

A Study to Assess the Online Food Ordering Practices of Nutrition Students

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Abstract: Knowledge about food is considered to be beneficial not only for food choice but also for general health. Continuous poor food choices and unhealthy diet lead to many health problems. The aim of this study was to assess the practice of nutrition students towards online food ordering. The study population included 197 students in the age group of 17-24 years. A pre-validated questionnaire consisting of semi open-ended and close-ended questions was used for data collection. Data for anthropometric measurements was collected and BMI of each subject was calculated. For statistical analysis, methods like percentage, mean, standard deviation and 'chi square' test were used. The study revealed that 29% of the students eat out twice a week and fast food was the most preferred option. Swiggy was the most preferred app and convenience influences most of them to order. Most of the subjects preferred cash on delivery as the mode of payment. 81% of the subjects spend more than Rs.500 per week; taste of the food was ranked first whereas cleanliness ranked last. Chi square test was applied and it was observed that obese and overweight subjects were spending more money and were giving priority to taste of the food for ordering than the normal subjects. Through chi square test, it was observed that health was given the least importance by these students while cost was given more and that they didn't consider the nutritional values of the food ordered. Chi square test revealed that 50% of the total respondents were not aware of FSSAI guidelines for food aggregators in spite of being nutrition students. The findings reiterate the fact that eminence was not given to nutritional values of the food and health was also neglected while ordering online food even though they were nutrition students.

1. Introduction

Global markets have increased the plethora of options available to Indian consumers. With the clear shift in consumer tastes and preferences, food companies have also capitalized on the same.³

Students may have proficient knowledge regarding nutritional requirements; however, the transition to college life gives them more freedom to choose the type and the amount of food they eat.¹

Fast food is a multibillion dollar industry which affects people's nutritious and healthy diet. Junk food along with taste brings lots of health issues for one and all consuming this food items.²

While food apps may claim to showcase some healthy food choices in their menu, this culinary revolution has nurtured a sedentary and unhealthy lifestyle, thereby destroying the choices of healthy eating and encouraging complex food ordering. Convenience is the key factor influencing this trend.

Whether having a tiring day or just want to chill on couch, all that is needed to do is tap and order to call for the beautifully guised butter-laced piece of meat immersed in the quicksand of oil. It does turn out rather expensive on health, now and even in the future.⁴

Looking at the popularity of food ordering apps, particularly among the younger population, a study was planned with the following objectives:

To assess the practice of nutrition students towards online food ordering.

To analyze the various factors that influence the students to choose online food delivery services.

To check food preferences and habits of students.

2. Methodology

Food is a growing market in India. Especially with people moving out of their homes for scattered jobs, the old Dabba packed with a motherly affection no more keeping pace with the fast life and jobs of the millennial. When everything today is brought to people online, it would be crazy to think that the food that keeps us going will be left out and thus entered the food apps. (<https://www.wesrch.com>)

The dispute between restaurateurs and food aggregators such as Swiggy and Zomato took a fresh turn, with a restaurant association questioning if the start-ups are making consumers 'discount addicts'. 'Deep discounts were among the issues discussed at the first task force meeting between the National Restaurant Association of India (NRAI) and food aggregators Swiggy, Zomato, Foodpanda and Uber Eats. "There is no doubt that the aggregators have created a platform to bring restaurants closer to the customer through the benefit of digitalization, but the customer is getting discount addict under the guise of customer is winning". (<https://economictimes.indiatimes.com>)

A study to assess the practice of nutrition students on online food ordering was carried out at Madina Degree and PG College, Himayath Nagar, Telangana, Hyderabad. The detail of methodology adopted in the present study is described here under the following headings.

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Study design

A cross sectional study was carried out with the following aspects.

Selection of subject:

The present study was taken to assess the practice of online food ordering among young nutrition students.

Selection of area:

The present study was conducted at Madina Degree and PG College (Himayath Nagar, Telangana, Hyderabad).

Sample size:

A total of one hundred and ninety seven subjects in the age group 17 to 24 years were selected.

Data collection:

The data was collected in a single way questionnaire method. The student was explained about the purpose of the study. The questionnaire was pre tested for the content to be valid.

A pre tested questionnaire was given to subjects comprising of questions related to general information, anthropometric questions, and specific questions related to the study.

The questionnaire consisted of the following heads:

- 1) General information.
- 2) Anthropometric measurement.
 - a) Measurement of height
 - b) Measurement of weight
 - c) Calculation of BM
- 3) Specific questions.

General information

Data regarding the name, age were collected.

Anthropometric measurement

Anthropometry is the physical measurements of an individual and relating them to standards that reflect the growth and development. It is also used to assess the nutritional status to evaluate over nutrition or under nutrition.

Measurement of height

The rate of length or gain reflects the long term nutritional adequacy.

Measurement of weight

Weight is another measure that is easy way to obtain and sensitive measure of nutritional adequacy and reflects nutritional intake.

Body mass index (BMI)

Body Mass Index (BMI) is a simple index of weight for height that is commonly used to classify underweight, overweight, and obesity in adults. BMI is a validated measure of nutritional status. This required height and weight measurements based on the results it indicated nutritional status.

BMI account for difference in body composition.

BMI is obtained by dividing the body weight in Kg by height in meter square.

$$\text{BMI} = \text{Weight in Kg} / \text{height in m}^2$$

According to WHO (2007) BMI is classified as

BMI(kg/m ²)	Classification
<18.5	Underweight
18.5-22.9	Normal
23-24.9	Overweight
≥25	Obese

Specific Questions

This includes set of questions regarding the food preference, frequency of eating out, type of eatery, app use for ordering food, order of preference of apps, payment method, most preferred items ordered during breakfast, lunch, dinner and snack time, reason for ordering online, money spend during ordering, preferred days to order, consideration of nutritional value while ordering, improper food handling, FSSAI guidelines to food aggregators.

Statistical analysis:

Mean, SD and Chi square tests were used for data analysis.

3. Results and discussion

The anthropometric data revealed that majority i.e. 50.76 percent of the subjects were Normal whereas 16.75 percent of them were underweight, 14.72 percent were overweight and 17.76 percent were obese. Among the 197 subjects, 19 percent of the subjects are vegetarian; where as 81 percent of them were non-vegetarian Majority of the subjects (34 percent) preferred fast food, where as 29 percent of the subjects preferred South Indian/North Indian while eating out, whereas 20 percent of them preferred Chinese, 17 percent of them preferred Mughlai while eating out. 61 percent of the subjects preferred Swiggy for ordering food, whereas 24 percent of them used Zomato, 3 percent of them used Food Panda while ordering food, 11 percent of them used Uber Eats and 1 percent of them used other apps. 50 percent of the subjects were influenced by the convenience of the app to order. Cash on delivery was the most preferred payment method (73 percent of the subjects).

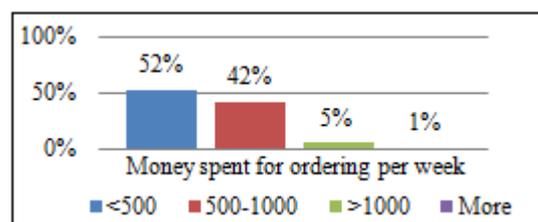


Figure 1: Distribution of subjects according to approximate money spent per week for ordering

Figure 1 shows the approximate amount of money spent per week for ordering food online. It was observed that 52 percent of the subjects spent less than Rs.500 per week for ordering, 42 percent of them spent Rs.500-1000 per week, 5 percent of them spent more than Rs.1000 per week, and 1 percent of them spent more on ordering food. Chi square test was applied for the amount spent per week and the subjects' weight status i.e., normal, obese and overweight. It was

observed that obese and overweight subjects spend more money for ordering food online.

Table 1: Two most preferred items ordered for breakfast, lunch, dinner, snacks and their calories

Items	No of sample (n=197)	Calories per serving
Breakfast- Dosa	79 (40.10)	231 kcal
Idli	50 (25.38)	70 kcal
Lunch- Biryani	91 (46.19)	290 kcal
Roti/paratha with chicken curry	27 (13.70)	307 kcal
Dinner- Biryani	104 (52.79)	290 kcal
Chicken curry	47 (23.85)	222 kcal
Snacks-Ice cream	35 (17.76)	207 kcal
Pizza	31 (15.73)	285 kcal

The values given in the parenthesis () are in percentages.

Table 1 shows the two most preferred items ordered online for breakfast, lunch, dinner and snacks, number of samples prefers that items and the calories per serving of that item. Most preferred item ordered online for breakfast was dosa (40 percent of the subjects). One serving of dosa gives 231 kilocalories. For lunch and dinner the most preferred dish was biryani, 46 percent and 52.7 percent of the subjects respectively. One serving of biryani gives 290 kilocalories. For snacks, ice cream was preferred by 17.7 percent of the subjects, one serving of which gives 207 kilocalories.

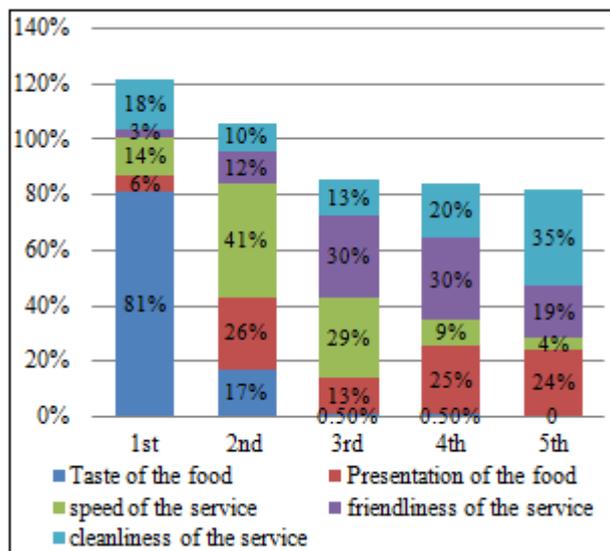


Figure 2: Distribution of the subjects according to their response towards ranking according to the order of preference while ordering

Figure 2 shows the distribution of the subjects according to their preference while ordering. It was observed that according to 81 percent of the subjects, taste of the food was the first thing preferred while ordering, whereas 17 percent of them ranked it as second, and 0.5 percent of them as third and fourth. According to 6 percent of the subjects, presentation of the food was the first preferred thing while ordering, 26 percent of them rank it as second. According to 14 percent of the subjects, speed of the service was the first preferred thing while ordering, 41 percent of them rank it as second, 29 percent of them rank it as third. According to 3 percent of the subjects, friendliness of the service was the first preferred thing while ordering, 12 percent of them rank

it as second, 30 percent of them rank it as third, 30 percent of them rank it as fourth and 19 percent of them rank it as the fifth. According to 18 percent of the subjects, cleanliness of the service was most preferred thing while ordering, 10 percent of them rank it as second, 13 percent of them rank it as third, 20 percent of them rank it as fourth and 35 percent of them rank it as the fifth. Chi square test revealed that obese and overweight subjects prioritize taste of the food while ordering food online and cleanliness of the food was least important. This was significant at 5% level.

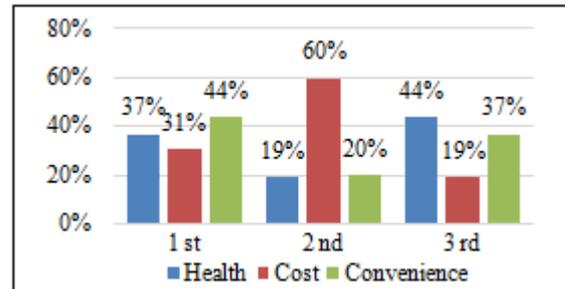


Figure 3: Distribution of subjects according to response towards ranking according to importance

Figure 3 shows the distribution of the subjects according to the importance while ordering. It was observed that according to 37 percent of the subjects, health was the first important thing for them while ordering, for 31 percent of them, it is cost; for 44 percent of them, it was convenience; whereas according to 19 percent of the subjects, health was the second important thing while ordering, for 60 percent of them, it is cost; and for 20 percent of them, it was convenience. According to 44 percent of the subjects, health was the third important thing while ordering, for 19 percent of them, it was cost; for 37 percent of them, it was convenience. Chi square test was applied for this considering health, cost and convenience and it was observed that health was not considered while ordering the food.

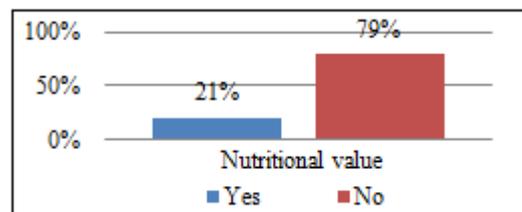


Figure 4: Distribution of the subjects according to the response on consideration of nutritional value while ordering food

Figure 4 shows the distribution of the subjects according to their response on considering the nutritional value of food while ordering. It was observed that 21 percent of the subjects consider the nutritional value while ordering food whereas 79 percent of them don't consider it. Chi square test when applied for different age showed that age group of 20-21 years did not consider nutritional value while ordering food online.

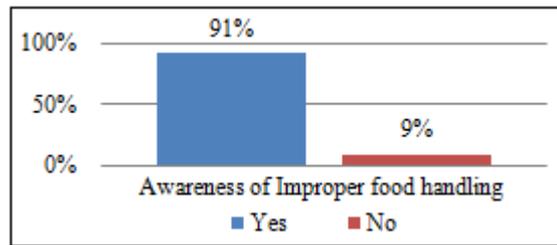


Figure 5: Distribution of the subjects according to their response on awareness regarding improper food handling in food prepared out.

Figure 5 shows the distributions of the subjects according to their response on awareness of improper food handling in food prepared out. It was observed that 91 percent of the subjects were aware of improper food handling in food prepared out, and 9 percent of them were not aware.

The distribution of the subjects according to their response regarding the difference between meals ordered online and meal prepared at home revealed that according to 91 percent of the subjects, the meal ordered online was less healthy than the meal prepared at home; according to 8 percent of them, the meal ordered online was as healthy as meal prepared at home and for 1 percent of them the meal ordered online was more healthy than the meal prepared at home.

When subjects were asked about online food ordering was a boon or bane, it was observed that according to 77 percent of the subjects, food ordering was a boon, and for 23 percent of them it was a bane.

When subjects were asked about consideration of reviews of a particular restaurant before ordering, it was observed that, 92 percent of the subjects consider the reviews where as 8 percent of them did not consider it.

When subjects were asked about reviews given by the apps, it was observed that according to 54 percent of the subjects, Swiggy had the best review; according to 32 percent, it was Zomato; according to 4 percent, it was Food Panda; according to 9 percent, it was UberEats and according to 0.5 percent, other apps had the best reviews.

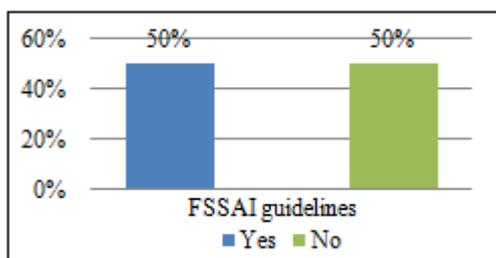


Figure 6: Distribution of the subject according to their awareness regarding FSSAI guidelines for food aggregators.

Figure 6 shows the distribution of the subjects according to their awareness regarding FSSAI guidelines for food aggregators. It was observed that 50 percent of the subjects were aware of guidelines whereas 50 percent of the subjects were not aware of the guidelines. Chi square test was applied for this awareness and different age groups - 18-19 years, 20-21 years, and 22-23 years. It was significant at 5%

level students of age group 20-21 years were not aware of FSSAI guidelines.

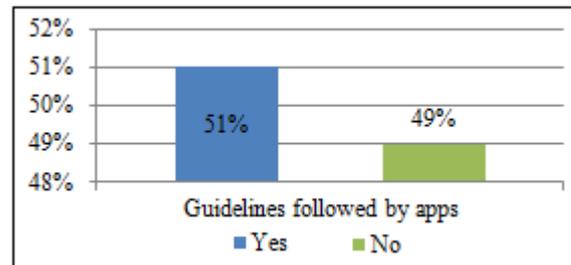


Figure 7: Distribution according to their response of the subjects towards the guidelines followed by the apps they use

Figure 7 shows the distribution of the subjects according to their response towards the guidelines followed by the apps they use. It was observed that according to 51 percent of the subjects, the apps they use for ordering follows the guidelines whereas according to 49 percent of them, don't follows the guidelines. According to FSSAI guidelines food delivery should be done by trained personnel, it was observed that according to 36 percent of the subjects, food was delivered by trained personnel whereas according to majority i.e. 64 percent, it was not delivered by trained personnel.

4. Conclusion

The findings revealed that obese subjects spend more money for ordering food online and prioritize taste of the food.

Chi square test was applied considering variables health, cost and convenience and it revealed that the subjects gave least importance to health and gave more importance to cost while ordering.

Chi square test was also applied for consideration of nutritional value of food while ordering and awareness of FSSAI guidelines for food aggregators, considering the variables among age groups of 18-19 years, 20-21 years and 22-23 years. It was observed that subjects in the age group of 20-21 years did not consider nutritional value of food while ordering and subjects from 18-19 years of age were not aware of FSSAI guideline.

Thus from the present study it can be concluded that online food ordering is on the rise irrespective of the health concern. In spite of being nutrition students, importance was not given to health and nutritional values of the food were also not considered while ordering. Obese and overweight subjects were spending more money and were giving priority to taste of the food for ordering food online than the normal subjects. Half of the respondents were not aware of the FSSAI guidelines. Though online food ordering has made life easy for the consumer, they should make the right choices while choosing foods that are ordered online. Being nutrition students it is of utmost importance that they should put their knowledge into practice.

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