

## Study on Food Trends Influence Consumers Purchasing Pattern and the Association with Dietary Intake and Body Mass Index

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### ABSTRACT

*Shopping trends directly influence consumer's food choices and purchasing patterns. Different types of food venues including supermarkets, convenience stores, market place, retail store and fast food venues play a key role in the food environment in which people live. The food environment in which people live plays a large role in the diet.*

*Cross sectional community based survey was performed among the different age groups to know food trends influence consumers purchasing pattern and the association with dietary intake and body mass index ; the study was conducted with sample size of 200 among males and females in Toppers educational academy tolichowki hyderabad, neighborhood, friends and relatives living in the hyderabad. Of all the participants food purchasing pattern effect the dietary intake agreed by 80% and disagreed by 20 %.*

*The data was collected using questionnaire including general information, anthropometric data, food purchasing behavior and dietary intake. From the survey the study shows that there is effect of food purchasing behavior with dietary intake. Their food choices are not associated with BMI.*

*Chi square test was applied; data was statistically significant associated with effect of food purchasing behavior with dietary intake, meals consumption per day.*

*The awareness was created using flyer among people that they should maintain healthy eating pattern in the daily to avoid health problems. The healthy eating should include all five food groups and balanced diet should be maintained.*

**Key words:** Shopping trend, Food choice, Dietary intake, BMI, Food venues, Purchasing pattern.

### INTRODUCTION

Food purchasing can be a boring or interesting adventure depending on one's approach to it. To make food purchasing interesting you have to know much about the market place and ways in which you can make the most out of

your food budget .In choosing a certain food for a meal, an individual should first recognize it, identify it, and classify it as appropriate or not for consumption, according to his or her habits.

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Although today's market place is undergoing dramatic changes, fundamental shifts in consumer lifestyles and attitudes are slow to influence purchasing habits. Significant shifts in demographics, psychographics, and consumer food preferences - taste, price, nutrition, convenience, health and technological innovation will continue to take over.

### Ways to Enhance Consumer Food Choices

Point-of-sale interventions make nutrition information available at the places where people buy their food. Through strategies such as labeling items on store shelves and restaurant menus or offering free samples of healthy foods, grocery stores, cafeterias, and institutions that house vending machines can help consumers choose healthy foods. Although people receive nutrition information from a variety of sources, studies suggest nutrition education offered at the "point of sale" is more likely to influence their food purchasing behavior. By changing their diets, people can reduce their risk of cancer, heart disease, and other chronic diseases. Yet many people do not know which foods are high in fat, salt, and cholesterol. Signs have a greater impact on consumer behavior when they Consumer's Food Choices - Trends and Challenges compare brands based on harmful ingredients (such as sugar or fat) as opposed to health promoting ingredients (such as vitamins and minerals). Another perspective on possible interventions useful in promoting healthy habits for the consumer rely on environmental interventions, those being an important part of efforts to improve health in populations. .

### The popular trends expected to emerge are following:

1. Consumers have an insatiable appetite for nutrition and diet information
2. The (mis)information age
3. Bloggers blog about nutrition and health
4. More eco-conscious eats
5. "Low fat" falls flat
6. Anti-wheat sentiment
7. "Health" is important in the grocery

### DIETARY INTAKE:

Dietary intake refers to the daily eating patterns of an individual, including specific foods and calories consumed and relative quantities.

Dietary intake patterns featuring a high intake of nutrient-dense foods such as cereals, fruits, vegetables, and low-fat meat and dairy products have been associated with a number of favorable health outcomes in adults including a decreased prevalence of obesity, lower rates of weight gain over time, and better quality of life and improved survival. In contrast, low-nutrient dense dietary patterns with high intakes of sweets, desserts, and high-fat dairy products have been associated with higher rates of obesity and poor nutritional status in older adults.

### Risks:

If nutritional status decreases, older adults increase their risk of disease and decline, including diabetes, high blood pressure, heart disease, osteoporosis, osteoarthritis, cancer, kidney disease, liver disease, and nervous system disorders, among others.

### Body Mass Index (BMI)

Body Mass Index or Quetelet index is a value derived from the mass (weight) and height of an individual. The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of  $\text{kg}/\text{m}^2$ , resulting from mass in kilograms and height in meters. The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as *underweight*, *normal weight*, *overweight*, or *obese* based on that value. Commonly accepted BMI ranges are underweight: under  $18.5 \text{ kg}/\text{m}^2$ , normal weight: 18.5 to 25, overweight: 25 to 30, obese: over 30.

### OBJECTIVES

- To identify the most common frequency of food-purchasing patterns.
- To investigate the relationship between dietary intake and BMI.
- To assess foods purchased and dietary intake within a comprehensive study of

food shopping behaviors and health outcomes among different age groups.

- To identify moderator variables associated with attenuated agreement between purchases and dietary intake
- To identify the dietary patterns of different age groups and determine their relationships with standardized body mass index
- To examine the effect of where different age chooses to purchase food and how that might be related to their dietary intake and BMI.
- To examine the relationship between the food environment and key dietary outcomes and body mass index (BMI)

### MATERIAL AND METHODS

Methodology of the present study were discussed under the following headings:

1. Research design
2. Selection of the area
3. Selection of the sample
4. Size of the sample
5. Data collection

**Research design:** Non experimental research design

**Selection of the area:** The survey covered people from Toppers educational academy

tolichowki hyderabad and neighborhood, friends and relatives living in the hyderabad.

**Selection of the sample:** For the study 200 samples of all age group were selected

**Sampling:** Random sampling procedure was adopted to collect data. An attempt was made to cover 200 people. The samples were drawn from Hyderabad.

**Duration of the study:** The study has been carried for a period of 3 months *i.e*; during the months of January 2018 – March 2018

**Instruments used:** Weighing scale, stadiometer.

**Tools and techniques used for the collection of data:**

**QUESTIONNAIRE:** A well designed questionnaire was used to elicit the information from the subjects, which include both open ended and closed ended questions.

**It includes:-**

- General information
- BMI calculation
- Food purchasing pattern
- Dietary intake

**Data analysis:**

Data was collected, consolidated and subjected to statistical analysis using statistical measures such as chi- square test, mean, graphical representation. Chi square was applied,

## RESULT AND DISCUSSION

### FOOD PURCHASING PATTERN

TABLE 1: Where do you usually buy the food

CATEGORY	FREQUENCY(n)	PERCENTAGE (%)
SUPERMARKET	131	65
CONVENIENCE STORE	32	16
MARKET PLACE	22	11
RETAIL STORE	13	6.7
FAST FOOD CENTER	2	1
TOTAL	200	100



Fig. 1: Usually Buy Food

**Discussion:-** Out of 200 samples ,the pie chart show the people usually buy the food and grocery that were participants in the questionnaire are 65% people go for

supermarket ,16 % people go for convenience store, 11% people go for market place, 7% people go for retail store and 1 % people go for junk food center.

**DIETARY INTAKE**

TABLE 2: How many times do you consume a meal

CATEGORY	MALE FREQUENCY(n)	MALE %	FEMALE FREQUENCY(n)	FEMALE %
2 TIMES	19	10	13	7
3 TIMES	52	26	95	48
4 TIMES	4	2	14	7
5 TIMES	2	1	1	1
TOTAL	77	29	123	71

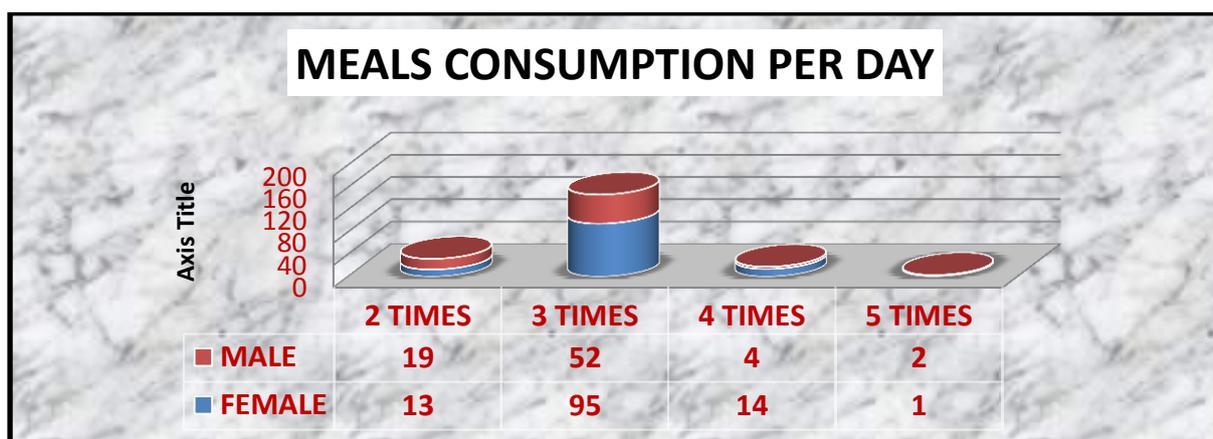


Fig. 2: Meals Consumption Per Day

**Discussion:-** Out of 200 samples, the bar diagram shows consumption of meal per day of the participants are 2 times were 19 in male and 13 in female, 3 times were 52 in male and

95 in female, 4 times were 4 in male and 14 in female and 5 times were 2 in male and 1 in female.

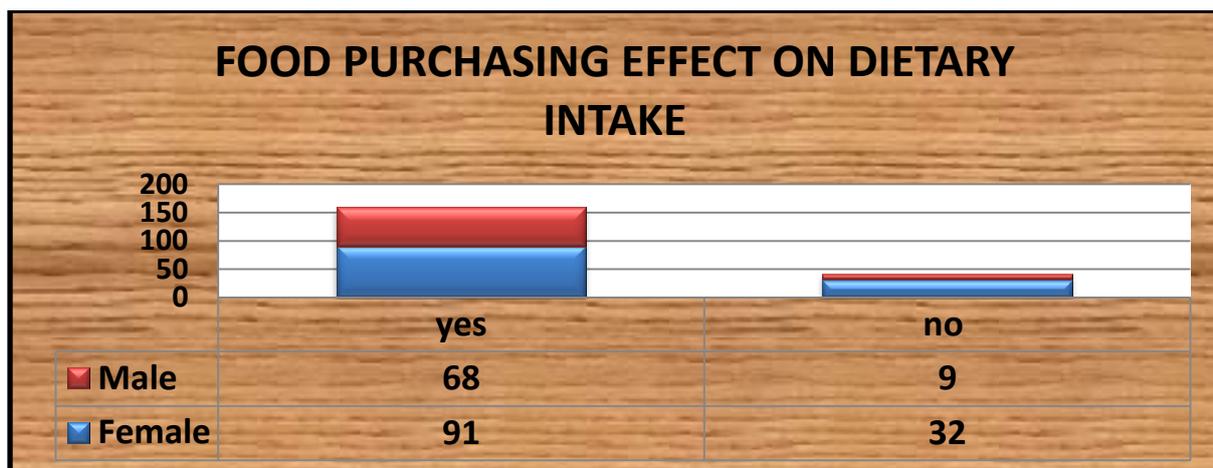
CATEGORY	2 TIMES	3 TIMES	4 TIMES	5 TIMES	Row Totals
FEMALE	13 (19.68) [2.27]	95 (90.40) [0.23]	14 (11.07) [0.78]	1 (1.84) [0.39]	123
MALE	19 (12.32) [3.62]	52 (56.60) [0.37]	4 (6.93) [1.24]	2 (1.16) [0.62]	77
Column Totals	32	147	18	3	200 (Total)

The chi-square statistic is 9.5155. The p-value is .023167. The result is significant at  $p < .05$ .

**PURCHASING BEHAVIOR**

**TABLE 3: Whether purchasing behavior effect dietary intake**

CATEGORY	MALE FREQUENCY(n)	FEMALE FREQUENCY(n)	PERCENTAGE%
YES	68	91	80
NO	9	32	20
TOTAL	77	123	100



**Fig. 3: Food Purchasing Pattern Effect on Dietary Intake**

**Discussion:-** Out of 200 samples ,the bar diagram shows purchasing behavior effect on dietary intake of the participants in the

questionnaire are 91 female reported Yes, 32 female reported No, 68 male reported Yes and 9 male reported NO.

Category	Yes	No	Row Totals
Female	91 (97.78) [0.47]	32 (25.22) [1.83]	123
Male	68 (61.22) [0.75]	9 (15.78) [2.92]	77
Column Totals	159	41	200(Grand total)

The chi-square statistic is 5.965. The p-value is .014592. This result is significant at  $p < .05$ .

TABLE 4 : BMI

CATEGORY	FREQUENCY (n)	PERCENTAGE (%)
UNDER WEIGHT	28	14
NORMAL WEIGHT	102	51
GRADE I OBESITY	56	28
GRADE II OBESITY	13	7
GRADE III OBESITY	1	1
TOTAL	200	100

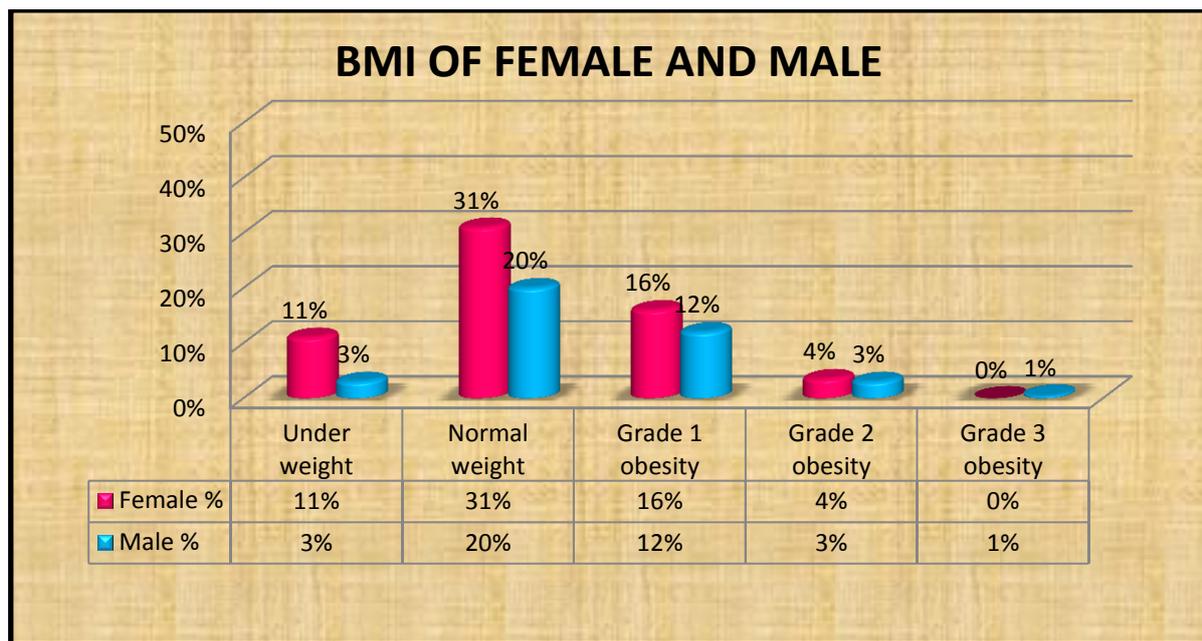


Fig. 4: BMI of Female and Male

**Discussion :-** Out of 200 samples ,the above figure shows the BMI of people that were participants in the questionnaire are 14 % were under weight, 51 % were normal weight, 28% were grade I obesity, 6% were grade II obesity and 1% were grade III obesity.

**SUMMARY AND CONCLUSION**

The food environment in which people live plays a large role in their diets. Different types of food venues including supermarkets, convenience stores, market place, retail store and fast food venues play a key role in the food environment in which people live. This study have determined the relationship between distance from food venue and key dietary outcomes and BMI. While accessibility and availability to healthy food options are things that people in urban communities can

be controlled, food store choice also plays a large role in the foods that people purchase and consume.

The results were summarized on whole along with statistical analysis. Among 200 samples the number of female were 123 and male were 77.The percentage of female were 61% and male were 39 Our results follow an interesting pattern of food shopping practices among urban people . The study shows that purchasing behavior effect the dietary intake of people with 80 % responded YES and 20 % responded NO. The chi-square statistic is 5.965. The p-value is .014592. This result is significant at  $p < .05$ . The food shopping in supermarkets were 66%, convenience store were 16%, market place were 11%, retail store were 7% and fast food center were 1%.The range of food shopping at

supermarket were more respectively. The present study shows the consumption of meal per day of the participants in the questionnaire are 2 times were 10% in male and 7% in female, 3 times were 26% in male and 48% in female, 4 times were 2% in male and 7% in female and 5 times were 1% in male and 1% in female. The chi-square statistic is 9.5155. The p-value is .023167. The result is significant at  $p < .05$ . Descriptive statistics, such as frequencies and percentages were calculated for characterization of the participants (*i.e.*, gender; age stratified in under 18 years, 19 to 25 years, 26 to 35 years, 36 to 45 years, 46 to 55 years and above 56 years; Body Mass Index (BMI) classified according to the World Health Organization in underweight BMI (*i.e.*,  $<18.5 \text{ kg/m}^2$ ), normal weight (*i.e.*,  $18.5 \leq \text{BMI} < 25.0 \text{ kg/m}^2$ ), grade 1 obesity (*i.e.*,  $25. \leq \text{BMI} < 29.9 \text{ kg/m}^2$ ) and grade 2 obesity (*i.e.*,  $30 \leq \text{BMI} < 40 \text{ kg/m}^2$ ) and grade 3 obesity (*i.e.*,  $\text{BMI} > 40 \text{ kg/m}^2$ ).

### CONCLUSION

Thus present study concludes that there is effect of food purchasing behavior of individual with dietary intake and BMI. Increasing the availability and accessibility of food venues with healthy food options such as supermarkets may decrease added sugar intake among individual. The Consumption of fruits and vegetables should be increased in diet to maintain good health of individual and prevent the vitamin deficiency in the body and high consumption of non-veg in the daily life will have chances of occurrence of constipation, high blood pressure, obesity, high cholesterol and heart disease. Consuming meat in your daily diet can work as one of the primary triggers of cancer. Awareness was also created to avoid Junk foods as they are high-energy-dense foods because they contain a lot of calories, mostly from fat and sugar, but offer few nutritional benefits. When you fill yourself up with empty calories, you may be left craving more. Regularly consuming high-energy-dense junk food decreases sensory-specific satiety, causing you to eat more of that food. If you overeat consistently, especially

junk food, this can lead to weight gain and obesity.

The awareness was created using flyer among people that they should maintain healthy eating pattern in the daily to avoid health problems. The healthy eating should include all five food groups and balanced diet should be maintained.

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