Original Research Paper

Health Science

INFLUENCE OF LIVING ARRANGEMENTS ON FOOD CHOICES AND EATING BEHAVIOR OF STUDENTS: A COMPARATIVE STUDY

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ABSTRACT Emerging adulthood is a critical period for higher education students to embrace independent living conditions that impacts their dietary behavior. This study aims to compare food choices and eating behavior among Bangalore's 100 female students aged 20-25 years living in paying guest accommodation (PG) and at home (LH). The questionnaires used were self-developed and validated. The findings showed that price would have influenced most (48%) obese PG students' eating behavior in their frequent outside food and alcohol intake ($p<0.05$). In conclusion, there was a positive relationship observed between BMI, eating behavior and food choices among PG students who encountered difficulties in adopting healthy dietary habits due to independent living conditions.

KEYWORDS : Paying Guest Accommodation , Living At Home , Food Choice , Eating Behavior

INTRODUCTION

Over the past few years, India has observed a major population level demographic drift with 50% of the population being below the age of 25 which has given rise to a unique phase in the modern generation, known as emerging adulthood. This period is known to be a crucial period of important transitions such as leaving home for higher education and increased independence in decision making. (Parasuraman *et al*.,2009) Emerging adults are linked to the significant change in their social environment for which they gradually embrace independent living conditions that have shown to have a positive association with their change in diet and eating behavior.

University student population is divided into two categories: Students living with their parents and those living independently away from physical presence of their parental support. (Kresic *et al*.,2009) Since living alone with assumed academic workload responsibilities, home food preparation declines, and eating out of home association may have a positive correlation with unhealthy eating habits. Despite the emphasis of meeting the nutritional requirements, many young female students neglect practicing good dietary habits and there can be an increased likelihood of developing chronic diseases. Consequently, eating behaviour can become unhealthier among young women during the university period, as it is an important factor influencing a student's weight due to environmental factors. (Tanton *et al*.,2015)

This critical transition into the university period is a phase for greater explorations and freedom in their choice of food and behavior. In this way, the years spent at university must be dedicated to promoting healthy behavior as they constitute a large segment of society and expected to play prominent roles in future This study will be an attempt to understand the different aspects of the need to consider individual, societal, environmental and contextual factors with a view to increase healthy eating behaviors and improve university students ' dietary intake.
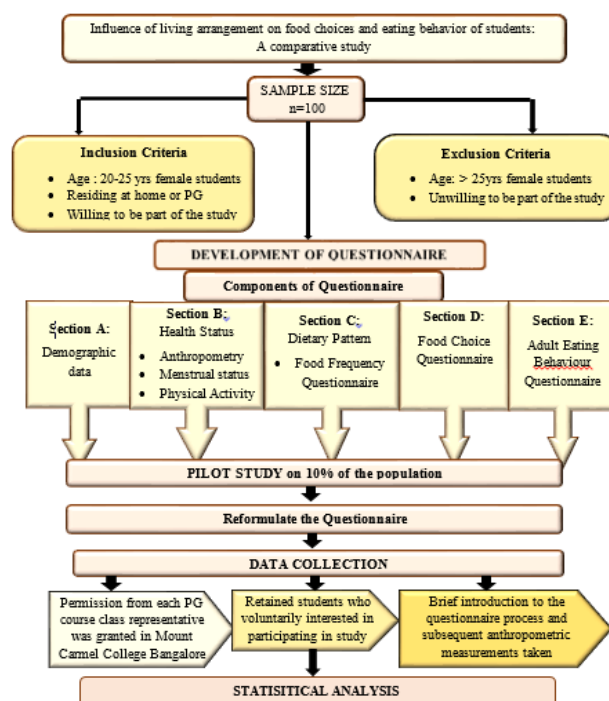
AIM:
To compare the food choices and eating behaviour between students living in paying guest accommodation and at home

OBJECTIVES:
- To determine and evaluate the food choices of students living at home and paying guest accommodation.
- To examine the impact of food choices and eating behaviour on their BMI.

METHODOLOGY

RESEARCH DESIGN

It is a cross-sectional comparative survey research design. A consent form was signed by all PG course class representatives from the college to conduct this study.

STUDY DESIGN AND STUDY AREA

The study was conducted in Mount Carmel College, Autonomous which is one of the reputed women colleges located in Vasanth Nagar of Bangalore, Karnataka

SELECTION OF SUBJECTS AND SAMPLE SIZE

A Purposive sampling technique was employed to enroll Post graduate students under various departments of study (N=100) with 50 students living at home and 50 students living in paying guest accommodation.

STUDY TOOLS
SELF ADMINISTERED QUESTIONNAIRE

A self-administered questionnaire was used to obtain information on demographic data, health status and dietary pattern. Two types of questions that were used are:
i. Open ended questions
ii. Multiple choice items, where students chose among several propositions

FOOD CHOICE QUESTIONNAIRE–

A Food Choice Questionnaire developed by Steptoe *et al* (1995) which incorporates 9 factors that influence peoples dietary decisions including health, cost, convenience, mood, natural content, weight control, familiarity and taste was implemented in the present study.

ADULT EATING BEHAVIOUR QUESTIONNAIRE –

The Adult Eating Behavior Questionnaire developed by Hunot *et al* (2016) included 35 items measuring 8 appetite traits that is hunger, food responsiveness , emotional over eating, enjoyment of food, satiety responsiveness, emotional under-eating, food fussiness and slowness in eating was implemented in the present study. This survey questionnaire structure was verified using confirmatory factor analysis and the reliability was assessed using Cronbach's α and 2 weeks re tests in a sub sample of 93 participants. (Hunot *et al.,* 2016)

ANTHROPOMETRIC MEASUREMENTS

HEIGHT – Height was measured using Stadiometer.

WEIGHT – The students were weighed using a digital bathroom scale.

BODY MASS INDEX –

The BMI of all the subjects were then calculated based on height and weight measurements. BMI was estimated using the following formula:

$$BMI = \frac{Weight\,(kg)}{Height\,(m^2)}$$

WAIST AND HIP CIRCUMFERENCE –

The waist circumference is an indicator of health risk associated with excess fat around the waist measured using a measuring tape.

WAIT – HIP RATIO -

It is a dimensionless ratio of the waist circumference to that of the hip circumference.

$$Waist - Hip\,Ratio = \frac{Waist\,Circumference\,(cms)}{Hip\,Circumference\,(cms)}$$

PROCEDURE
PHASE 1:

Students in the classroom settings were handed out as a self-administered questionnaire along with Food choice questionnaire and Adult eating behavior questionnaire. To prevent errors and exhaustion, respondents were given enough time to answer the questions and anthropometric measurements were taken using the required tools and equipment.

PHASE 2:

The administered questionnaires were collected and scored for the prescribed procedures. The data obtained were recorded for statistical analysis and interpretation to establish relationships between the chosen parameters for drawing conclusions from results.

RESULTS AND DISCUSSION

The respondents of this study were college students living in paying guest accommodation denoted as "PG" and living at home denoted as "LH".

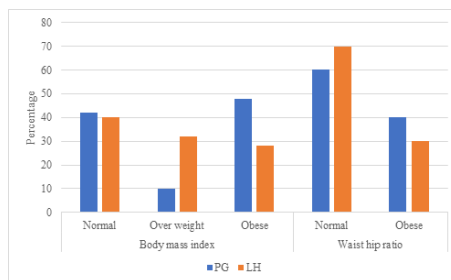## BMI AND WAIST HIP RATIO OF PG AND LH RESPONDENTS

Fig.1 – BMI AND WAIST HIP RATIO OF RESPONDENTS

Based on BMI , it was found that (48%) PG students and 28 % LH students were obese. There is a significant difference in BMI between two study groups (p<0.05).

A similar study conducted by Pengpid *et al (2014)* in Gitam University, India concluded that there was a high prevalence of overweight and obesity, in specific central obesity because of poor dietary and lifestyle practices.

FOOD CHOICE

Many PG and LH respondents found sensory appeal and mood primarily as a factor affecting their food choices. PG students then considered price (Mean = 81.7 ± 15.2) and LH respondents considered health (Mean = 80.9 ± 12.1) as influential factors.

Similarly another study also found that university students living in different living arrangement considered either cost of food, availability, favorite meals in making their choice of food that influenced their eating habits (Waweru *et al.,* 2016)

EATING BEHAVIOUR

Most PG and LH respondents considered enjoyment of food as the main factor affecting their eating behavior. However , LH respondents found food responsiveness (Mean = 78 ± 14.8) and hunger (Mean = 75.5 ± 14.7.) as factors influencing their eating behavior compared to PG respondents . There is a significant difference between two study groups (p<0.05).

CORRELATION BETWEEN STUDY CHARACTERISTICS
Table 1 - INTER RELATIONSHIP BETWEEN CHARACTERISTICS UNDER STUDY

Characteristics	Correlation (r) coefficient	
	Paying guest	Living at home
BMI X Food choice	+ 0.088	+ 0.079
BMI X Eating behavior	+ 0.191	+ 0.098
Food choice X Eating behavior	+ 0.304	+ 0.246

It was observed that there is a positive association between BMI and Food choice (PG+0.088; LH +0.079), BMI and eating behaviour (PG = 0.191; LH = 0.098) among both the study groups.

A study conducted by Hunot *et al (2016)* concluded that adults with a higher BMI had higher scores for characteristics of "food approach" traits (Food responsiveness, emotional overeating and enjoyment of food) and lower scores for food avoidance traits (Satiety responsiveness, emotional undereating and slowness in eating.

FREQUENCY OF OUTSIDE FOOD AND ALCOHOL CONSUMPTION

Thirty two percent PG and 26% LH respondents consumed outside food weekly thrice. Although, a majority of LH (76%) and 98% PG students did not consume alcohol, the remaining 22% PG respondents consumed alcohol once a day . There is a significant difference between the two study groups in the consumption of alcohol and eating out food (p<0.05).

Similarly, a study conducted by Lorant *et al* (2013) concluded that

alcohol consumption increased for students living with higher number of roommates due to increased social involvement

CONCLUSION
It has been recognized that frequent intake of outside food and alcohol would have led to the majority of obese PG students . Since price was an obligatory factor for PG students, the prospects of easily obtaining unhealthy options at a low cost could affect their health, provided their increased social involvement is often observed during this period which can affect their choice of food and eating behavior.

The study suggests for the facilitation of effective and tailor-made health programs to improve university students ' food choices and eating habits with the goal of reducing the incidence of non-communicable diseases in later years of life.

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