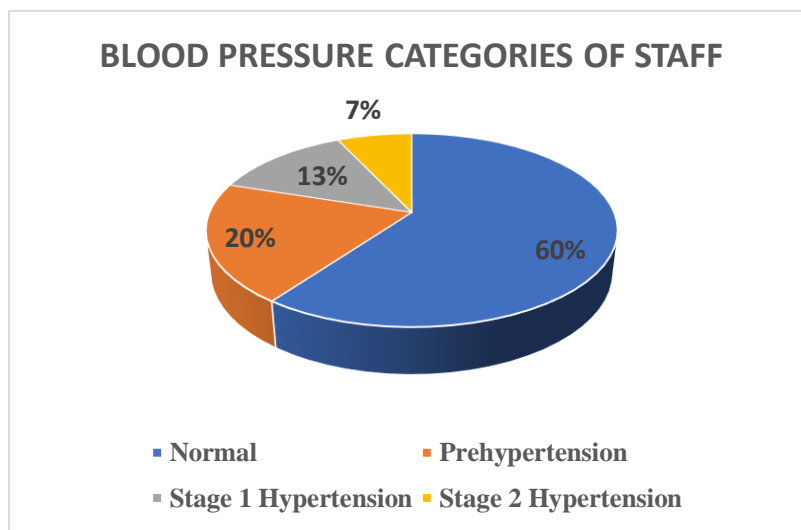
It is obvious from the BMI Findings as shown in table # 7 and corresponding pie chart (Figure # 5) that the 40% of the staff were categorized in overweight category, 27% under moderately obese category, 27% under normal category while 6% were severely underweight.

The random blood sugar results of the staff showed a minimum value of 70 mg/dL and a maximum value of 136 mg/dL. The normal value of random blood sugar level is less than 200 mg per decilitre. From these findings it is clear that none of the staff members were in diabetic range.

Table # 8: BLOOD PRESSURE FINDINGS OF STAFF IN PERCENTAGE

BP Category	No. of Subjects (Staff)	Percentage
Normal	9	60%
Prehypertension	3	20%
Stage 1 Hypertension	2	13%
Stage 2 Hypertension	1	7%

Figure # 6: Pie Chart showing Blood Pressure Status of Staff in Percentage



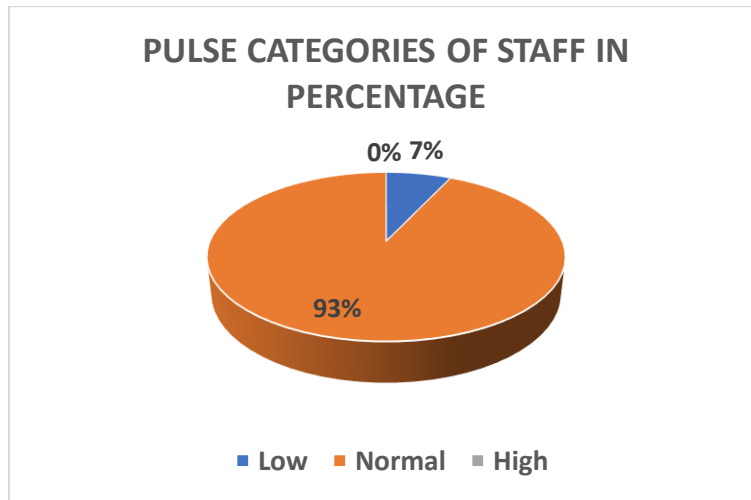
The analysis of blood pressure readings of staff (Table # 8) indicated that 60% of the staff showed normal blood pressure values, 20% of the them were included under Prehypertension category, 13% of them were falling under Hypertension Stage1 while 7% exhibited Stage 2 Hypertension (Figure # 6).

The results indicated that the temperature of all the staff members was equal to or less than normal body temperature. None of them were febrile.

Table # 9: PULSE FINDINGS OF STAFF IN PERCENTAGE

Pulse Category	No. of Subjects (Staff)	Percentage
Low	1	7%
Normal	14	93%
High	0	0%

Figure # 7: Pie Chart showing Pulse Categories of Staff in Percentage

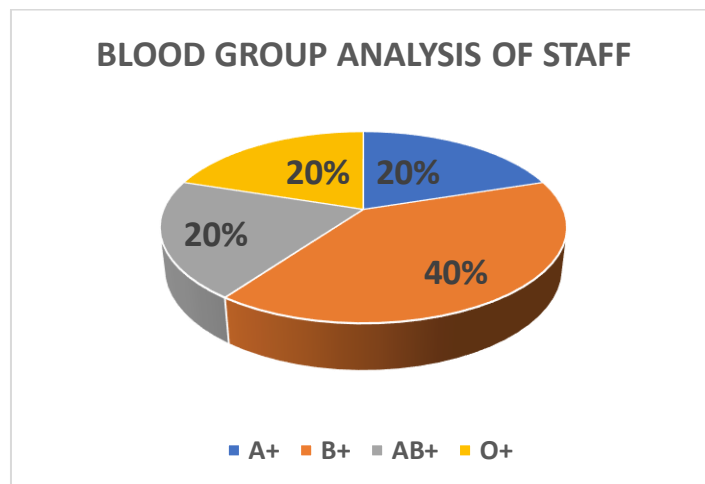


Similarly, the pulse readings of staff (Table # 9) understudy indicated that 93% of them showed normal pulse rate, 7% of them exhibited lower pulse rate while none of them showed higher pulse rate (Figure # 7).

Table # 10: BLOOD GROUP FINDINGS OF STAFF IN PERCENTAGE

Blood Group	No. of Subjects (Staff)	Percentage
A+	3	20%
B+	6	40%
AB+	3	20%
O+	3	20%

Figure # 8: Pie Chart showing Blood Group Analysis of Staff in Percentage



Likewise, the analysis of blood group data of the staff (Table # 10) exhibited 40% of them were of B positive while A positive, AB positive and O positive blood groups were 20% each (Figure # 8).

Table # 11: Empirical Data (Lipid profile & Hb %) of UG Students

S.No.	Name of the student	Total cholesterol mg/dL	Triglycerides mg/dL	HDL cholesterol mg/dL	LDL cholesterol mg/dL	VLDL cholesterol mg/dL	Hb%
1	K. Mohan	152.2	134.6	57.4	67.88	26.92	17.7
2	B. Sidhartha	122.3	97.8	54.1	48.64	19.56	12.5
3	P. Narsimhulu	152.2	134.6	57.4	67.88	26.92	17.7
4	B. Bhavani	150.7	112.7	49	79.16	22.54	11.9
5	M. Sabitha	137.8	101.8	56.7	60.74	20.36	12
6	K. Shirisha	170.2	140.5	46.7	95.4	28.1	12.8
7	G. Chandana	188.4	124.1	47.4	116.18	24.82	13.1
8	K. Poojitha	156.1	132.4	42.1	87.52	26.48	12.8
9	N. Jessika	162.4	137.4	49.7	85.22	27.48	12.9
10	S. Poojitha	123.1	84.8	56.8	49.34	16.96	11.1
11	K. Bhavani	133	115.4	47.2	62.72	23.08	12.5
12	K. Nandini	168.5	145.2	45.7	93.76	29.04	12.5
13	M. Srilatha	162.1	115.7	45.1	93.86	23.14	12
14	Nasreen Begum	135	141.2	47.9	58.86	28.24	8.3
15	V. Prakash	201	139.6	44	129.08	27.92	16.8
16	V. Vinod	157.4	141.2	45.2	83.96	28.24	17.1
17	S. Siddartha	165.2	147.5	48.7	87	29.5	16.1
18	P. Simhadhri	104.8	87.4	56.1	31.22	17.48	16.5
19	P. Suresh	141.8	120.4	51.7	66.02	24.08	16.2

20	T. Praveen	124.5	100.7	51	53.36	20.14	14.7
21	S. Mahesh	136.4	124.1	48.1	63.48	24.82	7.2
22	D. Mounika	123.5	99.4	54.2	49.42	19.88	11.4
23	P. Akhila	135.4	100.9	42.7	72.52	20.18	13.1
24	K. Sathyanarayana	194.1	151.4	46.7	117.12	30.28	13.8
25	J. Ramesh	120.7	134.8	56.2	37.54	26.96	16.9
26	G. Chandana	118.5	121	54.6	39.7	24.2	8.2
27	B. Anitha	116.7	120	49.2	43.2	23.1	9.1
28	Haseena	166.1	116.2	49.7	93.16	23.24	12
29	K. Mounika	186.4	141.1	45.7	112.48	28.22	13.8
30	V. Shailaja	126.4	134.6	49.2	50.28	26.92	10.9
31	B. Sheelu	183.1	155.6	40.7	111.28	31.12	12.7
32	K. Supriya	153.1	127	44.5	83.2	25.4	12.8
33	B. Sravani	146.01	108.1	44.6	79.79	21.62	11.8
34	K. Shirisha	150.7	98.7	56.1	74.86	19.74	11.3
35	M. Suresh	173.6	141.8	46.8	98.44	28.36	14
36	S. Swathi	127.9	109.4	54	52.02	21.88	11.8
37	G. Manasa	105.7	141.7	46.3	31.06	28.34	12
38	P. Ravinder	120.7	134.8	56.2	37.54	26.96	16.9
39	K. Pavani	109.9	102.4	47.1	42.32	20.48	11.4
40	Parveen Begum	163.1	138	45.7	89.8	27.6	11.9
41	M. Navaneetha	130	114.7	47.1	59.96	22.94	9.1
42	K. Anitha	114.1	121	44	45.9	24.2	12.6
43	P. Archana	158.1	127.4	48	84.62	25.48	11.8
44	A. Prathyusha	100.2	126.6	47.1	27.78	25.32	10.8
45	J. Aruna	134.2	123.6	48	61.48	24.72	13.2
46	Y. Vijay	157.4	141.2	45.2	83.96	28.24	17.1

Table # 12: LIPID PROFILE & HAEMOGLOBIN FINDINGS OF UG STUDENTS

Sno	Name of the student	Total Cholesterol 125-200 mg/dL	Triglycerides Normal <150 mg/dL	HDL Men 40 mg/dL or higher	HDL Women 50 mg/dL or higher	LDL < 100 mg/dL	VLDL 2-30 mg/dL	Hb% Male = 13.8 – 17.2 g/dL	Hb% Female = 12.1 – 15.1 g/dL
1	K. Mohan	Normal	Normal	Normal		Normal	Normal	High	
2	B. Sidhartha	Low	Normal	Normal		Normal	Normal	Low	
3	P. Narsimhulu	Normal	Normal	Normal		Normal	Normal	High	
4	B. Bhavani	Normal	Normal		Low	Normal	Normal		Low
5	M. Sabitha	Normal	Normal		Normal	Normal	Normal		Low
6	K. Shirisha	Normal	Normal		Low	Normal	Normal		Normal
7	G. Chandana	Normal	Normal		Low	High	Normal		Normal
8	K. Poojitha	Normal	Normal		Low	Normal	Normal		Normal
9	N. Jessika	Normal	Normal		Low	Normal	Normal		Normal
10	S. Poojitha	Low	Normal		Normal	Normal	Normal		Low
11	K. Bhavani	Normal	Normal		Low	Normal	Normal		Normal

12	K. Nandini	Normal	Normal		Low	Normal	Normal		Normal
13	M. Srilatha	Normal	Normal		Low	Normal	Normal		Low
14	Nasreen Begum	Normal	Normal		Low	Normal	Normal		Low
15	V. Prakash	High	Normal	Normal		High	Normal	Normal	
16	V. Vinod	Normal	Normal	Normal		Normal	Normal	Normal	
17	S. Siddartha	Normal	Normal	Normal		Normal	Normal	Normal	
18	P. Simhadhri	Low	Normal	Normal		Normal	Normal	Normal	
19	P. Suresh	Normal	Normal	Normal		Normal	Normal	Normal	
20	T. Praveen	Low	Normal	Normal		Normal	Normal	Normal	
21	S. Mahesh	Normal	Normal	Normal		Normal	Normal	Low	
22	D. Mounika	Low	Normal		Normal	Normal	Normal		Low
23	P. Akhila	Normal	Normal		Low	Normal	Normal		Normal
24	K. Sathyanarayana	Normal	High	Normal		High	High	Normal	
25	J. Ramesh	Low	Normal	Normal		Normal	Normal	Normal	
26	G. Chandana	Low	Normal		Normal	Normal	Normal		Low
27	B. Anitha	Low	Normal		Low	Normal	Normal		Low
28	Haseena	Normal	Normal		Low	Normal	Normal		Low
29	K. Mounika	Normal	Normal		Low	High	Normal		Normal
30	V. Shailaja	Normal	Normal		Low	Normal	Normal		Low
31	B. Sheelu	Normal	High	Normal		High	High	Low	
32	K. Supriya	Normal	Normal		Low	Normal	Normal		Normal
33	B. Sravani	Normal	Normal		Low	Normal	Normal		Low
34	K. Shirisha	Normal	Normal		Normal	Normal	Normal		Low
35	M. Suresh	Normal	Normal	Normal		Normal	Normal	Normal	
36	S. Swathi	Normal	Normal		Normal	Normal	Normal		Low
37	G. Manasa	Low	Normal		Low	Normal	Normal		Low
38	P. Ravinder	Low	Normal	Normal		Normal	Normal	Normal	
39	K. Pavani	Low	Normal		Low	Normal	Normal		Low
40	Parveen Begum	Normal	Normal		Low	Normal	Normal		Low
41	M. Navaneetha	Normal	Normal		Low	Normal	Normal		Low
42	K. Anitha	Low	Normal		Low	Normal	Normal		Normal
43	P. Archana	Normal	Normal		Low	Normal	Normal		Low
44	A. Prathyusha	Low	Normal		Low	Normal	Normal		Low
45	J. Aruna	Normal	Normal		Low	Normal	Normal		Normal
46	Y. Vijay	Normal	Normal	Normal		Normal	Normal	Normal	

The lipid profile analysis of the students' category are exhibited in Table # 12. Regarding Total Cholesterol, 70 % of them showed normal values, 28 % displayed lower values while 2 % indicated higher values (Figure #9). The normal reference value of Total Cholesterol is 125 to 200 mg/dL.

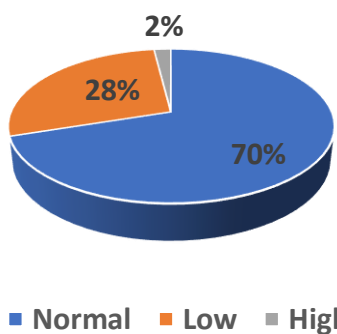
Similarly, 96 % of the students showed normal values of Triglycerides while 4 % of them showed higher values. The normal reference value of Triglycerides is less than 150 mg/dL. None of them showed lower levels of Triglycerides.

High Density Lipoprotein Cholesterol (HDL-C) is known as good cholesterol which should be equal to 40 mg/dL or higher. The analysis of the data indicated that all male students showed normal values of HDL-C while 80 % of female students exhibited lower levels of HDL-C, 20 % of them were in the normal range. Interestingly, none of them showed higher values of HDL-C which is a desired condition.

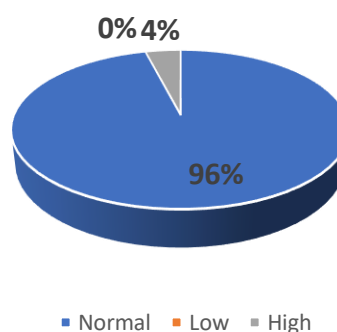
Low Density Lipoprotein Cholesterol (LDL-C) is known as bad cholesterol which should be less than 100 mg/dL. The analysis of the data indicated that 89 % of the students showed normal values while 11 % of the students exhibited higher levels of LDL-C. Interestingly, none of them showed lower values of LDL-C.

Figure # 9: Pie Chart showing Lipid Profile Status of UG Students in Percentage

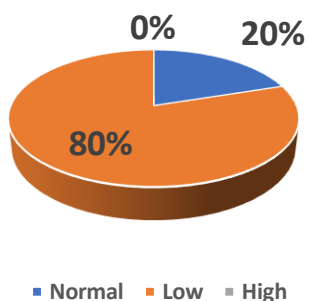
Total Cholesterol Status of Students in Percentage



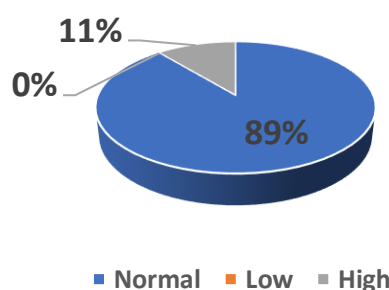
Triglycerides Status of Students in Percentage



HDL Cholesterol Status in Women



LDL Cholesterol Status in Students in Percentage



VLDL Cholesterol Status in Students in Percentage

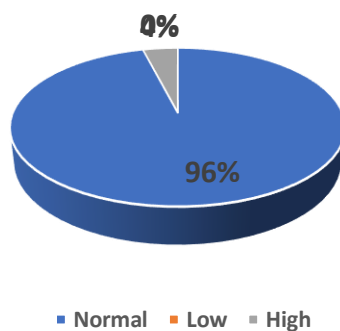
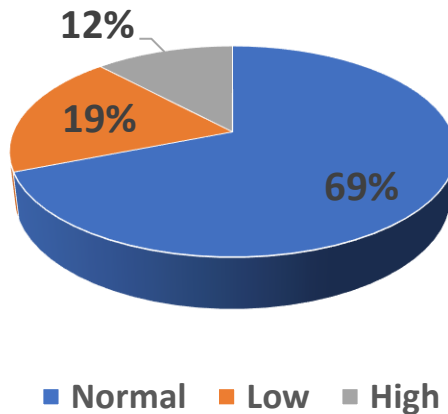
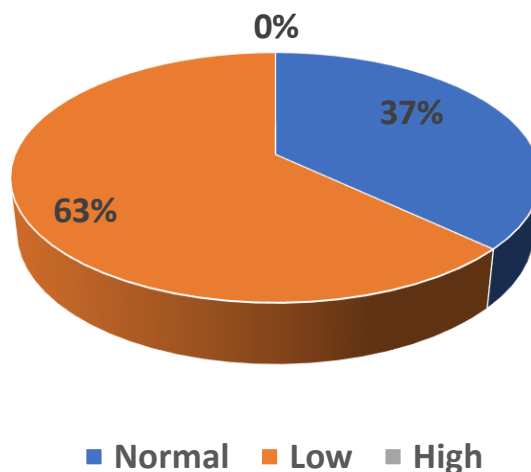


Figure #10: Pie Chart showing Haemoglobin Status of select UG Students in Percentage

Haemoglobin Percentage in Male Students



Haemoglobin Percentage in Female Students



Very Low Density Lipoprotein Cholesterol (VLDL-C) is also a type of bad cholesterol which should be in the normal range of 2 to 30 mg/dL. The analysis of the data indicated that 96 % of the students showed normal values while 4 % of the students exhibited higher levels of VLDL-C. Interestingly, none of them showed lower values of VLDL-C.

The analysis of haemoglobin percentages of students indicated that 69 % of the male students were in normal range, 19 % of them were in the lower range i.e., anaemic while 12 % of them were in the higher range. Similarly, 63 % of the female students were anaemic i.e., in the lower range while 37 % of them were in normal range(Figure # 10).

Table # 13: Empirical Data (Lipid profile & Hb %) of Staff

S.No	Name of the Staff	Total cholesterol l mg/dL	Triglycerides mg/dL	HDL cholesterol l mg/dL	LDL cholesterol l mg/dL	VLDL cholesterol l mg/dL	Hb %
1	B. Srinivas	201	182	47.9	116.7	36.4	15.6

2	Dr. Uttara Phalguni	144	120	43	77	24	15
3	L. Raghavender	183	102.6	51.7	112.8	20.5	11.9
4	S. Gowramma	170.4	136.2	48.1	95.1	20.5	11.1
5	K. Anuradha	164.8	151.4	43.7	90.8	30.8	11.1
6	Nuzhath Naseem	135.57	112.8	44.6	68.4	22.6	11.5
7	K. Sai Krishna	164.2	141.2	47.2	88.8	28.2	17.1
8	Karthik	114.6	136.5	43.7	43.6	27.3	15.2
9	Dr. M. Srilatha	155	110	45	95	35	16
10	B. Yadaiah	178	105	52	98	20	15.6
11	Dr. N. Rajkumar	180	135	50	85	25	15
12	Dr. S. Ravinder Reddy	185	140	44	98	35	17
13	P. Swaroopa	127.1	118.4	45.7	53.7	23.6	12.1
14	Ramanjaneyulu	124.8	176.2	40.7	48.9	35.2	13.6
15	K. Prathap Rao	150	140	50	70	23	16

Table # 14: LIPID PROFILE & HAEMOGLOBIN FINDINGS OF STAFF

S.No.	Name of the Staff	Total Cholesterol 125-200 mg/dL	Triglycerides Normal <150 mg/dL	HDL Men 40 mg/dL or higher	HDL Women 50 mg/dL or higher	LDL < 100 mg/dL	VLDL 2-30 mg/dL	Hb% Male = 13.8 – 17.2 g/dL	Hb% Female = 12.1 – 15.1 g/dL
1	B. Srinivas	Borderline high	Borderline high	Normal		Near Optimal	High	Normal	
2	Dr. Uttara Phalguni	Normal	Normal		Low	Optimal	Normal		Normal

3	L. Raghavender	Normal	Normal	Normal		Near Optimal	Normal	Low	
4	S. Gowramma	Normal	Normal	Normal	Low	Optimal	Normal		Low
5	K. Anuradha	Normal	Borderline high	Normal	Low	Optimal	Borderline High		Low
6	Nuzhath Naseem	Normal	Normal	Normal	Low	Optimal	Normal		Low
7	K. Sai Krishna	Normal	Normal	Normal	Low	Optimal	Normal	Normal	
8	Karthik	Normal	Normal	Normal		Optimal	Normal	Normal	
9	Dr. M. Srilatha	Normal	Normal	Normal	Low	Optimal	High		Borderline High
10	B. Yadaiah	Normal	Normal	Normal		Optimal	Normal	Normal	
11	Dr. N. Rajkumar	Normal	Normal	Normal		Optimal	Normal	Normal	
12	Dr. S. Ravinder Reddy	Normal	Normal	Normal		Optimal	High	Normal	
13	P. Swaroopa	Normal	Normal	Normal	Low	Optimal	Normal		Normal
14	Ramanjaneyulu	Normal	Borderline high	Normal		Optimal	High	Low	
15	K. Prathap Rao	Normal	Normal	Normal		Optimal	Normal	Normal	

The lipid profile analysis of the staff are exhibited in Table #14. Regarding Total Cholesterol, 93 % of them showed normal values while 7 % indicated higher values (Figure #11). The normal reference value of Total Cholesterol is 125 to 200 mg/dL.

Similarly, 80 % of the staff showed normal values of Triglycerides while 20 % of them showed higher values. The normal reference value of Triglycerides is less than 150 mg/dL. None of them showed lower levels of Triglycerides.

High Density Lipoprotein Cholesterol (HDL-C) is known as good cholesterol which should be equal to 40 mg/dL or higher. The analysis of the data indicated that all male staff showed normal values of HDL-C while all female staff exhibited lower levels of HDL-C. Interestingly, none of them showed higher values of HDL-C which is a desired condition.

Low Density Lipoprotein Cholesterol (LDL-C) is known as bad cholesterol which should be less than 100 mg/dL. The analysis of the data indicated that 87 % of the staff showed optimal values while 13 % of the staff exhibited near optimal levels of LDL-C. Interestingly, none of them showed lower or higher range of values.

Very Low-Density Lipoprotein Cholesterol (VLDL-C) is also a type of bad cholesterol which should be in the normal range of 2 to 30 mg/dL. The analysis of the data indicated that 67 % of the staff showed normal values, 27 % of the staff exhibited higher levels of VLDL-C while 6% of them showed borderline high. Interestingly, none of them showed lower values of VLDL-C.

Figure #11: Pie Chart showing Lipid Profile Status of Staff in Percentage

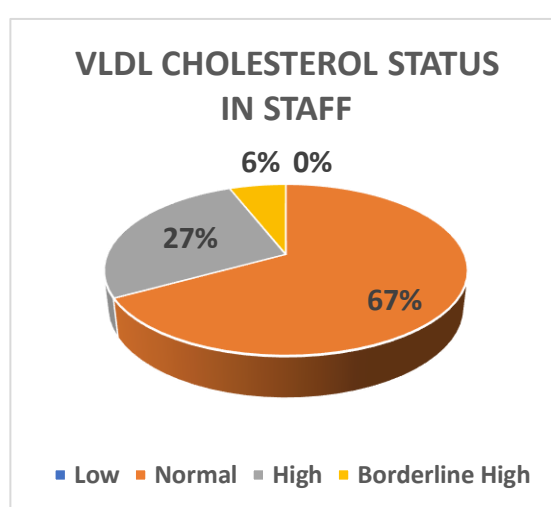
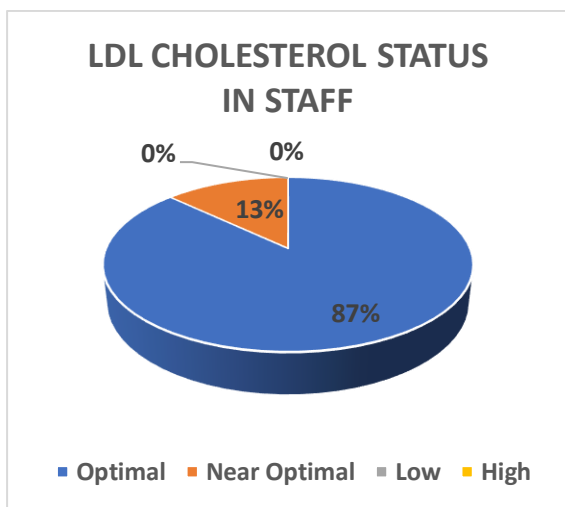
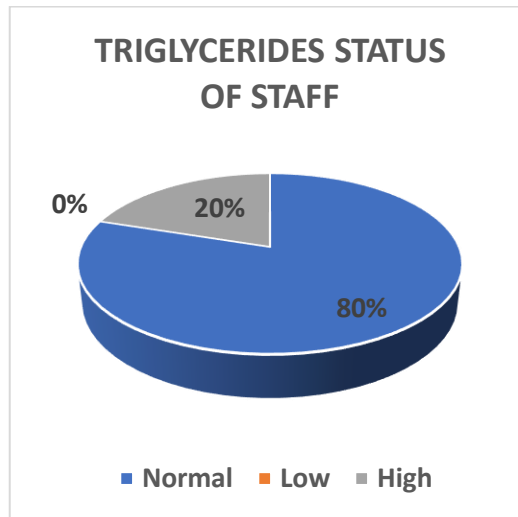
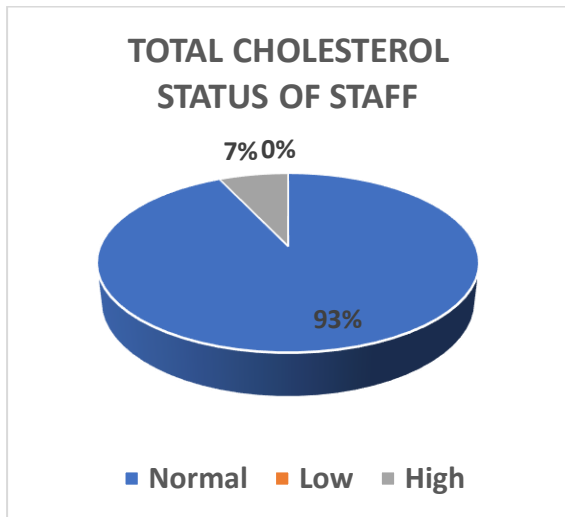
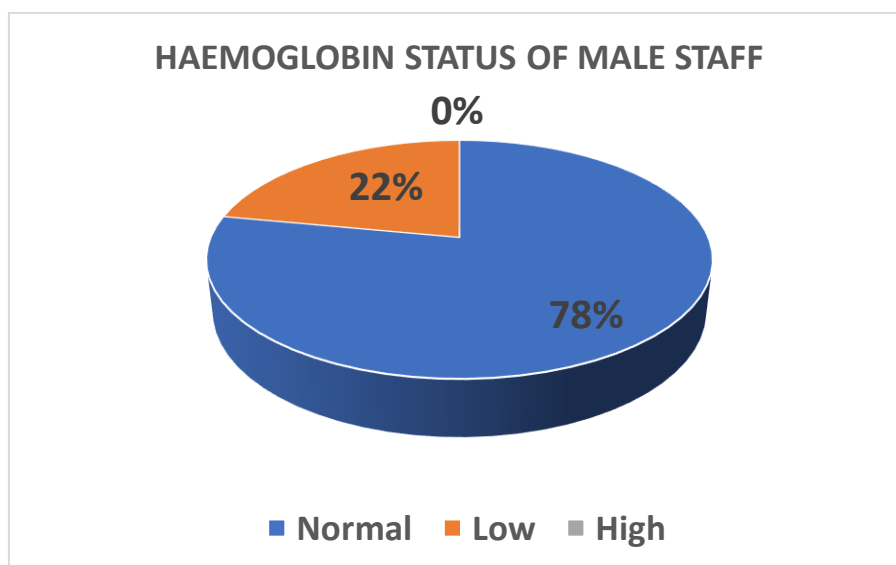
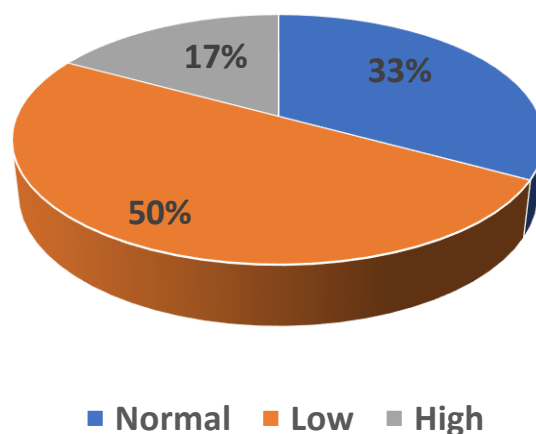


Figure #12: Pie Chart showing Haemoglobin Status of Staff in Percentage



HAEMOGLOBIN STATUS OF FEMALE STAFF



The analysis of haemoglobin percentages of staff indicated that 78 % of the male staff were in normal range, 22 % of them were in the lower range i.e., anaemic. Similarly, 50 % of the female staff were anaemic i.e., in the lower range while 33 % of them were in normal range while 17% of them were in the higher range (Figure # 12).

CONCLUSIONS AND RECOMMENDATIONS

1. About 37% of the students were underweight, 28% were severely underweight, 31% were normal category while 4% were overweight.
2. None of the students were in diabetic range.
3. Around 80% of the students showed normal blood pressure values, 17% of the them belong to Prehypertension category while 3% of them were falling under Hypertension Stage1.
4. About 67% of the students showed normal pulse rate, 30% of them exhibited higher pulse rate while only 3% showed lower pulse rate.
5. About 52% of the students were O positive, 28% of them were B positive, while 20% of them were A positive and none of them showed AB blood group.
6. About 40% of the staff were overweight, 27% were moderately obese, 27% were normal while 6% were severely underweight.
7. None of the staff members were in diabetic range.
8. About 60% of the staff showed normal blood pressure values, 20% of the them showed Prehypertension, 13% of them showed Hypertension Stage1 while 7% exhibited Stage 2 Hypertension.
9. None of the staff members were febrile.

10. About 93% of the staff showed normal pulse rate, 7% of them exhibited lower pulse rate while none of them showed higher pulse rate.
11. The staff with B positive were 40% , while A positive, AB positive and O positive blood groups were 20% each.
12. The normal total cholesterol values were shown by 70 % of the students, 28 % displayed lower values while 2 % indicated higher values.
13. About 96 % of the students showed normal values of Triglycerides while 4 % of them showed higher values.
14. All male students showed normal values of HDL-C while 80 % of female students exhibited lower levels of HDL-C, 20 % of them were in the normal range.
15. About 89 % of the students showed normal values of LDL-C while 11 % of the students indicated higher levels of LDL-C.
16. About 96 % of the students showed normal values of VLDL-C while 4 % of the students exhibited higher levels of VLDL-C.
17. About 69 % of the male students were in normal haemoglobin range, 19 % of them were anaemic while 12 % of them were in the higher range. Similarly, 63 % of the female students were anaemic while 37 % of them were in normal range.
18. About 93 % of the staff showed normal values of Total Cholesterol while 7 % indicated higher values.
19. About 80 % of the staff showed normal values of Triglycerides while 20 % of them showed higher values.
20. All male staff showed normal values of HDL-C while all female staff exhibited lower levels of HDL-C.
21. About 87 % of the staff showed optimal values of LDL-C while 13 % of the staff exhibited near optimal levels of LDL-C.
22. Around 67 % of the staff showed normal values of VLDL-C, 27 % of the staff exhibited higher levels of VLDL-C while 6% of them showed borderline high.
23. About 78 % of the male staff were in normal range of Hb, 22 % of them were anaemic. Similarly, 50 % of the female staff were anaemic while 33 % of them were in normal range while 17% of them were in the higher range.

Recommendations:

1. Those subjects who are underweight should take balanced diet in right proportion.
2. Those subjects who are overweight or obese should do exercise regularly, control the diet according to their age, type of work and physiological condition.
3. Those subjects who are in prehypertension or in stage 1 or stage 2 of hypertension should reduce the salt intake, pickles, stress. They should take minimum eight glasses of water per day.
4. Subjects with high bad cholesterol (LDL-C, VLDL-C), Triglycerides and total cholesterol should avoid or reduce the intake of saturated fats like dalda, vanaspathi, ghee, prawns, red meat and trans-fat substances like potato chips etc. They can consume 2 or 3 garlic pieces daily to reduce the cholesterol.
5. Those subjects who are anaemic, should take more iron rich food like spinach, dates, jaggery, soyabeans etc.

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