Research Article

Breakfast eating habits and its association with mental wellbeing and mindful attention awareness among university students of Pune district, Maharashtra, India

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ABSTRACT

Background: To study the effect of breakfast eating habits on mental distress and mindful attention awareness of 18-24 year old young adults.

Method: Cross-sectional study with simple random sampling technique was carried out in 3 universities in Pune, Maharashtra. A total of N=206 subjects aged between 18-24 year participated in the study. Mental well-being was screened for mental distress and mindful attention using Hopkins symptoms checklist-10 and mindful attention awareness scale respectively. Breakfast eating habits was accessed qualitatively and quantitatively using food frequency questionnaire. Anthropometric data and lifestyle pattern was assessed using structured questionnaires. Statistical analysis included descriptive statistics, chi square and correlation tests.

Results: A total of 42.23% subjects skipped their breakfast and 57.76% subjects ate their breakfast. Amongst those who ate breakfast 23.2% consumed it daily. Most common reason reported for breakfast skipping included getting up late (37.3%). When compared across genders females skipped breakfast more often (60.3%) as compared to males (33.3%). Significant association was found between breakfast eating habits with mental distress (p<0.001) and mindful attention awareness (p<0.001). Also consumption of milk was significantly associated with lower mental distress and improved mindful attention (p<0.001).

Conclusion: These findings support the concept that breakfast is the most important meal of the day and skipping breakfast may result in poor mental distress and mindful attention their by resulting in poor overall mental well-being of 18-24 year old young adults.

Key words: Breakfast, Mental wellbeing, Mental distress, Mindful attention

INTRODUCTION

Breakfast is an integral part of a balanced dietary pattern. It serves as a foundation of eating forth day and is defined as the first meal of the day that breaks the fast after longest period of sleep, consumed within two to three hours of waking; and is comprised of food or beverage from at least one food group. Breakfast consumption is associated with better health status at any age and its consumption is an important element for nutritional well-being, influencing the adequacy of total daily energy and nutrient intake. Breakfast eating is one of the facet of a healthy lifestyle that that may help contribute to the short and long term health and wellbeing across all ages.

Everyone out of three people skip breakfast and this detrimental practice progressively increases from childhood to adulthood. Young adulthood is a difficult period of transition from adolescence to adulthood, with
increasing challenges and pressures. This transition may translate into unhealthy dietary practices, breakfast skipping being one of them. More than any other meal, breakfast eating is probably the first to get compromised as a result of poor time management, leading to wrong choices of breakfast options, thus compromising the quality of breakfast. Amongst those who have breakfast most of them may not have a nutritious one which may influence their lifestyle and affect cognitive performance, particularly in the domains of memory and attention. Lack of time and lack of appetite have been considered as the main cause for passing over breakfast. The consequences of skipping breakfast such as cognitive failures, lapses in attention and concentration along with mental distress in young adults can affect their academic performance.

Breakfast consumption has been associated with better mental health in children, but the relationship between breakfast and mental health in adults is less well known. Thus the present study aimed at investigating the effect of breakfast eating habits on mental wellbeing in terms of mental distress and mindful attention awareness of 18-24 years old adults.

METHODS

Study design and sample

This was a cross-sectional study that was conducted among 230 students aged 18-24 years using simple random sampling technique at different universities across Pune. Out of these 230 students 24 were excluded for incomplete questionnaires. Individuals who were known case of any psychological disorder or disease were excluded from the study. Thus, a total number of 206 subjects were included in the study.

Data collection

Data collection was done through an interview method and self-administered questionnaires adopted from previous studies were used. Questionnaires were pretested on a sample size 30 after taking consent of the subject. The shortcomings were looked upon and changes were incorporated in the questionnaire.

The final questionnaire aimed at collecting data under different categories including socio demographic status, anthropometric measurements, lifestyle pattern, breakfast eating habits, and food frequency questionnaire along with screening of mental wellbeing. Mental wellbeing screening included two scales, Hopkins symptom checklist (HSCL-10) and this scoring method was based on the likert 4 point scale where individual can score minimum score of 10 and a maximum score of 40. It basically measured the anxiety and depression among participant. The second scale was Mindful Attention Awareness Test (MASS), this scale assessed a core characteristic of dispositional mindfulness namely, attention to what is taking place in the present.

Ethical consideration

The present study was approved by research advisory committee (RAC) of university. Permissions were taken from the Institute head and head of the departments. Subject information sheet was provided to the participants and the objectives were explained. Later, a written consent was obtained from those who agreed to participate in the study for conducting the survey.

Statistical analysis

Data was entered into SPSS (version 22) and the data was cleaned and checked for any error. Frequencies were tabulated, Chi square test and correlation were used to identify difference in proportion and association and the level of significance was set as p <0.05.

RESULTS

The aim of the study was to investigate the effect of breakfast eating habits on mental well-being of 18-24 years old adults with respect to mental distress and mindful attention awareness.

The results have been interpreted as per the following categories:

Socio-demographic characteristics

Table 1: Socio-demographic characteristics.

| Socio-demographic characteristics | Frequency (n) | Percent (%) |
|----------------------------------|---------------|-------------|
| **Age**                          |               |             |
| 18-20                            | 121           | 58.8        |
| 21-24                            | 85            | 41.3        |
| **Gender**                       |               |             |
| Male                             | 138           | 67.0        |
| Female                           | 68            | 33.0        |
| **Year of education**            |               |             |
| UG                               | 170           | 82.6        |
| PG                               | 36            | 17.5        |
| **Living arrangements of subjects** |         |             |
| Hostelites                       | 96            | 46.6        |
| Localites                        | 110           | 53.3        |
| **Total**                        | 206           | 100.0       |

As per the above Table 1, the mean age of subjects was 20.07±2.00 and maximum percent of study population was present in age group of 18-20 years (58.8%). Among 206 subjects 67% were males whereas 33% were females. A total of 82.6% subject’s belonged to undergraduate studies and only 17.5% belonged to post
graduate studies. 46.6% subjects were staying at Hostel and 53.3% subjects were either stayed alone, on rent or with their parents.

**Anthropometric characteristics**

| Anthropometry | Frequency (n) | Minimum | Maximum | Mean SD  |
|---------------|--------------|---------|---------|---------|
| Height (cm)   | 206          | 121.0   | 193.0   | 169±10.00 |
| Weight (kg)   | 206          | 37.0    | 110.0   | 63.85±11.59 |

**Table 2: Height and weight of the subjects.**

| BMI category     | BMI classification | Frequency (n) | Percent (%) |
|------------------|--------------------|---------------|-------------|
| Underweight      | <18 kg/m²          | 18            | 8.7         |
| Normal weight    | 18-22.9 kg/m²      | 111           | 53.9        |
| Pre-obese        | 23-27.4 kg/m²      | 67            | 32.5        |
| Obese grade I    | 27.5-32.4 kg/m²    | 9             | 4.4         |
| Obese grade II   | 32.5-37.4 kg/m²    | 1             | 0.5         |
| Total            |                    | 206           | 100.0       |

When anthropometric characteristics were assessed, the minimum weight reported was 37 kg and maximum weight was 110 kg with a mean weight of 63.85±11.59. The minimum height reported was 121 cm and maximum height was 193 cm with a mean of 169±10.00 cm. BMI was assessed according to WHO standard classification. Out of 206 subjects, 53.39% were in the Normal weight category, 32.5% were in the pre-obese category whereas 4.4% were in obese grade I category.

**Lifestyle pattern**

Lifestyle pattern was assessed to check the habits of smoking and alcohol consumption. Out of total subjects 23 males and 8 females smoked daily whereas 94 males and 49 females never smoked and rest 21 males and 11 females were occasional smokers. 2 males and 1 female consumed alcohol daily and 81 males and 40 females never consumed alcohol rest 55 males and 27 females were either consuming weekly, 2-3 times a week or occasionally. The studies say that in adults, smoking, and more frequent alcohol use are associated with breakfast skipping.

**Breakfast eating habits**

| Importance of breakfast | Frequency (n) | Percent (%) |
|-------------------------|---------------|-------------|
| Yes                     | 127           | 61.7        |
| May be                  | 51            | 24.8        |
| No                      | 28            | 13.6        |
| Total                   | 206           | 100.0       |

Table 4: Breakfast eating habits.

Among total 206 subjects, 61.7% gave importance to breakfast and 13.6% did not give importance to breakfast, 24.8% were not sure about its importance. Thus more than half of the study subjects 127 (61.7%) considered breakfast important. When checked across gender males consider breakfast as an important meal (44.7%) than females (17%).

**Table 5: Breakfast eating habits.**

| Breakfast eating habits | Frequency (n) | Percent (%) |
|-------------------------|---------------|-------------|
| Daily                   | 48            | 23.3        |
| 4-6 times a week        | 37            | 18.0        |
| 2-3 times a week        | 23            | 11.2        |
| once a week             | 11            | 5.3         |
| skips breakfast          | 87            | 42.2        |
| Total                   | 206           | 100.0       |
When daily breakfast eating habits were checked a total of 42.23% subjects skipped their breakfast and 57.76% subjects ate their breakfast. Amongst those who ate breakfast 23.2% consumed it daily.

Table 6: Mental distress and mindful attention awareness.

|                | Score       | Frequency (n) | Percent (%) |
|----------------|-------------|---------------|-------------|
| Mental distress| Yes (>16)   | 104           | 50.5        |
|                | No (<16)    | 102           | 49.5        |
|                | Total       | 206           | 100.0       |
| Mindful attention awareness | Poor (<45) | 116           | 56.3        |
|                | Good (>45)  | 90            | 43.7        |
|                | Total       | 206           | 100.0       |

Mental distress was checked using Hopkins checklist-10. According to this scale, 50.5% subjects were mentally distressed where as 49.5% of the population had no mental distress. Similarly mind full attention was assessed using Mindful attention awareness scale. It was seen that, 56.3% population had poor mindful attention awareness and 43.7% had good mindful attention awareness.

Study done by A P smith have proved that eating breakfast regularly improves mental wellbeing and reduces stress in the form of a reduced cortisol level among adults. Similar findings were also seen in our study, amongst 119 breakfast eaters, 91 had no mental distress and out of 87 breakfast skippers 76 had mental distress.1,10,11

A significant difference in proportion between the breakfast eating habits and mindful attention awareness was found among subjects (p <0.001) among 119 breakfast eaters 84 had good attention awareness whereas among 87 breakfast skippers 81 had poor mindful attention awareness. Similar result was also found in the study carried out in haidrabad, it showed that regular habit of eating breakfast as opposed to irregular consumption or skipping breakfast altogether had a beneficial influence on attention concentration.12

Breakfast quality

The most preferred daily consumed foods were nuts, egg, milk, tea and coffee. Junk food was preferred 5-6 times a week by population. Fruits were preferred 3-4 times a week whereas idli, ready to eat cereals and carbonated beverages were preferred 1-2 times a week.

Table 7: Breakfast eating habits and mental well-being.

|                   | Mental Distress | Mental Distress | Good mindful attention awareness | Poor mindful attention awareness | Total |
|-------------------|-----------------|-----------------|---------------------------------|---------------------------------|-------|
| No                | 28              | 91              | 84                              | 35                              | 119   |
| 76.5%             | 11              | 76              | 6                               | 81                              | 87    |
| 12.6%             | 119             | 91              | 84                              | 35                              | 119   |

Table 7: Correlation between mean daily consumption of milk with mental distress and mindful attention awareness.

| Mean daily consumption of milk | Mental distress | Mindful attention |
|-------------------------------|-----------------|-------------------|
| R-value                       | -0.236          | 0.309             |
| p-value                       | **0.001         | **0.000           |

**Significant at 1% level.

DISCUSSION

Apart from this, the significant correlation was present in between milk consumption and mental distress, indicating that consumption of milk in breakfast increases mind full attention awareness. This finding is supported by the study carried out by O’sullivan, which showed that milk, the most popular breakfast item provides calcium which is involved in the release of neurotransmitters.13 Milk also contains tryptophan, a precursor to serotonin and a neurotransmitter involved in psychological process.
CONCLUSION

Findings of this study support the concept that breakfast is the most important meal of the day. Skipping breakfast may result in mental distress and poor mindful attention. The dietary habits of the subjects revealed that the breakfast meal composition lacked in core food groups suggesting poor breakfast quality. A significant association (p<0.005) was found between milk consumption and mental well-being suggesting that intake of milk with breakfast improves mental well-being of the subjects. Hence, this study recommends that awareness and education about healthy breakfast eating practices should be incorporated at college level.

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