SREE NARAYANA COLLEGE

PUNALUR, KOLLAM - 691305

(Affiliated To the University of Kerala)

HEALTH AUDIT REPORT

(A Report based on Clinical, Anthropometric and Biochemical Tests)

IN COLLABORATION WITH

GOVERNMENT TALUK HOSPITAL, PUNALUR.

PRINCIPAL
SREE NARAYANA COLLEGE
PUNALUR

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Reg. No: 19897
SUPERINTENDENT &
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OF HEALTH SERVICES
T.H.Q. HOSPITAL
PUNALUR

SREE NARAYANA COLLEGE, PUNALUR
CLINICAL, ANTHROPOMETRIC AND BIOCHEMICAL (CAB) SURVEY

Date: 10/02/2023

Time: 9.45 am - 2.30 pm

Venue: BSc Zoology Lab (Room no.48)

Agenda: Clinical, Anthropometric and Biochemical (CAB) Survey

Purpose: Students are hereby informed that as a part of Health Audit, **Clinical, Anthropometric and Biochemical (CAB) Survey** is being scheduled to be conducted for the first year UG students on 10/02/2023. Students are hereby informed to participate in this survey conducted as an initiative to promote a sense of well-being among our student community.

Proposed time schedule

Department of Zoology - 9.45 am

Department of Commerce - 10.15 am

Department of Physics -11 am

Department of Maths -11.20 am

Department of History- 11.40 am

Department of Chemistry-12.15 pm

Department of English - 1.30 pm

Department of Economics-2 pm

A REPORT ON THE CLINICAL, ANTHROPOMETRIC AND BIOCHEMICAL (CAB) SURVEY CONDUCTED ON 10-02-2023

The chief objective of this survey is to inform, educate and make students aware about their physical and mental health and the

dietary needs. Inculcating in them to lead an addiction free, drug-free, tension-free healthy life was another important objective. Monitoring of the changes in body composition is important as distinguishing changes in each component occur with rapid growth in adolescents as it is occurred in concert with changes in the hormonal environment. The healthy growth and proper accretion of body composition during the adolescent period is important to reduce the risk of metabolic disease and obesity prevention. Adolescent obesity prevalence has been increased and known to be related to various diseases and mortality in adult and body mass index (BMI) has been widely used as a screening tool in adolescent with obesity. BMI is a measure of weight adjusted for height. Weight scales to height with a power of about 2, is the basis of BMI (weight/height^2) as the scaling of body weight to height across adults provides powers rounded to 2.). In order to collect the data regarding the current health status of the Student Groups, admitted to the College every year, a biomarker component has been introduced. The CAB survey is specifically designed to fill the data gaps on nutritional status, life style diseases so that College level medical awareness programmes and necessary medical assistance to students can be drawn up, funded and implemented. This data can serve as the baseline, helping to assess not only the current health status of the students, but also the impact of these interventions, further enables midcourse corrections by identifying the factors responsible for the poor health performance of the students. As a part of conducting an initiative to the Clinical, Anthropometric and Biochemical (CAB) survey BMI monitoring has been conducted for the academic for first year UG students of 2023 batch. BMI is a simple, inexpensive, and non-invasive surrogate measure of body fat. In contrast to other methods, BMI relies solely on height and weight and with access to the proper equipment, individuals can have their BMI routinely measured and calculated with reasonable accuracy.

Indicators and instruments used for data collection

Stunting (low height-for-age), **Wasting** (low weight-for-height), **Underweight** (low weight for-age) and **undernourished** (low Body Mass Index, BMI) are the four major indicators available for measuring malnutrition level in students. For students, undernourishment and BMI indicators are provided separately for male and female.

Stunting is the effect of an insufficient intake of vital nutrients over a long period of time and frequent infections, leading to a failure to reach a linear growth potential. Stunting, which is also termed as low height-for-age, is associated with

poor socio-economic conditions, inappropriate feeding habits and an amplified risk of exposure to adverse conditions such as illness. On the other hand, a reduction in the stunting prevalence is usually indicative of enhanced health and socio-economic conditions.

Wasting is also termed as low weight-for height or thinness. Acute starvation and/or severe diseases are its key indicators as it is often associated with a severe process of weight loss. It may also be a consequence of chronic unfavourable condition.

Underweight is a condition reflecting a low level of body mass relative to the corresponding age. Weight-for-age is determined by both the height of the child (height-for-age) and weight (weight-for-height).

Under-nutrition can be termed as a deficiency of calories or several vital nutrients essential for growth and survival. Undernutrition develops largely when people fail to obtain or prepare food, suffer from a disorder that makes eating or absorbing food difficult, or have a greatly increased need for calories.

Over-nutrition is a form of malnutrition marked by an excessive intake of nutrients. The amount of nutrients consumed exceeds the amount required for normal growth, development and metabolism. Overnutrition can develop into obesity, which increases the risk of serious health conditions, including cardiovascular disease, hypertension, cancer, and type-2 diabetes.

BMI: Body Mass Index (BMI) is an index of weight-for-height that is commonly used to classify underweight, overweight and obesity. It is determined by the weight in kilograms divided by the square of the height in meters (kg/m^2). For example, an adult who weighs 70kg and whose height is 1.75m will have a BMI of 22.9.

EQUIPMENTS

Various equipment's were used to take measurements and to collect data. Height is measured using **Wall Mounted Statute Meter**. Weight is recorded with the help of a **Digital Weighing Scale**. Annual Health Survey Report based on the spot information on health status is provided to the participants during the survey in the form a student health Card.
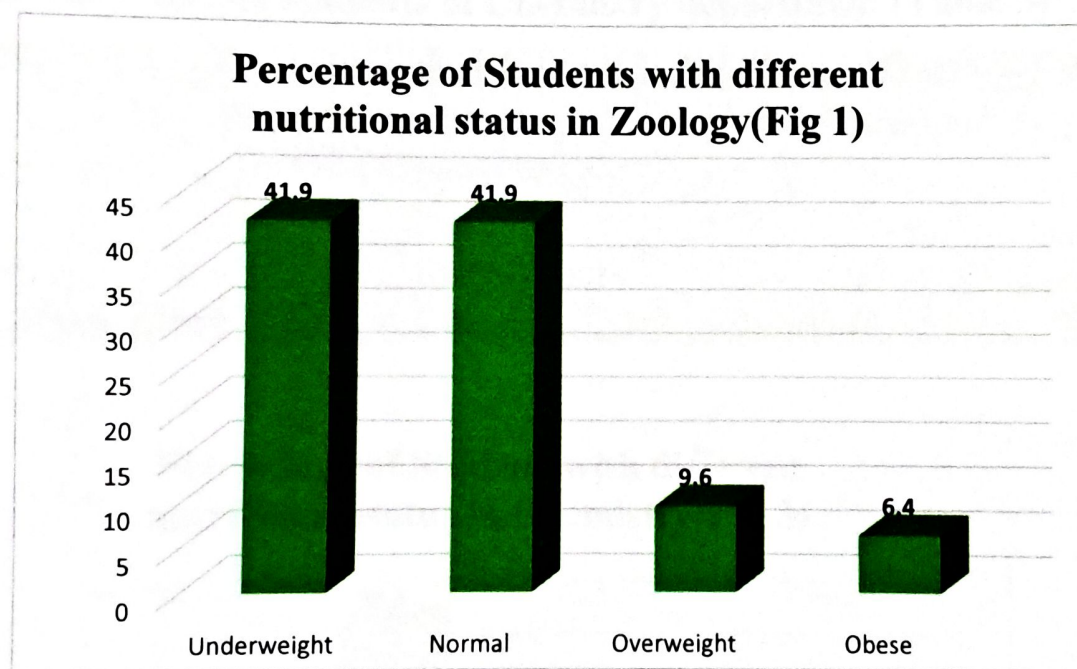
Photographs of CAB survey

Punalur, Kerala, India

2W88+CQG, Chemmanthoor, Punalur, Kerala 691305, India
Lat 9.016296°
Long 76.916792°
10/02/23 10:37 AM

GPS Map Camera

RESULTS

BMI index for the students of Zoology department (Table 1)

BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	41.9
18.5 – 24.9	Normal	41.9
25.0 – 29.9	Overweight	9.6
30.0 and above	Obese	6.4

Percentage of Students with different nutritional status in Zoology(Fig 1)

Underweight	41.9
Normal	41.9
Overweight	9.6
Obese	6.4

BMI index for the students of Commerce department (Table 2)

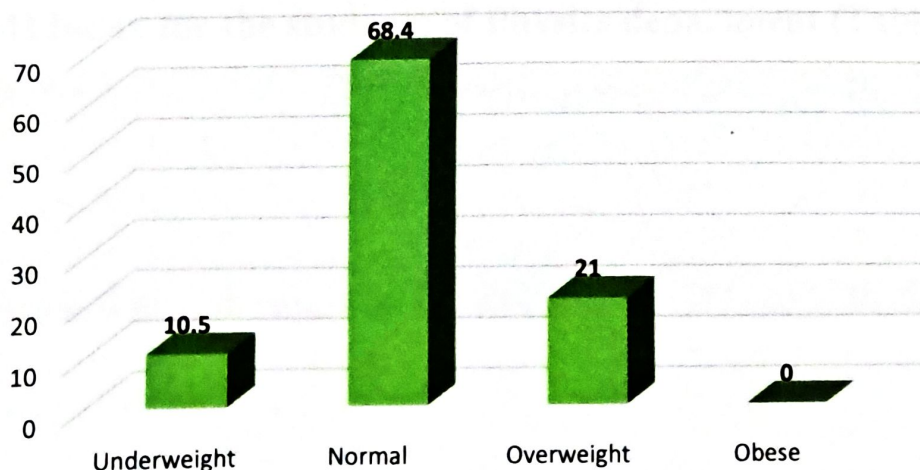| BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	57.5
18.5 – 24.9	Normal	42.4
25.0 – 29.9	Overweight	0
30.0 and above	Obese	0

Percentage of Studentswith different nutritional stsus in Commerce (Fig2)
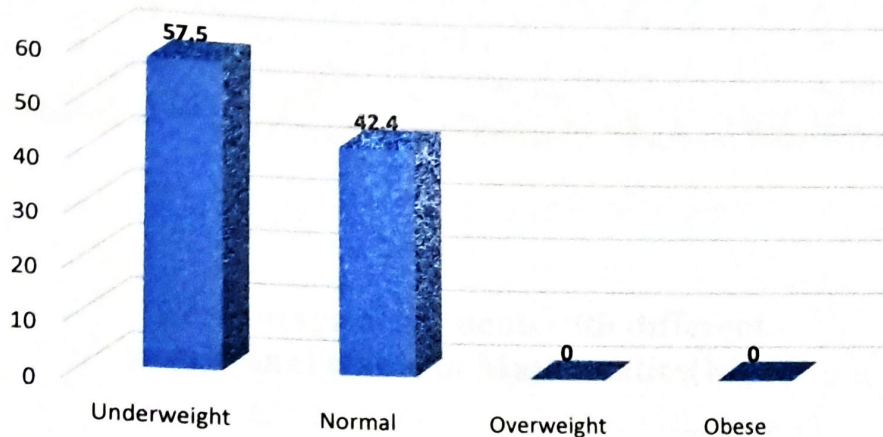
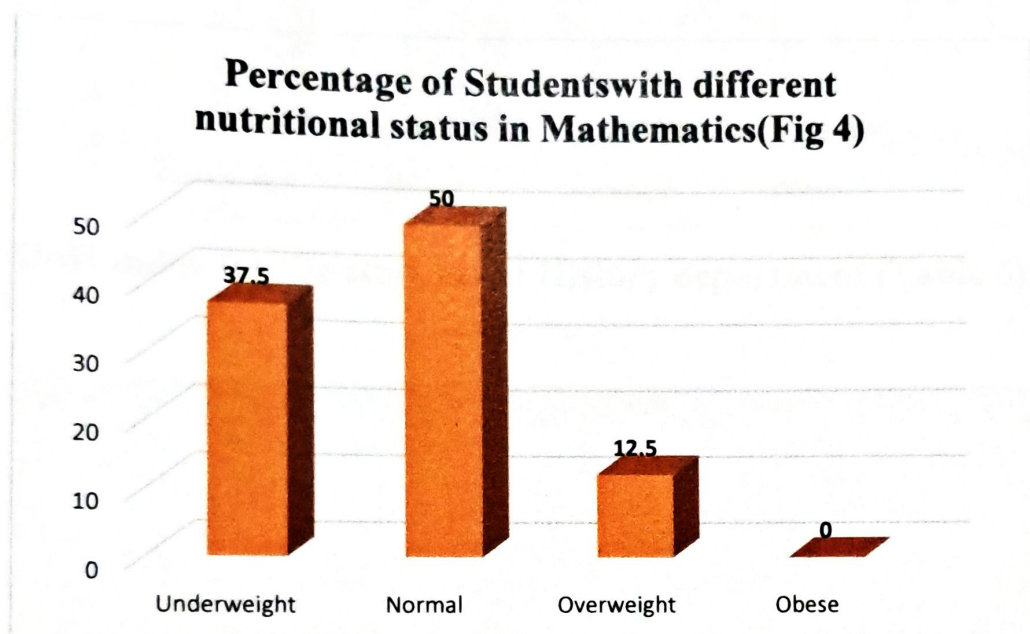## BMI index for the students of Chemistry department (Table 3)

BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	10.5
18.5 – 24.9	Normal	68.4
25.0 – 29.9	Overweight	21
30.0 and above	Obese	0

Percentage of Studentswith different nutritional status in Chemistry(Fig 3)

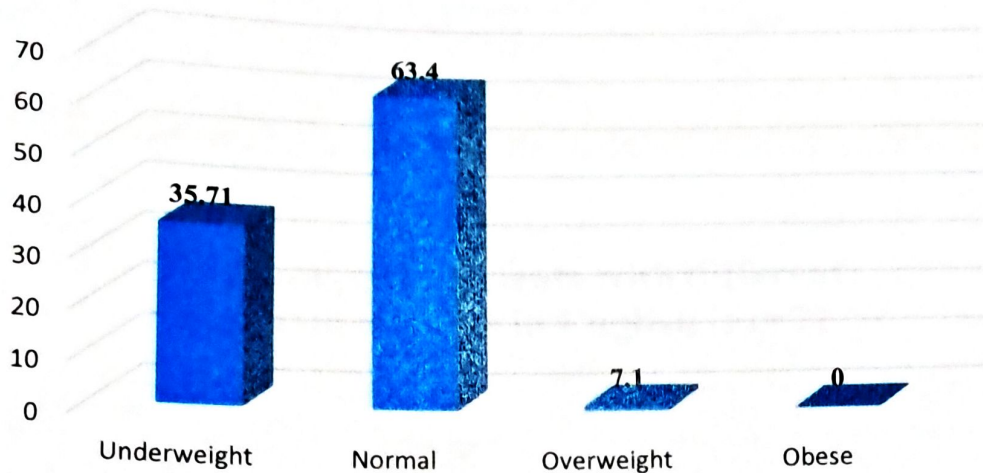## BMI index for the students of Mathematics department (Table 4)

BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	37.5
18.5 – 24.9	Normal	50
25.0 – 29.9	Overweight	12.5
30.0 and above	Obese	0

Percentage of Students with different nutritional status in Mathematics(Fig 4)

BMI index for the students of Physics department (Table 5)

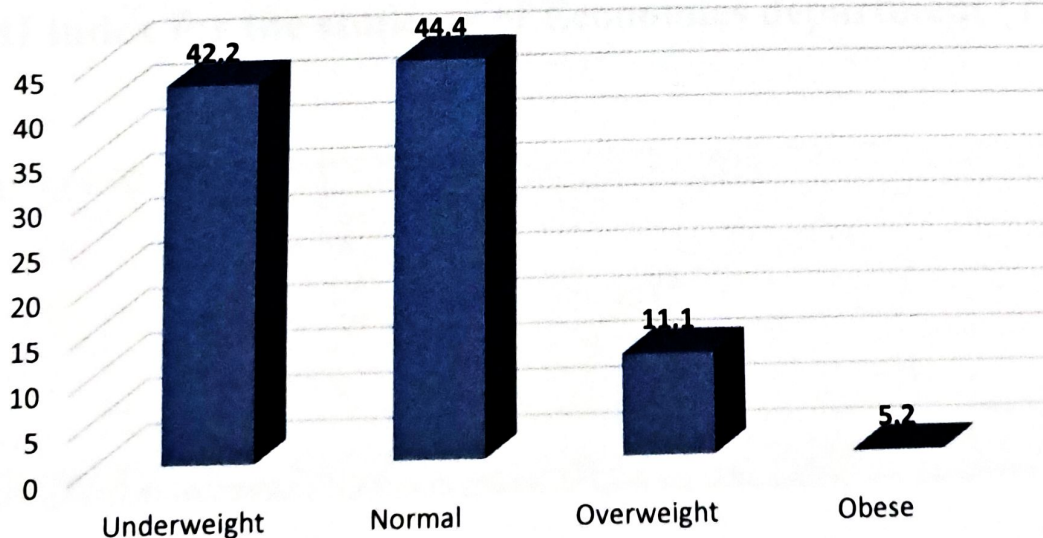| BMI	Weight Status	Percentage of Students
Below 18.5	Underweight	35.71
18.5 – 24.9	Normal	57.1
25.0 – 29.9	Overweight	7.1
30.0 and above	Obese	0

Percentage of Students with different nutritional status in Physics(Fig 5)

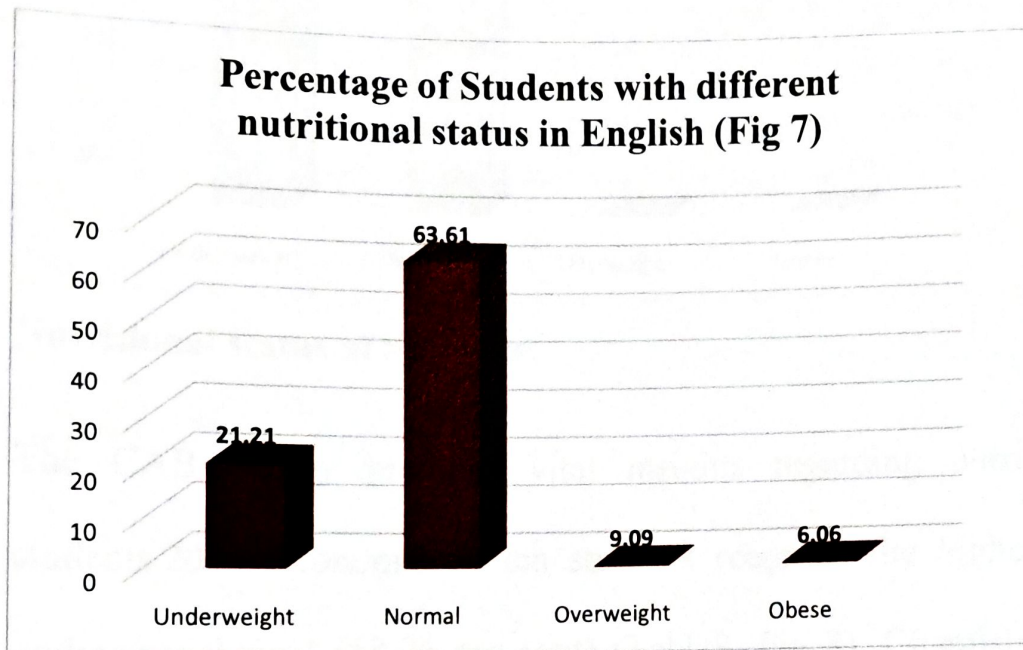**BMI index for the students of History department (Table 6)**

BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	42.2
18.5 – 24.9	Normal	44.4
25.0 – 29.9	Overweight	11.1
30.0 and above	Obese	5.2

Percentage of Students with different nutritionl levels in History (Fig 6)

BMI index for the students of English department (Table 7)

BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	21.21
18.5 – 24.9	Normal	63.61
25.0 – 29.9	Overweight	9.09
30.0 and above	Obese	6.06

Percentage of Students with different nutritional status in English (Fig 7)

BMI index for the students of Economics department (Table 8)

BMI	Weight Status	Percentage of Students(%)
Below 18.5	Underweight	58.06
18.5 – 24.9	Normal	38.7
25.0 – 29.9	Overweight	3.2
30.0 and above	Obese	0

Percentage of Students with different nutritional status in Economics (Fig 8)
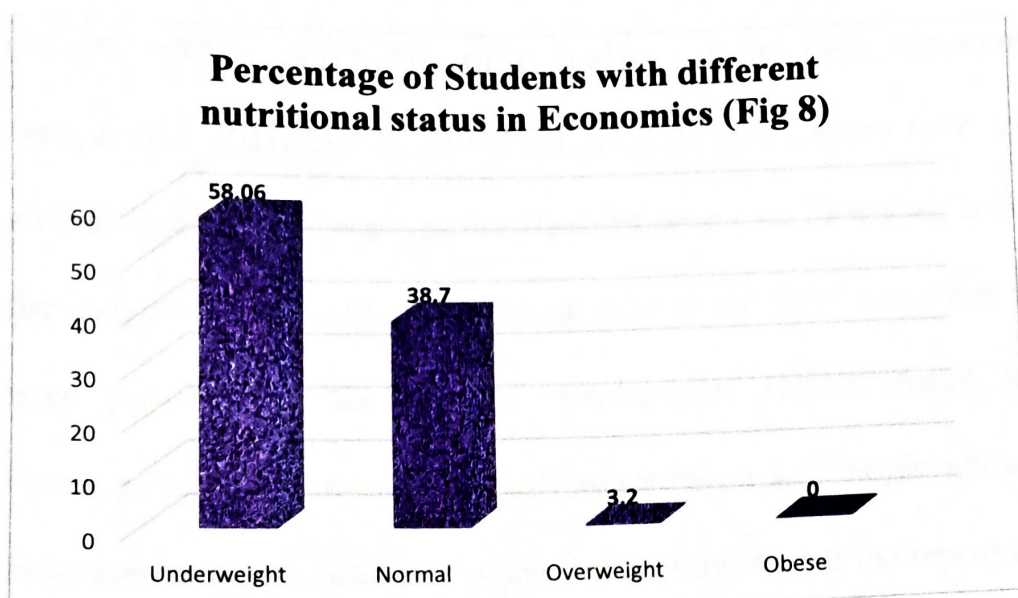
Nutritional status of Students

The CAB survey provides vital insights regarding nutritional status of students.2023 Economics batch students recorded the highest prevalence of undernourishment (58.06 per cent) (Table8, Fig 8). Chemistry batch students recorded the lowest prevalence under nourishment of 21 per cent respectively. Prevalence of over weight is comparatively higher (21%) the Chemistry batch of 2023 students (Table 3, Fig 3). Also, **percentage of obese students with BMI greater than or equal to 30** is found highest (6.06%) in English 2023 batch students. (Table 7,Fig &) .

CONCLUSION

An elaborate quality control mechanism was put in place to ensure the emergence of the best possible data. Intensive training, supply of detailed instruction manual explaining each step of data collection, and accuracy testing of measurements are some of the methods that were adopted for quality

control. Other measures taken include immediate replacement of faulty equipments, selection of the most suitable and experienced persons like lab technicians for field work in the Health Camp site. Protocols were prescribed for the usage of equipments and consumables in the field. Intensive training has also been provided to the student members of Health Audit team, The field investigators were trained for skill upgradation and taught about quality control measures to ensure accuracy of measurements. As per the report of Health survey, some students are in high need of immediate medical advice from an eminent Physician and Dietician to control their depreciating levels of nutrition. Such students are referred to Government Taluk Hospital, Punalur. To conclude with, we hope that more awareness should be raised among the target population. This will result in a drastic improvement of their quality of life, and shift their focus to a better lifestyle in the near future. Creating awareness is the major step in prevention of obesity. Other strategies included educational interventions for the public regarding consuming a healthy diet, following strict physical exercise regimen, maintaining normal body weight, and avoiding use of tobacco, alcohol, junk foods and beverages drinks. Stress reduction measures also should be included. The preventive strategies involve counseling for healthy eating, psychological interventions for over eating people

Risk factors for obesity-related conditions
Being overweight or having obesity can increase the risk to the heart.

The following issues can also increase the risk of developing heart disease, for example.

- high blood pressure (hypertension)
- high levels of low-density lipoprotein ("bad") cholesterol
- low levels of high-density lipoprotein ("good") cholesterol
- high levels of triglycerides
- high blood sugar levels
- a family history of early heart disease
- physical inactivity
- cigarette smoking
- a high consumption of alcohol

To help reduce the health risks associated with having obesity during childhood, encourage children and teens to practice healthy habits by:

- Eating healthy food and drinking plenty of water.
- Making mealtimes a family affair. Have your children help with cooking and let them choose healthy foods as well.
- Helping children find a physical activity they enjoy and participating in physical activity on most (preferably all) days of the week.
- Getting adequate sleep.
- Limiting screen time.
- Taking time for self-care and stress reduction. Try strategies like breathing exercises, meditation, yoga etc .