

Assessment Of Knowledge, Attitude And Practices Of Dietary Pattern Among University Students

Sapna Miraj

Department of Human Nutrition and Dietetics, Bacha Khan University Charsadda, KP, Pakistan, Email: sapnamiraj1220@gmail.com, swisal@bkuc.edu.pk

Shakoor Wisal (Corresponding Author)

Department of Human Nutrition and Dietetics, Bacha Khan University Charsadda, KP, Pakistan, Email: sapnamiraj1220@gmail.com, swisal@bkuc.edu.pk

Muhammad Ali

Institute of Biotechnology and Microbiology, Bacha Khan University Charsadda, KP, Pakistan Email: drali@bkuc.edu.pk

Muniba Idrees

Nutrition Stabilization Center NSC, Mohtarma Benazir Bhutto Shahid Children Hospital, MMC Mardan KP, Pakistan Email: muniba.idrees2014@gmail.com

Zahin Anjum

College of Home Economics, University of Peshawar
Email: zahinanjum16@gmail.com

Maryam Bibi

Department of Human Nutrition and Dietetics, Women University Mardan,
Email: maryammohmand828@gmail.com

Abstract

Assessing the knowledge, attitudes, and practices related to dietary patterns among university students is essential for promoting healthier lifestyles, improving academic performance, reducing healthcare burdens, and supporting long-term socio-economic development. This study aimed to assess the knowledge, attitudes, and practices regarding dietary patterns among university students at Bacha Khan University. A cross-sectional study design was employed, and a total of 200 students were enrolled through convenient sampling. The study population consisted of equal proportions of males (50%) and females (50%), with a mean age of 22.5 ± 2.4 years. Data were collected using a structured questionnaire and analyzed using SPSS version 29. Anthropometric assessment showed that the mean weight of females and males was 56.4 ± 10.3 kg and 70.8 ± 10.8 kg, respectively, while the mean height was 162.4 ± 7.8 cm for females and 173.6 ± 9.6 cm for males. The mean body mass index (BMI) of female and male students was 21.6 ± 4.6 kg/m² and 23.2 ± 3.4 kg/m², respectively.

Findings revealed limited nutritional awareness among students, as a considerable

Author Details

Keywords: Nutritional Knowledge, Attitude And Practices, Dietary Pattern, Bmi, University Students

Received on 01 May 2026

Accepted on 20 May 2026

Published on 30 May 2026

Corresponding E-mail & Author*:

Shakoor Wisal

Department of Human Nutrition and Dietetics, Bacha Khan University Charsadda, KP, Pakistan, Email: sapnamiraj1220@gmail.com, swisal@bkuc.edu.pk

proportion were uncertain about the recommended dietary allowance (RDA) of cooking oil, vegetables, and the protective role of tea against cardiovascular and cerebrovascular diseases. Positive attitudes were observed regarding food compatibility and preference for homemade foods, whereas unhealthy dietary practices such as frequent intake of fried foods and high salt consumption were common. Most participants had never attempted to reduce salt intake in daily meals. Statistical analysis demonstrated a significant association ($p < 0.05$) between BMI and nutritional knowledge variables, including RDA awareness, calcium supplementation, hypertension, and tea consumption. Significant associations were also observed between BMI and dietary practices, including eating habits, food preparation methods, hygiene practices, and consumption of fried, pickled, and raw foods. The study highlights the need for nutrition education programs to improve healthy dietary behaviors among university students.

Introduction

Assessing the knowledge, attitudes, and practices related to dietary patterns among university students is essential for promoting healthier lifestyles, improving academic performance, reducing healthcare burdens, and supporting long-term socio-economic development. University students represent a vulnerable population whose dietary behaviors are strongly influenced by academic stress, limited financial resources, peer pressure, and changing lifestyles (Mwaniki *et al.*, 2021). Knowledge regarding dietary practices reflects students' understanding of nutrition principles, dietary recommendations, food groups, and the impact of food choices on health outcomes (Aslam *et al.*, 2023). Adequate nutritional knowledge is considered a major factor influencing healthy eating behaviors, whereas poor awareness often results in unhealthy dietary choices such as frequent consumption of fast foods, processed foods, and snacks rich in fat, sugar, and salt (Ansari *et al.*, 2012).

Attitudes toward dietary practices also play a crucial role in shaping food choices and eating behaviors. Positive attitudes toward healthy eating encourage the consumption of fruits, vegetables, and whole grains, while negative attitudes associated with convenience, taste preferences, cultural influences, and time constraints may lead to poor dietary habits (Olatona *et al.*, 2018), (Zaidi *et al.*, 2021). Dietary practices among university students are frequently characterized by irregular meal patterns, skipping breakfast, excessive intake of processed and fried foods, and inadequate consumption of nutrient-dense foods (Zafar *et al.*, 2023). Such practices may contribute to obesity, micronutrient deficiencies, cardiovascular diseases, poor mental health, reduced cognitive performance, and lower academic achievement later in life (Ahmad *et al.*, 2021), (Syed *et al.*, 2017).

Several international studies have evaluated nutritional knowledge, attitudes, and dietary practices among university students. Ozgen (2017) reported moderate associations between nutritional knowledge, attitudes, and practices among university students in the United States and Turkey (Grygiel-Górniak *et al.*, 2016). Similarly, Allisaa *et al.* (2015) found that although medical students in Saudi Arabia understood the importance of healthy eating, they failed to implement healthy dietary behaviors consistently (Rana *et al.*, 2020). Haq *et al.* (2018) observed that international students in China had poorer dietary knowledge, higher BMI, and unhealthy eating habits compared to Chinese students (Bede *et al.*, 2020). Barzegari *et al.* (2011) also demonstrated positive correlations between nutrition knowledge, attitudes, and dietary practices among university students (Irfan *et al.*, 2019).

Research conducted in different countries further indicates that university students often possess moderate nutritional awareness but demonstrate poor dietary practices. Alkazemi (2019) reported unhealthy eating patterns and a higher prevalence of overweight and obesity among Kuwaiti university students (Aslam *et al.*, 2023).

Jayaveloo *et al.* (2021) found low breakfast consumption among Malaysian students despite moderate knowledge and attitudes toward healthy eating (Irfan *et al.*, 2018). Alves *et al.* (2020) similarly reported poor eating behaviors and inadequate healthy dietary knowledge among Portuguese university students (Cheli Vettori *et al.*, 2014). Studies from developing countries also highlight nutritional concerns among students. In Nigeria and South Africa, students recognized the importance of balanced diets; however, financial limitations, convenience, and peer influence negatively affected food choices (Ul Haq *et al.*, 2018), (Barzegari *et al.*, 2011).

In Pakistan, limited studies have explored dietary knowledge and practices among university students, particularly in Khyber Pakhtunkhwa (KPK). Previous studies reported inadequate food safety practices, insufficient nutritional knowledge, unhealthy eating patterns, and high consumption of processed foods among university students in the region (Sajwani *et al.*, 2009), (Sayed *et al.*, 2012), (Naeeni *et al.*, 2014), (Hassan *et al.*, 2015). Sajwani *et al.* (2009) observed that medical students in Karachi possessed better nutritional knowledge than non-medical students, although this knowledge did not necessarily translate into healthier lifestyle behaviors (Lee *et al.*, 2020). Sayed *et al.* (2012) further reported that many university students in Karachi failed to meet the recommended intake of major food groups and relied heavily on media sources for nutritional information (Aslam *et al.*, 2023).

Despite growing awareness regarding nutrition and healthy lifestyles, there remains a substantial gap between nutritional knowledge and actual dietary practices among university students. Most students are aware of the harmful effects of excessive salt intake, fast food consumption, and meal skipping, yet these behaviors remain common due to academic workload, financial limitations, and lifestyle factors (Alves *et al.*, 2020), (Liu *et al.*, 2020), (Kumar *et al.*, 2024), (Erdenebileg *et al.*, 2018). Therefore, understanding students' knowledge, attitudes, and practices regarding dietary patterns is important for designing effective nutrition education programs and interventions.

Considering the limited evidence available from KPK, particularly at Bacha Khan University, the present study was conducted to assess the knowledge, attitudes, and practices of university students regarding dietary patterns, including Mediterranean, plant-based, and low-carbohydrate diets. The findings of this study may contribute to the development of targeted nutritional awareness programs aimed at improving dietary behaviors and overall health among university students.

Materials and Methods

A community-based cross-sectional study was conducted among undergraduate and postgraduate students at Bacha Khan University to assess their knowledge, attitudes, and dietary practices regarding dietary patterns. A convenient sample of 200 students, including 100 males and 100 females aged between 20 and 30 years, was enrolled in the study. Students suffering from communicable diseases or taking supplements and medications were excluded from participation. Data were collected using a preplanned structured questionnaire after obtaining ethical approval from the institutional ethical committee and written informed consent from all participants. The questionnaire included information on socio-demographic characteristics, anthropometric measurements, nutritional knowledge, attitudes, and dietary practices. Anthropometric assessment included measurement of height and weight using a stadiometer and electronic weighing scale, respectively, while Body Mass Index (BMI) was calculated as weight in kilograms divided by height in square meters and categorized into underweight, normal weight, overweight, and obese groups. The knowledge section comprised 10 items related to dietary patterns and nutrition, whereas attitudes were assessed using 15 Likert-scale statements ranging from strongly agree to strongly disagree. Dietary practice-related information was also collected from all participants. The collected data were entered and analyzed using

Statistical Package for Social Sciences (SPSS) version 29. Descriptive statistics including means, frequencies, and percentages were calculated, while inferential statistics such as Chi-square test and independent t-test were applied to determine associations between variables. Graphs and tables were prepared using Microsoft Excel 2021.

RESULTS AND DISCUSSION

shows the socio demographic characteristics of the students. The study concluded that the mean age of the enrolled student was 22.5 ± 2.4 (years). Same proportion of male (50%) and female (50%) were enrolled in the study. Majority (74.5%) of the enrolled students were studying in undergraduate programs. Some (30%) of the students were having joint family system home residency was found for 42.5% of the students. The Mean income level of the student was 55000.23 ± 12000.74 with 54.5% of the students having average monthly income as shown in Table 1.

Our study's findings are comparable to those of (Güzeler *et al.*, 2020), who examined students at the Medical University of Malaysia in 2016 in terms of their food habits, physical activity levels, and nutritional status. There were 23.2 ± 2.7 years of age difference among the registered pupils. The nutritional status of college students in Bahawalpur was also assessed in a related study (Teschl *et al.*, 2018). The average age of enrolled students was found to be 22.6 ± 2.4 years, according to the study. Among students, dorms are home to 54% of them. The parental income (59.7%) of the students is in the middle range. In three Cameroonian provinces, (Ahmeda *et al.*, 2021) carried out a study to evaluate the nutritional status and food of schoolchildren. The average age of enrolled students was found to be 20.2 ± 2.3 years, according to the study. Students who live alone or in hotels make up the majority (59.1%). College students from Gujarat were also assessed by (*et al.*, 2021) for their nutritional health and the effects of weight and obesity. The mean age of the registered students was found to be 22.5 ± 2.2 years, with the majority (53.0%) falling within the 18 and 22-year-old age bracket. An additional finding of the survey was that 82.6 percent of students resided in dorms. Additionally, college students in Lahore, Pakistan, had their food knowledge assessed by (Güneş *et al.*, 2019). The majority of enrolled students (60.3%) were between the ages of 22 and 25, with an average age of 22.3 ± 2.4 years. Graduate students make up the majority of them (94.6%), and of them, 58.0 percent have negative behaviors. Akhter *et al.*, (2019) looked into obesity and nutritional condition among Pakistani university students. The students' average age is 20.7 ± 1.5 years, with the majority (54.5%) being in the 20–25 age range, and 71.8 percent of them living in hostels.

Table 2 shows the anthropometric parameters of the students. A highly significant difference ($p < 0.001$) was recorded for weight, height and body mass index across the gender. The mean weight of female and male was 56.4 ± 10.3 (kg) and 70.8 ± 10.8 (kg). The mean height of the female and male students was 162.4 ± 7.8 (cm) and 173.6 ± 9.6 (cm). The Mean body mass index of the female and male students was 21.6 ± 4.6 (kg/m²) and 23.2 ± 3.4 (kg/m²). The Weight, height and body mass index of male students was recorded higher as compared to that of Females

Table 1: Socio Demographic Characteristics of the Students

Sociodemographic	Categories	Means \pm S.D/ N (%)
Age		22.5 ± 2.4
Gender	Male	100 (50)
	Female	100 (50)
Education	Undergraduate	149 (74.5)
	Post Graduate	51 (25.5)
Family type	Joint	60 (30)

	Nuclear	140 (70)
Residence	Home	85 (42.5)
	Hostel	115 (57.5)
Income (Rs)		55000.23 ± 12000.74
Income level	Poor	60 (30.0)
	Middle	109 (54.5)
	Rich	31 (15.5)

The nutritional status of medical students in three Cameroonian provinces was evaluated in a study by (DeMay *et al.*, 2019) that had similar results. With a body weight of 23.13±3.12, the kids' average weight was 65.09±9.45 (kg). The average weight of male students at the University of São Paulo Preto campus was 76.9 ± 13.6 (kg), while the average weight of female students was 76.9 ± 13.6 (kg). These findings were based on measurements of the eating habits, weight, and body composition of the students (Teng *et al.*, 2020). Finally, he decided that it was students who are male average height 177.3±6.7 (cm) and female average height 163.1±6.3 (cm). The body weights of enrolled students were 24.4 ± 3.8 and 21.7 ± 3.0, respectively, indicating that boys are heavier than girls in both weight and body weight and that there is a significant (p<0.001) difference in height and weight. (Kubberød *et al.*, 2002) measured the anthropometric traits of university students in Iran. Men and women had mean weights of 70.14 ± 12.44 kg and 58.10 ± 8.63 kg, respectively, and mean heights of 174.89 ± 63.09 mm and 159.91 ± 59.88 mm, respectively. Every indicator varied according to gender. Sharif *et al.*, (2013) investigated the connection between anthropometry, body composition, and physical health in female college students. 58.5 ± 9.94 (kg) was the average body weight. The average weight and height are 22.52 ± 3.45 and 160.55 ± 5.93 (cm) and cm, respectively. Ali *et al.*, (2023) Examined how food consumption affected university students' anthropometric measurements. The pupils had an average body weight of 23.3±3.2 and an average body weight of 22.7±2.4. Found that there are gender disparities in college students' perceptions of their bodies, as well as links between nutrition and body mass index (BMI). Men are statistically heavier and taller than women. Men make up 1.71 ± 0.05 m of average height, while women make up 1.57 ± 0.06 m on average. The weight distribution of the males was 64.64 ± 8.35 kg, while the ladies weighed 53.87 ± 10.99 kg on average. There was, however, no discernible difference in BMI between men and women (22.16 ± 2.69 kg/m² vs. 21.73 ± 3.95 kg/m²).

Table 2: Anthropometric Parameters of the students

Anthropometric measurement	Means ± S.D		P-value
	Female	Male	
Weight (kg)	56.4 ± 10.3	70.8 ± 10.8	0.000
Height (cm)	162.4 ± 7.8	173.6 ± 9.6	0.000
Body mass index (Kg/m²)	21.6 ± 4.6	23.2 ± 3.4	0.000

Test applied= Independent t test, Significance=P<0.001

Table no. 3 shows the categorization of body mass index of the students. A highly significant (p<0.001) was recorded for body mass index distribution among the students. The results concluded that majority of the females (50.0%) and males (67.0%) were falling in the normal category of body mass index distribution.

The Chi-square test showed that no statistically significant association (p>0.05) was observed between BMI and other sociodemographic variables including age (p = 0.067), education level (p = 0.278), family type (p = 0.186), residence (p = 0.388), and income level (p = 0.974). Although variations were observed across BMI categories, these differences were not statistically meaningful. The results suggest that

gender was the only sociodemographic factor significantly associated with BMI in the present study population.

The present study's findings have similarities to the research conducted by (Savelli *et al.*, 2019), which revealed variations in college students' body image based on gender and the correlation between body mass index (BMI) and diet. Men are statistically heavier and taller than women. The majority of women (64%) and men (64%) weigh a typical amount. Male participants are more likely than female students to be pre-obesity or overweight. In addition, it seems that women (14%) are overweight compared to men (6%). The nutritional status of college students at the Islamic University of Bahawalpur was assessed in a different study (Kabir *et al.*, 2018). Twelve percent of the participants in the study were underweight, sixty-two percent were within the normal range, twenty-two percent were overweight, and four percent were obese. (Kolodinsky *et al.*, 2008) The general food knowledge of Lahore school children is assessed. According to the study, the majority of students (66%), followed by those who were overweight (18%) and obese (8%), were of normal weight. A related study (Hu *et al.*, 2016) looked into how university students' traits were affected by eating a healthy diet. Of them, being overweight (43.8%) is the most common, followed by being obese (20.0%), underweight (6.3%), and overweight (29.0%). Men (5.2%) and women (7.0%) have decreased but men (23.8%) and women (19.2%) are still considered obese. Sultana *et al.*, 2016) A medical college in Nepal monitored the physical characteristics of its students studying medicine. 32 (12%) and 39 (15%) of the 266 medical students were underweight. The mean weight of the subjects was $26.60 \pm 1.99 \text{ kg/m}^2$ and $17.13 \pm 1.19 \text{ kg/m}^2$, in that order. For men, the average BMI was $21.76 \pm 3.06 \text{ kg/m}^2$, while for women it was $21.70 \pm 2.96 \text{ kg/m}^2$.

Table 3. Association of sociodemographic with body mass index of the students.

Variables		Body mass index				P-value
		Underweig	Normal	Overweig	Obese	
Age		21.7 ± 2.0	22.5 ± 2.5	23.2 ± 2.4	22.0 ±	0.067
Education	Undergradua te	29 (87.9)	85 (72.6)	28 (70.0)	7 (70.0)	0.278
	Post	4 (12.1)	32 (27.4)	12 (30.0)	3 (30.0)	
Gender	Male	4 (12.1)	67 (57.3)	27 (67.5)	2 (20.0)	0.000
	Female	29 (87.9)	50 (42.7)	13 (32.5)	8 (80.0)	
Family type	Joint	10 (30.3)	34 (29.1)	10 (25.0)	6 (60.0)	0.186
	Nuclear	23 (69.7)	83 (70.9)	30 (75.0)	4 (40.0)	
Residence	Rural	18 (54.5)	49 (41.9)	15 (37.5)	3 (30.0)	0.388
	Urban	15 (45.5)	68 (58.1)	25 (62.5))	70 (70.0)	
Income level	Poor	12 (36.4)	34 (29.1)	11 (27.5)	3 (30.0)	0.974
	Average	17 (51.5)	64 (54.7)	22 (55.0)	6 (60.0)	
	Good	4 (12.1)	19 (16.2)	7 (17.5)	1 (10.0)	

The Chi-square test showed that no statistically significant association ($p > 0.05$) was observed between BMI and other sociodemographic variables including age ($p = 0.067$), education level ($p = 0.278$), family type ($p = 0.186$), residence ($p = 0.388$), and income level ($p = 0.974$). Although variations were observed across BMI categories, these differences were not statistically meaningful. The results suggest that gender was the only sociodemographic factor significantly associated with BMI in the present study Population.

Table 4: Knowledge of dietary pattern among the students

Variables		Gender (N (%))		P-value
		Male	Female	
RDA of cooking oil	5 to 10 grams	18 (18.0)	21 (21.0)	0.981
	25 to 30 grams	14 (14.0)	15 (15.0)	
	40 to 50 grams	14 (14.0)	14 (14.0)	
	No limit	12 (12.0)	11 (11.0)	
	Not sure	42 (42.0)	39 (39.0)	
RDA of dairy products	100 grams	19 (19.0)	18 (18.0)	0.953
	200 grams	14 (14.0)	16 (16.0)	
	300 grams	11 (11.0)	12 (12.0)	
	No limit	11 (11.0)	8 (8.0)	
	Not sure	45 (45.0)	46 (46.0)	
Daily water intake	1000 to 1200 ml	17 (17.0)	24 (24.0)	0.232
	1500 to 1700 ml	13 (13.0)	19 (19.0)	
	More than 2000 ml	34 (34.0)	30 (30.0)	
	No limit	9 (9.0)	11 (11.0)	
	Not sure	27 (27.0)	16 (16.0)	
RDA of vegetables	100 to 200 grams	13 (13.0)	17 (17.0)	0.928
	200 to 300 grams	11 (11.0)	11 (11.0)	
	300 to 500 grams	17 (17.0)	17 (17.0)	
	No limit	15 (15.0)	12 (12.0)	
	Not sure	44 (44.0)	43 (43.0)	
Best calcium source	Spinach	12 (12.0)	19 (19.0)	0.369
	Bone soup	36 (36.0)	27 (27.0)	
	Rice	10 (10.0)	13 (13.0)	
	Milk	11 (11.0)	7 (7.0)	
	Not sure	31 (31.0)	34 (34.0)	
Diet factor causing hypertension	Salt	45 (45.0)	38 (38.0)	0.836
	Sugar	13 (13.0)	14 (14.0)	
	Oil	11 (11.0)	12 (12.0)	
	Vinegar	9 (9.0)	8 (8.0)	
	Not sure	22 (22.0)	28 (28.0)	
Cardioprotective food	Fish	15 (15.0)	21 (21.0)	0.004
	Chicken	9 (9.0)	16 (16.0)	
	Pork	20 (20.0)	24 (24.0)	
	Beef	3 (3.0)	11 (11.0)	
	Lamb	53 (53.0)	28 (28.0)	
Best Iron source	Animal organ	10 (10.0)	15 (15.0)	0.807
	Milk	10 (10.0)	8 (8.0)	
	Spinach	15 (15.0)	12 (12.0)	
	Fried dishes	11 (11.0)	10 (10.0)	
	Not sure	54 (54.0)	55 (55.0)	
Tea and Cardiovascular health	True	29 (29.0)	31 (31.0)	0.951
	False	12 (12.0)	12 (12.0)	
	Not sure	59 (59.0)	57 (57.0)	
Knowledge about Animal Organs	Liver is rich in vitamin A	8 (8.0)	19 (19.0)	0.017
	Animal organ should be	25 (25.0)	27 (27.0)	
	Contain high	30 (30.0)	13 (13.0)	
	Belong to purine food	9 (9.0)	7 (7.0)	
	Contain toxins	28 (28.0)	34 (34.0)	

Test applied Chi square test, Significance ($p < 0.05$)

Table no 4 shows the knowledge of dietary pattern among the students. A significant difference ($p < 0.05$) was seen for the knowledge regarding role of foods in protecting cardio vascular system and reasons for the consumption of animal organs. Male (42.0%) and females (39.0%) were not sure about the RDA of cooking oil for adults population. Male (11.0%) and Females (9.0%) said that there is no limit for the consumption of diary products among the adults. Males (27.0%) and Females (16.0%) were not sure about the intake of water in adults. Males (44.0%) and females (43.0%) were not sure about the RDA of vegetables intake in adults. Males (11.0%) and females (7.0%) said that milk is the rich source of supplementing calcium. Males (45.0%) and females (38.0%) said that salt consumption is closely related to the occurrence of hypertension in adults. Males (9.0%) and females (16.0%) said that consumption of chicken is beneficial in protecting cardiovascular disease in adults. Males (10.0%) and females (15.0%) said that animal organs are rich source of iron for the body. Males (59.0%) and females (57.0%) were not sure about drinking tea and its role in protecting cardiovascular and cerebrovascular diseases. Less males (8.0%) and more females (19.0%) said that animal organs are rich in vitamin A.

The findings of this study are consistent with those of (Andrew *et al.*, 2023) who polled college students regarding their preferences for cooking oil and their knowledge of and consumption patterns of healthy fats. Merely 20.7% of individuals possess a thorough comprehension of healthy fats, whereas 79.3% have a weak awareness of them. Mirmiran *et al.* (2005) In a related study, medical students and non-medical students' nutritional knowledge and comprehension were compared. Of school-age children, 67% do not know how much fat is advised daily (Nadeem *et al.*, 2019). A research assessing the cultural customs of students in the Kukurova University Health Department. The authors looked at the connection between self-reported dietary recommendations, dietary intake, and general understanding of vegetable recommendations. 18.5% of women and 17.1% of men agreed to increase their vegetable intake, according to research (Li *et al.*, 2016). In a different study by Ahmeda *et al.* (2021) (Saba *et al.*, 1999), they conducted a survey based on specific schools and students to look into how secondary school students both at home and overseas comprehend and use water. They found that men (25.7%) and women (16.7%) consume water on daily basis is unknown to them. Among early childhood adolescents in Asante-Akeem City, Ghana, (Pwife *et al.*, 2021) assessed dietary iron consumption and diabetes awareness and practices. Out of the total population, almost 40% are aware of iron deficiency anemia, 29.4% know how diabetes is caused, 86% know how anemia feels, and 35% know what anemia may do to a person. While 41.2% of participants know that eating foods high in iron can prevent iron intake, 31.4% are aware of iron-containing foods, 4.4% are aware of foods high in iron from animals, and the majority (27%) mention plants. as a meal. In order to gauge college students' understanding of the risk of hypertension and how it relates to blood pressure, physical activity, diabetes in the family, cardiovascular disease (CVD), and social change, a study was done by (Basharat *et al.*, 2019). High-calorie foods (69.1%) and a high salt intake (62.7%) were seen as risk factors. Thirteen percent of people believe that birth control tablets are risky, compared to forty-seven percent who believe that energy drinks, coffee, and not exercising are dangerous. Turkish university students' understanding of cardiovascular risk was assessed by Güneş *et al.*, 2019 High blood pressure (50; 64.2%), smoking (53.1; 58%), stress (58.8; 71.8%), and high cholesterol (58.3; 72.3%) were the primary replies from both men and women.7) as well as obesity (46.8; 64.3%), physical inactivity (43.3; 47.8%), diabetes (41.7; 52.7%), and family history of CVD (31.8; 44.4%). The following were also deemed significant: poor health (22.6; 22.3%), secondhand smoking (24.4; 34%), and malnutrition (9.7; 15.3%).

Table 5; Attitude of students toward dietary pattern

Variables		Gender N(%)		P-value
		Male	Female	
Fast food nutritious	Strongly agree	17 (17.0)	19 (19.0)	0.150
	Agree	21 (21.0)	28 (28.0)	
	Neutral	37 (37.0)	21 (21.0)	
	Disagree	6 (6.0)	10 (10.0)	
	Strongly disagree	19 (19.0)	22 (22.0)	
Vegetarian diet healthier	Strongly agree	31 (31.0)	8 (8.0)	0.000
	Agree	19 (19.0)	14 (14.0)	
	Neutral	22 (22.0)	27 (27.0)	
	Disagree	20 (20.0)	22 (22.0)	
	Strongly disagree	8 (8.0)	29 (29.0)	
Eating 70–80% full	Strongly agree	24 (24.0)	38 (38.0)	0.004
	Agree	27 (27.0)	14 (14.0)	
	Neutral	13 (13.0)	4 (4.0)	
	Disagree	18 (18.0)	14 (14.0)	
	Strongly disagree	18 (18.0)	30 (30.0)	
Takeaway food and health	Strongly agree	28 (28.0)	16 (16.0)	0.150
	Agree	15 (15.0)	27 (27.0)	
	Neutral	14 (14.0)	14 (14.0)	
	Disagree	23 (23.0)	22 (22.0)	
	Strongly disagree	20 (20.0)	21 (21.0)	
Cravings over health	Strongly agree	10 (10.0)	9 (9.0)	0.495
	Agree	17 (17.0)	11 (11.0)	
	Neutral	9 (9.0)	5 (5.0)	
	Disagree	18 (18.0)	20 (20.0)	
	Strongly disagree	46 (46.0)	55 (55.0)	
Sugary drinks as water substitute	Strongly agree	10 (10.0)	14 (14.0)	0.260
	Agree	21 (21.0)	19 (19.0)	
	Neutral	3 (3.0)	8 (8.0)	
	Disagree	23 (23.0)	14 (14.0)	
	Strongly disagree	43 (43.0)	45 (45.0)	
Red foods replenish blood	Strongly agree	22 (22.0)	29 (29.0)	0.036
	Agree	40 (40.0)	36 (36.0)	
	Neutral	8 (8.0)	19 (19.0)	
	Disagree	6 (6.0)	2 (2.0)	
	Strongly disagree	24 (24.0)	14 (14.0)	
Soft drinks for guests	Strongly agree	17 (17.0)	23 (23.0)	0.066
	Agree	21 (21.0)	22 (22.0)	
	Neutral	8 (8.0)	18 (18.0)	
	Disagree	6 (6.0)	2 (2.0)	
	Strongly disagree	48 (48.0)	35 (35.0)	
Smoking while eating	Strongly agree	16 (16.0)	18 (18.0)	0.556
	Agree	60 (60.0)	59 (59.0)	
	Neutral	9 (9.0)	6 (6.0)	
	Disagree	5 (5.0)	2 (2.0)	
	Strongly disagree	10 (10.0)	15 (15.0)	
Food compatibility concept	Strongly agree	19 (19.0)	24 (24.0)	0.174
	Agree	46 (46.0)	48 (48.0)	
	Neutral	3 (3.0)	8 (8.0)	

	Disagree	6 (6.0)	2 (2.0)	
	Strongly disagree	26 (26.0)	18 (18.0)	
Homemade fermented foods healthier	Strongly agree	22 (22.0)	25 (25.0)	0.111
	Agree	35 (35.0)	36 (36.0)	
	Neutral	9 (9.0)	18 (18.0)	
	Disagree	5 (5.0)	1 (1.0)	
	Strongly disagree	29 (29.0)	20 (20.0)	
Vegetable oil replacing animal fat	Strongly agree	15 (15.0)	19 (19.0)	0.157
	Agree	17 (17.0)	16 (16.0)	
	Neutral	8 (8.0)	18 (18.0)	
	Disagree	5 (5.0)	2 (2.0)	
	Strongly disagree	55 (55.0)	45 (45.0)	
Restaurant environment importance	Strongly agree	45 (45.0)	44 (44.0)	0.406
	Agree	32 (32.0)	34 (34.0)	
	Neutral	9 (9.0)	5 (5.0)	
	Disagree	5 (5.0)	2 (2.0)	
	Strongly disagree	9 (9.0)	15 (15.0)	
Seasonings increase salt intake	Strongly agree	15 (15.0)	6 (6.0)	0.181
	Agree	32 (32.0)	29 (29.0)	
	Neutral	6 (6.0)	4 (4.0)	
	Disagree	1 (1.0)	1 (1.0)	
	Strongly disagree	46 (46.0)	60 (60.0)	
Balance of coarse and refined grains	Strongly agree	16 (16.0)	8 (8.0)	0.156
	Agree	35 (35.0)	27 (27.0)	
	Neutral	6 (6.0)	5 (5.0)	
	Disagree	1 (1.0)	1 (1.0)	
	Strongly disagree	42 (42.0)	59 (59.0)	

Test applied Chi square test, Significance ($p < 0.05$)

Table no 5 shows the attitude toward the dietary pattern among the students. A highly significant difference ($p < 0.001$) was found for the attitude toward vegetarian diet and a significant difference ($p < 0.05$) for eating sufficient meal and attitude towards red meat among the students. Male (21.0%) and Female (28.0%) agreed on the statement that eating fast food is more nutritious. Male (20.0%) and Female (22.0%) disagree on the statement that a vegetarian diet is more beneficial than meat-based diet. Male (24.0%) and Females (38.0%) strongly agreed and found that it is sufficient to eat 70 to 80% of daily meal until fullness feeling. 14% of both male and female remain neutral to the statement that eating takeaway foods has no impact on their overall health. Male (17.0%) and female (17.0%) agreed on the statement that satisfying ones craving during festival and holidays is more important than considering health concerns. Males (43.0%) and females (45.0%) strongly disagreed that sugar drinks have a better taste and can be used as substitute for plain water. Male (40.0%) and female (36.0%) said that red food like red meat, red bean and mutton can replenish blood. Males (8.0%) and females (18.0%) remained neutral to the statement that there is no feast without drinks including pepsy and cokes. Males (10.0%) and females (15.0%) strongly disagreed with smoking while having meal. Male (46.0%) and female (48.0%) agreed to the concept of food compatibility and incompatibility. Males (35.0%) and females (36.0%) agreed upon "Homemade foods are healthier than commercially processed foods ". Males (55.0%) and (45.0%) strongly disagreed to the statements that using vegetable oil can replace animal-based fats while cooking. Males (45.0%) and females (44.0%) strongly agreed to the statement "when restaurant foods tastes good, the surrounding environment doesn't matter "Males (32.0%) and

females (29.0%) agreed upon “seasoning other foods than salt can also increase the intake of salt in our daily life”. Male (6.0%) and females (1.0%) remained neutral for paying attention to the balance between staple and coarse grains within staple food intake.

A related study by Barr *et al.* (2016) looks at how university students' dietary habits, attitudes, and knowledge vary depending on their social standing and meat consumption. The findings demonstrated that non-vegetarians were more accepting of other non-vegetarians than vegetarians. While their dietary intake was not found to be higher than that of non-vegetarians, non-vegetarians also shown superior nutritional understanding for non-vegetarian diets when compared to general diets. Dietitians and vegans should take note of the study's findings. This research will be extremely helpful to food makers, particularly those who produce school lunches. (73) looked into the knowledge, attitudes, and behaviors (KAP) of youth regarding sugar-filled beverages (SSB) as well as other variables influencing KAP. The study found that while 42% of women and 41% of men agreed that soft drinks can be used in place of water, 42% of males think otherwise. The notion of meat intake and discrimination associated with it were both studied by Strong *et al.* (2018) who likewise came to same result. Most men (43%) and women (35%) who participated in the survey agreed that consuming meat and other red foods increases blood flow in the body. Men and women make up 12 and 18% of the student body, respectively, who refuse to smoke during meals when compared to non-smokers and smokers in terms of knowledge, attitudes, and actions related to smoking. Regarding the beliefs that women who smoke have better attitudes (93.4%), more friends (89.6%), and more beauty (90.6%) than non-smoking women, the majority of students disagreed. Men that smoke tend to have comparable unhealthy behaviors. Smokers falsely believe that smoking helps them focus while studying (about 50%), and smoking also contributes to obesity prevention (about 37.7%). Sultana *et al.* (2016) find factors that contribute to enough knowledge, appropriate conduct, and excellent practices by examining the present level of food safety knowledge, attitudes, and practices among Bangladeshi students. While 87% of respondents have a positive attitude and 52% follow excellent procedures, only 47% of respondents feel they know enough about food safety. Students who were female, those who had taken food safety courses or training, and those whose moms had received an education all showed greater understanding of food safety. There are additionally college students, students who have completed training programs or courses on food safety, and students whose mothers possess advanced medical knowledge. Likewise, students' good behavior was also linked to female students enrolled in food safety courses or training, university students, and students whose mothers had an education.

Table 6: Practices of students towards dietary pattern

Variables	Response	Male	Female	P-value
Taste preference	Light	9 (9.0%)	11 (11.0%)	0.978
	Sour	8 (8.0%)	9 (9.0%)	
	Sweet	12 (12.0%)	10 (10.0%)	
	Spicy	46 (46.0%)	45 (45.0%)	
	Salty	25 (25.0%)	25 (25.0%)	

Meal location	At home	19 (19.0%)	23 (23.0%)	0.953
	Cafeteria	14 (14.0%)	15 (15.0%)	
	Restaurant	26 (26.0%)	25 (25.0%)	
	Food chain	12 (12.0%)	10 (10.0%)	
	Food stalls	29 (29.0%)	27 (27.0%)	
Reading nutrition labels	Never	6 (6.0%)	5 (5.0%)	0.498
	Occasionally	22 (22.0%)	14 (14.0%)	
	Sometime	45 (45.0%)	54 (54.0%)	
	Often	17 (17.0%)	14 (14.0%)	
	Always	10 (10.0%)	13 (13.0%)	
Separation of raw and cooked food	Never	5 (5.0%)	5 (5.0%)	0.652
	Occasionally	8 (8.0%)	8 (8.0%)	
	Sometime	43 (43.0%)	33 (33.0%)	
	Often	17 (17.0%)	19 (19.0%)	
	Always	27 (27.0%)	35 (35.0%)	
Frequency of eating out	Never	16 (16.0%)	23 (23.0%)	0.048
	Occasionally	13 (13.0%)	16 (16.0%)	
	Sometime	8 (8.0%)	17 (17.0%)	
	Often	7 (7.0%)	2 (2.0%)	
	Always	56 (56.0%)	42 (42.0%)	
Taking leftovers home	Never	46 (46.0%)	42 (42.0%)	0.950
	Occasionally	15 (15.0%)	14 (14.0%)	
	Sometime	13 (13.0%)	14 (14.0%)	
	Often	17 (17.0%)	18 (18.0%)	
	Always	9 (9.0%)	12 (12.0%)	
Encouraging drinks in gatherings	Never	15 (15.0%)	6 (6.0%)	0.181
	Occasionally	32 (32.0%)	29 (29.0%)	

	Sometime	6 (6.0%)	4 (4.0%)	
	Often	1 (1.0%)	1 (1.0%)	
	Always	46 (46.0%)	60 (60.0%)	
Hand washing before meals	Never	17 (17.0%)	19 (19.0%)	0.150
	Occasionally	21 (21.0%)	28 (28.0%)	
	Sometime	37 (37.0%)	21 (21.0%)	
	Often	6 (6.0%)	10 (10.0%)	
	Always	19 (19.0%)	22 (22.0%)	
Consumption of wild game	Never	57 (57.0%)	57 (57.0%)	0.920
	Occasionally	15 (15.0%)	11 (11.0%)	
	Regularly	7 (7.0%)	8 (8.0%)	
	Frequently	3 (3.0%)	4 (4.0%)	
	Always	18 (18.0%)	20 (20.0%)	
Intake of stir-fried foods	Never	46 (46.0%)	45 (45.0%)	0.937
	Occasionally	23 (23.0%)	20 (20.0%)	
	Regularly	16 (16.0%)	16 (16.0%)	
	Frequently	7 (7.0%)	10 (10.0%)	
	Always	8 (8.0%)	9 (9.0%)	
Intake of steamed/boiled foods	Never	71 (71.0%)	71 (71.0%)	0.987
	Occasionally	11 (11.0%)	9 (9.0%)	
	Regularly	5 (5.0%)	6 (6.0%)	
	Frequently	3 (3.0%)	3 (3.0%)	
	Always	10 (10.0%)	11 (11.0%)	
Intake of fried/grilled foods	Never	79 (79.0%)	75 (75.0%)	0.735
	Occasionally	16 (16.0%)	19 (19.0%)	
	Regularly	3 (3.0%)	3 (3.0%)	
	Frequently	1 (1.0%)	2 (2.0%)	
	Always	1 (1.0%)	1 (1.0%)	

Breakfast frequency	Never	9 (9.0%)	10 (10.0%)	0.962
	1 to 2 times	13 (13.0%)	14 (14.0%)	
	3 to 4 times	34 (34.0%)	31 (31.0%)	
	5 to 6 times	13 (13.0%)	16 (16.0%)	
	Daily	31 (31.0%)	29 (29.0%)	
Pickled food consumption	Never	34 (34.0%)	39 (39.0%)	0.071
	Occasionally	29 (29.0%)	13 (13.0%)	
	Sometime	22 (22.0%)	33 (33.0%)	
	Frequently	6 (6.0%)	6 (6.0%)	
	Always	9 (9.0%)	9 (9.0%)	
Reducing cooking oil intake	Never	57 (57.0%)	53 (53.0%)	0.739
	Occasionally	9 (9.0%)	11 (11.0%)	
	Sometime	19 (19.0%)	15 (15.0%)	
	Frequently	6 (6.0%)	7 (7.0%)	
	Always	9 (9.0%)	14 (14.0%)	
Reducing salt intake	Never	63 (63.0%)	58 (58.0%)	0.738
	Occasionally	9 (9.0%)	12 (12.0%)	
	Sometime	7 (7.0%)	9 (9.0%)	
	Frequently	1 (1.0%)	3 (3.0%)	
	Always	20 (20.0%)	18 (18.0%)	

Test applied Chi square test, Significance ($p < 0.05$)

Table no 6 shows the practices of dietary pattern among the students. A significant difference ($p < 0.05$) was recorded for frequency of eating out only and non-significant relation ($p > 0.05$) for all the other practices among the students. Males (46.0%) and females (45.0%) were having spicy taste preferences. Males (19.0%)

The findings of this investigation are comparable to those of Kolodinsky et al., (2008), who looked at. The variables influencing rice and nutrient eating habit in an effort to find a solution to this issue. Most respondents, both males (45%) and females (49%), reported liking spicy food. One key element in the participants' meal preferences that stood out was taste. Participants admitted that color, flavor, and texture are frequently taken into consideration when making meal selections. Despite talking about broad concepts, individuals seemed to be drawing from their own experiences, much of which had to do with regional concerns. As an illustration, some people enjoy eating hot cuisine, whereas others prefer sweet or bitter flavors. Nonetheless, the majority of those surveyed claimed that because the hotel uses the same products year-round, its cuisine is nutritious. In a study by Kabir *et al.*, (2018) graduates are frequently observed cooking meals or making other personal preparations in their rooms as a result. Occasionally, participants search school cafeterias for food. College students' decisions on what to buy for meals are influenced by menu items, as explored. Their findings indicate that a small percentage of men (12%) and women (17%) experience anxiety when making food-related decisions. An institution in Chongqing, China hosted the cross-sectional study, which included 1634 individuals in total. The average dietary KAB scores were 11.5 ± 2.9 for knowledge, 17.0 ± 2.8 for attitude, and 24.2 ± 4.8 for attitude (with a total possible score of 20, 24, and 40, respectively). The frequency of desired traits and actions rises along with knowledge level. Merely 10% of participants reported not having gone out to eat on the weekends during the previous month. KAB scores were correlated with mother education, race/ethnicity, monthly transportation costs, place of residence during school hours, and frequency of breakfast consumption (Hu *et al.*, 2016). There is a dearth of study on hand hygiene practices among university students, despite the previously documented link between hand cleanliness and infection. This study assessed the knowledge, practices, and associated variables of handwashing among a sample of Bangladeshi university students in Dhaka. While the majority of students use water to wash their hands, only 22.5% of them do it correctly, by using water, soap, or hand sanitizer as directed Sultana et al., (2016). **Table 7: Knowledge of the student in relation to their Body mass index**

Variables		Body mass index (%)				p-val
		Under	Nor	Over	Obe	
RDA of cooking oil	5 to 10 grams	11 (33.3)	18 (15.4)	8 (20.0)	2 (20.0)	0.047
	25 to 30 grams	3 (9.1)	22	3 (7.5)	1	
	40 to 50 grams	5 (15.2)	16	4	3	
	No limit	3 (9.1)	13	5	2	
	Not sure	11	48	20	2	
RDA of dairy products	100 grams	8 (24.2)	24 (20.5)	5 (12.5)	0 (0)	0.021
	200 grams	3 (9.1)	19	7	1	
	300 grams	6 (18.2)	12	4	1	
	No limit	2 (6.1)	11	4	2	
	Not sure	14	51	20	6	
Daily water intake	1000 to 1200 ml	9 (27.3)	19 (16.2)	11 (27.5)	2 (20.0)	0.033
	1500 to 1700 ml	5 (15.2)	23	2 (5.0)	2	
	More than 2000 ml	9 (27.3)	40	11	4	

	No limit	4 (12.1)	10	5	1	
	Not sure	6 (18.2)	25	11	1	
RDA of vegetables	100 to 200 grams	7 (21.2)	17 (14.5)	5 (12.5)	1 (10.0)	0.078
	200 to 300 grams	3 (9.1)	13	6	0	
	300 to 500 grams	5 (15.2)	22	6	1	
	No limit	4 (12.1)	16	6	1	
	Not sure	14	49	17	7	
Best calcium source	Spinach	10 (30.3)	16 (16.7)	5 (12.5)	0 (0)	0.016
	Bone soup	7 (21.2)	43	11	2	
	Rice	6 (18.2)	11	4	2	
	Milk	1 (3.0)	12	5	0	
	Not sure	9 (27.3)	35	15	6	
Diet factor causing hypertension	Salt	19 (57.6)	46 (39.3)	16 (40.0)	2 (20.0)	0.046
	Sugar	3 (9.1)	20	3 (7.5)	1	
	Oil	4 (12.1)	13	4	2	
	Vinegar	1 (3.0)	9	5	2	
	Not sure	6 (18.2)	29	12	3	
Cardioprotective food	Fish	8 (24.2)	17 (14.5)	9 (22.5)	2 (20.0)	0.074
	Chicken	4 (12.1)	18	1 (2.5)	2	
	Pork	5 (15.2)	30	7	2	
	Beef	3 (9.1)	7	3 (7.5)	1	
	Lamb	13	45	20	3	
Best Iron source	Animal organ	7 (21.2)	14 (12.0)	4 (10.0)	0 (0)	0.063
	Milk	3 (9.1)	10	5	0	
	Spinach	3 (9.1)	19	4	1	
	Fried dishes	3 (9.1)	12	5	1	
	Not sure	17	62	22	8	
Tea and Cardiovascular health	True	11 (33.3)	33 (28.2)	15 (37.5)	1 (10.0)	0.015
	False	2 (6.1)	11	11	0	
	Not sure	20	73	14	9	
Knowledge about Animal Organs	Liver is rich in vitamin A	10 (30.3)	12 (10.3)	5 (12.5)	0 (0)	0.073
	Animal organ should be	6 (18.2)	36	8	2	
	Contain high cholesterol	7 (21.2)	27	7	2	
	Belong to purine food	1 (3.0)	10	5	0	
	Contain toxics	9 (27.3)	32 (27.4)	15 (27.5)	6 (60)	

Variables influencing rice and nutrient eating habit in an effort to find a solution to this issue. Most respondents, both males (45%) and females (49%), reported liking spicy food. One key element in the participants' meal preferences that stood out was

taste. Participants admitted that color, flavor, and texture are frequently taken into consideration when making meal selections. Despite talking about broad concepts, individuals seemed to be drawing from their own experiences, much of which had to do with regional concerns. As an illustration, some people enjoy eating hot cuisine, whereas others prefer sweet or bitter flavors. Nonetheless, the majority of those surveyed claimed that because the hotel uses the same products year-round, its cuisine is nutritious. In a study by Kabir et al., (2018) graduates are frequently observed cooking meals or making other personal preparations in their rooms as a result. Occasionally, participants search school cafeterias for food. College students' decisions on what to buy for meals are influenced by menu items, as explored. Their findings indicate that a small percentage of men (12%) and women (17%) experience anxiety when making food-related decisions. An institution in Chongqing, China hosted the cross-sectional study, which included 1634 individuals in total. The average dietary KAB scores were 11.5 ± 2.9 for knowledge, 17.0 ± 2.8 for attitude, and 24.2 ± 4.8 for attitude (with a total possible score of 20, 24, and 40, respectively). The frequency of desired traits and actions rises along with knowledge level. Merely 10% of participants reported not having gone out to eat on the weekends during the previous month. KAB scores were correlated with mother education, race/ethnicity, monthly transportation costs, place of residence during school hours, and frequency of breakfast consumption (Hu et al., 2016). There is a dearth of study on hand hygiene practices among university students, despite the previously documented link between hand cleanliness and infection. This study assessed the knowledge, practices, and associated variables of handwashing among a sample of Bangladeshi university students in Dhaka. While the majority of students use water to wash their hands, only 22.5% of them do it correctly, by using water, soap, or hand sanitizer as directed Sultana et al., (2016). Table 7: Knowledge of the student in relation to their Body mass index and females (23.0%) usually eat at homes. Males (45.0%) and females (54.0%) sometime paid attention to nutrition labels. 8% of both males and females were used to separate raw and cooked food and ingredients on some specific occasion. Males (16.0%) and females (23.0%) never ate out of home. Male (17.0%) and females (18.0%) oftenly takeover food to home when dining out. Males (6.0%) and Females (4.0%) sometime encourage drinking during social gathering with friends. Males (17.0%) and females (19.0%) never washed hands before meals. Males (15.0%) and females (11.0%) had occasionally consumed stired, fried and sauteed foods. Males (46.0%) and females (45.0%) had never consumed steamed, boiled and steamed food. Males (10.0%) and females (11.0%) had always consumed pan fried, deep fried and grilled fried foods. Males (79.0%) and females (75.0%) had never consumed cold and raw dishes. Males (31.0%) and females (29.0%) had daily consumption of breakfast. Males (34.0%) and female (39.0%) had never consumed pickled food products. Males (9.0%) and females (14.0%) had always consciously reduced the intake of cooking oils in daily life. Males (63.0%) and females (59.0%) had never reduced the intake of salt in their daily meals.

Table no 7 shows the association of knowledge of the students in relation to their body mass index. A significant relation ($p < 0.05$) was recorded changes in body mass index with the knowledge of RDA of cooking oil, RDA of dairy products, RDA of water intake in ml, Calcium supplementation, Occurrence of hypertension, relation of tea consumption with cardiovascular and cerebrovascular diseases,

The present study's findings reflect similarities to the research conducted by (84), which examined the possible correlation between dietary knowledge and body mass index (BMI) among Ojinovina University of Nigeria students. The study found a significant positive correlation ($p < 0.044$) between students' body mass index and their understanding of cooking oil. According to these findings, self-reported body mass index may decline in tandem with changes in awareness of cooking oil intake. The association between adult Tehrani participants' body mass index (BMI) and milk

consumption was assessed in a related study (85). After adjusting for age, energy, physical activity, carbs, dietary fiber, protein, and fat, there was a negative correlation ($r=-0.38$, $P<0.05$) between daily intake and BMI. Men and women in the highest quartile of dairy consumption had lower levels of fat than those in the first quartile (men OR = 0.78, 95% CI = 0.43-0.92, men OR = 0.89, 95% CI = 0.53-0.95), even after accounting for potential differences in consumption. obese, in the quartile (OR for men = 0.73, 95% CI = 0.40-0.83, and OR for women = 0.69, 95% CI = 0.34-0.80). The findings indicated a substantial correlation between body weight and dairy consumption. Globally, hypertension is the primary cause of death. Uncontrolled blood pressure is the cause of 47% of cardiovascular deaths and 54% of strokes. Pakistan and other economically developing nations deal with a high rate of heart disease, stroke, and mortality. As a result, it is imperative to address and alter heart disease risk factors, such as hypertension. (88) collected data on hypertension individuals with poor socioeconomic status about blood pressure, other social characteristics, and their effects on blood pressure regulation. Strangely, patients with higher BMIs claimed to have had higher levels of hypertension. There was not a significant difference in BMI between hypertensive and uncontrolled hypertensive. To investigate the relationship between calcium supplementation and weight change based on age, gender, body mass index (BMI), and length of calcium intervention, Ping et al. performed a meta-analysis. A negative connection ($p<0.041$) was observed between elevated calcium awareness and modifications in body mass index. Using a self-completed questionnaire, (86) looked into the prevalence of tea consumption among college students as well as the factors connected to it. Tea consumption was found to be primarily predicted by graduate students ($p < 0.001$), coffee ($p < 0.001$), alcoholic beverages ($p < 0.001$), mild mental illness ($p = 0.009$), inadequate sleep ($p = 0.037$), higher body weight ($p = 0.004$), and soda consumption ($p < 0.001$), according to multiple regression analysis. Unlike earlier research, our data indicate a negative correlation between tea consumption and higher body weight. Upon writing about tea from a therapeutic perspective, numerous thoughts about consuming tea could increase.

Table 8: Attitude towards dietary pattern in relation to the body mass index of the students

Variables		Body mass index				P-Valueue
		Underweig ht	Normal	Overweigh t	Obese	
Fast food nutritious	Strongly agree	6 (18.2)	21 (17.9)	8 (20.0)	1 (10.0)	0.065
	Agree	10 (30.3)	28 (23.9)	9 (22.5)	2 (20.0)	
	Neutral	6 (18.2)	30 (25.6)	18 (45.0)	4 (40.0)	
	Disagree	4 (12.1)	10 (8.5)	2 (5.0)	0 (0)	
	Strongly	7 (21.2)	28 (23.9)	3 (7.5)	3 (30.0)	
Vegetarian diet healthier	Strongly agree	1 (3.0)	27 (23.1)	11 (27.5)	0 (0)	0.043
	Agree	4 (12.1)	20 (17.1)	6 (15.0)	3 (30.0)	
	Neutral	10 (30.3)	31 (26.5)	6 (15.0)	2 (20.0)	
	Disagree	10 (30.3)	20 (17,1)	10 (25.0)	2 (20.0)	
	Strongly	8 (24.2)	19 (16.2)	7 (17.5)	3 (30.0)	
Eating 70–80% full	Strongly agree	11 (33.3)	29 (24.8)	16 (40.0)	6 (60.0)	0.054

	Agree	6 (18.2)	29 (24.8)	4 (10.0)	2 (20.0)	
	Neutral	1 (3.0)	12 (10.3)	4 (10.0)	0 (0)	
	Disagree	5 (15.2)	19 (16.2)	7 (17.5)	1 (10.0)	
	Strongly	10 (30.3)	28 (23.9)	9 (22.5)	1 (10.0)	
Takeaway food and health	Strongly agree	8 (24.2)	23 (19.7)	13 (32.5)	0 (0)	0.044
	Agree	9 (27.3)	25 (21.4)	6 (15.0)	2 (20.0)	
	Neutral	4 (12.1)	17 (14.5)	4 (10.0)	3 (30.0)	
	Disagree	9 (27.3)	28 (23.9)	7 (17.5)	1 (10.0)	
	Strongly	3 (9.1)	24 (20.5)	10 (25.0)	4 (40.0)	
Cravings over health	Strongly agree	5 (15.2)	9 (7.7)	5 (12.5)	0 (0)	0.035
	Agree	3 (9.1)	20 (17.1)	4 (10.0)	1 (10.0)	
	Neutral	2 (6.1)	5 (4.3)	6 (15.0)	1 (10.0)	
	Disagree	4 (12.1)	25 (21.4)	6 (15.0)	3 (30.0)	
	Strongly	19 (57.6)	58 (49.6)	19 (47.5)	5 (50.0)	
Sugary drinks as water substitute	Strongly agree	6 (18.2)	12 (10.3)	4 (10.0)	2 (20.0)	0.064
	Agree	10 (30.3)	22 (18.8)	7 (17.5)	1 (10.0)	
	Neutral	2 (6.1)	4 (3.4)	3 (7.5)	2 (20.0)	
	Disagree	3 (9.1)	23 (19.7)	8 (20.0)	3 (30.0)	
	Strongly	12 (36.4)	56 (47.9)	18 (45.0)	2 (20.0)	
Red foods replenish blood	Strongly agree	10 (30.3)	31 (26.5)	7 (17.5)	3 (30.0)	0.041
	Agree	10 (30.3)	47 (40.2)	17 (42.5)	2 (20.0)	
	Neutral	6 (18.2)	12 (10.3)	7 (17.5)	2 (20.0)	
	Disagree	0 (0)	3 (2.6)	4 (10.0)	1 (10.0)	
	Strongly	7 (21.2)	24 (20.5)	5 (12.5)	2 (20.0)	
Soft drinks for guests	Strongly agree	8 (24.2)	27 (23.1)	4 (10.0)	1 (10.0)	0.053
	Agree	8 (24.2)	26 (22.2)	8 (20.0)	1 (10.0)	
	Neutral	5 (15.2)	12 (10.3)	7 (17.5)	2 (20.0)	
	Disagree	0 (0)	3 (2.6)	4 (10.0)	1 (10.0)	
	Strongly	12 (36.4)	49 (41.9)	17 (42.5)	5 (50.0)	
Smoking while eating	Strongly agree	3 (9.1)	22 (18.8)	7 (17.5)	2 (20.0)	0.022
	Agree	19 (57.6)	72 (61.5)	23 (57.5)	5 (50.0)	
	Neutral	2 (6.1)	5 (4.3)	6 (15.0)	2 (20.0)	
	Disagree	1 (3.0)	5 (4.3)	0 (0)	1 (10.0)	
	Strongly	8 (24.2)	13 (11.1)	4 (10.0)	0 (0)	
Food compatibility concept	Strongly agree	8 (24.2)	27 (23.1)	6 (15.0)	2 (20.0)	0.063
	Agree	16 (48.5)	53 (45.3)	22 (55.0)	3 (30.0)	
	Neutral	2 (6.1)	4 (3.4)	3 (7.5)	2 (20.0)	

	Disagree	0 (0)	3 (2.6)	4 (10.0)	1 (10.0)	
	Strongly	7 (21.2)	30 (25.6)	5 (12.5)	2 (20.0)	
Homemade fermented foods healthier	Strongly agree	11 (33.3)	28 (23.9)	5 (12.5)	3 (30.0)	0.074
	Agree	9 (27.3)	44 (37.6)	16 (40.0)	2 (20.0)	
	Neutral	5 (15.2)	13 (11.1)	7 (17.5)	2 (20.0)	
	Disagree	0 (0)	1 (9.0)	4 (10.0)	1 (10.0)	
	Strongly	8 (24.2)	31 (26.5)	8 (20.0)	2 (20.0)	
Vegetable oil replacing animal fat	Strongly agree	7 (21.2)	24 (20.5)	3 (7.5)	0 (0)	0.033
	Agree	6 (18.2)	20 (17.1)	6 (15.0)	1 (10.0)	
	Neutral	6 (18.2)	11 (9.4)	7 (17.5)	2 (20.0)	
	Disagree	0 (0)	3 (2.6)	3 (7.5)	1 (10.0)	
	Strongly	14 (42.4)	59 (50.4)	21 (52.5)	6 (60.0)	
Restaurant environment importance	Strongly agree	13 (39.4)	56 (47.9)	16 (40.0)	4 (40.0)	0.041
	Agree	9 (27.3)	39 (33.3)	14 (35.0)	4 (40.0)	
	Neutral	2 (6.1)	5 (4.3)	6 (15.0)	1 (10.0)	
	Disagree	1 (3.0)	5 (4.3)	0 (0)	1 (10.0)	
	Strongly	8 (24.2)	12 (10.3)	4 (10.0)	0 (0)	
Seasonings increase salt intake	Strongly agree	3 (9.1)	13 (11.1)	5 (12.5)	0 (0)	0.016
	Agree	14 (42.4)	32 (27.4)	13 (32.5)	2 (20.0)	
	Neutral	1 (3.0)	5 (4.3)	3 (7.5)	1 (10.0)	
	Disagree	0 (0)	2 (1.7)	0 (0)	0 (0)	
	Strongly	15 (45.5)	65 (55.6)	19 (47.5)	7 (70.0)	
Balance of coarse and refined grains	Strongly agree	5 (15.2)	13 (11.1)	6 (15.0)	0 (0)	0.055
	Agree	12 (36.4)	32 (27.4)	15 (37.5)	3 (30.0)	
	neutral	2 (6.1)	6 (5.1)	2 (5.0)	1 (10.0)	
	disagree	0 (0)	2 (1.7)	0 (0)	0 (0)	
	Strongly	14 (42.4)	64 (54.7)	17 (42.5)	6 (60.0)	

%=Percentage, Test applied= Chi square test, Significance=P<0.05

Table no 8 shows the association of body mass index with different attitudes of students toward dietary patterns. A significant relation ($p<0.05$) was found for the body mass index distribution with the attitude toward vegetarian diet consumption. Eating takeaway foods with its impact on health, importance of satisfying ones craving as compared to health concern during holiday and festivals, consumption of red food items, smoking while eating, use of vegetable oil in cooking, attitudes toward restaurant foods tastes and most importantly the seasoning of salty foods.

This study's findings are in line with (87). Over the past 20 years, vegetarianism has gained popularity among the general population, and as a result, more publications have been published. But the abundance of food options begs some concerns, particularly with relation to health. Diet studies that looked at the connection between certain foods, weight, and eating disorders and were published between 2000 and 2022 were reviewed in this review. Vegetarians have a lower body

Variables		Body mass index				P-value
		Underweight	Normal	Overweight	Obese	
Taste preference	Light	3 (9.1)	9 (7.7)	6 (15.0)	2 (20.0)	0.031
	Sour	4 (12.1)	9 (7.7)	3 (7.5)	1 (10.0)	
	Sweet	2 (6.1)	18 (15.4)	2 (5.0)	0 (0)	
	Spicy	18 (54.5)	52 (44.4)	18 (45.0)	3 (30.0)	
	Salty	6 (18.2)	29 (24.8)	11 (27.5)	4 (40.0)	
Meal location	at home	8 (24.2)	26 (22.2)	6 (15.0)	2 (20.0)	0.048
	Cafeteria	4 (12.1)	18 (15.4)	7 (17.5)	0 (0)	
	Restaurant	7 (21.2)	28 (23.9)	13 (32.5)	3 (30.0)	
	food chain	4 (12.1)	10 (8.5)	6 (15.0)	2 (20.0)	
	food stalls	10 (30.3)	35 (29.9)	8 (20.0)	3 (30.0)	
Reading nutrition labels	Never	3 (9.1)	5 (4.3)	3 (7.5)	0 (0)	0.074
	Occasionally	2 (6.1)	25 (21.5)	7 (17.5)	2 (20.0)	
	Sometime	20 (60.6)	53 (45.3)	21 (52.5)	5 (50.0)	
	Often	6 (18.2)	19 (16.2)	5 (12.5)	1 (10.0)	
	Always	2 (6.1)	15 (12.8)	4 (10.0)	2 (20.0)	
Separation of raw and cooked food	Never	1 (3.0)	5 (4.3)	2 (5.0)	2 (20.0)	0.042
	Occasionally	3 (9.1)	8 (6.8)	5 (12.5)	0 (0)	
	Sometime	13 (39.4)	42 (35.9)	19 (47.5)	2 (20.0)	
	Often	6 (18.2)	23 (19.7)	4 (10.0)	3 (30.0)	
	Always	10 (30.3)	39 (33.3)	10 (25.0)	3 (30.0)	
Frequency of eating out	Never	8 (24.2)	26 (22.2)	4 (10.0)	1 (10.0)	0.029
	Occasionally	6 (18.2)	16 (13.7)	6 (15.0)	1 (10.0)	
	Sometime	5 (15.2)	11 (9.4)	7 (17.5)	2 (20.0)	
	Often	0 (0)	3 (2.6)	5 (12.5)	1 (10.0)	
	Always	14 (42.4)	61 (52.1)	18 (45.0)	5 (50.0)	
Taking leftovers home	Never	9 (27.3)	59 (50.4)	16 (40.0)	4 (40.0)	0.055
	Occasionally	1 (3.0)	18 (15.4)	8 (20.0)	2 (20.0)	
	Sometime	8 (24.2)	14 (12.0)	4 (10.0)	1 (10.0)	
	Often	10 (30.3)	16 (13.7)	7 (17.5)	2 (20.0)	
	Always	5 (15.2)	10 (8.5)	5 (12.5)	1 (10.0)	
Encouraging drinks in gatherings	Never	3 (9.1)	13 (11.1)	5 (12.5)	0 (0)	0.037
	Occasionally	14 (42.4)	32 (27.4)	13 (32.5)	2 (20.0)	
	Sometime	1 (3.0)	5 (4.3)	3 (7.5)	1 (10.0)	
	Often	0 (0)	2 (1.7)	0 (0)	0 (0)	
	Always	15 (45.5)	65 (55.6)	19 (47.5)	7 (70.0)	
Hand washing before meals	Never	6 (18.2)	21 (17.9)	8 (20.0)	1 (10.0)	0.041
	Occasionally	10 (30.3)	28 (23.9)	9 (22.5)	2 (20.0)	
	Sometime	6 (18.2)	30 (25.6)	18 (45.0)	4 (40.0)	
	Often	4 (12.1)	10 (8.5)	2 (5.0)	0 (0)	
	Always	7 (21.2)	28 (23.9)	3 (7.5)	3 (3.0)	
Consumption of wild game	Never	16 (48.5)	69 (59.0)	23 (57.5)	6 (60.0)	0.074
	Occasionally	6 (18.2)	14 (12.0)	5 (12.5)	1 (10.0)	
	Regularly	1 (3.0)	10 (8.5)	4 (10.0)	0 (0)	
	Frequently	3 (9.1)	2 (1.7)	1 (2.5)	1 (10.0)	
	Always	7 (21.2)	22 (18.8)	7 (17.5)	2 (20.0)	
Intake of stir-fried foods	Never	17 (51.5)	52 (44.4)	17 (42.5)	5 (50.0)	0.019
	Occasionally	2 (6.1)	29 (24.8)	11 (27.5)	1 (10.0)	
	Regularly	9 (27.3)	17 (14.5)	5 (12.5)	1 (10.0)	
	Frequently	3 (9.1)	10 (8.5)	3 (7.5)	1 (10.0)	

	Always	2 (6.1)	9 (7.7)	4 (10.0)	2 (20.0)	
Intake of steamed/boiled foods	Never	23 (69.7)	88 (75.2)	25 (62.5)	6 (60.0)	0.028
	Occasionally	2 (6.1)	14 (12.0)	4 (10.0)	0 (0)	
	Regularly	1 (3.0)	5 (4.3)	5 (12.5)	0 (0)	
	Frequently	1 (3.0)	3 (2.6)	1 (2.5)	1 (10.0)	
	Always	6 (18.2)	7 (6.0)	5 (12.5)	3 (30.0)	
Intake of fried/grilled foods	Never	23 (69.7)	91 (77.8)	30 (75.0)	9 (90.0)	0.042
	Occasionally	6 (18.2)	22 (18.8)	8 (20.0)	0 (0)	
	Regularly	1 (3.0)	2 (1.7)	2 (5.0)	1 (10.0)	
	Frequently	1 (3.0)	2 (1.7)	0 (0)	0 (0)	
	Always	2 (6.1)	0 (0)	0 (0)	0 (0)	
Breakfast frequency	Never	3 (9.1)	12 (10.3)	4 (10.0)	0 (0)	0.079
	1 to 2 times	5 (15.2)	16 (13.7)	5 (12.5)	1 (10.0)	
	3 to 4 times	8 (24.2)	42 (35.9)	12 (30.0)	3 (30.0)	
	5 to 6 times	5 (15.2)	15 (12.8)	7 (17.5)	2 (20.0)	
	Daily	12 (36.4)	32 (27.4)	12 (30.0)	4 (40.0)	
Pickled food consumption	Never	12 (36.4)	37 (31.6)	19 (47.5)	5 (50.0)	0.044
	Occasionally	3 (9.1)	32 (27.4)	7 (17.5)	0 (0)	
	Sometime	12 (36.4)	32 (27.4)	8 (20.0)	3 (30.0)	
	Frequently	2 (6.1)	7 (6.0)	3 (7.5)	0 (0)	
	Always	4 (12.1)	9 (7.7)	3 (7.5)	2 (20.0)	
Reducing cooking oil intake	Never	13 (39.4)	70 (59.8)	22 (55.0)	5 (50.0)	0.084
	Occasionally	4 (12.1)	9 (7.7)	6 (15.0)	1 (10.0)	
	Sometime	5 (15.2)	19 (16.2)	8 (20.0)	2 (20.0)	
	Frequently	6 (18.2)	7 (6.0)	0 (0)	0 (0)	
	Always	5 (15.2)	12 (10.3)	4 (10.0)	2 (20.0)	
Reducing salt intake	Never	18 (54.5)	73 (62.4)	23 (57.5)	7 (70.0)	0.063
	Occasionally	3 (9.1)	12 (10.3)	4 (10.0)	2 (20.0)	
	Sometime	4 (12.1)	10 (8.5)	2 (5.0)	0 (0)	
	Frequently	2 (6.1)	2 (1.7)	0 (0)	0 (0)	
	Always	6 (18.2)	20 (17.1)	11 (27.5)	1 (10.0)	

mass index, according to descriptive research, however interventional studies have found that vegetarians have a lower diet for weight loss. The implications for the association between eating disorders and vegetarians are more diverse and vary depending on the type of model and scale analyzed, despite certain studies suggesting a possible link between eating disorders and anorexia nervosa. Future research directions are clarified by discussing the heterogeneity of these results in light of the study's methodological constraints. (88) Saba et al., sought to investigate the idea that people with varying BMIs would have differing attitudes and beliefs about consuming fat. They did this within the paradigm proposed by Fishbein and Ajzen. The primary finding is that, as determined by recovery, there are no changes in the attitudes and beliefs of the two groups of overweight and obese individuals regarding high-fat diets. Behavior is not what determines behavior evaluation; behavior does. According to research cited in the first main point, preferences for sugar and red meat over a group of heavy foods are best predicted by knowledge of "beliefs about weight gain and obesity." The same beliefs apply to sugar. and gives cheese to a bunch of overweight individuals. The most informative stuff revolves around options. When it came to selecting fatty foods, attitudes and beliefs were identical in both groups. The study discovered that for both subject groups, attitude was a very reliable indicator of behavior. Attempting to modify your behavior can have the same impact as trying to

alter your nutrition. Youth build and strengthen good health and nutrition. Thus, the purpose of this study was to examine how high school students in the province of Ardakan-Yazd consume fast food. The bulk of those who eat fast food are elderly, young, and illiterate. However, there is a significant negative influence on health from mass media, including radio, television, and family. Students who are single had a higher mean attitude score ($P = 0.001$) than students who are married. This suggests that educating students and teachers through relationships and enhancing family conduct may facilitate the transfer of knowledge to both groups (83). There is disagreement concerning research on smoking and weight. Although smoking has been linked to weight loss in both men and women, the impact of smoking on weight has not been established. In this study, body weight and smoking were compared as young men and women approached adolescence. Those who smoke frequently have a lower body mass index than those who smoke infrequently or never. Measures of revenue from smoking, residential area, and health are used in the second line IV specification. This instrument has good correlations with BMI and HGM values. Ultimately, the model encompassing the stages of early, middle, and late adolescence demonstrated a weakening of this link throughout time. For women, the association between smoking and BMI declined with age, while for men, it strengthened (84).

Table no 9: Dietary pattern in relation to the body mass index of the students

PQ= Practice question, %=percentage, test applied= Chi square test, Significance= $P < 0.05$

Table no 9 shows the association of body mass index with different dietary practices of the students. A significant relation ($p < 0.05$) was noted for body mass index distribution with that of taste preference of the students, consumption of meals at home or out, separation of cooked and raw ingredients, frequencies of eating out, encouraging drinks during meals, frequencies of washing hands, “consumption of steamed, boiled and blanched foods”, “intake of pan fried, deep fried and grilled foods”, consumption of cold dishes and raw foods and consumption of pickled food products,

These results are in line with a study (80) that examined the relationships and major impacts of body mass index (BMI) and sweet taste, specifically in relation to eating sugary foods to reduce cravings and regulate mood. The BMI \times food choice interaction was significantly positively impacted by the predilection for sweet foods. Clinical research generally demonstrates that individuals who are overweight or obese sense less or none of the four tastes (particularly salt and sugar). (91) Long-term research indicates that as adults gain weight, their appetites for sweets and fats increase. Consequently, it was discovered that those who are overweight or obese particularly men have a diminished sense of taste. Additionally, while not dramatically, taste perception and preferences alter after reducing weight. College students' general health might be impacted by their food and lifestyle choices. Students might become overweight or obese and have health problems due to a variety of circumstances, including skipping breakfast, eating fast food, consuming less fruits and vegetables, not being physically active, and not eating enough food. 52.8% of respondents to the second analysis reported eating fried food daily (p value < 0.05). College students who are physically inactive, have a propensity to eat fried or fast food, indulge in late-night snacking, skip breakfast, and eat less fruits and vegetables are more likely to be overweight or obese. Students' eating habits and health are impacted by these variables. Kim and colleagues looked into the connection between alcohol use and older men's and women's health, obesity, and depression. Water consumption has emerged as a global public health concern. It has been demonstrated that guys who drink alcohol have a higher chance of developing depression. On the other hand, it has been demonstrated that women who drink are more likely to experience melancholy, obesity, and poor health. Therefore, lowering alcohol consumption will shield Korean women from sadness and obesity. (86). In a group of Iranian college students,

Mansouri and associates found a correlation between breakfast and being overweight or obese. Individuals who had breakfast at least four days a week experienced a 15% reduction in weight gain compared to those who only had breakfast once a week (OR: 0.85, 95% CI 0.78-0.92). Although it was significant for male students (OR: 0.89, 95% CI 0.79-1.00), it was also significant for female students (OR: 0.82, 95% CI 0.72-0.93). Furthermore, after controlling for potential confounding variables, there was a significant interaction between breakfast and obesity (OR: 0.74, 95% CI 0.64–0.85), meaning that students who ate breakfast more than four days a week had a lower obesity rate. This rate has decreased by thirty-three percent. Weight (OR: 0.67, 95% CI 0.57-0.78) in contrast to individuals who take fewer than one day per week. Both ethnic groupings showed this significant inverse connection (87). It was unclear which group's mean BMI was lower than that of non-breakfast eaters, although the mean BMI of RTEC breakfast eaters was lower than that of other breakfast eaters (mean \pm SE 26.5 \pm 0.2 and 27.1 \pm 0.1 kg/m²). Customers did not differ from one another (mean \pm SE 26.5 \pm 0.2 vs. sq. meters). Only women showed similar outcomes, while men's BMI did not change across breakfast groups. For the whole sample or for all men and women, there were no differences in overweight/obesity and ORs between breakfast groups. While the differences varied depending on gender and age group, they were generally larger in women than in males.

CONCLUSION

The current study concluded that male students had higher weight and body mass index (BMI) compared to female students. Significant gender differences were observed in knowledge regarding the dietary role of certain foods, such as the benefits of chicken for cardiovascular health and the iron content in animal organs, though uncertainty remained about the protective role of tea. BMI distribution showed significant associations with knowledge of recommended dietary allowances (RDA) for cooking oil, dairy, water intake, and calcium, as well as awareness of hypertension and dietary impacts on cardiovascular health. Attitudinal differences were also evident, particularly regarding vegetarian diets, meal sufficiency, fast food preferences, and traditional food beliefs, with significant links to BMI. Practices around dietary patterns revealed a significant gender-based difference in eating out frequency, while most other habits showed no significant variation; nonetheless, preferences for spicy foods, occasional attention to nutrition labels, and frequent consumption of fried foods were common. Notably, BMI was significantly related to various dietary practices, including meal location, separation of raw and cooked foods, intake frequency of steamed or fried foods, and taste preferences, highlighting the complex interplay between knowledge, attitude, and behavior in shaping nutritional health.

RECOMMENDATION

The current research study concluded with the following few recommendations on the basis of research findings. Knowledge about the intake of cooking oil, dairy products, water intake, RDA for fruits and vegetables, Rich sources of calcium and iron as well as prevention of cardiovascular and cerebrovascular disease is highly recommended in adolescent and adult stage of life. Attitude toward vegetarian diet, eating sufficient meal and attitude towards red meat among the students. eating fast food is more nutritious. vegetarian diet is more beneficial than meat-based diet. it is sufficient to eat 70 to 80% of daily meal until fullness feeling. eating takeaway foods has no impact on their overall health. ones craving during festival and holidays is more important than considering health concerns. red food like red meat, red bean and mutton can replenish blood. Homemade foods are healthier than commercially processed foods using vegetable oil can replace animal-based fats while cooking. seasoning other foods than salt can also increase the intake of salt in our daily life". Good nutritional

practice should be promoted including daily consumption of breakfast, frequency of eating out only, usually eat at homes. attention to nutrition labels. to separate raw and cooked food and ingredients on some specific occasion. never ate out of home. washed hands before meals. consumed steamed, boiled and steamed food, consumed pan fried, deep fried and grilled fried foods. never consumed cold and raw dishes. consumed pickled food products. always consciously reduced the intake of cooking oils in daily life. reduced the intake of salt in their daily meals. Community based awareness session and campaign must b launched for the promotion of knowledge, attitude and practices regarding different dietary patterns among students and other age groups.

REFERENCE

- Ahmad, J., Javed, S., Khan, M., Shadman, M. F., Saleem, M., Afzal, R., ... Khan, M. N., Dawood, & Ilyas, N. (2021). Food safety knowledge, attitude, and practice of university students, KPK Pakistan, 2019: A cross-sectional study. *Journal of Innovative Sciences*, 7(2), 281–287.
- Ahmeda, A. F., Al-Ahmadi, T. F., Alotaibi, A. F., Alshehri, M. A., Almousa, A. M., Alshehri, O. M., Alanazi, A. Z., & Anweigi, L. M. (2021). The awareness of water intake and its correlation with BMI among students attending national and international secondary schools in Riyadh, Saudi Arabia. *The Libyan Journal of Medicine*, 16(1), 1918903. <https://doi.org/10.1080/19932820.2021.1918903>
- Akhter, M. M. (2019). Consumer attitude toward fast food consumption: A study on university students in Dhaka City. *Asian Journal of Humanity, Art and Literature*, 6(1), 21–32.
- Ali, M. T., Mahmud, S., Mohsin, M., Mian, A. U., Islam, A., & Ahmed, F. F. (2023). Knowledge, attitude, and practices toward food safety among students in Bangladesh: A cross-sectional web-based study. *Heliyon*, 9(4), e14762. <https://doi.org/10.1016/j.heliyon.2023.e14762>
- Alves, R. F., Precioso, J., & Becoña, E. (2020). Knowledge, attitude and practice on healthy diet among university students in Portugal.
- Andrew, U. O., Godswill, O. O., Mamerhi, E. T., & Boma, D. (2023). Nutritional knowledge and body mass index among students at Novena University, Ogume, Nigeria. *Folia Medica Indonesiana*, 59(1), 14–19.
- Aslam, M., Azam, M. B., Latif, F., Jaffar, M., & Haseeb, I. (2023). An exploratory research to assess total nutritional knowledge of students at the University of Lahore, Pakistan. *Health Scope*, 12(1).
- Barr, S. I., DiFrancesco, L., & Fulgoni, V. L. (2016). Association of breakfast consumption with body mass index and prevalence of overweight/obesity in a nationally representative survey of Canadian adults. *Nutrition Journal*, 15, 33. <https://doi.org/10.1186/s12937-016-0151-3>
- Barzegari, A., Ebrahimi, M., Azizi, M., & Ranjbar, K. (2011). A study of nutrition knowledge, attitudes and food habits of college students. *World Applied Sciences Journal*, 15(7), 1012–1017.
- Basharat, S., Anmol, S., Riaz, A., Khan, F. A., Akhter, R., & Hamza, A. (2019). Assessment of eating practices in relation to body mass index among university students of Faculty of Allied Health Sciences. *EAS Journal of Nutrition and Food Sciences*, 1(4), 71–77.
- Bede, F., Cumber, S. N., Nkfusai, C. N., Venyuy, M. A., Ijang, Y. P., Wepngong, E. N., & Nguti Kien, A. T. (2020). Dietary habits and nutritional status of medical school students: The case of three state universities in Cameroon. *The Pan African Medical Journal*, 35, 15. <https://doi.org/10.11604/pamj.2020.35.15.18818>

- Cheli Vettori, J., Covolo, N., Savegnago Mialich, M., & Jordao Junior, A. A. (2014). Nutritional status, weight evolution and eating behavior in university students of health careers in Ribeirao Preto, Sao Paulo, Brazil. *Nutrición Clínica y Dietética Hospitalaria*, 34(2), 52–62.
- Deliens, T., Clarys, P., De Bourdeaudhuij, I., & Deforche, B. (2014). Determinants of eating behavior in university students: A qualitative study using focus group discussions. *BMC Public Health*, 14, 53.
- DeMay, T. D., Nnakwe, N., Yu, U. J., & Schumacher, J. (2019). Examination of nutrition knowledge, attitude, and dietary behaviors of college student vegetarians, semi-vegetarians, and non-vegetarians. *Scientific Journal of Food Science and Nutrition*, 5(1), 006–014.
- Erdenebileg, Z., Park, S. H., & Chang, K. J. (2018). Comparison of body image perception, nutrition knowledge, dietary attitudes, and dietary habits between Korean and Mongolian college students. *Nutrition Research and Practice*, 12(2), 149–155.
- Fazelpour, S., Hoseini, N., Farzaneh, Z., Shamsi, F., Sardari, F., & Nikukaran, J. (2019). A study of fast foods consumption attitude among secondary high school students, Ardakan, Yazd, Iran. *Journal of Community Health Research*.
- Fernández-Muñoz, J. J., Muñoz-García, A. I., García-López, C., & Fernández-Santos, J. R. (2020). Influence of lifestyle and diet on academic performance: A study on university students. *Nutrients*, 12, 1931.
- Grygiel-Górniak, B., Tomczak, A., Krulikowska, N., Przysławski, J., Seraszek-Jaros, A., & Kaczmarek, E. (2016). Physical activity, nutritional status, and dietary habits of students of a medical university. *Sport Sciences for Health*, 12, 261–267.
- Güneş, F. E., Bekiroglu, N., Imeryuz, N., & Agirbasli, M. (2019). Awareness of cardiovascular risk factors among university students in Turkey. *Primary Health Care Research & Development*, 20, e127. <https://doi.org/10.1017/S146342361900063X>
- Güzeler, N., Özbek, L. Ç., & Sanri, L. M. (2020). Dairy products consumption habits of students in college of physical education and sports based on a survey in Cukurova University.
- Hassan, M. R., Ghazi, H. F., Umar, N. S., Masri, N., Jamil, S. M., Isa, Z. M., & Safian, N. (2015). Knowledge, attitude and practice of healthy eating and associated factors among university students in Selangor, Malaysia. *Pakistan Journal of Nutrition*, 14(12), 892–900.
- Hu, P., Huang, W., Bai, R., Zhang, F., Sharma, M., Shi, Z., Xiao, X., Abdullah, A. S., & Zhao, Y. (2016). Knowledge, attitude, and behaviors related to eating out among university students in China. *International Journal of Environmental Research and Public Health*, 13(7), 696. <https://doi.org/10.3390/ijerph13070696>
- Irfan, M., & Zafar, M. (2018). Nutritional habits and obesity: A case study among Pakistani university students. *Independent Journal of Allied Health Sciences*, 1(2), 58–66.
- Irfan, M., Jabbar, M., & Hameed, S. (2019). Dietary habits and prevalence of underweight/obesity in students of University of Gujrat, Pakistan. *Journal of Liaquat University of Medical & Health Sciences*, 18(2), 175–180.
- Kabir, A., Miah, S., & Islam, A. (2018). Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study. *PLOS ONE*, 13(6), e0198801. <https://doi.org/10.1371/journal.pone.0198801>
- Kim, J. M., & Lee, E. (2021). Association between soft-drink intake and obesity, depression, and subjective health status of male and female adults.

- International Journal of Environmental Research and Public Health, 18(19), 10415. <https://doi.org/10.3390/ijerph181910415>
- Kolodinsky, J., Green, J., Michahelles, M., & Harvey-Berino, J. (2008). The use of nutritional labels by college students in a food-court setting. *Journal of American College Health*, 57(3), 297–302.
- Kubberød, E., Ueland, Ø., Tronstad, Å., & Risvik, E. (2002). Attitudes towards meat and meat-eating among adolescents in Norway: A qualitative study. *Appetite*, 38(1), 53–62.
- Kumar, P., Mishra, M., Kumar, S., Jaiswal, K., Bajpai, P. K., & Jain, P. K. (2024). Knowledge, attitude and practice regarding dietary habits and physical activity in undergraduate medical students of district Etawah, Uttar Pradesh. *Indian Journal of Community Health*, 36(1), 130–136.
- Lee, Y. L., & Cheng, S. H. (2020). Gender differences in body image, body mass index and dietary intake among university students. *Pertanika Journal of Social Sciences & Humanities*, 28, 2213–2238.
- Li, P., Fan, C., Lu, Y., & Qi, K. (2016). Effects of calcium supplementation on body weight: A meta-analysis. *The American Journal of Clinical Nutrition*, 104(5), 1263–1273.
- Liu, X., Chen, H., Zhou, Q., Zhang, H., Asawasirisap, P., & Kearney, J. (2020). Knowledge, attitude and practices (KAP) towards diet and health among international students in Dublin: A cross-sectional study. *International Journal of Environmental Research and Public Health*, 17(9), 3182.
- Mirmiran, P., Esmailzadeh, A., & Azizi, F. (2005). Dairy consumption and body mass index: An inverse relationship. *International Journal of Obesity*, 29(1), 115–121.
- Musaiger, A. O., Bader, Z., Al-Roomi, K., & D'Souza, R. (2014). Dietary and lifestyle habits amongst adolescents in Bahrain. *Food & Nutrition Research*, 58, 23269.
- Mwaniki, P. N., Chege, P. M., & Kariuki, H. W. (2021). Dietary practices and nutrition knowledge of university students in Kenya: A case study of Kenyatta University. *African Journal of Food, Agriculture, Nutrition and Development*, 21(4), 17998–18015.
- Nadeem, M. K., Mari, A., Iftikhar, S., Khatri, A., Sarwar, T., & Patel, M. J. (2019). Hypertension-related knowledge and its relationship with blood pressure control in hypertensive patients visiting a semi-private tertiary-care charity hospital in Karachi, Pakistan. *Cureus*, 11(10), e5986. <https://doi.org/10.7759/cureus.5986>
- Naeeni, M. M., Jafari, S., Fouladgar, M., Heidari, K., Farajzadegan, Z., Fakhri, M., ... Omid, R. (2014). Nutritional knowledge, practice, and dietary habits among school children and adolescents. *International Journal of Preventive Medicine*, 5(Suppl 2), S171.
- O'Neil, A., Quirk, S. E., Housden, S., Kavanagh, D. J., Berk, M., & Brennan, S. L. (2014). Relationship between diet and mental health in children and adolescents: A systematic review. *American Journal of Public Health*, 104, e31–e42.
- Olatona, F. A., Onabanjo, O. O., Ugbaja, R. N., Nnoaham, K. E., & Adelekan, D. A. (2018). Knowledge of nutrition and dietary habits among university students in South-West Nigeria: Implications for nutrition education. *African Health Sciences*, 18(2), 421–429.
- Parmenter, K., & Wardle, J. (1999). Development of a general nutrition knowledge questionnaire for adults. *European Journal of Clinical Nutrition*, 53, 298–308.
- Peltzer, K., & Pengpid, S. (2017). Dietary behaviors, physical activity, and weight status among university students in low- and middle-income countries. *International Journal of Environmental Research and Public Health*, 14(4), 456.

- Rana, S., Ahmad, K., Asif, H. M., & Wadood, A. (2020). Nutritional assessment among undergraduate students of the Islamia University of Bahawalpur. *Journal of Food Nutrition and Disorders*, 9(5), 2.
- Saba, A., Turrini, A., Di Natale, R., & D'Amicis, A. (1999). Attitudes towards food containing fats in subjects of different body size. *International Journal of Obesity*, 23(11), 1160–1169.
- Sajwani, R. A., Shoukat, S., Raza, R., Shiekh, M. M., Rashid, Q., Siddique, M. S., ... Kadir, M. M. (2009). Knowledge and practice of healthy lifestyle and dietary habits in medical and non-medical students of Karachi, Pakistan. *Journal of the Pakistan Medical Association*, 59(9), 650–655.
- Savelli, E., Murmura, F., Liberatore, L., Casolani, N., & Bravi, L. (2019). Consumer attitude and behaviour towards food quality among the young ones: Empirical evidence from a survey. *Total Quality Management & Business Excellence*, 30(1–2), 169–183.
- Sayed, S. A. (2012). A cross-sectional study on eating habits and food-related beliefs and knowledge in university students of Karachi, Pakistan.
- Sharif, L., Qandil, A., & Alkafajei, A. (2013). Knowledge, attitude and practice of university students towards smoking in Irbid, Jordan. *Journal of Public Health and Epidemiology*, 5(1), 29–36.
- Sharifirad, G., Yarmohammadi, P., Azadbakht, L., Morowatisharifabad, M. A., & Hassanzadeh, A. (2013). Determinants of fast food consumption among Iranian high school students based on planned behavior theory. *Journal of Obesity*, 2013, 147589.
- Sprake, E. F., Russell, J. M., Cecil, J. E., Cooper, R. J., Grabowski, P., Pourshahidi, L. K., & Barker, M. E. (2018). Dietary patterns and nutrient intake among university students in the UK: Results from the UK National Diet and Nutrition Survey. *Public Health Nutrition*, 21, 1–9.
- Sprake, E. F., Russell, J. M., Cecil, J. E., Cooper, R. J., Grabowski, P., Pourshahidi, L. K., & Barker, M. E. (2018). Dietary patterns of university students in the UK: A cross-sectional study. *Nutrition Journal*, 17, 90.
- Steptoe, A., Pollard, T. M., & Wardle, J. (1995). Development of a measure of the motives underlying the selection of food: The Food Choice Questionnaire. *Appetite*, 25, 267–284.
- Strong, K. A., Parks, S. L., Anderson, D. E., & Winett, R. A. (2018). Dietary practices of Canadian university students: Trends and opportunities for improvement. *Canadian Journal of Dietetic Practice and Research*, 79, 160–167.
- Sultana, M., Mahumud, R. A., Sarker, A. R., & Hossain, S. M. (2016). Hand hygiene knowledge and practice among university students: Evidence from private universities of Bangladesh. *Risk Management and Healthcare Policy*, 9, 13–20. <https://doi.org/10.2147/RMHP.S98311>
- Syed, A., Din, U., Ghaffar, F., Khan, S., Iqbal, M., & Khan, B. A. (2017). Eating attitudes related to the nutritional status of university girls in Peshawar, Khyber Pakhtunkhwa, Pakistan. *Journal of Clinical Nutrition and Dietetics*, 3(8), 1–8.
- Teng, N. I. M. F., Juliana, N., Izlin, N. L., & Semaon, N. Z. (2020). Knowledge, attitude and practices of sugar-sweetened beverages: A cross-sectional study among adolescents in Selangor, Malaysia. *Nutrients*, 12(12), 3617. <https://doi.org/10.3390/nu12123617>
- Teschl, C., Nössler, C., Schneider, M., Carlsohn, A., & Lührmann, P. (2018). Vegetable consumption among university students: Relationship between vegetable intake, knowledge of recommended servings and self-assessed intake. *Health Education Journal*, 77(4), 398–411.

- Thorpe, M. G., Kestin, M., Riddell, L. J., Keast, R. S. J., McNaughton, S. A., & Lacy, K. E. (2014). The impact of eating behaviors on academic performance among university students. *Journal of Nutrition Education and Behavior*, 46, 563–568.
- Ul Haq, I., Mariyam, Z., Li, M., Huang, X., Jiang, P., Zeb, F., ... Zhou, M. (2018). A comparative study of nutritional status, knowledge, attitude and practices (KAP) and dietary intake between international and Chinese students in Nanjing, China. *International Journal of Environmental Research and Public Health*, 15(9), 1910.
- Vermeir, I., & Verbeke, W. (2018). Sustainable food consumption among young adults in developed countries: Attitudes and intentions. *Appetite*, 133, 202–213.
- Wiafe, M. A., Apprey, C., & Annan, R. A. (2021). Knowledge and practices of dietary iron and anemia among early adolescents in a rural district in Ghana. *Food Science & Nutrition*, 9(6), 2915–2924. <https://doi.org/10.1002/fsn3.2249>
- Yahia, N., Achkar, A., Abdallah, A., & Rizk, S. (2008). Eating habits and obesity among Lebanese university students. *Nutrition Journal*, 7, 32.
- Yahia, N., Wang, D., Rapley, M., & Dey, R. (2016). Assessment of nutrition knowledge and dietary habits of college students before and after nutrition education. *Appetite*, 95, 360–372.
- Zafar, A., Rizwan, B., Jaffar, H. M., Ullah, A., Akhtar, H., Ghous, S. G., ... Ali, Z. (2023). Knowledge, attitude and practices regarding dietary salt intake among university students: Dietary salt intake among university students. *Diet Factor (Journal of Nutritional and Food Sciences)*, 17–24.
- Zaidi, K. A., Mahmood, W., & Ahmad, F. (2021). Assessment of knowledge, attitudes and practices towards nutrition amongst adolescents in Karachi. *Pakistan Journal of Medicine and Dentistry*, 10(1), 97–103.
- Strong, K. A., Parks, S. L., Anderson, D. E., & Winett, R. A. (2018). Dietary practices of Canadian university students: Trends and opportunities for improvement. *Canadian Journal of Dietetic Practice and Research*, 79, 160–167.
- Sultana, M., Mahumud, R. A., Sarker, A. R., & Hossain, S. M. (2016). Hand hygiene knowledge and practice among university students: Evidence from private universities of Bangladesh. *Risk Management and Healthcare Policy*, 9, 13–20. <https://doi.org/10.2147/RMHP.S98311>
- Kolodinsky, J., Green, J., Michahelles, M., & Harvey-Berino, J. (2008). The use of nutritional labels by college students in a food-court setting. *Journal of American College Health*, 57(3), 297–302.
- Hu, P., Huang, W., Bai, R., Zhang, F., Sharma, M., Shi, Z., Xiao, X., Abdullah, A. S., & Zhao, Y. (2016). Knowledge, attitude, and behaviors related to eating out among university students in China. *International Journal of Environmental Research and Public Health*, 13(7), 696. <https://doi.org/10.3390/ijerph13070696>
- Kabir, A., Miah, S., & Islam, A. (2018). Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study. *PLOS ONE*, 13(6), e0198801. <https://doi.org/10.1371/journal.pone.0198801>
- Talati, K. N., Parmar, A., Zalavadiya, D., Shinde, M., & Madan-Patel, G. (2022). Epidemiological insights into anthropometric indices and their correlates among college students through a university-level screening program in Western India. *Indian Journal of Community Medicine*, 47(3), 445–448. https://doi.org/10.4103/ijcm.ijcm_1219_21
- Ansari, W. E., Stock, C., & Mikolajczyk, R. T. (2012). Relationships between food consumption and living arrangements among university students in four European countries: A cross-sectional study. *Nutrition Journal*, 11, 28. <https://doi.org/10.1186/1475-2891-11-28>