An Analysis of Female University Students' Attitude Towards Healthy Eating: A Case Study of Faisalabad

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Abstract

Students in higher education often encounter challenges related to inadequate nutrition, particularly among female students. This study aims to examine the dietary habits of female university students in Pakistan, focusing on their approach to balanced nutrition. Three institutions in the Faisalabad district were randomly selected as the sample for the research. A faculty member from each university was chosen based on the highest enrolment of female students, and 50 female students were randomly selected from each faculty, resulting in a total sample size of 150. The logit model was utilized for data analysis through the SPSS software. The findings indicate that factors such as age, part-time employment, urban residence, food expenses, and total family monthly income positively influence balanced food intake. The gender of the household head does not significantly influence the balanced food intake behavior of the respondents. The pseudo–R2 value of 0.799 indicates that the model demonstrates a strong fit for the analysis. To guarantee food security for female university students, it is essential to take into account the needs of unemployed, remote, and economically disadvantaged female students during the policy-making process.

Keywords: Nutrition, University Students, Food Intake, Female's Behavior.

Introduction

Human welfare and happiness are primarily dependent on good health, which also significantly contributes to prosperity and even economic advancement. People in good health are more productive, make more money, and live longer. A balanced diet, good hygiene practices, adequate shelter, and sufficient sleep are fundamental for a healthy life cycle; proper nutrition plays a crucial role in socioeconomic development, whereas malnutrition and poor health are viewed as obstacles to the overall well-being of society (Kousar et al., 2021). Unfortunately, there is a significant lack of awareness regarding unhealthy food choices in Pakistan, particularly among the student population at universities (Usman et al., 2017).

Moreover, some studies indicated that university students are at risk for making poor dietary choices that can cause significant health problems due to their insufficient nutritional awareness,

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attitudes and application. They do not choose a healthful diet. Several scholars have warned that the shift from college to university brings about considerable alterations in food choices. The university dining halls are the go-to for most undergraduates, but they do not provide many nutritious alternatives (Abraham et al., 2018; Ozgen, 2016). The prevalence of substandard and detrimental dietary habits correlates with hindered physical growth, less-than-ideal cognitive development, diminished educational success, decreased labour productivity, lower earning capacity, compromised health, and an elevated risk of diseases (Ozgen, 2016).

Furthermore, a diet deficient in essential nutrients can result in a variety of health issues, including fatigue and diminished energy levels, as well as more severe complications affecting the proper functioning of vital organs and hindering growth and development (Trivedi, 2021). Therefore, if students do not attain adequate nutrition daily, a decrease in academic or physical performance can result. By the same logic, poor nutrition impacts health, education, and well-being through generations. Health experts are becoming more concerned these days about the growth in illnesses like diabetes, hypertension, coronary artery disease, and other functional limitations brought on by unhealthy eating habits formed during college (Abelyan, 2014).

Healthy nutrition plays a crucial role in the general well-being of physical, psychological and social aspects of university students (Yasemin et al., 2013; Abraham et al., 2018). The study was conducted in the district of Faisalabad to investigate the behaviour of female university students toward balanced food intake. This study also analyzed the food consumption pattern of the respondents in the selected universities, which helps policymakers devise policies for overcoming the problem of food and nutrition deficiency at the university level.

Review of Literature

A research investigation involving university students in Southern Chile carried out by Schnettler et al. (2013) evaluated their satisfaction with life and food-related aspects while also characterizing them based on their eating habits both within and outside their residences, alongside factors linked to health and demographic traits. The study found that residing with one's parents while pursuing higher education correlates with improved dietary habits, enhanced emotional well-being, a more positive self-assessment of health, reduced rates of overweight and obesity, and increased satisfaction with both life and food-related aspects.

Abelyan (2014) conducted an investigation aimed at assessing the effects of a nutrition course on the dietary habits and nutritional awareness of medical college students in Armenia. He discovered that education regarding nutrition seems to be a significant factor in influencing changes in dietary habits. The lack of alterations in the nutritional concerns of participants indicates a necessity for additional evaluation of the environmental and behavioural elements influencing their nutritional modifications. Platania et al. (2016)conducted a study on food consumption behaviour of university students. Students at the university level were chosen for this study due to the fact that, as undergraduates, they start to establish and refine their patterns of food consumption and purchasing independently. The researchers delineated various dietary consumption patterns and emphasized the correlation that exists between eating behaviours and specific factors related to risk-taking propensities.

Tryon et al. (2013) found that Stress has been attached to changes in eating patterns and food decisions. Past investigations in rodents have shown that constant pressure increases attractive food consumption, thus increasing instinctive fat and repressing intense pressure-actuated hypothalamic-pituitary-adrenal (HPA) pivot Movement. The impact of persistent weight on eating conduct in people is less seen, yet it very well might be connected to HPA responsively.

Yasemin *et al.* (2013) analyzed university students' knowledge and practices about food safety. It was found that the scores of those who took dietetics (5.4±2.40) were higher than those who did not take dietetics (2.7±2.23). Knowledge related to food safety has been found to be high by 37.3% in the group taking dietetics and by 7.4% in the group not taking dietetics. In comparison, practices related to food safety have been found to be high by 57.0% in the group taking dietetics and by 39.7% in the group not taking dietetics. It was concluded that the inclusion of training on food safety in school curricula from time to time will contribute to solutions to health problems related to food.

Bernardo (2017) reviewed the studies on the food intake of university students. A total of 37 studies examining the dietary habits of university students were incorporated into this review. The findings indicated that a significant number of students exhibit poor nutritional habits, characterized by high consumption of fast foods, snacks, sweets, soft drinks, and alcoholic beverages. At the same time, their intake of fruits, vegetables, fish, whole grains, and legumes remains notably low. Undergraduate students in health-related fields, including nursing, nutrition, and medicine, did not exhibit healthier dietary patterns. The dietary habits of university students were deemed unhealthy, irrespective of their undergraduate discipline or gender, particularly among those who moved out of their parental homes and took on the responsibility of managing their meals. Consequently, it is essential to formulate public policies that foster nutritious eating practices among students, including initiatives aimed at modifying their dietary behaviours and enhancing their availability of wholesome food options within the university setting.

Reuter et al. (2021) investigated the relationship between the dietary patterns of college students and their scholarly performance. The study indicated that there was no variation in self-reported GPA in relation to the weekly consumption rates of milk, vegetables, green salad, fruit juice, or fresh fruit. The intake of breakfast demonstrated a beneficial impact on self-reported GPA, whereas the consumption of fast food was associated with a detrimental effect. They determined that maintaining nutritious eating habits positively influences students' performance in their studies. Nevertheless, alternative elements, like sleep patterns, could hold greater significance.

Data and Methodology

The present research was designed to analyze the behaviour of female university students toward balanced food intake. Due to limited resources, the study was confined to the district of Faisalabad and three universities (University of Agriculture Faisalabad, Government College University, Faisalabad, and Government College Women University, Faisalabad) were selected as the population of the study due to the high population of students' enrollments. Through a random sampling technique, one faculty from each university was selected based on the high number of female students.

Table 1: Sampling technique

Sr.no	Selected Universities	Data sample size
1	Agriculture University Faisalabad	50
2	Government College University of Faisalabad	50
3	Government College Women University of Faisalabad	50
Total		150

Interview schedule, Pretesting and data collection

A validated and pre-tested interview schedule was developed to collect data from the respondents. For pre-testing, 20 females were selected from Government College University of Faisalabad, randomly and for validation of interview schedule, it was checked by senior most professors in department of Agri. Resource Economics, University of Agriculture Faisalabad after pre-testing.

Data Analysis

The collected data were statistically analyzed using frequencies, percentage, counts, averages etc. a binary model was also used determine the effects of independent variables on the dependent variable. The binary logistic model is also known as the proportional odd model.

Binary Logistic Regression Expression

Logistic regression is used to describe data and to explain the relationship between one dependent binary variable and one or more nominal, ordinal, interval or ratio-level independent variables. Logit model was used in this study due to its easier interpretation which is given as under.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon$

Y = Balanced Food 0=Insecure, 1=Secure

β_0 = Constant

X_1 = Age

X_2= Expenditure on food (PKR/month)

X_3= Total monthly income (PKR)

X_4=Residence (within city of university=1, out of the city of university=0)

X_5= Household head (male or female)

X_6= Part-time employment status (employed=1, unemployed=0)

ϵ = error term

Empirical Findings

Descriptive Statistics about Accessibility of Food

Table 2 indicated the perception of respondents about accessibility of several food items. The results showed that 72% of the respondents were agreed that cereals are always accessible. About 29%, 30%, 36%, 36.6, 36.7%, 41%, 34.7, 26.7 and 41.3% respondents considered that the baked & fried products, edible oil & fats, sweets, legumes, meat, dairy products, vegetables, fruits and drinks are quite often accessible respectively. About 43.3% and 36% respondents reported that vegetables & Fruits are sometimes accessible respectively.

Table 2: Descriptive statistics about accessibility of various food items

Accessibility of Food	Always	Quite Often	Sometimes	Seldom	Never
	f (%)	f (%)	f (%)	f (%)	f (%)
Cereals	72 (48.0)	48 (32.0)	19 (12.7)	10 (6.7)	1 (90.7)
Baked and Fried Products	35 (23.3)	44 (29.3)	34 (22.7)	22 (14.7)	15 (10.0)
Edible Oil and Fats	20 (13.3)	45 (30)	44 (29.3)	30 (20.0)	11 (7.3)
Sweets	44 (29.3)	54 (36.0)	29 (19.3)	20 (13.3)	3 (2.0)

Legumes	18 (12)	55 (36.6)	50 (33.3)	25 (16.6)	2 (1.3)
Vegetables	5 (12)	52 (34.7)	65 (43.3)	27 (18.0)	1 (0.7)
Fruits	9 (6.0)	40 (26.7)	54 (36.0)	37 (24.7)	10 (6.7)
Meat	17 (11.3)	55 (36.7)	49 (32.7)	27 (18.0)	2 (1.3)
Dairy Products	51 (34.0)	62 (41.3)	30 (20.0)	7 (4.7)	0 (0)
Drinks	42 (28.0)	62 (41.3)	34 (22.7)	12 (8)	0 (0)

Source: Author's own calculations

Balanced Food Concerns of University Female Students

Table 3 stated that results of balanced food concerns of university female students. About 29 percent respondents sometime lived a balanced life in terms of food. Up-to 31 percent respondents sometime enjoying eating. Nearly 35 percent respondents always skip breakfast. More than 34 percent respondents said that they quite often have many kinds of food at every meal. In case of vitamins intake, 36.7 percent respondents seldom take some vitamins (supplements) every day. Eating 3 times daily is a good habit for balanced food intake, the results showed that 32.7 percent respondents quite often eat at least 3 time a day.

Table 3: Balanced food concerns of university female students

Food Concerns	Always	Quite Often	Sometimes	Seldom	Never
	f (%)	f (%)	f (%)	f (%)	f (%)
I live a balanced life: study, exercise, take meal and rest?	21 (14.0)	39 (26.0)	44 (29.3)	30 (20.0)	16 (10.7)
I always enjoy eating?	23 (15.3)	35 (23.3)	46 (30.7)	32 (21.3)	14 9.3)
I have a tendency to skip breakfast every day?	52 (34.7)	35 (23.3)	18 (12.0)	32 (21.3)	13 (8.7)
I have many kinds of food at every meal?	26 (17.3)	52 (34.7)	32 (21.3)	24 (16.0)	16 (10.7)
I take some vitamins (supplements) every day?	9 (6.0)	26 (17.3)	47 (31.3)	55 (36.7)	13 (8.7)
I eat at least 3 time a day?	37 (24.7)	49 (32.7)	38 (25.3)	21 (14.0)	5 3.3)

Source: Author's own calculations

Results of Binary Logistic Regression Model

Table 4 shows the results of binary logistic regression model analysis which indicated the impact of socio-economic characteristics of respondents on the balanced food intake of female university

students. The coefficient of independent variable, 'age' was found to be positive and significant at less than 5% level of significance which indicates that as the age of the respondents increases by one unit it will lead to increase the log of odds in favor of balanced food intake among female students. The coefficient of independent variable household head of respondents was found to be positive and insignificant. So, there is no meaningful relationship between household head (male or female) and balanced food intake of female students. The impact of part time employment found positive and significant on balanced food intake among respondents at less than 5% level of significance. The coefficient of independent variable residence (near to university or not) was found to be positive and significant which implies that students who are residents of nearby areas of university are more food secure. Similarly, the coefficient of 'expenditures on food' was found to be positive and significant at less than 5% level of significance which indicates that as the expenditures on food of female students increases by one unit it leads to increase in estimated logit in favor of balanced food intake. It was found that the independent variable total monthly income had a positive coefficient that was significant at the level of less than 0.05, meaning that when the total monthly income rises by one unit, the estimated logit for balanced food consumption among female students also rises. The value of pseudo R^2 estimated is 0.796, which show that 79 percent variation in balanced food intake has been explained by the variation of all explanatory variables included in the model.

Table 4: Results of Binary Logistic Regression Model

Variables	Coefficients	S. E	P-Value
Age	0.359	0.272	0.050
Household head	1.079	0.794	0.174
Employment Status	1.612	0.661	0.015
Residence	0.218	0.119	0.041
Expenditures on Food	0.441	0.209	0.028
Total Monthly Income of family	4.242	0.991	0.030
constant	1.711	0.345	0.713
Dependent Variable	Food insecure=0, Food secure=1		
Pseudo R^2	0.796		

Source: Author's own calculations

Conclusion

Finding from the present study revealed that 72% of the respondents agreed that cereals are always accessible in their daily diet while 42% of the respondents considered that fruits and drinks are quite often accessible. Whereas in case of vitamins intake, 36.7 percent respondents seldom take some vitamins (supplements) every day. Statistically results showed that age was found to be positive and significant at less than 5% level of significance which indicates that as the age of the respondents increases by one unit it will lead to increase the log of odds in favor of balanced food intake among female students. The coefficient of independent variable household head of respondents was found to be positive and insignificant. So, there is no meaningful relationship between household head (male or female) and balanced food intake of female students. The impact of part time employment found positive and significant on balanced food intake among respondents at less than 5% level of significance.

References

- Abelyan, A. (2014). A study to determine the impact of a nutrition course on dietary practices and nutritional concerns among medical college students in Armenia. M. Phill, *Amer. Univ. Armenia.*
- Abraham, S., B.R. Noriega and J.Y. Shin. 2018. College students eating habits and knowledge of nutritional requirements. *J. Nutr. Health. 2, 2-5.*
- Bernardo, G.L., Jomori, M.M., Fernandes, A.C. & Proenca, R.P.D.C. (2017). Food intake of university students. *Rev. Nutr. Camp. 30, 847-865.*
- Crovetto, M., Valladares, M., Espinoza, V., Mena, F., Oñate, G., Fernandez, M., & Durán-Agüero, S. (2018). Effect of healthy and unhealthy habits on obesity: A multicentric study. *Nutrition. 54, 7-11.*
- Dos Santos, Q., Nogueira, B. M., Alvarez, M.C.V., & Perez-Cueto, F. J. (2017). Consumption of fruits and vegetables among university students in Denmark. *Int. J. Gastron. Food Sci. 10, 1-6.*
- Kousar, S., Ahmed, F., Pervaiz, A., & Bojnec, S. (2021). Food Insecurity, Population Growth, Urbanization and Water Availability: The Role of Government Stability. *Sustainability. 13, 12336.*
- Ozgen, L. (2016). Nutritional knowledge, attitudes and practices among university students in Turkey and the US. *The anthropologist, 26(3), 158-166.*
- Platania, M., Rapisarda, P., & Rizzo, M. (2016). Food and health habits of university students. Relationship to food consumption behaviour. *Int. Food Res. J. 23, 16-24.*
- Reuter, P.R., Forster, B.L., & Brister, S. R. (2021). The influence of eating habits on the academic performance of university students. *J. Am. Coll. Health., 69, 921-927.*
- Schnettler, B., Denegri, M., Miranda, H., Sepulveda, J., Orellana, L., Paiva, G., & Grunert, K. G. (2013). Eating habits and subjective well-being among university students in southern Chile. *Nutr. Hosp., 28, 2221-2228.*
- Shah, S., Ahmad, M., & Dahani, N. (2021). An evaluation of balance diet and eating practices of university students in Peshawar, Pakistan. *W. B. Pu. Health. 2, 1-16.*
- Trivedi, M.K. 2021. Nutritional awareness and food habits among Saurashtra university students. *Ren. E. J. 1, 5-7.*
- Tryon, M., Decant, R., & Laugero, K. (2013). Having your cake and eating it too: a habit of comfort food may link chronic social stress exposure and acute stress-induced cortisol hyporesponsiveness. *Physiol. Behav., 114, 32-37.*
- Usman, A., Javed, M., Amjad, A., Jalil, A., Shaheen, I., & Amjad, U. (2017). Food, city and young Globavores: perceptions of Pakistani urban youth about food choices and healthy eating. *Anthropol, 27, 143-151.*
- Yasemin, A., Huseyin, G., & Isil, S. (2013). University students' knowledge and practices of food safety. *Anthropol, 16, 677-684.*