



INVESTIGATING CONSUMER PREFERENCE OF COLLEGE STUDENTS ABOUT FOOD FOR FASTING

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ABSTRACT

This study was undertaken to explore the consumer preferences about food for fasting among the college students. The aim of this research was to investigate views regarding online fasting food delivery system along with identification of their taste preferences and important factors for selection. Reason for fasting and fasting days per year was also studied. Individuals who do fasting, ranging in age from 18-28 years was randomly selected with simple randomized sampling. 120 students were selected for study. Sample consist of undergraduate and post graduate students of National Institute of Food Technology Entrepreneurship and Management, Kundli, Haryana, India. A questionnaire has been used to obtain the research data. It was found that students have good knowledge about health and fasting. It was found that 45% of students observe fast for religious purpose while 49% of students for health. Highest number of students (46) do fasting for 10-20/year. The average female students prefer sweet taste over all other tastes for fasting food while male students prefer salty and pungent along with sweet. It was observed that among all selection criteria hygiene, nutrient content and ingredients are the most important criteria for selection of fasting food material. It has been determined that 96% of the student will prefer if fasting food is delivered to them online. It was also found that 63% students will increase the number of fasting days if they are assured of good quality food material during fasting. It was found that students now a days prefer doing fasting because it is advised by their parents and spiritual texts. They are very well aware that fasting is healthy and it also helps for weight maintenance.

KEYWORDS: Consumer Preference, Fasting, Healthy Diet, Online Food, Students, weight maintenance.

INTRODUCTION

This is an era of daily changes in every field including food due to rapid advancements in science and technology. Simultaneously, knowledge is expanding at lightning speed. People are getting more health conscious. Traditional practices and food consumption habits along with new knowledge forming a new food patterns [1]. Fasting has been practiced since ancient times by peoples around the globe. Books on ethnology and religion describe an outstanding health effects and benefits of fasting forms and practices [2]. Nearly all medical organizations in the world admit the therapeutic benefits of it. In medical terms, the word ‘fasting’ can be defined as “voluntary abstinence from taking food for varying spans of time” [3].

In many religions it is a ritualistic and spiritual practices due to which fasting is indorsed in nearly all faiths as a means of spiritual purification [4]. In India, majority of people belong to Hindu religion where fasting is advocated by Ayurveda (Indian ancient spiritual text of medicine) and many spiritual and Ayurvedic Gurus (teachers) [5]. Ayurvedic masterworksdefine fasting as *Upavasa*. It is well-defined as self-denial from all the four forms of food–mastication, licking, swallowing as well as drinking [6]. In Buddhism, monks and nuns advised to follow *Vinaya* rules where they don’t consume food daily after the meal taken at noon [7]. Several Christian denominations or other churches practices fasting. There are few denominations do not practice fasting, seeing it as an external observance, but many Christian observe fasting at numerous times at their own command [8]. Among five pillars of Islam Fasting is the third pillar involving abstinence from taking food throughout the holy month of Ramadan. In Islam, fasting for a month is an unavoidable exercise for the period of the sanctified month of Ramadan. They observe fast from *fajr* (dawn), until *maghrib* (sunset) [9].

Along with spirituality, increased health awareness of people is leading to increase in number of fasting individuals in India. There are many advantages of fasting like weight-loss, improved blood-pressure, improved insulin resistance, reduced total cholesterol which is a marker of imbalanced metabolism[10, 11]. Fasting also helps to increased brain-derived neurotrophic factor (BDNF) levels by stimulating nerve growth in the brain which is related to memory and learning. Fasting also helps to reduce anxiety and depression with improved digestion, better elimination and reduced cravings [12]. It also helps to stabilize blood sugar,

feeling lighter and brighter with more energy [13]. Fasting lead to a greater appreciation of food generally and gives an increased awareness of the difference between true hunger and boredom. It was observed that fast have positive effect on many skin diseases like psoriasis, skin acne, pimples etc. [14].For joint pains fasting acts in positive way it helps in gout and rheumatoid arthritis [15]. It is very hard for addicted people to leave their addiction but fasting helps them to overcome this.It was also found that body tissues become rejuvenatedduring fasting [16].

Globalization leads to important changes in food patterns of world. With increasing knowledge of health and food products the lifestyle and food consumption pattern is also changing [17].Customers are well educated and extra demanding is bringing need for vigorous and nutritious foods and practices [18]. Due to this, the number of individuals observing fasting is increasing among young people with knowledge of food choices and practices. Mostly college students are aware about health benefits of healthy practices and healthy products but the consumption of healthy food is less due to various reasons like affinity to fast food, taste preferences, unavailability of healthy food, high price of healthy food etc. [19].Eating meals at restaurants and packaged food is related to increase BMI (Body Mass Index) among them. Due to which obesity rates increases [20]. Obesity is one of the most significant public health difficulties faced by college students in many developed countries [21]. Fast food is more prone to obesity. Fast food may be related to increased weight since energy density is higher in these meals [22]. The Indian youth studying in colleges is more attracted to fast food which is not healthy [23]. But with awareness about health and healthy practices now a day's youth is attracting to fasting. Fasting is getting trendy among Indian educated and health concerned youth. For education many individuals live away from home so they don't get healthy food according to their food choices specially during fasting time.

There are different studies all over the world about health effect of fasting, biological studies, neurological studies, Physiological and Neurobehavioral studies where it was found that fasting have positive effect on health [24, 25,26, 27]. Effect of fasting on pregnant woman was also studied along with effect on insulin resistance and fasting plasma glucose but there were no studies on the consumer preferences about fasting food [28, 29]. With changing food patterns there is need of new fasting food products for various age groups and geographical conditions. According to 2011, 65% of total Indian population is below 35 years of age which is considered as youth So it is important to understand consumer preferences of youth about fasting food [30].

The intention of this study was to understand taste preferences of college students, reasons for fasting, difference in taste inclination between male and female students, important selection criteria for the selection of fasting food and inclinations about online fasting food delivery systems.

RESEARCH METHODOLOGY

This study was based on empirical data collection through which an effort was made to analyze the consumer preferences of fasting food of college students.

Study area

Study was conducted at ‘National Institute of Food Technology Entrepreneurship and Management,’ This institute is located at Kundli industrial estate of Haryana, India. Geographically it is near to Delhi, capital city of India. Students of different religious views from all over the India study here in B. Tech, M. Tech, MBA and PhD. The campus is fully residential.

Sample selection

Simple randomized sampling was selected for data collection. Among 700 students only 120 students were randomly selected for the study. 67 males and 53 female students were selected for the study from undergraduate and post graduate batches in the college.

Questionnaire design

The questionnaire was designed with an ‘easy to understand’ format in English language. The questionnaire was divided into two parts which were general information about individuals and their food preferences about food for fasting.

Data collection

The research data were collected using the technique of interview by questionnaire forms. In the questions where the participants were asked to specify their preferences out among given choices provided in the questionnaire. Questionnaire was having 15 questions.

RESULT AND DISCUSSION

This is the first study to comprehensively understand the consumer preferences of college students (male and female students) about fasting food. In India, it is common to perceive that college going students voluntarily participate in the fast for rituals, health and

religious purposes. which raises demands about their preferences of food for fasting. A total of 120 college students were studied. As shown in figure 1, it was found that 49% student observe fasting for health purposes while 45% for religious purposes. It was also found that 06% student observe fasting for other purposes.

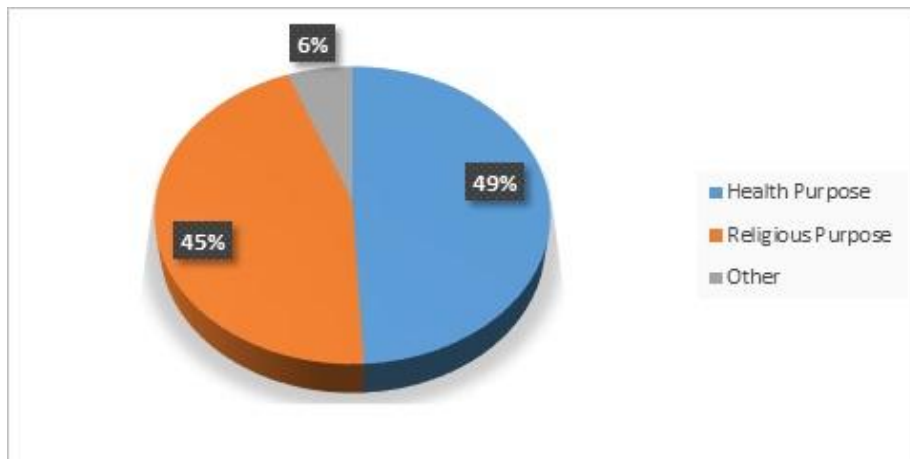


Fig 1: Reasons for Fasting

As the study area is an educational institute dedicated to food technology, most of the students are having knowledge of health and food. It was observed that most of the students observe fast for health purposes. The major health purpose was found to be reduction of obesity and maintaining good health. It was also observed that 45% of the student observe fast for on the occasion of festivals and/or for religious purposes like *Mahashivratri*, Navratri, Ramadan etc. Few students observe fast for some other things like medical issues, to reset body clock, to bring body into homeostasis, to change bad habits etc.

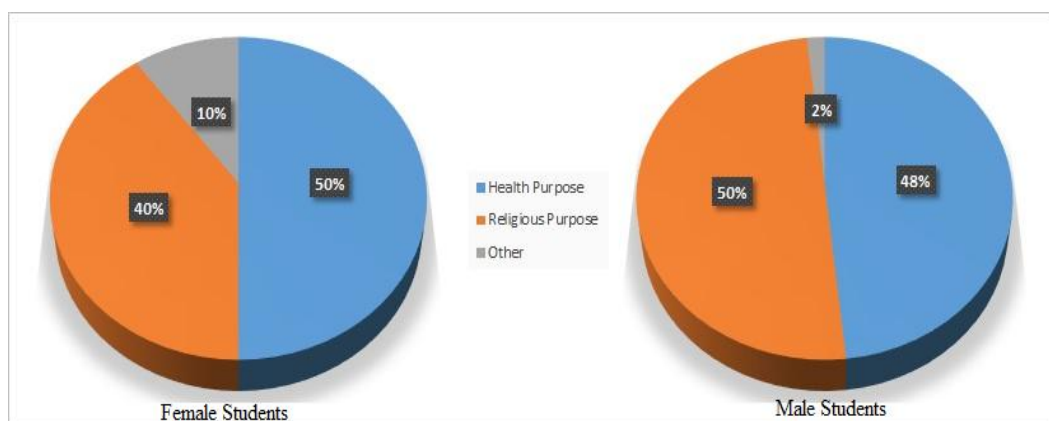


Fig 2: Gender wise Reasons for Fasting

It was also found that female students are more concerned about their health as 50 % of female do fasting for the health where 50% of male student do fasting for the religious purposes. This may be because girls like to maintain their body appearance more than boys.

Education and knowledge about fasting is can be a contributor to the fasting for health. It was also found that ‘other reasons’ of fasting are more in females as compared with male students. Only 2% of male students observe fasting for the reasons except health and religious while 10% female students observe fasting for other reasons. 48% of male students observe fast for health purposes while 40% female students do it for religious purpose. (Figure 2)

Results in figure 3 shows that the quantity of students who do fasting for 5-10days per year is more than other categories. Most of the students for this category mostly do fasting on the festival days like *Mahashivratri*, Navratri, *Ashadhi Ekadashi* etc.

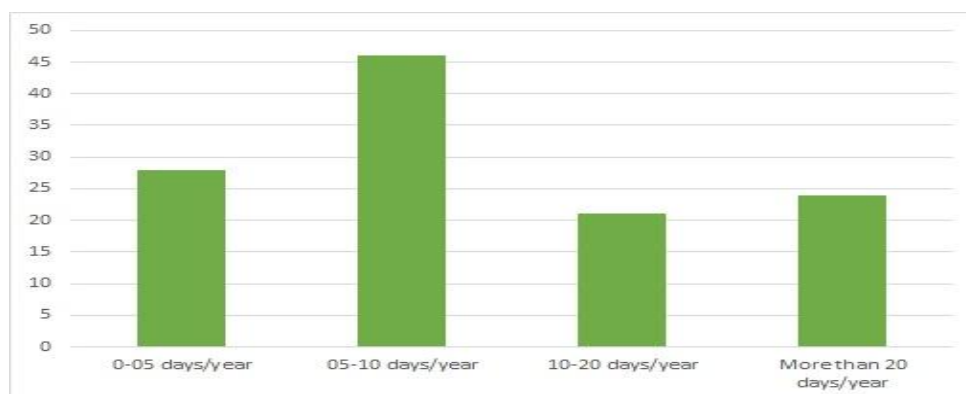


Fig. 3: Fasting Days/Year

In category of five or less fasting days/year 27 students who do fast mostly do it on any one or two ritualistic occasions. Most of the students who fall in to this category mostly do this fasting only for religious purposes. The least number of student which is 22, do fasting for 10-20 days/year. Most of the student fall in to this category observe fasting for once or twice per month for health purpose and religious purposes. Some people also observe fasting on *Purnima* (full moon). There are 24 students who do fasting for more than 20 day/year category. Students who observe fastingthroughoutsanctified month of Ramadan and once a week for religious and health purposes fall in to the category this category.

From result expressed in figure 4, it was determined that male student mostly does fasting for 5-10 day/year category. Female students have similar contribution in all categories. It was also observed that male student contributes more for 2 categories i.e. less than 5 days/year and 5-10 day/year category but their contribution to other categories is very less. It was observed that female students do fasting for more days. This may be because female students are more aware about benefits of fasting and they are more health conscious and/or they are more religious.

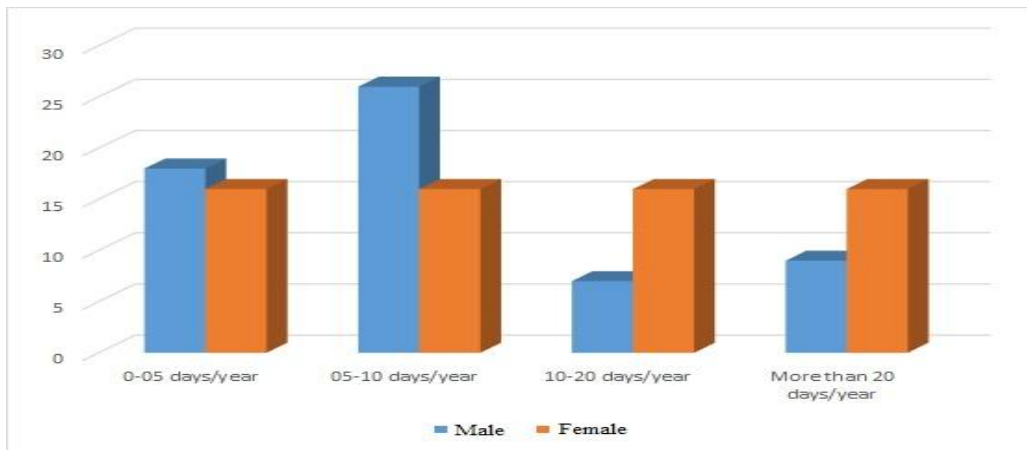


Fig 4: Gender wise Fasting Days/Year

Mapping taste preferences is very complex work as Human can sense only five sensations and on that basis of impression of taste includes five well-known basic tastes: sweetness, saltiness, sourness, bitterness, and umami. But many of the student was not able to express what taste exactly they like so we clubbed taste into six groups according to their responses like sweet, salty, sour, pungent, spicy and other tastes.

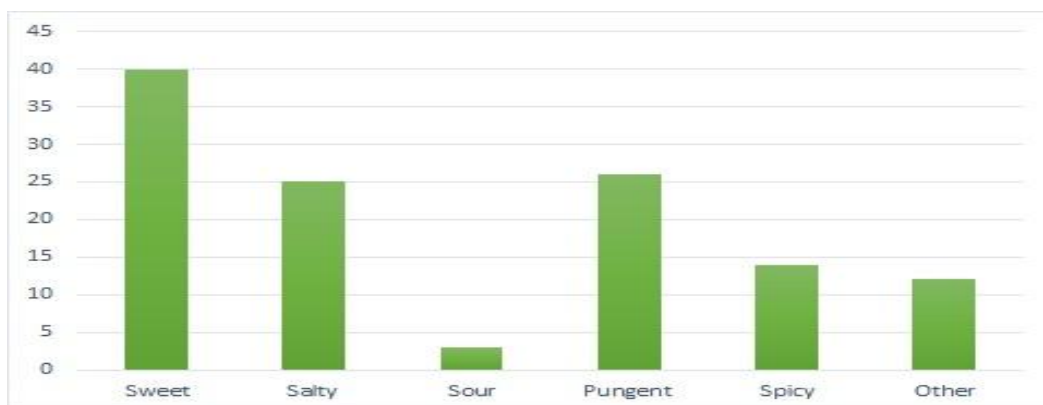


Fig 5: Taste Preferences

As shown in figure 5, It was found that sweet taste is mostly preferred by the students for the fasting food. After sweet taste salty and pungent taste was preferred by the student. This may be because fasting food is not consumed on daily basis. In India, fasting is observed during festivals. In overall world, sweet taste is considered as the pleasant taste and student prefer it during festivals. Salty and pungent taste was preferred by the students who do fasting on regular basis. Some other tastes are also preferred along with sour.

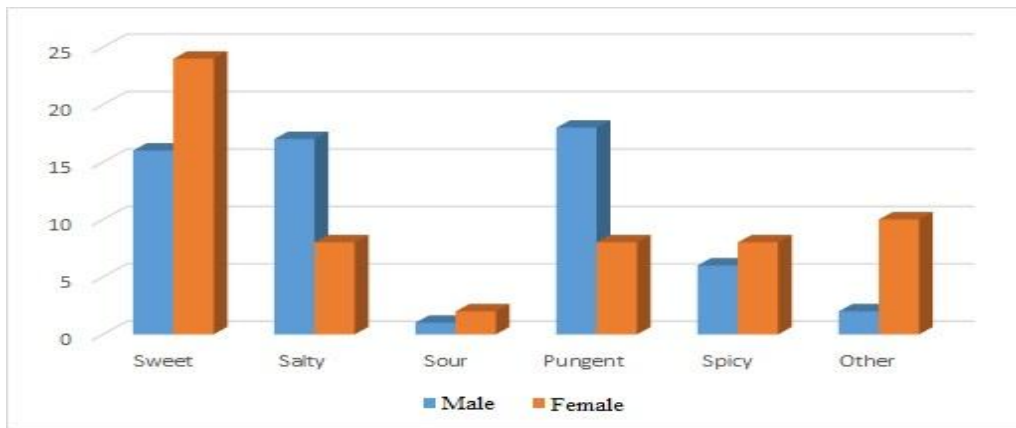


Fig 6: Gender wise Taste Preference

According to results shown in figure 6, It was found that female students prefer sweet for fast over other all tastes. Male students have similar preferences for sweet, salty and pungent. Sour taste was not preferred much by both genders. It is also found that female students want other different types of tastes for fasting.

Selection criteria for any food product varies with sensory criteria, nutritional criteria, cultural and religious criteria, budgetary criteria, psychological and sociological criteria but in case of fasting food the selection criteria are quite different as fasting is considered as holistic and healthy practice. As shown in figure 7 the most important criteria for selection was found to be hygiene followed by nutrient content. Ingredients of food was also among the important criteria for the selection as many ingredients are not allowed during fasting by many religions. Presentation of food was least considered for the selection along with price in case of food for fasting. As fasting is mostly observed for health purpose or religious purpose, taste and flavor is not considered to be the most important criteria for the selection.

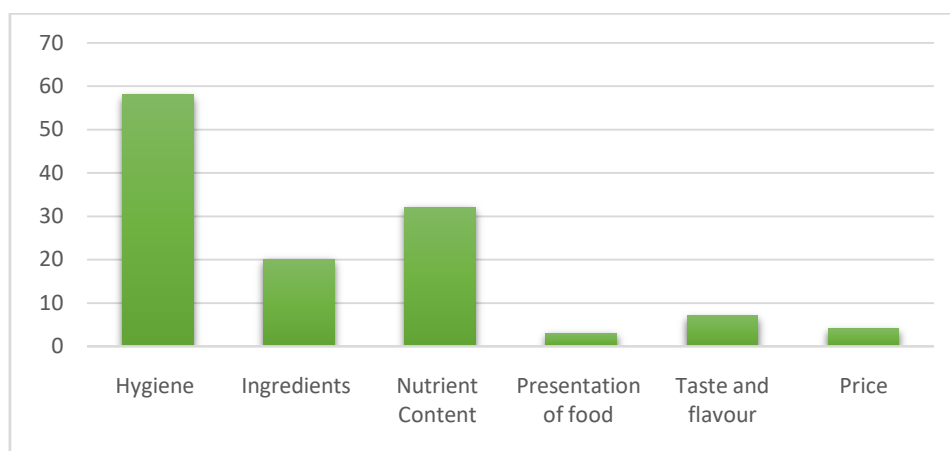


Fig 7: Criteria for Selection of Food for Fasting

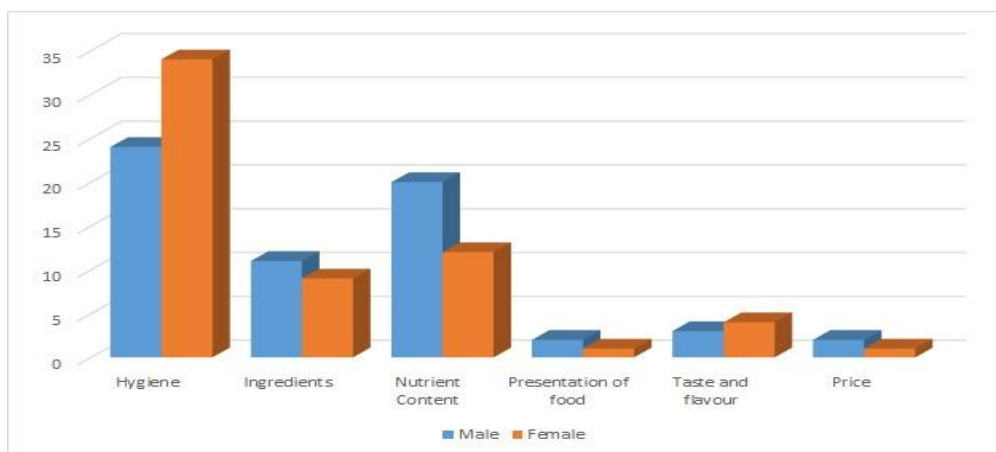


Fig 8: Gender wise Criteria for Selection of Food for Fasting

According to results shown in figure 8, male and female students have given major attention to hygiene for the selection of fasting food followed by nutrient content. It was observed that both male and female students have given least importance to presentation of food and price for the selection of fasting food products. It was detected that taste and flavors of the product was important criteria for few female students.

Booming online ordering and home delivery services are helping to drive the growth of India's overall food market. There are a growing number of websites and apps in the country that allow users to order from a wide range of restaurants, including Zomato, Food Panda and Tiny Owl, while restaurant chains own online ordering facilities are generating more revenue. [31] currently there is no website or app exclusively delivering fasting food in India. Most of the students use smartphones and 96% students will prefer if there is any special website or mobile app for ordering fasting food online.

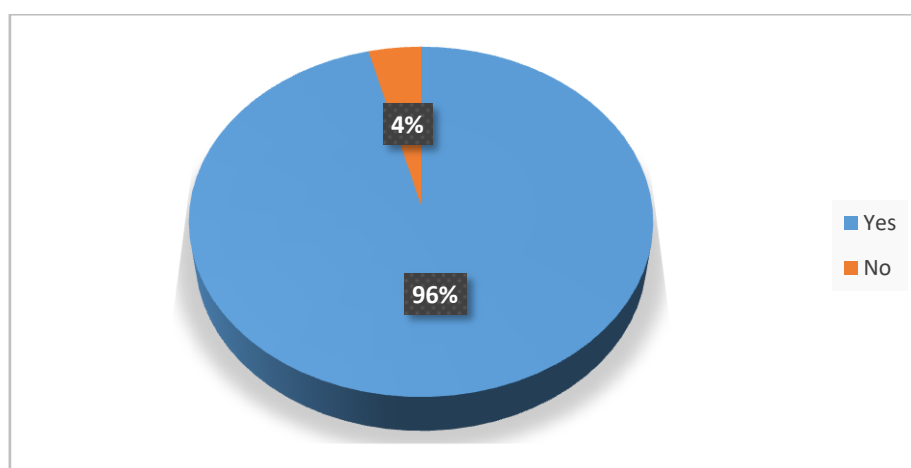


Fig 9: Preference for Online Fasting Food

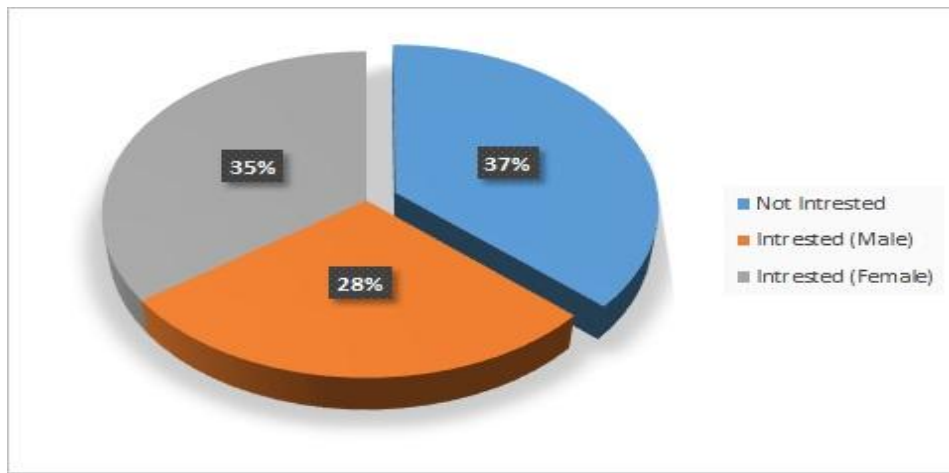


Fig 10: Preference for Increasing Days of Fasting

It was asked to students that if they are assured of quality of food under fasting food category would they increase number of days of fasting in a year. As shown in figure 10, 63% of the students responded in positive way. 37 % student responded that they do fasting only because of the auspicious occasions and rituals the availability of good quality of will not have any impact on the days of fasting in year. In 63% students who will like to increase the days of fasting, 35 % was female and 28% was male students.

CONCLUSIONS

Fasting food consumption patterns changes with life style of people and health awareness. It was found that more students observe fast for health purposes but due to impact of religious views they practice fasting in their respective religious way. The problem of obesity is also a major contributor for the fasting. It was found that students are having very good knowledge of fasting and good food practices. It was also observed that students want to have healthy food during fast but still consume unhealthy products due to unavailability of healthy products and affinity to fast food. According to the results of the research, it has been determined that most of the students of National Institute of Food Technology Entrepreneurship and Management, Kundli, Haryana prefer sweet food products during fasting. Along with sweet, male students also have inclination towards salty and spicy products. Hygiene was found to be the most important criteria for selection for food for fasting followed by nutrient content and ingredients of product. It was observed that with changing technology, students will prefer if food is deliver to them on their doorstep with help of mobile application or website. Consequently, this study is subject to statistics accessibility. It is well documented that health awareness has strong influences on individuals fasting choice and food consumption patterns. Future investigation needs to be

done addressing entire needs of fasting individuals in terms of products and services. Thus, we conclude that college students associated with fasting are considerably increasing and there is need of innovative foods and food delivery system for catering this.

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