



## **Nutritional Assessment of College Students of NCR Region**

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### **ABSTRACT**

*Food is any matter which on consumption gives nutrition to an organism. It gives energy to do work, maintain our body structure and maintain immunity. Various nutrients we get are carbohydrate, protein, fat, vitamins, minerals and water. Nutrition is the study of nutrients in food, how the body uses them, and the correlation between diet, health, and disease. Nutrients give nourishment to the body. There is a relationship between healthy diet and good health especially of college students.*

Key words: Food, Nutrients, Diet, Healthy Diet, College Students

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### **INTRODUCTION**

Food is a wholesome substance that is eaten, drunk, or else taken into the body to maintain life, give energy, promote growth, etc.

Food is the major source of nutrients for the animal body. We get proteins to maintain our muscular structure; vitamins, to catalyze the physiological processes; and carbohydrates and fats for getting energy.

Various researches have revealed that students of every age group are able to learn better if they get good nourishment and eat healthy diet. They have higher grades, improved memory and attentiveness. So, in this research we studied the relationship between healthy diet and good health especially of college students of NCR region. The objective of this work to study the nutritional assessment of college students through Google form and awareness program for the health benefits in their adulthood

### **REVIEW OF LITERATURE**

According to Rae Galloway *et al.* [1] although malnutrition's effects on this group have been recognized for decades, there has been little measurable progress in addressing the specific nutritional problems of women and adolescent girls. Ignorance about the symptoms of malnutrition, such as the lethargy and depression caused by iron deficiency, may be dismissed as "normal" or unimportant, further exacerbating the problem.

Malnutrition declines girl's ability to carry on childbirth, makes them more prone to infections, and leaves them with lesser reserves to improve from illness.

According to Lindsay [2] Anemia affects about 43 percent of women of reproductive age in less developed countries. Women are especially susceptible to iron deficiency and anemia during pregnancy, and about half of all pregnant women in less developed countries are anemic, although rates vary significantly among regions. Fernando E. Viteri [3] explained that iron deficiency and anemia cause fatigue, reduce work capacity, and make people more susceptible to infection. Severe anemia places women at higher risk of death during delivery and the period following childbirth. Majid Ezzati *et al.* [4] told that recent research suggests that even mild anemia puts women at greater risk of death.

Leslie and Elizabeth [5] wrote that illness associated with nutrient deficiencies have significantly reduced the productivity of women in less developed countries. A recent report from Asia shows that malnutrition reduces human productivity by 10 percent to 15 percent and gross domestic product by 5 percent to 10 percent. By improving the nutrition of adolescent girls and women, nations can reduce health care costs, increase intellectual capacity, and improve adult productivity.

## MATERIAL AND METHODS

A research study was conducted on college going students between the ages of 17-24 years. This was an anonymous survey. Contact information or name was not be collected of the participants of survey. Different questions were asked. The responses of the participants were strictly confidential, and these were used only for statistical analysis. There was be no loss of benefits on withdrawal but surely would help in improving the health of the participants. Participation was completely voluntary. Survey was done with the following Google Form.

Swami Vivekananda University, Sagar, MP is conducting a research study on college going student between the ages of 17-24 years.

1. This is an anonymous survey - we are not collecting your contact information or name.
2. In this survey, you will be asked different questions. Your responses will be strictly confidential, and it will be used only for statistical analysis.
3. There is no loss of benefits on withdrawal but surely it will help in improving your health.
4. Participation is completely voluntary.

Top of Form

### Personal Details

A little information about you for joining the survey

#### Date of submitting form

#### Name of the Student

I hereby agree to participate in the survey

- Yes  
 No

My parents have given consent for me to participate in the survey/ I am ready to participate in this survey

- Yes  
 No

How old are you (Age in years)?

What is your sex?

- Male  
 Female

Your place of living

- Home  
 College Hostel  
 PG  
 Rented house

You currently have a family of

- Single parent  
 Both parent / Nuclear family  
 Joint family

### About Health and Nutrition

Here are a few questions about health, food habits, dietary behavior, physical activity and others

How tall are you without your shoes on? (In centimeters)

How much do you weigh without your shoes on? (In kilograms)

Your present BMI (BMI = weight in kg /height in m<sup>2</sup>) is fall in the range of :

- underweight (<18.5 kg/m<sup>2</sup>),  
 normal or lean BMI (18.5–22.9 kg/m<sup>2</sup>),  
 overweight (23.0 –24.9 kg/m<sup>2</sup>)  
 obese (≥25 kg/m<sup>2</sup>)

Your present Hemoglobin level in the range of

- Normal hemoglobin level = or > 13.5 g/dL in a man and 12 g/dL in a woman.  
 mild anemia (11 g/dL to normal),  
 moderate anemia (8 g/dL to 11 g/dL),  
 severe anemia (less than 8 g/dL)

No

**How do you describe your weight?**

- Very underweight
- Slightly underweight
- About the right weight
- Slightly overweight
- Very overweight

**Which of the following are you trying to do about your weight**

- I am not doing anything
- Taking balanced special diet for weight reduction
- Regular physical activity to burn calories as well
- lifestyle management with relation to food, exercises, water and sleep pattern

**During the past 30 days did you take any diet pills, supplement, powders or liquids without a doctor's advice to lose weight or to gain weight**

- Yes
- No

**Please respond to each question or statement by marking one circle per row -During the last 30 days**

	Never	Rarely	Sometimes	Most of the times	Always
Do you eat low calorie, low fat or less amount of food to reduce weight <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you go without eating for for 24 hours or more <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you vomit or take laxative to lose weight <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did you exercise to manage weight <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you eat high calorie, high fat or more amount of food to gain weight <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often did you bring your home food along with you <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many times you eat food while watching Television or engage in social media <input type="radio"/>	<input type="radio"/>				

How many glasses of water you take in a day?

- 2-5 glasses
- 6-8 glasses
- 9-12 glasses

How would you classify your sleep?

- Sound sleep
- Light sleep
- Disturbed sleep
- Deprived sleep

Any special things you want to share with us

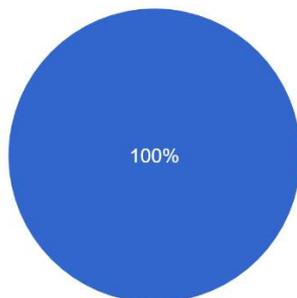
Submit

Never submit passwords through Google Forms.

## RESULTS AND DISCUSSION

3.School/College / Institution Details ; (Name & Place)

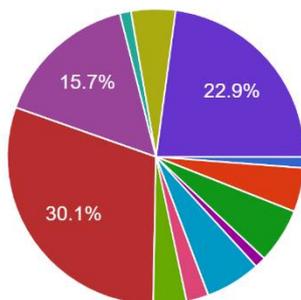
83 responses



Option 1

4.School /College / Institution Details ; (Name & Place)

83 responses



- School
- Allahabad University
- Ambedkar University
- Amity University
- Bundelkhand University
- CCS University
- Delhi University
- G B Pant University

1/2

6.I hereby agree to participate in the survey

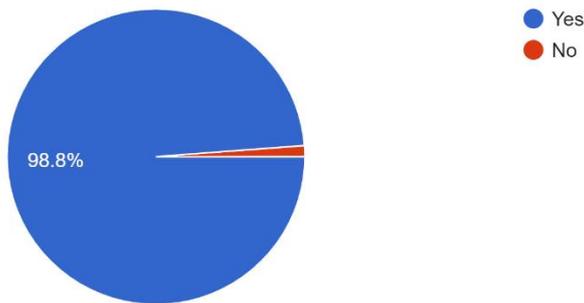
83 responses



All participants have given consent to participate in the survey and to improvise their lifestyle and health through personalized counselling and group online sessions.

7.My parents have given consent for me to participate in the survey/ I am ready to participate in this survey

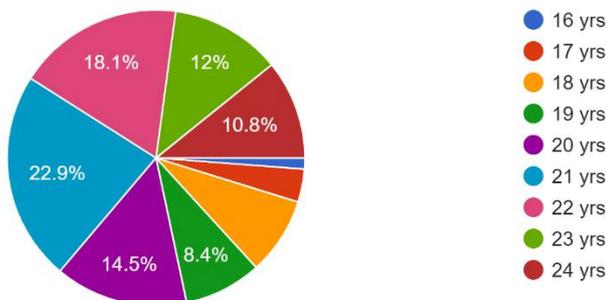
83 responses



All parents have given the consent for participation except one.

8.How old are you ( Age in years)?

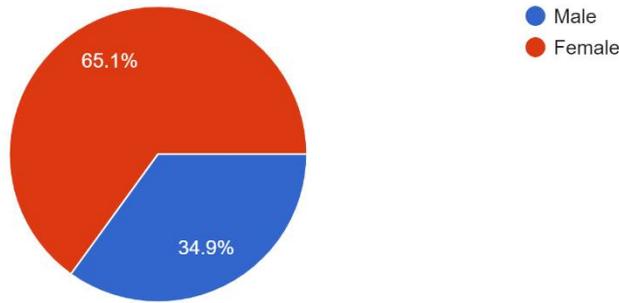
83 responses



College Students of NCR region age group from 16-24 years nutritional surveillance done.

9.What is your sex ?

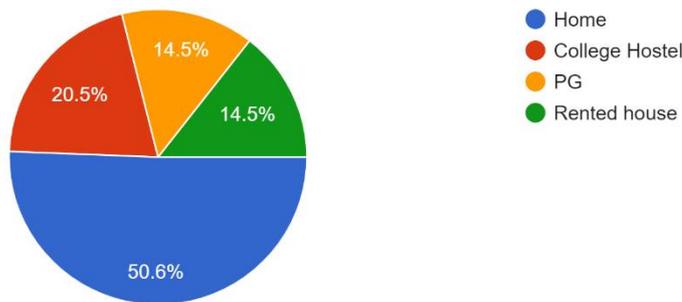
83 responses



65.1% females participated in the surveillance.

10.Your place of living

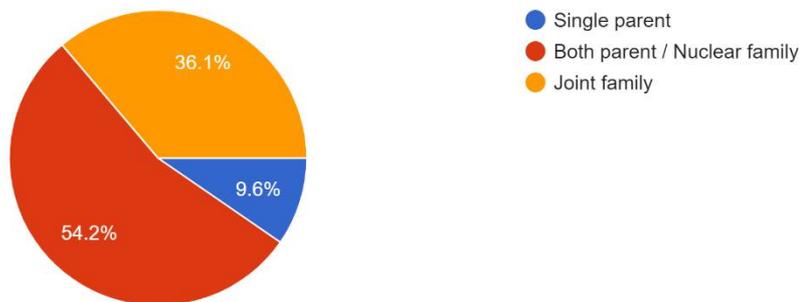
83 responses



50.8% participants are living in home and rest of the students are living outside home in hostel, rented house etc. effecting the lifestyle and health.

11.You currently have a family of

83 responses



A few students around 9.6% are from single parenting and 54.2% of them from nuclear family and rest are from joint family.

3. Your present BMI (BMI = weight in kg /height in m<sup>2</sup>) is fall in the range of :

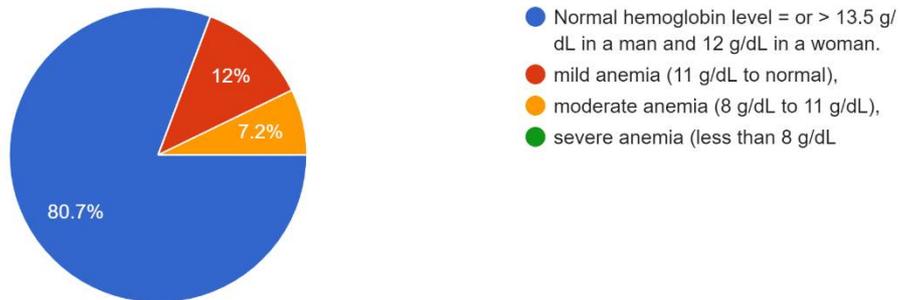
83 responses

NORMAL BMI: 68.7%  
OVERWEIGHT: 18.1%  
OBESE: 8.4 %  
UNDERWEIGHT: 4.8%

It's really a great thing that college students are concerned about their weight and 68.7% fall into the range of normal BMI, rest are under malnutrition range, weather underweight, overweight or obese.

4. Your present Hemoglobin level in the range of

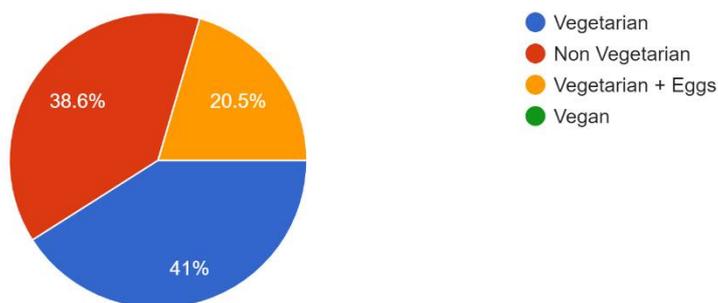
83 responses



12% amongst students are mild anemic having range of 11-13.5 g/dl and 7.2 % fall into the range of 8-11 g/dl moderately anemic.

5. Please select your diet preference

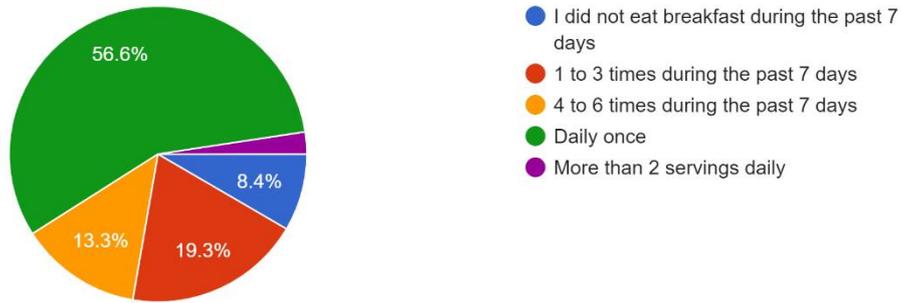
83 responses



Only 41% students have vegetarian food choices in comparison of 38.6% non-vegetarian and 20.5% taking eggs.

6. During the past 7 days, how often did you eat breakfast ?

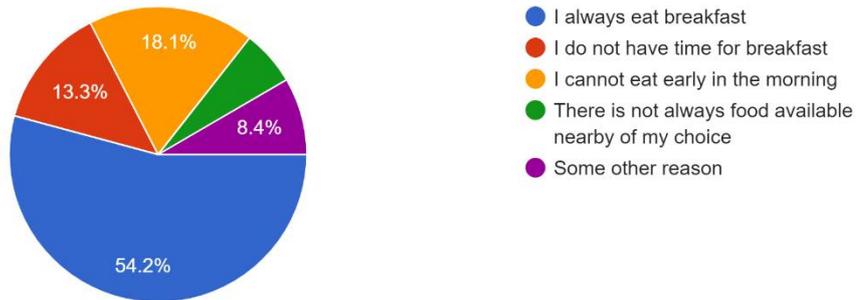
83 responses



8.4% students are starting their days without having breakfast and even 19.3% are taking only once or thrice in a week, while only 56.6% are having their breakfast on daily basis definitely going to affect their health in future.

7. What is the main reason you do not eat breakfast ?

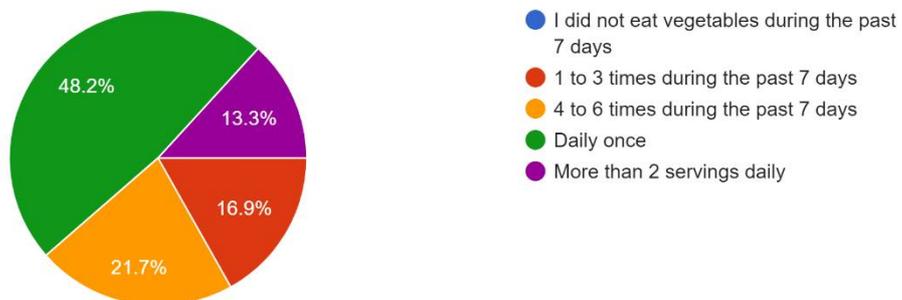
83 responses



Around 46% are not having their breakfast because of many reasons like, lack of time, availability of food and early morning busy schedule.

8. During the past 7 days, how many times did you eat vegetables?

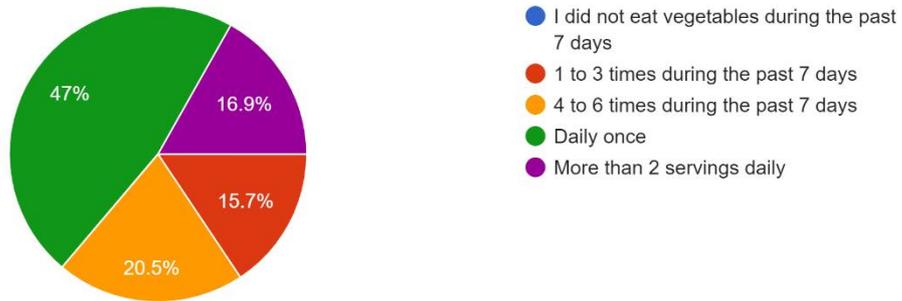
83 responses



Only 13.3% students are having two serving of vegetables daily, rest of the students are taking only ones even 16.9% are taking vegetables in their diet only 1-3 days in a week.

9. During the past 7 days, how many times did you eat vegetables?

83 responses



Same as above result 8 (Duplicate question)

10. During the past 7 days, how many times did you eat fresh fruit? (DO not count fresh juice) ?

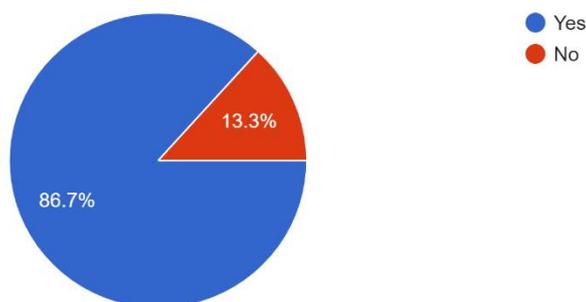
83 responses



16.9% students are not taking fruits a very important food group in their diet and 49.4% only taking sparingly in their routine, only 19.3% are taking fruits on daily basis in their diet.

11. During the past 12 months, have you been weighed and measured?

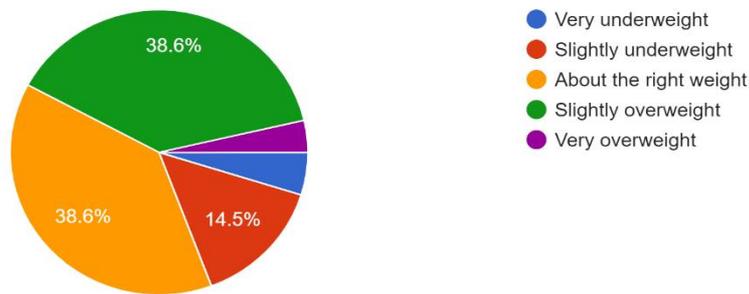
83 responses



86.7% students have checked their weight during last one year of their life means they are concern of their health and weight.

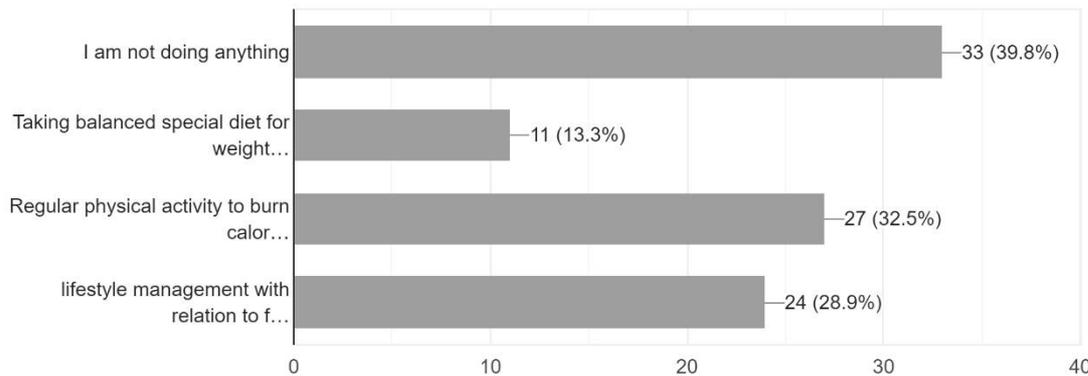
12.How do you describe your weight?

83 responses



13.Which of the following are you trying to do about your weight

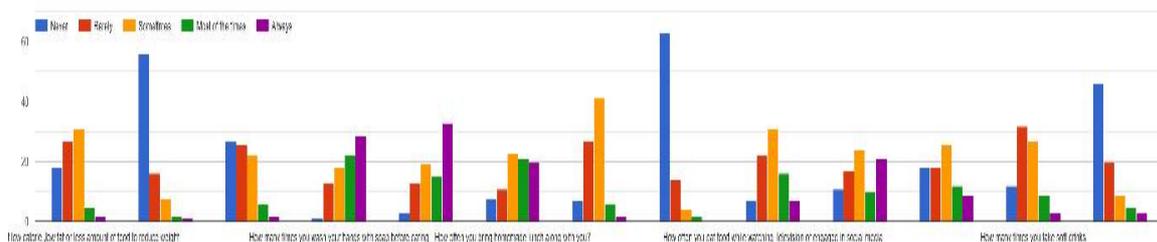
83 responses



39.8% students are not doing anything to maintain their weight and health while 32.5% are physically active ,28.8% are trying to manage their lifestyle with relation to food, water, physical activity and sleep, only 13.3% are focusing on balancing caloric intake to manage their weight.

14.Please respond to each question or statement by marking one circle per row -During the last 30 days

14.Please respond to each question or statement by marking one circle per row -During the last 30 days



18% of the students never eat low fat diet to reduce weight, only 7% takes low calorie, low fat food to reduce their weight and 31% sometimes takes these types of diet for weight reduction.

A positive note that only a few students around 10% miss their meals in 24 hours though it's a not good sign for their future health.

Only 8% students take high fat high calorie food to gain weight and 22 % sometimes take high fat diet, though rest of them don't take high fat food for weight gain purpose.

If we talk about the hygiene practice of washing hands before taking food only 28% always wash their

hands with soap, 22% most of the time wash. Rest of them are washing sometimes or missed these hygiene practice.

Only 33% students take their breakfast on regular basis and 15% most of the times, and rest of them are missing their breakfast and 3% even never have their breakfast a very important meal of the day.

41% students bring home made healthy lunch along with themselves for proper nourishment, 23% students sometimes carry their lunch and around 19% never had homemade lunch even missing their lunch as well.

Around 8-20% take processed or packed lunch from their canteen or outside eateries.

Only a 2-4% take food supplement to compensate their lack of nourishment for maintaining health.

7% students always indulge in watching Television or mobile, 16% most of the times while 31% sometimes watching media and not doing mindful eating.

11% of the students never enjoy physical activity to burn calories and 17% are rarely active ,24% are sometimes active as per their choice to make themselves healthy and active.

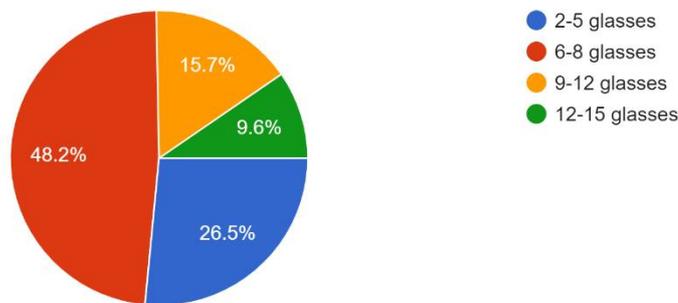
Only 21% students are involved in yoga, meditation or any other relaxing activities to release their stress.

12% of students having soft drinks on regular basis, 27% sometimes and rest of them takes rarely.

46% students never take hard drinks and 20% have it rarely, only 9% takes them on regular basis.

15.How many glasses of water you take in a day

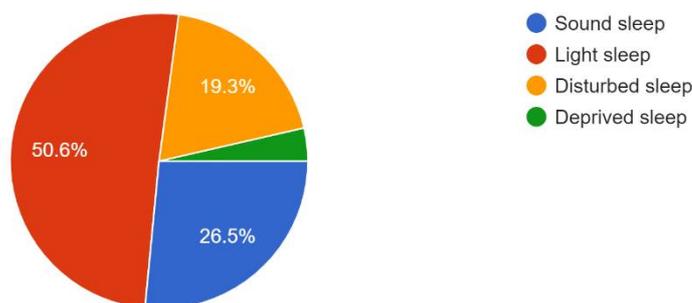
83 responses



26.5% drink only 2-5 glasses of water in a day, while 48.2% drinks 6-8 glasses only ,rest of them have sufficient water intake from 9-15 glasses as per their demand.

16.How would you classify your sleep

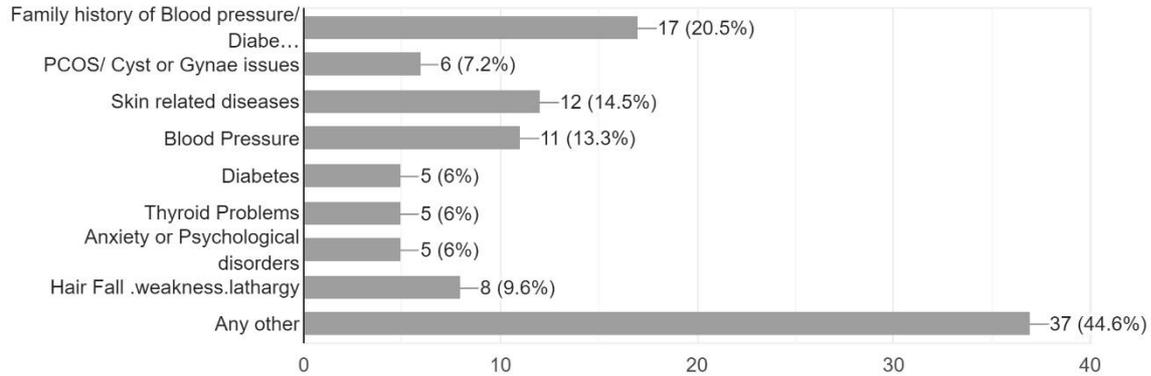
83 responses



Only 26.5% students take sound sleep, rest of them having light sleep or disturbed sleep and even deprived sleep.

17.How would you classify your health status ,if having history of any or presently suffering from please mention

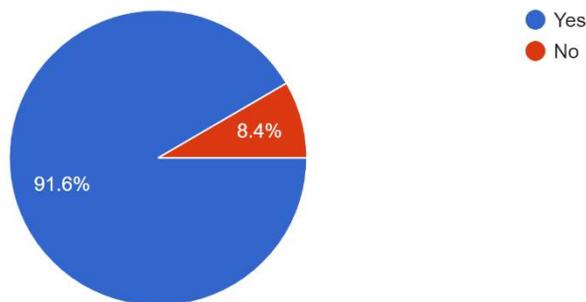
83 responses



In this study we have found that 20.5% students are from family history of lifestyle diseases like blood pressure and diabetes.7.2% girls are suffering from PCOS/PCOD or gynecological issues. 14.5% having skin related issues that may be because of hormones, food habits, water intake or stress. 13.3% students are suffering from Blood pressure at this younger stage of their life,6% are having diabetes, thyroid issues a psychological disorder and 44% are having many others health related issues going to add on burden on our growth of the nation.

18.Are you willing to take next survey after a few months again ?

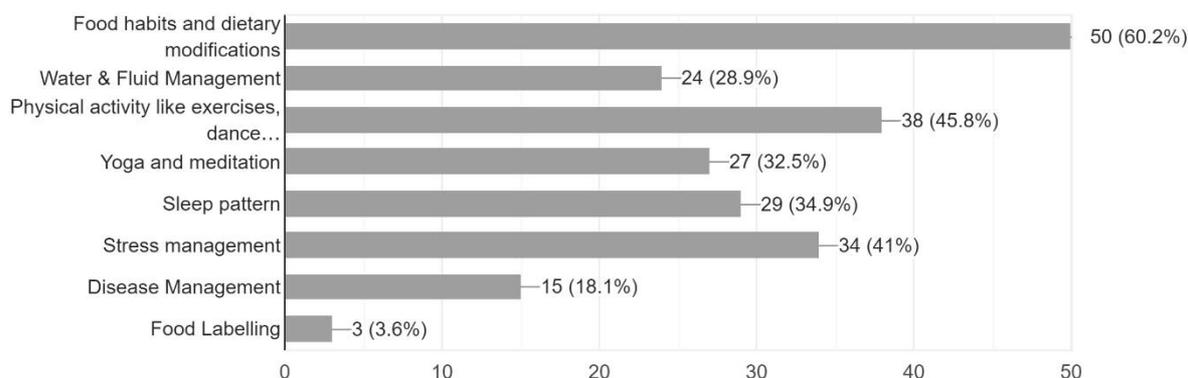
83 responses



91.8% students are willing to fill the survey again after sessions and experiencing the benefits of lifestyle management preventive measures taken by them with the guidance of their nutritionist or health consultant.

19.If yes, then share about what guidance you want to know about lifestyle modifications or can indulge yourself in ,for next 3-6 months, and make yourself healthy and happy

83 responses



Amongst all these students 60.2% interested in lifestyle modification through food habits and dietary modification guidance, 28.9% also want to know about the importance of water and fluid management in body. 45.8% are interested in lifestyle modification through physical activity involvement by exercises, dance or outdoor activities while 32.5% are interested in yoga and meditation. 34.9% are interested in improving their sleep pattern and 42% in stress management while 18.1% are interested in disease management as well.

After this surveillance study we get to know about the lifestyle pattern of these college students in NCR region and planned to implement preventive measures into their life of young generation for healthy living Nation.

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