ASSESSMENT OF EATING BEHAVIOUR AMONG YOUNG ADULTS BETWEEN 20-30 YEARS IN MUMBAI CITY

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Abstract: Today’s youth is tomorrow’s parents and role models. Hence, it is important to monitor food habits and ensure that healthy eating practices are followed. This study was undertaken to assess the eating behavior among young adults between 20 - 30 years in Mumbai and to compare the dietary habits of young men and women. Negative emotions have been associated with either an increased or a decreased food intake. Intense emotions tend to inhibit rather than stimulate food intake. Physiologic adaptations to negative emotions prepare for a fight-or-flight response including bloodstream glucose release that, in turn, suppresses feelings of hunger. The samples were selected by purposive sampling. 30 Male and 30 Female subjects between 20 – 30 years of age residing in Mumbai were selected as the subjects. The subjects were administered the Adult Eating Behavior Questionnaire (AEBQ) and Food Frequency Questionnaire through a Google Form Survey. Adult Eating Behaviour Questionnaire showed that hunger was the most prominent trait in both the genders in the food approach subscale. Under the food avoidance subscale, Emotional under eating was reported the highest by both the genders. Food fussiness was another common form of avoiding food, followed by slowness in eating. Emotional overeating was also an important eating behaviour in food approach behavior amongst the male and female subjects. Though, emotional overeating was associated more with males than females.

Index Terms – Hunger, emotional eating, eating behaviour, body image, eating disorders

1. INTRODUCTION

Today’s youth is tomorrow’s parents and role models. Hence, it is important to monitor food habits and ensure that healthy eating practices are followed. Eating behavior is a broad term that consists of several decisions regarding what to eat, when to eat, and how much to eat. Understanding eating behavior is important as our food choices have significant consequences not only on individuals but also on society. For example, overweight and obesity are leading public health problems throughout the world. The causes for this are generally a chronic positive energy balance. Weight management is simply a matter of balancing energy in and energy out (Emilien and Hollis, 2017).

During the transition from the university to professional life, there are high chances of falling prey to unhealthy lifestyles. As individuals enter into work places, there is a tendency to give less attention to diet and nutrition. But adapting unhealthy lifestyle practices, can have negative consequences in the future. Intrapersonal factors affecting eating behaviours include age, gender, personal preference for a particular food, stress and depression, sleep, taste, hunger and satiety. A qualitative study was conducted in Bangladeshi University students of mean age of 20.85 yrs, who had experience in cooking. 25 in-depth interviews and 4 focus group discussions were conducted to get better information on their eating pattern. It was found that taste played a major role in deciding the food. The students reported that the hostel’s food was monotonous, bland and used same ingredients round the year. They preferred outside food whenever possible, and the students who were capable of cooking their own food, had made their alternate arrangements. Some students skipped their breakfast because of the cost (Kabir et al., 2018). Students often fall short of time, and resort to something which is easily available, handy and quickly eaten. Attending classes, studying, hanging out, sleeping is considered important over eating food (Strong et al., 2008).

Stress has a direct effect on the hypothalamus, which controls the hunger stimulating hormones. Some factors causing stress are academic expectations, excessive workloads, and social events, family troubles, having no friends, emotional stress, romantic relationships, loneliness, and anxiety. Stress either leads to overeating or under eating. Students tend to skip meals before and during exams. They sleep less, and sometimes lose weight too. In a study conducted on 62 young college women (19-22 years) from Ouachita Baptist University reported that stress not only changed their eating behaviors, but also had a drastic effect on mood and the way they felt about themselves. Almost three quarters of the participants said that while in stress, they felt very miserable and their self-esteem was at their lowest. 40% participants ate more in stress, while 39% ate less. The most common stressor identified in this study was family (emotional and relational issues), followed by school (performance anxiety, professor’s expectations), friendships (social and peer pressure) and future (Russom & Fontenot, 2017). A cross-sectional study was done on 132 medical students in Malaysia to assess the impact of psychological factors on eating habits. According to the scores of Compulsive Eating Scale, 48.5% of the participants ate because they felt lonely, 62.1% felt completely out of control when it came to food, 53.8% ate till their stomachs hurt, 53% ate because they felt nervous or upset and 59.1% ate because they felt bored. Majority of the participants (80.3%) ate food because they felt happy. This study concluded that social and psychological factors were important determinants of eating habits (Ganasegeran et al., 2012).

In various studies, it has been found that society has a great impact on the dietary behavior, especially of young women. The social media portrays a certain type of body image, and women, in the quest of becoming more beautiful, tend to get into wrong eating habits such as fad diets, excessive starvation (anorexia nervosa), etc. At the end of the day, they might be able to achieve their goal, but on the cost of their mental and physical health. Body image dissatisfaction is one of the major causes for change in diet and lifestyle in women. This can also lead to depression, increase in discomfort with regards to their body, social awkwardness, low self-esteem, other psychological or metabolic ailments (Sathiyaseelan, 2018). There are descriptive norms (what other people do in their lives) and injunctive norms (opinions of other people/ what other people think one should do) which also
shape one’s choice (Cruwys et al., 2015). In a field experiment conducted on regular students in an Eastern private University in United States, it was found that when the students read healthy descriptive norm, such as ‘More than 150 people have eaten salad here’ led to increase in healthy choices amongst them (Mollen et al., 2013).

II. MATERIALS AND METHODS

The study aimed to assess the eating behavior among young adults between 20 - 30 years in Mumbai. The samples were selected by purposive sampling. The sample size was 60. 30 Male and 30 Female subjects between 20 – 30 years of age residing in Mumbai were selected as the subjects. The study design was cross sectional. The subjects were administered the Adult Eating Behavior Questionnaire (AEBQ) and Food Frequency Questionnaire through a Google Form Survey. The age group of 20 to 30 years was taken as the inclusion criteria since this is a period of stepping into adulthood. Hence, it is important to assess one’s eating patter and dietary behaviour. AEBQ is a 35 items self-report questionnaire developed by Hunot et al., 2016 which measures appetitive traits in adults. It uses a five-point Likert scale which ranges from ‘strongly disagree’ to ‘strongly agree’, where strongly disagree gets the least score -1 and strongly agree gets the maximum score - 5 and for some items, the scoring gets reversed (i.e. strongly agree gets one point while strongly disagree gets five points). The items listed in the questionnaire are categorized into 2 subscales, i) Food Approach subscale and ii) Food Avoidance Subscale. Four food approach subscales are - Hunger (H), food responsiveness (FR), Emotional Over-Eating (EOE), and Enjoyment of Food (EF). These behaviors involve a desire for food. Four food avoidance subscales include - Satiety responsiveness (SR), Emotional Under-Eating (EUE), Food Fussiness (FF), and Slowness in Eating (SE). These behaviors involve movement away from food. As per the ratings marked, scores are calculated for each subscale. The subscale which gets the maximum score is the appetitive trait or eating behavior of that particular individual.

III. RESULTS AND DISCUSSION

3.1 Adult Eating Behaviour Questionnaire (AEBQ)

![Comparison between females and males in Food Approach subscales](image1)

Fig 3.1.1: Comparison between females and males in Food Approach subscales

From Fig 3.1.1, it was observed that both men and women showed that hunger was the most prominent in food approach behaviour. While females exhibited slightly higher attributes of hunger as compared to males. Emotional overeating was found to be more in males with regard to females. Both men and women had nearly average scores in characteristics like food responsiveness and enjoyment of food. Emotional eaters are likely to overeat in response to emotions rather than respond to internal satiety and satiation cues. This type of behavior seems to be more frequent in overweight subjects. Results of the few studies that addressed Emotional Eating (EmE) have shown a relatively consistent positive association with weight status by using either the Three-Factor Eating Questionnaire (TFEQ) or the Dutch Eating Behavior Questionnaire. In addition, EmE is known to be associated with binge eating disorders (BEDs), which are major health issues because of their potential roles in the development of obesity or eating disorders (Sandrine et al, 2013).

![Comparison between females and males in Food Avoidance subscales](image2)

Fig 3.1.2: Comparison between females and males in Food Avoidance subscales
The above subscale, fig 3.1.2 shows the food avoidance behaviour in females and males. Females reported very high levels of emotional under eating as compared to males. Food fussiness was seen to be the same in both the genders. Emotion congruent modulation of eating, and eating to regulate emotions as to control of food intake, which occurs during dieting, might impair biological regulation processes. Consequently, when emotions or external cues interfere with cognitive restriction, dieters could be more likely to lose control over their eating. Former or current dieters have higher scores of EmE than do subjects without a history of dieting. Female respondents showed higher levels of Emotional Over and Under-Eating than male respondents in response to stress associated with the epidemiologic situation. These results are consistent with general observations, which indicate that, especially for young adults, there is an important association between perceived stress, worries, tension, anxiety, and resultant emotional eating, which is observed in girls but not in boys.

**Fig 3.1.3: Total Scores of Food Approach subscales**

Under the Food Approach Subscale Fig 3.1.3, hunger was the most prominent trait in both the genders. Emotional overeating was the next common behaviour reported amongst the subjects. Enjoyment of food was also an important indicator of food approach behaviour. While food responsiveness was the least in the subjects. These results suggested that emotional states can have important effects on food eating habits. Several studies have shown that negative emotions, such as anger, depression, boredom, anxiety, or loneliness could cause overeating. In particular, subjects with higher EmE scores were shown to have a larger consumption of high-density food, such as cakes, biscuits, and oleaginous fruits, sweet high-fat foods, chocolate, crisps, and biscuits, and a greater liking for sweet-and-fatty foods, compared with that of subjects with lower EmE scores. Other studies showed that people with low EmE ate less snack foods during a sad movie or after stress than during a neutral movie or a control task, whereas people with high EmE ate more. Because the biologically adaptive response to distress is a decrease of intake, it has been suggested that overeating in response to emotion is a learned behavior.

**Fig 3.1.4: Total Scores of Food Avoidance subscales**

From fig 3.1.4, Food Avoidance Subscale, Emotional under eating was reported the highest by both the genders. Food fussiness was another common form of avoiding food. It was followed by slowness in eating. Satiety responsiveness was the least trait of food avoidance. In a study by Sandrine et al, it was seen that there is an influence of psychological traits on food consumption and weight control. In particular, negative emotions have been associated with either an increased or a decreased food intake. Intense emotions tend to inhibit rather than stimulate food intake. Physiologic adaptations to negative emotions prepare for a fight-or-flight response including bloodstream glucose release that, in turn, suppresses feelings of hunger. An increase in the motivation to eat in response to negative emotions has been found. Various mechanisms have been suggested that include impairment of cognitive eating control, emotion congruent modulation of eating, and eating to regulate emotions as observed in so-called emotional eaters.
From Table 3.1.1, the eating behaviour of the male participants showed that hunger was prominent in food approach behaviour (14.1), while emotional undereating was the highest characteristic in food avoidance subscale (14.2). In food approach subscale, Emotional overeating was the next common trait, followed by enjoyment of food (12.5) and food responsiveness (12.1). While in food avoidance subscale, food fussiness (12.1) and slowness in eating (11.9) was highest, satiety responsiveness (10.8) was the least trait in food avoidance. In females also, hunger was the most prominent characteristic of the female eating behaviour (15.0) while emotional undereating was the highest characteristic in food avoidance subscale (17.0). As compared to males, emotional undereating was very high in females. In food approach subscale, food responsiveness (11.5) was the next common trait, followed by enjoyment of food (11.0) and Emotional overeating (11.0). While in food avoidance subscale, food fussiness (12.0) was common followed by slowness in eating (11.0) and satiety responsiveness (11.0).

A comparison of sex-dependent dietary behaviors revealed that females have higher emotional susceptibility to disinhibition, but they also show a higher level of eating-related self-determined motivation than males. Thus, women have a higher tendency toward overeating and undereating, and these behaviors are transferred from parents to their daughter. In an American study of Striegel-Moore et al. conducted in a group of health organization members aged 18 to 35 years, a higher frequency of eating disorder symptoms was found in female patients than in male patients; furthermore, females diagnosed with binge eating disorders reported significantly higher body image dissatisfaction and drive for thinness than males. This situation is explained by a cultural expectation of thinness in women, which results from internalized appearance standards and causes their weight-related concerns. It may also be associated with the influence of ovarian hormones and menstrual cycle; the mid-luteal phase increases emotional eating, as a result of ovarian hormones, which may impact the associations for women. Many authors demonstrated that negative emotions constitute disinhibitors inducing overeating in restrained eaters because overeating, momentarily neutralising dysphoria, represents a way to cope with emotions people possessing low abilities in communicating emotions may try to regulate them by eating, which contributes to overeating episodes. While the positive influence of perception of bodily indicators of emotions on overweight is associated, this is not the case for the positive effect of representation of emotions. Both can be connected with restrained eating.

### Table 3.1.1: Eating Behaviour in Males & Females (Mean scores)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Eating behaviour</th>
<th>MEAN SCORES</th>
</tr>
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<tbody>
<tr>
<td><strong>FOOD APPROACH</strong></td>
<td></td>
<td>MALES</td>
</tr>
<tr>
<td>Hunger</td>
<td></td>
<td>14.1</td>
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<tr>
<td>Food responsiveness</td>
<td></td>
<td>12.1</td>
</tr>
<tr>
<td>Emotional over-eating</td>
<td></td>
<td>13.5</td>
</tr>
<tr>
<td>Enjoyment of food</td>
<td></td>
<td>12.5</td>
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<tr>
<td><strong>FOOD AVOIDANCE</strong></td>
<td></td>
<td></td>
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<tr>
<td>Satiety responsiveness</td>
<td></td>
<td>10.8</td>
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<tr>
<td>Emotional under-eating</td>
<td></td>
<td>14.2</td>
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<tr>
<td>Food fussiness</td>
<td></td>
<td>12.1</td>
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<tr>
<td>Slowness in eating</td>
<td></td>
<td>11.9</td>
</tr>
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3.2 Food Frequency Questionnaire

Wheat flour Chapati was found to be consumed the most, while bhakri made of millets was consumed the least by the participants. 75% of the participants ate chapati daily. After chapatti, rice was found to be consumed the most by the participants (48.6%). Idli, poha, sago and upma were consumed once in 15 days by most of the participants. Split and whole yellow and green gram lentil, split pigeon peas and Split bengal gram lentil were consumed daily by 25% of the participants. No other pulse was consumed daily. 30.6% of the participants never consumed soyabeans. 40.3% of the participants consumed Bengal gram flour once in 15 days. 23.6% of the participants consumed kidney beans once in a week. From the present study, it was observed that 43.1% of the respondents consumed cow’s milk daily. 47.2% respondents never consumed buffalo’s milk, followed by khoa/cream (36.1%). 47.2% of the respondents did not consume Flax seeds/Chia seeds/Pumpkin seeds/Sunflower seeds at all. 34.7% of the participants consumed almonds and walnuts daily. Participants were found to consume most of the nuts rarely, 26.4% of the respondents consumed cashews and pistachios 2-3 times a week.

65.3% of the participants never consumed mutton and fish. 6.9% of the respondents ate egg daily. Chicken was consumed daily by 5.6% respondents. Tomato, onion and cucumber were found to be consumed daily by most of the respondents (56.9% and 55.6% respectively). Bitter gourd, sweet potato and pumpkin were found to be consumed by least amount of participants. Green leafy vegetables were found to be consumed 2-3 times a week by 30.6% respondents. Most of the participants consumed fruits 2-3 times a week. 27.8% of the participants consumed apples daily, while 33.3% respondents did not consume custard apple. The transition from adolescence to adulthood is a critical period regarding health and eating behaviours. The study conducted by Desboufs et al., 2019 aimed to determine how consumption of four emblematic food groups differed according to socio-cultural and family characteristics of adolescents and young adults living in Belgium. Among 10–13 and 14–17 year olds, and after adjustment, “fruit and vegetable” consumption was lower in households with a secondary or lower education level than households with postgraduate education. In the 14–17 year old group only, boys, adolescents whose mothers were manual workers and those born in Belgium consumed significantly fewer fruits and vegetables daily than girls, subjects whose mothers had a managerial or academic occupation and those born in Europe and outside the Europe, respectively.

51.4% of the respondents did not consume fig at all. Only 15.3% of the participants consumed dates daily, which is the highest amongst all the other dried fruits. Most of the respondents consumed dried fruits once in a week. It was noted that 50% of the respondents consumed tea or coffee daily, followed by milk shakes. 20.8% respondents did not consume tea/coffee at all. 31.9% respondents rarely consumed coconut water, followed by carbonated beverages (26.4%). 16.7% of the participants did not consume pav (bun) at all. 33.3% respondents consumed bread once a week. Consumption of bread was higher as compared to pav (bun). Majority of the participants consumed desserts rarely. 36.1% respondents never consumed donuts, followed by jam (34.75%) and custard/puddings (26.4%). Minimum respondents consumed desserts daily.
Very low number of participants (1.4%) ate vada pav, burger, and other fast food on a daily basis. 20.8% of the participants did not consume chivda, popcorn at all. 13.9% of the participants ate biscuits daily. Popcorn, toast/khari, chips, ready to eat foods, burger were found to be consumed rarely by the participants. 33.3% of the participants ate sandwich once in 15 days. A study was done on university students of Uñeye to examine the fast food consumption habits and states of the students studying in campus. It was observed that the participating students take more than one factor into consideration while choosing fast-food products. Majority of the students (75.7%) took the price into consideration while choosing fast-food products. This was respectively followed by the taste of the product, being a square meal, brand of the product, appearance of the product, food security, habits, and package of the product and adverts of the product. The reasons why students preferred consuming fast-food products in their daily lives were: firstly because they study at university (65.2%), and then respectively because the foods were delicious (64.3%), the products were cheap (63.0%), they were influenced by their friends (56.5%), and they were influenced by the media adverts (28.6%). A great majority of the participating students (61.3%) thought that fast-food consumption habit is harmful, while 23% had stated that they considered these products positive, and 7.4% had stated that these products are absolute must for them. 8.3% of the participants did not give any opinion (Derya Ozturk, 2016).

IV. CONCLUSIONS

From the study, the Adult Eating Behaviour Questionnaire showed that hunger was the most prominent trait in both the genders in the food approach subscale. Under the food avoidance subscale, Emotional under eating was reported the highest by both the genders. Food fussiness was another common form of avoiding food, followed by slowness in eating. Satiety responsiveness was the least trait of food avoidance. Emotional overeating was also an important eating behaviour in food approach behavior amongst the male and female subjects. Though, emotional overeating was associated more with males than females. Enjoyment of food was also a high indicator in food approach behaviour. Females exhibited higher attributes of hunger in the food approach scales as compared to males. Both men and women had nearly average scores in characteristics like food responsiveness and enjoyment of food. While comparing men and women, it was observed that women reported higher levels of Food Responsiveness, Emotional Over-Eating, Satiety Responsiveness, Emotional Under-Eating, and Sloowness in Eating than the male counterparts. Total AEBQ scores of the females was also higher. Negative emotions have been associated with either an increased or a decreased food intake. Intense emotions tend to inhibit rather than stimulate food intake, Physiologic adaptations to negative emotions prepare for a fight-or-flight response including bloodstream glucose release that, in turn, suppresses feelings of hunger. Studies show that females are reported to have greater incidences of eating disorders than males due to significantly higher body image dissatisfaction and drive for thinness. This situation is explained by a cultural expectation of thinness in women, which results from internalized appearance standards and causes their weight-related concerns. It may also be associated with the influence of ovarian hormones and menstrual cycle. Thus, it can be concluded that individuals tend to easily get affected by external factors while eating. But one should try not to get influenced by circumstances in terms of food habits.

V. REFERENCES


