



## THE CHANGES IN APPETITE AND FOOD HABITS DURING LOCKDOWN AMONG STUDENTS IN INDIA: A CROSS-SECTIONAL STUDY

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### ABSTRACT

The COVID 19 pandemic is the defining global crisis of our time and the greatest challenge we have faced since World War Two. Optimizing public health during this pandemic requires not only knowledge of the medical and biological sciences, but also of all human sciences related to lifestyle, social and behavioural studies, including dietary habits and lifestyle. The present study was conducted with an objective to find out how lockdown has affected students' lifestyle in India with respect to appetite, food habits, bowel movements, body weight and water consumption per day. Google form was used to conduct the study and a pre-tested semi-structured questionnaire was used to collect the data. Four Hundred Thirty (430) students participated in the study. Results depicted 48.1% of students showed decreased consumption of junk food during lockdown. Among 43% of students the appetite had remained the same while for 29.1% it had increased and 12.8% showed decrease. The majority of the students reported an increase in their body weight than before during lockdown. Although, consumption of water in the students had increased in 59.5% of the survey volunteers.

**KEYWORDS :** Food Habits, Appetite, COVID19, Students, Lockdown

### INTRODUCTION

COVID 19 pandemic was followed by nationwide lockdown, preventing movement of the entire population of India to prevent the citizens against the pandemic. The lockdown has had a different effect on different ranges of people. This study focuses on students (16-30 years) and how lockdown has affected their appetite, food habits and bowel movements. Food and access to food has played a vital role in portraying the impact of the outbreak on our society<sup>1-3</sup>. Consumer practices have changed as a result of social distancing, e-shopping and infrequent shopping became common; takeaway and home delivery become an alternative to closed restaurants. An overall increase in the use of online platforms to order food, share recipes and substitute social interactions around food were apparent. Dining out has come to a halt and apprehension to take away has impelled people to resort to homemade food. The major influences that change the food habits include staying at home leads to limitation of outdoors and in-gym physical activity, in addition to boredom and constant hearing and reading about the COVID19 from the media can be stressful<sup>4</sup>.

### Objective

To assess the changes in the following during lockdown on students in India,

1. Appetite, food habits, Bowel movements
2. Body weight
3. Water consumption per day

### Methodology

This Study was conducted from 12th to 15th May 2020. It was conducted amidst the nationwide lockdown announced by the Government of India in-order to control the spread of the Pandemic. The Target population for the survey included students within the age group of 16-30. Convenient sampling was used and the study involved 430 volunteers who provided their consent to be the part of the study. The Participants personal information was anonymized to preserve confidentiality.

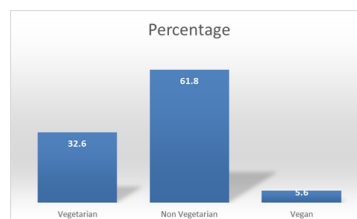
The students were asked to fill the questionnaire using the online platform google forms. The survey was circulated

through private social networks. The questionnaire included 10 questions which focused on their dietary habits and changes. Statistical analysis was done using percentages and proportions.

### Results

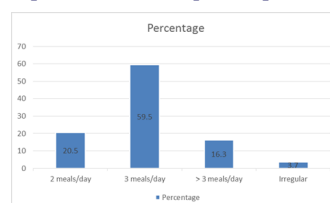
The study included 430 participants who were students in the age group of 16-30 years. It was found that 396 (92.1%) were undergraduate students and the rest were post-graduate students. The type of diet consumed by students is depicted in Figure 1. It was observed that 140 (32.6%) were vegetarians, 266 (61.8%) were non-vegetarians and the rest were vegans.

Fig 1: Type of diet (N=430)



It was found that 88 (20.5%) of the participants consumed 2 meals per day, 256 (59.5%) of the participants consumed 3 meals per day, 70 (16.3%) consumed more than 3 meals per day and the rest of them had irregular food consumption pattern. Figure 2 shows the frequency of food consumption by students.

Fig 2: Frequency of food consumption by students (N=430)



In the present study it was observed that 273 (63.4%) of the study subjects revealed that the type of food consumed by them has remained the same during lockdown period,

whereas 92 (21.3%) of the participants said that they have switched over their diet to vegetarianism and it has improved their health and the rest of them said that though they have switched over to vegetarianism their health has remained the same.

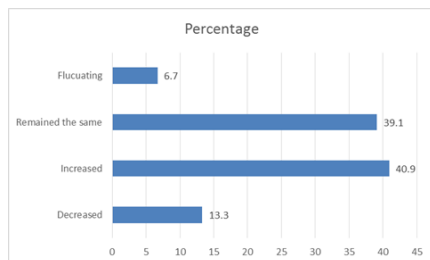
It was found that 125 (29.1%) students reported an increase in their appetite during the lockdown period, 55 (12.8%) reported a decrease in their appetite, 185 (43%) reported that it remained the same and the rest of them reported that it keeps fluctuating.

It was observed that 132 (30.7%) students often complimented their efforts to eat a healthy diet, 217 (50.5%) students sometimes complimented their attempts to eat a healthy diet, 53 (12.8%) students seldom complimented their attempts to eat healthy and the rest of them never complimented their attempts to eat healthy.

With regards to consumption of junk food it was observed that 207 (48.1%) students said that they have decreased the amount of consumption of junk food, 36 (8.4%) said that it has increased, 54 (12.6%) students said that it has remained the same and the rest of them said that they do not consume junk food at all.

The present study depicted that 176 (40.9%) students reported an increase in the body weight during the lockdown period, 57 (13.3%) students reported a decrease in their body weight, 168 (39.1%) students said that it has remained the same whereas the rest of them said that it keeps fluctuating. Figure 3 depicts the changes in body weight of students during the lockdown period.

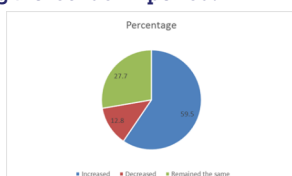
**Fig 3: Changes in bodyweight of students during the lockdown period. (N=430)**



When we asked the students whether they are feeling that they are becoming obese during the lockdown period, 116 (27%) students felt yes, 309 (71.9%) felt no and the rest were not sure. It was found that 35 (8.2%) students had constipation or diarrhoea during the lockdown period, 6 (1.4%) students had vomiting and the rest of them had none of the above symptoms.

In the present study we observed that with regards to water consumption of students during the lockdown period, 256 (59.5%) students reported an increase in water consumption, 55 (12.8%) reported a decrease in water consumption whereas the rest said that it has remained the same. Figure 4 depicts the changes in the water consumption pattern by the students during the lockdown period.

**Fig 4: Changes in the water consumption pattern by the students during the lockdown period.**



## DISCUSSION

The present study provides a snapshot of eating habits and lifestyle of Indian students, who participated in the study during the month of May 2020. Data pertaining to this kind of study is very limited. In the present study it was found that 88 (20.5%) of the participants consumed 2 meals per day, 256 (59.5%) of the participants consumed 3 meals per day, 70 (16.3%) consumed more than 3 meals per day and the rest of them had irregular food consumption pattern. Figure 2 shows the frequency of food consumption by students. In a similar study done in Italy it was found that more than half of the subjects have not changed the number of their daily meals (57.8%), while 17.5% and 23.5% declare to skip or introduce a break or a main meal, respectively<sup>2</sup>.

In our study we found that 125 (29.1%) students reported an increase in their appetite during the lockdown period, 55 (12.8%) reported a decrease in their appetite, 185 (43%) reported that it remained the same and the rest of them reported that it keeps fluctuating. Data from the Italian study shows the sense of hunger and satiety changed for more than half of the population: 17.8% of responders had less appetite, while 34.4% of responders increased appetite<sup>2</sup>.

In the present study when we asked the students whether they are feeling that they are becoming obese during the lockdown period, 116 (27%) students felt yes, 309 (71.9%) felt no and the rest were not sure. Results from the Italian study showed that the increased sense of hunger and the consequent change in eating habits could justify the perception of weight gain observed in 48.6% of the population. In fact, 40.3% thought that they have slightly increased their weight, while 8.3% of the studied population thought that they have highly increased their weight<sup>2</sup>.

One of the main limitations of our study is due to the fact that it's a self-reported questionnaire which may lead to some bias in collection and reporting of data. However the online study we have done was very similar to studies done elsewhere. The fact that this survey was done in a very short span of time in the most critical period of epidemic emphasizes the strength of the study

## CONCLUSION

In the present study we have provided data on eating habits of Indian students. 63.4% of students revealed that the type of food consumed by them has remained the same during lockdown. 29.1% students reported an increase in appetite. 40.9% students reported an increase in body weight. However since covid-19 pandemic is still ongoing in India, there is further scope of doing similar kind of research on a bigger sample size

## Ethical clearance

Ethical Clearance was obtained from Institutional Ethics Committee of Srinivas Institute of Medical Sciences & research Centre, Mukka, surathkal.

## Source of funding

Nil

## Conflict of interest

None

## Acknowledgement

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