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Research Article

A STUDY ON THE NUTRITIONAL STATUSES AND DIETARY HABITS OF THE MEDICAL STUDENTS OF FAISALABAD

¹Muhammad Muzamil Khalil, ¹Dr Abdur Rehman, ²Shamoon Nazeeer

¹Shalamar Medical and Dental College Lahore

²Avicenna Medical College, Lahore

Abstract:

The dietary patterns closely relate with the nutritional needs and requirements of the individuals. By adopting a balanced dietary plan, many transferable diseases stop during the youth period. Healthy eating will surely result in good hygiene which can act as a role model for the patients.

***Objectives:** The study exploring the eating habits, nutritional status and their relationship among the female medical students.*

***Methodology:** A hundred and fourteen female medical students participated in the research. The students belonged to first and second year of MBBS. The information regarding the demographics and associated features of the female students obtained and recorded on a questionnaire. Blood Hemoglobin measured for each student by using Sysmex and weighing machine and measuring tape used for the measurement of BMI (Body Mass Index) and MUAC (Mid Upper Arm Circumference) respectively.*

***Results:** The sample's mean age was 19.5 ± 2.1 years. All the students were single. Out of the total sample of 114 medical students, 108 (94.7%) voted for the typical Pakistani food whereas 84% (73.3%) students were in habit of taking breakfast regularly. Furthermore, 73 students informed that they like to consume fast/junk food. The number of students who were using meat and its products thrice a week was 71.1% (81 students). The student's analysis for Hemoglobin revealed that the level of Hemoglobin was significantly associated with the dietary habits ($p=0.001$). The number of underweight and anaemic students were 42 (36.8%) & 41 (36%) respectively. Breakfast was also affecting the MUAC and BMI readings. ($p = 0.003$ and $p=0.02$).*

***Conclusion:** The dietary habits were involved in changing the nutritional statuses of female medical students. However, the demographics parameter of the students was independent of their nutritional conditions. The underweight and anaemic students were in habit of Imbalanced diet and often did not take breakfast.*

***Keywords:** Psychological, Undernourishment, Malnutrition, Haemoglobin, Haemoglobin, Transferable Diseases.*

Corresponding author:

Muhammad Muzamil Khalil,
Shalamar Medical and Dental College,
Lahore

QR code



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INTRODUCTION:

There exists a strong relationship between eating patterns and sustenance. If used effectively, both help the individuals to stay healthy and prevent the spread of communicable & non-communicable diseases [1]. Teenagers' dietary pattern is different from other adult females on the basis of psychological, physiological and nutritional requirements. The environment plays a vital role in the eating habits of young students. Moreover, the internal food processing mechanism (metabolism) changes with growth and can cause undernourishment in presence of weak dietary plan [2, 3].

The prevailing sustenance condition depicts the quality of multiple factors which might include gender, age, education, money, marital status (whether married or single) and eating patterns etc. The upper BMI limit crosses in cases of students who prefer canned products and dairy goods whereas simple food (grains, fruits and vegetables) help to keep the BMI at standard value [4].

Undernourishment is a common problem among youth. Globally, 11% of undernourishment people are suffering from diseases due to malnutrition. In Pakistan, 37.5million (51.7 %) are undernourished. Some common problems seen in the undernourished people include lack of physical and mental alertness, weak immune system, low and slow growth and reduced ability to perform any assigned task.

The medical students can have relatively better dietary habits when compared to the students of other disciplines. It is because of the awareness about nutritional values which closely relate to their major subject (medical science). Nevertheless, the medical students seldom apply this knowledge to their lives in real for improvement of their health [8]. The medical students must adopt a healthy lifestyle as they are the future role models for their patients. A number of studies on different aspects of medical students have been conducted in the world to judge their lifestyle. These include the dietary patterns, smoking and drug usage, sleep and nutritional habits of medical students. A Japanese study revealed that half of the dental students were skipping 1 of the main meal of the day. Another study at UAE delivered that a significant number of medical students were facing malnutrition with a firm belief of poor dietary habits, the prevalence of stress and higher levels of inactivity [10]. Another example from Baqai Medical University showed that 97 % of students were happy with the consumption of junk food whereas only 60% were taking whole grain food [11].

The prevalence of both corpulent and malnourished girls among female medical students is a challenge. These girls are going to become future mothers and role models for their patients. No sufficient data were available on this topic for Pakistani female students. This study will encompass the dietary patterns and nutritional requirements of the Pakistani female medical students [5].

METHODS:

The study carried out at independent Medical College Faisalabad. More than half of the class members were females. College canteen and many food outlets (outside but in the vicinity of the college) were available to the medical students. The sample comprised of 114 female students (day scholars and hostilities). The duration of the study was 4 months from July 2018 to November 2018. The sample was composed on the basis of purposive sampling and 114 medical students from 1st and 2nd year included in the study. The student suffering from any disease and/or not willing to participate were not part of the research. A brief information about the research disseminated to all students. Dietary habits of the medical students entered on a pre-structured form. Haemoglobin measurements were taken for each student by using Sysmex apparatus. Students' BMI and MUAC measured with the help of weighing machine and measuring tape. The collected information analyzed for nutritional statuses of the students. The students used SPSS (Ver. 19) for data analysis. Different tests conducted for establishing the interplay between different factors such as eating habits, nourishment statuses and demographic parameters.

RESULTS:

The sample's mean age was 19.5 ± 2.1 years. All the students were single. Out of the total sample of 114 medical students, 108 (94.7%) voted for the typical Pakistani food whereas 84% (73.3%) students were in habit of taking breakfast regularly. Furthermore, 73 students informed that they like to consume fast/junk food. The number of students who were using meat and its products thrice a week was 71.1% (81 students). The student's analysis for Hemoglobin revealed that the level of Hemoglobin was significantly associated with the dietary habits ($p=0.001$). The number of underweight and anaemic students were 42 (36.8%) & 41 (36%) respectively. Breakfast was also affecting the MUAC and BMI readings. ($p = 0.003$ and $p=0.02$).

Table – I: Stratification of Eating Habits

Observations		Number	Percentage
Traditional Food	Yes	108	94.70
	No	6	5.30
Taking Diet with Family	Yes	95	83.30
	No	19	16.70
Breakfast Regularity	Yes	84	73.30
	No	30	26.30
Three meals a Day	Yes	79	69.30
	No	35	30.70
Junk and Fast Food	Yes	73	64.00
	No	41	36.00
Vendors made Food	Yes	40	35.10
	No	74	64.90
Daily Vegetable Intake	Yes	52	45.60
	No	62	54.40
Daily Fruits Intake	Yes	49	43.00
	No	65	57.00
Regular Meat Intake	Yes	40	35.10
	No	74	64.90
Ten Glasses of Water	Yes	24	21.10
	No	90	78.90
Sweet Drinks Intake	≤ 1	72	63.20
	> 1	42	36.80
Coffee/ Tea Consumption	≤ 2	73	64.00
	> 2	41	36.00
Multi-Vitamin Intake	Yes	16	14.00
	No	98	86.00

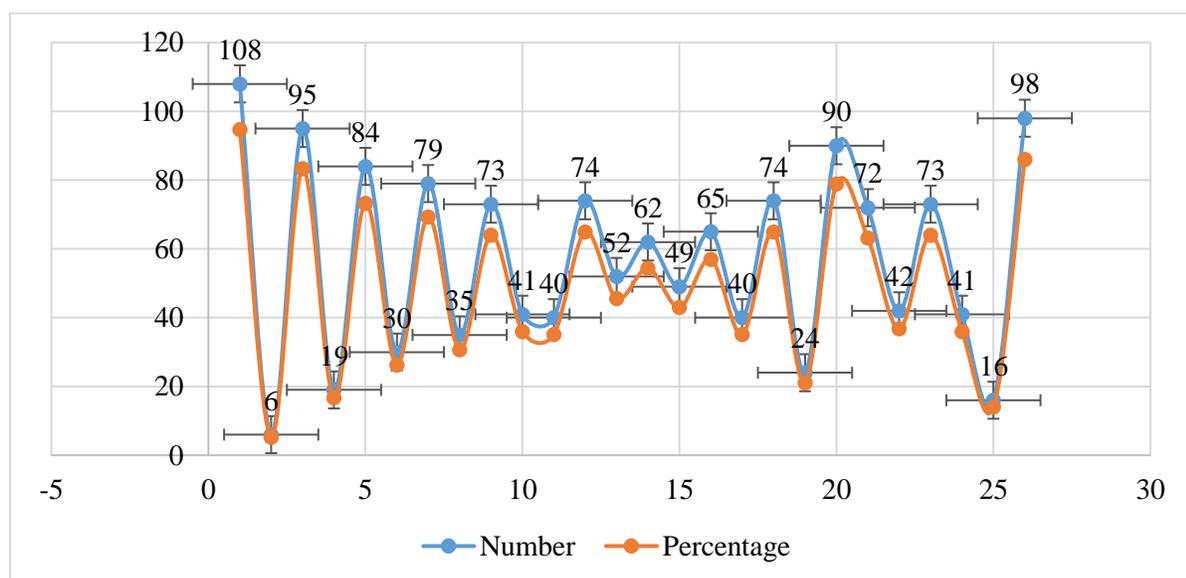
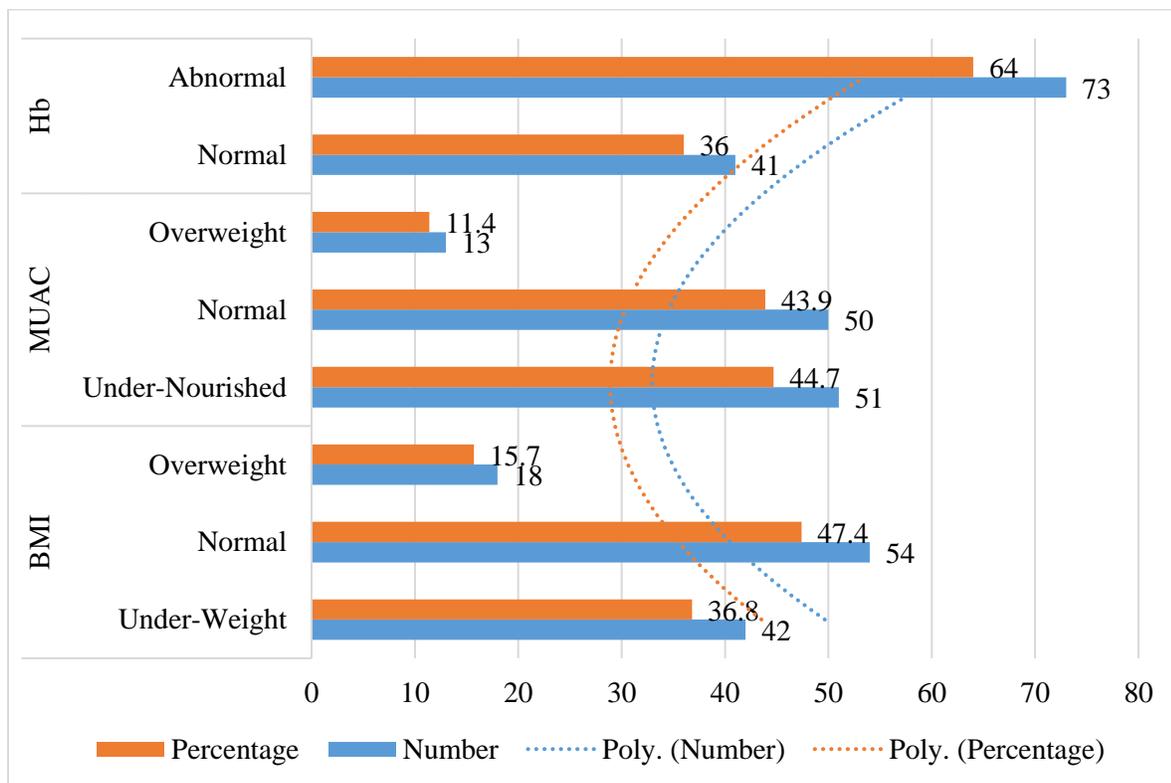


Table – II: Nutritional Assessment

Characteristics		Number	Percentage
BMI	Under-Weight	42	36.8
	Normal	54	47.4
	Overweight	18	15.7
MUAC	Under-Nourished	51	44.7
	Normal	50	43.9
	Overweight	13	11.4
Hb	Normal	41	36
	Abnormal	73	64

**Table – III:** Regular Eating Habits

Features		Poor	Good	P-Value
Hb	Normal	36	33	0.001
	Abnormal	9	36	
BMI	Normal	57	39	0.61
	Abnormal	12	6	
MUAC	Normal	58	43	0.074
	Abnormal	11	2	

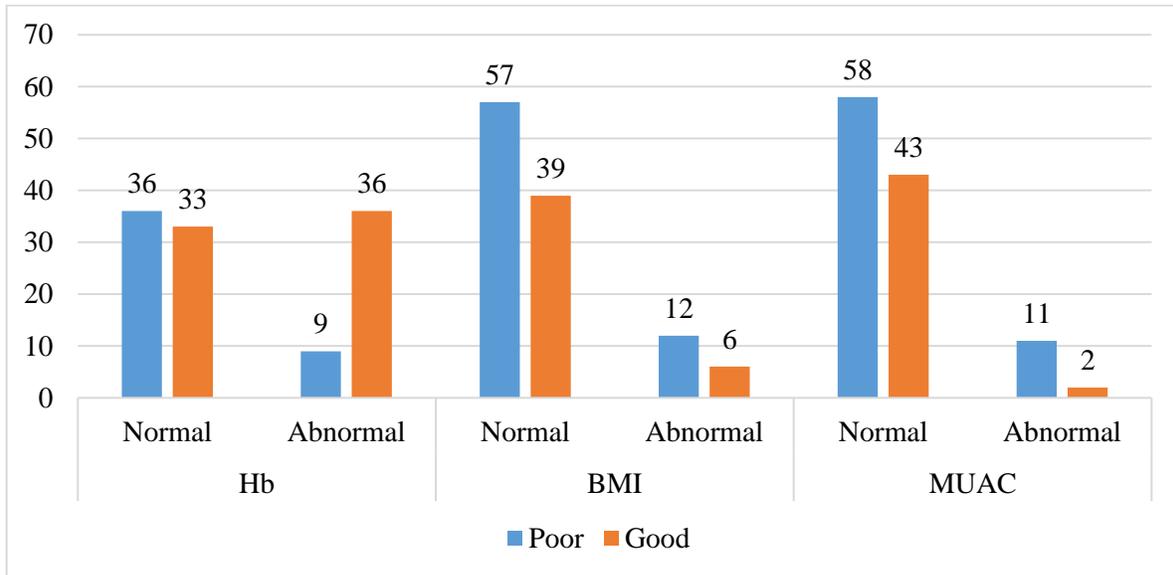
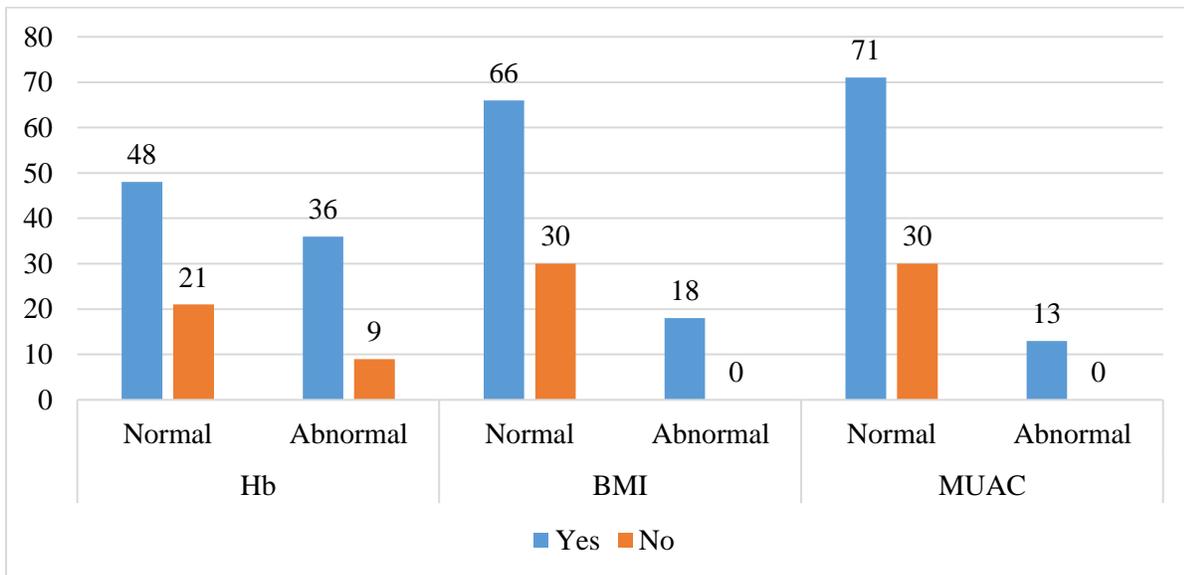


Table – IV: Regular Breakfast Intake and Nutritional Status

Features		Yes	No	P-Value
Hb	Normal	48	21	0.278
	Abnormal	36	9	
BMI	Normal	66	30	0.003
	Abnormal	18	0	
MUAC	Normal	71	30	0.019
	Abnormal	13	0	



DISCUSSION:

The number of students was 113 (99.1%) in the total sample of 114 students. The distribution of students according to their ages was 60 students (52.6 %) between 19 to 21 years and 54 students (47.4%) between 17 to 19 years (mean 19.51 years). All of the students were unmarried. Most of the students 73(64%) were from the families who were earning more than 50,000 rupees. The parents of all the students were educated. Almost 72 students (64.9%) were day scholars whereas the rest were residing at hostels. Except for 18 students (15.8%), the rest were not living in a joint family system.

The number of students who liked the typical food was 108 (94.7%). Most of them (95%) were in habit of taking regular breakfast with their family members. The students who were taking 3 meals a day were 79 (69.3%) whereas 73 (64%) students used to eat junk foods. However, a significant number of students 74 (64.9%) were in favour of avoiding street foods. The students who were using fruit and vegetables regularly were 49 (43%) and 52 (45.6%) respectively. Low water intake observed in 90 (79%) students. The students who were consuming soft drinks were 72 (63%) and 98 students (86%) were not taking any type of multivitamins.

The dietary patterns followed by medical students pose a great health risk. The diet can affect the development and morbidity of diseases like DM, HTN and many CVD. The diet plan of the students mostly included consumption of fast food and soft drinks while abstaining fruits, vegetables and milk products [13]. The preserved food served at canteens and restaurants have poor nutritional value due to longer shelf life. The fresh food is relatively expensive and has a lower shelf life. Therefore, restaurants and canteens prefer junk and preserved food [14]. The already existing studies in Pakistan have addressed the issues of eating habits and student's awareness about healthy food [15], Body Mass Index (BMI) and incidences of corpulence among medical students [16]. The current research based on finding out the link between eating patterns and nourishment status delivered that poor dietary plan caused anaemia (reduced red blood cells) among the sample students. Despite the fact that majority of the sample population was consuming traditional food, taking regular breakfast and appropriate meals per day but they were lacking in the consumption of fruits, vegetables and dairy products (Table 1). The lovers of fast food were reluctant to go to the street vendors for this purpose. However, they used to take fast food from hotels and restaurants instead. The consumption of recommended meat and water seen in a few students. Another Greek study by Michal

Chourdakis in 2007 had delivered similar results. He reported that the students were in habit of regular meals but the consumption of fruits and vegetables were very low.

Emilia Kolarzyk conducted a research about different characteristics of college students of 04 countries in 2005 [18]. The results for BMI were the same for 21 students. A contradictory output delivered by the study of Chaudhry et al in 2012 in which 76 % students were corpulent whereas we found only 15.7% students were overweight in our set up. (Table 2) [21]. A study at Lahore medical college delivered the prevalence of 27% overweight students [16]. Another study by Kolarzyk et al in 2005 showed that 71% of students were consuming dairy products as compared to 41% in our research (Table 1). The sugar consumption patterns in a study conducted at Poland were similar to our research but other food consumptions were different. The use of butter was similar in all studies (81%) as compared to our research (18.4%) [18].

Mid Arm Upper Circumference (MUAC) and nutritional values are strongly related. A study at India by S.R.Yallamarju delivered that there existed a strong association between MUAC and nutritional status (19). The level of red blood cells and dietary patterns are significantly associated in our research (p-value 0.001) (Table 4). However, the effect of diet on related parameters such as MUAC and BMI were not statistically significant. A research in Saudi Arabia by Alhassan in Saudi female students produced the prevalence of anaemia in 64% female students due to poor diet planning [20]. Table-3 Shows the relationship of different socio-economic variables and nutritional statuses which is insignificant. Similar findings appeared as a result of a study by Kurban and colleagues in 2011 at Dubai [21]. Moturi et al in 2007 also produced the matching results for taking breakfast as in our research. The association between regular breakfast and nutritional statuses was significant (Table-5). MUAC and breakfast intake significance was high (p-value of 0.003). However, Moruti et al in 2007, could not establish a strong association between MUAC and regular breakfast intake [22].

CONCLUSION:

The dietary habits were involved in changing the nutritional statuses of female medical students. However, the demographics parameter of the students was independent of their nutritional conditions. The underweight and anaemic students were in habit of imbalanced diet and often did not take breakfast.

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