



KAP STUDY OF EATING JUNK FOOD WITH REFERENCE TO BMI AMONG STUDENTS OF SIALKOT MEDICAL COLLEGE (SMC), SIALKOT

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ABSTRACT

OBJECTIVES: To assess the eating habits of students and their effect on BMI along with other activities like exercise

STUDY DESIGN: Cross-Sectional Study

SAMPLING: Systematic Random Sampling

PLACE WHERE STUDY CARRIED OUT: Sialkot Medical College, Sialkot, Punjab, Pakistan

METHODS: Questionnaires were provided to students, they were distributed in each class on the basis of systematic random sampling to eliminate Selection Bias.

Approval from the ethical committee of SMC was taken

Consent was taken and confidentiality was assured without asking participants' names. Responses were to be filled in the format Agree, Partial Agree, or Disagree

Three parameters-KAP- Knowledge, Attitude, and Practice were asked separately in Questionnaires Other variables which influenced BMI like exercise, and frequency of eating healthy food like vegetables were asked in provided questionnaires

RESULTS: 92% Response Rate was obtained

Those who consumed fast food once a week had average BMI of 20.7.

- Normal (18 to 24.9)
- Overweight (25 to 30) (>30 are Obese)
- Two times a week: 23 (Normal BMI)
- Three times a week: 24 (Normal BMI) Four times a week: 27 (Overweight)
- More than four times a week: 29 (Overweight)

They were presented with pie charts and bars graphs respectively

CONCLUSION: Students had adequate Knowledge i.e. (82.6%) about detrimental effects of fast food on health and development of cardiovascular problems and Diabetes. BMI levels were proportional to the frequency of eating junk food.

Key Terms: Systematic Random Sampling, Selection Bias, KAP, Consent, pie-chart, bar graph. variables, UHT, Energy Balance.

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INTRODUCTION.

Junk foods are defined as foods that are readily available, usually inexpensive, and have less nutrient value. These foods

contain more calories, and more salt, have a higher content of saturated fat and contain less iron, calcium, and dietary fiber. Common junk foods include fast food,



carbonated drinks, chips, desserts, chocolates, etc¹.

Globally, junk foods are popular stuff, and consumption is increasing constantly. Traditional foods have been nearly replaced by food items that can be found in a state of ready-to-eat, in canned form, and preserved for a long time. The consumption of such foods has peaked in developed countries; however, there is an increasing trend in the developing countries of the world². In South Asian countries, there is a clear rising trend of such junk food consumption^{3,4}. Despite established evidence of the negative impacts of junk foods on the human body, the consumption of junk foods is popular among youngsters. Such consumption may lead to a high prevalence of obesity, diabetes mellitus, hypertension, and coronary heart disease⁵.

It is estimated that 16 million (1.0%) disability-adjusted life years (DALYs) lost and 1.7 million (2.8%) of worldwide mortality have been attributed to inadequate consumption of vegetables and fruits⁶. Despite the socioeconomic condition of the family, junk food consumption has been emerging worldwide due to quick consumption, being ready-to-eat, inexpensive, and of good taste. Such foods have been found prepared using low-quality ingredients such as refined grains, added sugar, and fats, despite nutritious ingredients⁷. Fast foods have high sodium salt, which is often used as a preservative to make the foods more flavorful and satisfying. Such foods attract more people especially children and adolescents⁸.

Increased junk food consumption among all age groups and more common among young adults is an emerging public health challenge with a global prevalence of around 70%. Rapidly changing dietary practices and an increasing sedentary

lifestyle predispose to obesity-related non-communicable diseases, including insulin resistance diabetes, neuro-degeneration, and psychological changes, stroke, headache/precipitation of migraine, the metabolic syndrome, adult-onset diabetes, non-insulin-dependent diabetes, coronary artery diseases, polycystic ovarian syndrome, non-alcoholic fatty liver disease, cancers, and autoimmune disorders and site-specific neoplasms, both in children and in adults. Recent data show that obesity-related non-communicable diseases are increasing in many developing countries with cross-sectional and secular trends of childhood obesity globally and more prevalent to developing countries⁹.

Obesity and overweight have increased in Asia, and it is becoming more alarming in recent years. Countries of the World Health Organization (WHO) South East Asia Region are facing an epidemic of diseases associated with obesity such as diabetes and cardiovascular disease (CVD). Various studies had shown a rising prevalence of obesity among children due to their risky behaviors and dietary patterns. Despite facts known among adolescents in Sialkot medical college SIALKOT. There is a gap to explore food consumption patterns and their association with obesity. Since adolescents account for a quarter of the country's population, there should be special strategies to think about their current nutritional status. Risky behaviors such as unusual times of sleeping, tobacco and substance abuse, watching television for a longer time, consuming low dietary foods and fruits, along with insufficient physical activities are found to be more prevalent in students, which are leading to more risk of deviating health condition of adolescents.



There is limited evidence to identify the magnitude of junk food prevalence and the factors promoting its consumption. We explored the status of junk food consumption and its associated factor among the students. The findings of this study are expected to be a primary step toward planning multipronged strategies to address the growing health hazard and protecting children and adolescents from the long-term ill health effects of junk foods. The study results will have policy implications for adolescents to plan, prevent, and control junk foods, obesity, and other health complications.

METHODOLOGY

A KAP study was conducted in July-August 2022 on 100 students of MBBS, DPT, HND of Sialkot medical college. The subjects were chosen from systematic random sampling. However, the subjects who refused to be a part of the study were excluded and replaced by volunteer subjects. The questions were divided into three sections based on the knowledge, attitude, and practice of participants. The response forms were then scored and graded according to SPSS 22 of descriptive statistics.

The Independent variables are age, gender, living situation, height, weight, year of study, BMI, and knowledge about the health effect of junk food consumption.

The dependent variable is junk food consumption

Frequency of consumption

1. **Mostly:** More than 4 times a week.
2. **Often:** 2-4 times a week.
3. **Sometimes:** Less than 2 times a week.

Place of consumption: It is a place such as home, school, friends' home, the hostel where the student consumes any type of junk food.

Living situation: It is the student's current living status i.e. living with parents, relatives, friends, or alone.

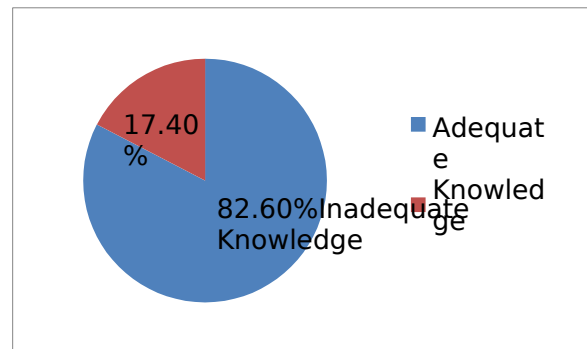
Knowledge: Participants who answered the right option among the given first 4 questions under the section of "Knowledge" were classified as adequate knowledge regarding the harmful effects of junk foods and others who did not answer right were classified as inadequate knowledge.

AIMS AND OBJECTIVES

- To evaluate the knowledge, attitude and practice of eating junk food and to assess and to improve the health status and to highlight the lifestyle and dietary habits among the students of Sialkot Medical College with reference to their BMI.

RESULTS AND MAIN FINDINGS:

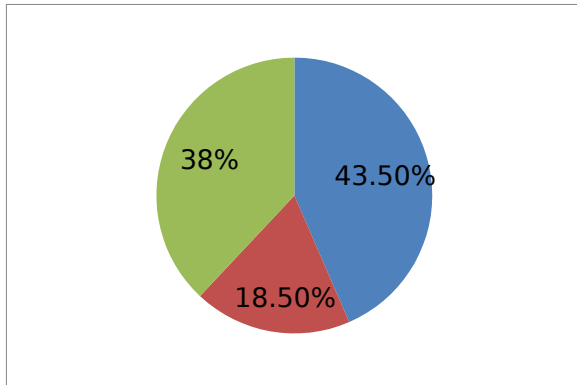
Figure 1: KNOWLEDGE- Percentage of Students with Adequate Knowledge of Junk Food



- 82.6% of Students had adequate knowledge regarding junk food and its harmful effects
- 17.4% of Students did not have adequate knowledge regarding junk food and its harmful effects

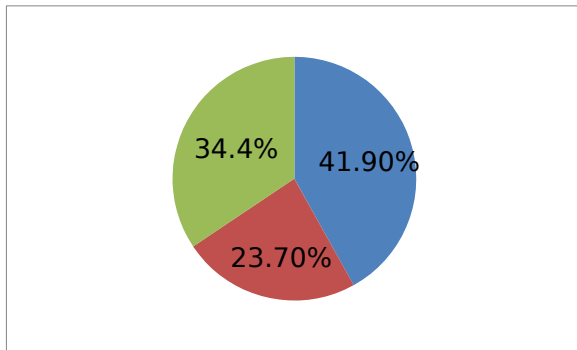


Figure 2: Attitude- Students who preferred Fast Food over Homemade food



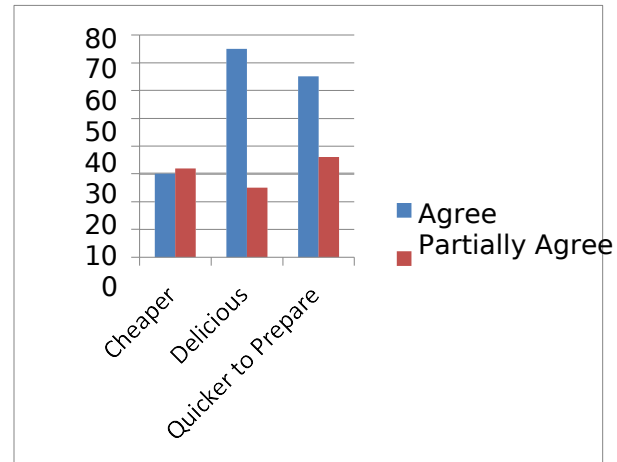
- 43.5% students agreed that they referred fast food over junk food
- 18.5% Students Partially agreed
- 38% Students disagreed

Figure 3: Attitude- Students considering themselves addicted to Fast food



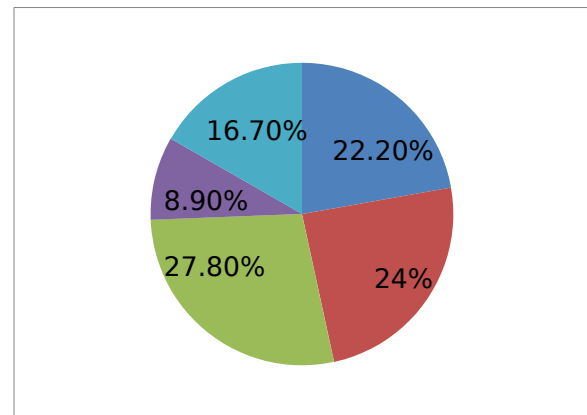
- 41.9% of students agreed that they were addicted to Fast Food
- 23.7% of students partially agreed
- 34.4% of students disagreed

Figure 4: Attitude- Reasons for Consumption of Fast Food Among Student



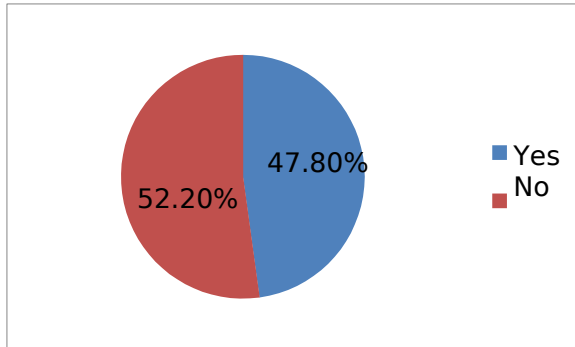
- 12% of Students Consumed fast food because it is cheaper
- 78% of Students Consumed fast food because it is delicious
- 60% of Students Consumed fast food because it is quicker to prepare

Figure 5: Practice- Number of Time Students Eat Vegetables in a week



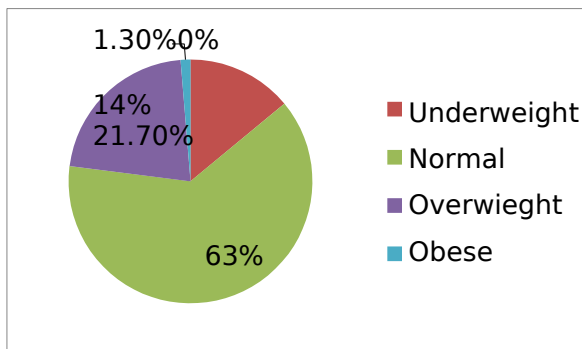
- 1 time per week – 22.2% of students
- 2 times per week- 24.4% of students
- 3 times per week- 27.8% of students
- 4 times per week- 8.9% of students
- More than 4 times per week- 16.7% of students

Figure 6: Practice-Percentage of Students Doing Regular Exercise



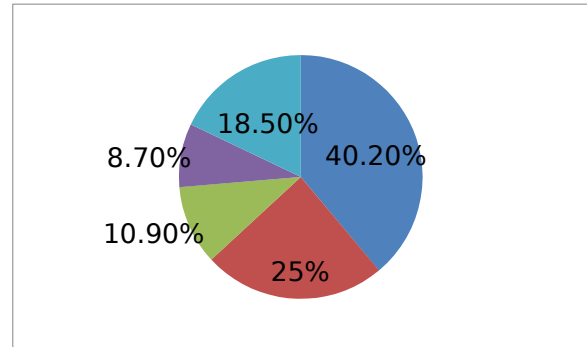
- 47.8 % of Students did regular exercise
- 52.2 % of Students did not do regular exercise

Figure-7; BMI of Students



- **14%** of Students are **underweight and** have BMI of **less than 18**
- **63%** of Students have **normal** BMI between **18-24.9**
- **21.7%** of Students are **overweight** with BMI between **25-30**
- **1.30%** of Students are **obese** with BMI **greater than 30**

Figure-8; Number of students eat Fast Food in a week.



- 1timeperweek- **40.2%**Students
- 2timesperweek-**25%**students
- 3timesperweek-**10.9%**students
- 4timesperweek-**8.7%**Students
- More than 4 times per week- **18.5%** students

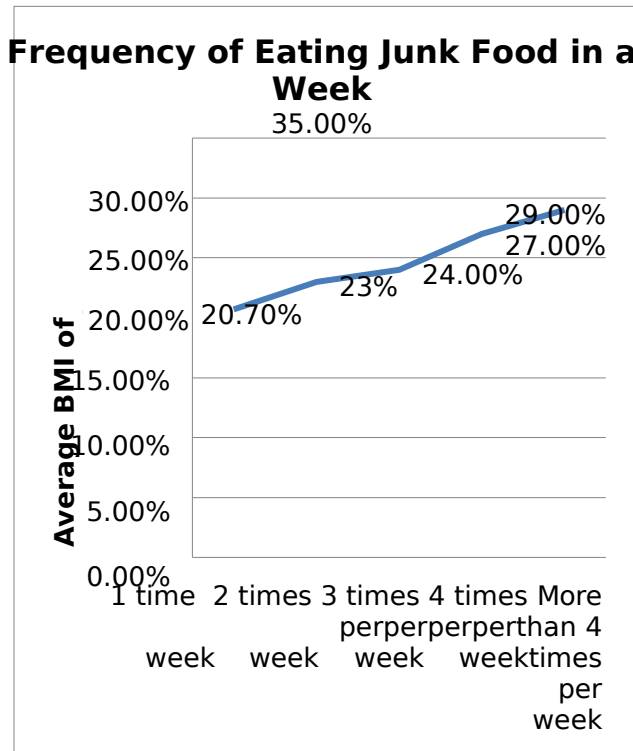
Table 1: Average BMI of students with respect to frequency of eating junk food in a week.

Frequency of Eating Junk Food in a week	Average BMI of Students
1 time per week	20.7 (18-24.9 Normal)
2 times per week	23 (18-24.9 Normal)
3 times per week	24 (18-24.9 Normal)
4 times per week	27(25-30 Overweight)
More than 4 times per week	29 (25-30 Overweight)

(Reference Range: With BMI 18-24.9 are Normal, 25-30 are Overweight and >30 are Obese)



Figure-9: Graphical Representation of Average BMI of students with respect to frequency of eating junk food in a week



- The above mentioned results showed that the Average BMI of Students Increase with Increasing Frequency of Eating Junk Food in a week, Showing a Positive Correlation

Discussion

This study aimed to evaluate the knowledge, attitude, and practices of eating junk food among the students of Sialkot medical college with reference to their BMI: a cross-sectional survey was conducted among 100 students of SMC.KAP towards eating fast food or junk food was evaluated by questionnaire mostly first-year and fourth year shared their opinion. The age group of this research ranges from 20-22 years mostly male. The findings reveal (that 51.1%) of students consume junk food.

The majority of the students (74.2%) are aware of the harmful effects of junk food. Overall research shows that 21.7% of the students are overweight and 1.30 % are obese.

We have compared our research with medical students of institutes in Nepal, where an 8.1% prevalence of overweight and obesity among young¹⁰.

We have compared our study with medical students of Ghana medical school where our research differs and there were 2.3% of obese medical students¹¹.

We have compared our study with medical students of IGIMS Patna where 83% of medical students consume junk food¹².

We have compared our research with medical students of Mansoura university Egypt where 64% of the students took junk food as a meal¹³.

Owing to the fact that fast food is made under UHT and contains high lipid content which gradually leads to negative energy balance (energy input > energy output) causing increased lipid deposits in blood vessels and Adipose tissues and increased weight and Hypertension.

Standard BMI levels were obtained in students who did exercise regularly and consumed less junk food compared to students who did not exercise and ate junk food more often.

Reasons to consume fast food because it is delicious and other reasons like its quicker to prepare were obtained which reflected due to the opening of multiple fast-food chains, in most of the cities of the country and the use of high-tech machinery to quickly prepare meals. However studies conducted in Sudan¹⁴, USA¹⁵ and Malaysia¹⁶ showed same conclusion.



CONCLUSION

Students had adequate Knowledge i.e. (82.6%) about the detrimental effects of fast food on health and the development of cardiovascular problems and Diabetes. BMI levels were proportional to the frequency of eating junk food.

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