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Research article

AN ASSOCIATION BETWEEN EATING HABITS OF ALLAMA IQBAL MEDICAL COLLEGE STUDENTS AND STRESS/DEPRESSION

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Abstract:

Background: Medical students due to their busy life style are increasingly involved in unhealthy eating habits which contributes to a high level of depression among them. Previously there was no research done on this topic in Pakistan and students are unaware about association between eating habits and depression. So as to create awareness about this menace we conducted this study.

Objective: To determine the relation of eating habits and the development of depression among medical students of AIMC

Material and Methods: Study Design: Cross sectional study.

Study Setting: Allama Iqbal Medical College, Lahore/ Jinnah Hospital Lahore.

Study Duration: 2 months.

Inclusion criteria: Students from all classes from first year to final year, Both sex, Both Boarders and Day Scholars.

Data Collection and analysis: Data was collected by a semi- structured questionnaire which was distributed among students after explaining the purpose of study and taking informed consent. The questionnaire was handed out to students who were present at the time of distribution. The students were instructed to return the completed questionnaire. The Students were assured that results of survey will not have any negative repercussions for them. We used SPSS version 17 for data analysis. Mean and standard deviation was computed for quantitative variables and for qualitative variables we computed frequency and percentage.

Results: Out of 250 students 137(54.8%) had depression and 113(45.2%) were found to be normal. Following eating habits were shown to be highly associated with the development of depression, an irregular meal taking habit, students not taking breakfast regularly, whose diet rarely contain fruits and often containing fried food and a heavy consumption of salt.

Conclusions: Using data from the study, we showed an association between eating habits and depression in medical students. Despite of having proper knowledge about balanced nutrition and healthy life-style, students were found to indulge in unhealthy eating habits which contribute to the development of depression. So interventions should be made to encourage good eating habits among medical students.

Key words: Eating habits, Depression, Medical students, Salt consumption.

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INTRODUCTION:

An association between eating habits and depression have been explored in numerous studies. College students undergo a substantial amount of stress directly related to their academic goals. Research studies have stated that an elevated perception of stress combined with a low level of nutritional knowledge results in poor eating habits which can lead to depression [1, 7, 4]. Equally important, studies have shown that students who consume less fat and salt in their diet exhibit decreased levels of stress [7,4]. In addition living away from ones family may result in poor eating habits such as high consumption of snacks due to financial limitations. This fact leads to depressive symptoms and anticipated weight gain [2,11]. In another study, weight gain or perceived weight gain associated with poor eating habits have shown to have a negative impact on self-esteem and emotional adjustment contributing to stress. It is interesting to note that a vicious cycle may develop that ultimately leads to elevated levels of stress. For example, females who are under stress have trouble preparing healthy meals due to decreased motivation. Therefore, there consumption of unhealthy foods may take them into a deeper depression due to the perception of weight gain [5, 7, 8,].

Also, a research study done in the University of South Carolina shows that caloric intake from saturated fat and sweetened beverages positively correlate with depressive symptoms [10].

Moreover, gender may influence the association between eating habits and depression. A study shows that male students experienced less stress or depressive symptoms associated with food intake compared with the female gender [6, 7]. This could be due to the fact that females have a greater societal pressure to appear fit and healthy.

Thus, it is important to understand that nutritional knowledge and having a balanced can possibly alleviate depression in students [3].

OBJECTIVES:

To determine the relation of eating habits and the development of depression among medical students of AIMC.

Operational definition:

1. Eating Habits:

The term eating habits (or food habits) refers to why and how people eat, which foods they eat, and with whom they eat, as well as the ways people obtain, store, use, and discard food. Individual, social, cultural, religious, economic, environmental, and political factors all influence people's eating habits.

2. Depression:

A mental state characterized by feelings of sadness, loneliness, despair, low self-esteem and self-reproach.

MATERIAL AND METHODS:**STUDY DESIGN:**

- Cross sectional study

STUDY SETTING:

ALLAMA IQBAL MEDICAL COLLEGE,
LAHORE/ JINNAH HOSPITAL LAHORE

DURATION OF STUDY:

- Two months **SAMPLE SIZE:** 250

SAMPLING TECHNIQUE:

- Non probability / purposive sampling

SAMPLE SELECTION:**Inclusion criteria:**

- Students from all classes from first year to final year
- Both sex
- Both Boarders and Day Scholars

Exclusion criteria:

- Upgraded Students and drop-out students
- Students who will not give consent

DATA COLLECTION PROCEDURE:

Data was collected by a semi- structured questionnaire which was distributed among students after explaining the purpose of study and taking informed consent. The questionnaire was handed out to students who were present at the time of distribution. The students were instructed to return the completed questionnaire. The Students were assured that results of survey will not have any negative repercussions for them.

DATA ANALYSIS PROCEDURE:

We will use SPSS version 17 for data analysis. Mean and standard deviation is computed for quantitative variables and for qualitative variables we will find frequency and percentage.

Tables and Graphs:

Table#1 Socio demographical characteristics

Variables	Frequency	Percentage
Age		
17-19 years	10	4.0
20-22 years	144	57.6
23-25 years	96	38.4
Total	250	100
Gender		
Male	181	72.4
Female	69	27.6
Total	250	100
Class		
	17	
1st year MBBS	26	6.8
2nd year MBBS	33	10.4
3rd year MBBS	153	13.2
4th year MBBS	21	61.2
5th year MBBS	250	8.4
Total		100.0

Table#2 Frequency of depression:

		Frequency	Percent
Valid	No depression	113	45.2
	Possible depression		
	Total	137	54.8
		250	100.0

Table #3 Association of depression with meal taking routine

			DSR		
			No depression	Possible depression	Total
meal taking	regular	Count	93	87	180
		% within meal taking	51.7%	48.3%	100.0%
	irregular	Count	20	50	70
		% within meal taking	28.6%	71.4%	100.0%
Total		Count	113	137	250
		% within meal taking	45.2%	54.8%	100.0%

Chi-Square Tests:

			DSR		
			No depression	Possible depression	Total
breakfast routine	daily	Count	69	44	113
		% within breakfast routine	61.1%	38.9%	100.0%
	3 or 4 times per day	Count	25	39	64
		% within breakfast routine	39.1%	60.9%	100.0%
	once or twice per day	Count	11	32	43
		% within breakfast routine	25.6%	74.4%	100.0%
	rarely	Count	8	22	30
		% within breakfast routine	26.7%	73.3%	100.0%
Total		Count	113	137	250
		% within breakfast routine	45.2%	54.8%	100.0%

Table #4 Association of depression with breakfast routine

	Value	df	Asymp. Sig. (2sided)	Exact Sig. (2sided)	Exact Sig. (1sided)
Pearson Chi-Square	10.853a	1	.001		
Continuity Correctionb	9.941	1	.002		
Likelihood Ratio	11.175	1	.001		
Fisher's Exact Test				.001	.001
Linear-by-Linear Association	10.810	1	.001		
N of Valid Cases	250				

Chi-Square Tests

	Value	df	Asymp. Sig. (2sided)	Sig.
Pearson Chi-Square	23.293a		3.000	
Likelihood Ratio	23.859		3.000	
Linear-by-Linear Association	20.496		1.000	
N of Valid Cases	250			

Table #5 Association of depression with fruit eating routine

			DSR		
			No depression	Possible depression	Total
fruit eating routine	Daily	Count	39	24	63
		% within fruit eating routine	61.9%	38.1%	100.0%
	three or four times per week	Count	34	40	74
		% within fruit eating routine	45.9%	54.1%	100.0%
	once or twice per week	Count	33	54	87
		% within fruit eating routine	37.9%	62.1%	100.0%
	Rarely	Count	7	19	26
		% within fruit eating routine	26.9%	73.1%	100.0%
Total		Count	113	137	
		% within fruit eating routine	45.2%	54.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. (2sided)	Sig.
Pearson Chi-Square	12.476a		3.006	
Likelihood Ratio	12.659		3.005	
Linear-by-Linear Association	12.093		1.001	
N of Valid Cases	250			

Table #6 Association of depression with fried food eating routine

		DSR		Total
		No depression	Possible depression	
fried food eating routine	Daily	Count 19	36	55
		% within fried food eating routine 34.5%	65.5%	100.0%
three or four times per week	Count	21	34	55
		% within fried food eating routine 38.2%	61.8%	100.0%
once or twice per week	Count	59	54	113
		% within fried food eating routine 52.2%	47.8%	100.0%
Rarely	Count	14	13	27
		% within fried food eating routine 51.9%	48.1%	100.0%
Total	Count	113	137	250
		% within fried food eating routine 45.2%	54.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. (2sided)	Sig.
Pearson Chi-Square	6.340a	3	.096	
Likelihood Ratio	6.394	3	.094	
Linear-by-Linear Association	5.376	1	.020	
N of Valid Cases	250			

Table #7 Association of depression with salt consumption

		DSR		
		No depression	Possible depression	Total
salt consumption low	Count	10	8	18
	% within salt consumption	55.6%	44.4%	100.0%
medium	Count	99	115	214
	% within salt consumption	46.3%	53.7%	100.0%
high	Count	4	13	17
	% within salt consumption	23.5%	76.5%	100.0%
Total	Count	113	137	250
	% within salt consumption	45.2%	54.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2sided)
Pearson Chi-Square	4.925a	3	.177
Likelihood Ratio	5.516	3	.138
Linear-by-Linear Association	4.292	1	.038
N of Valid Cases	250		

RESULTS:

Sample Study:

This table shows the frequency and percentage of socio-demographic characteristics (Age, Gender, Class) of the students (250) on whom study is conducted. The age is categorized in three groups i) 17-19 years ii) 20-22 years iii) 23-25 years , the frequencies of these groups are 10, 144 and 96 respectively. While the percentages of these groups are 4%, 57.6% and 38.4% respectively .The gender is categorized into male and female. The frequency of males is 181 and that of females is 69. The percentages of males and females are 72.4% and 27.6% respectively .The frequencies of 1st, 2nd, 3rd, 4th and 5th year students are 17, 26, 33, 153 and 21 respectively while the percentages are 6.8%, 10.4%, 13.2%, 61.2% and 8.4% respectively. **Table#2** Out of 250 students 137(54.8%) had depression and 113(45.2%) were found to be normal.

Diet factor Association:

To see the association between meal taking routine and depression chi square was applied and it showed

that 50(71.4%) out of 70(100.0%) having irregular meal taking routine, had depression, it showed significant association ($P < 0.05$) **Table#3**.

Chi square test showed a significant association ($P < 0.05$) between breakfast routine and depression with high prevalence of 73.3 %students who take breakfast rarely. **Table#4** To see the association between depression and fruit eating routine when cross tabulation was done, it showed a high prevalence of depression of 73.1% among those taking fruits rarely and a low prevalence of 38.1% among those taking fruits daily, a significant association ($P < 0.05$) was seen. **Table#5**

When chi square test was applied to see association between fried food eating habit and depression, it showed a high prevalence of depression (65.5%) among those taking fried food daily and a low prevalence (48.1%) among those taking fried food rarely, a significant association was shown ($P < 0.05$). **Table#6**.

To see the association between salt consumption and depression when cross tabulation was done a significant association ($P < 0.05$) between high salt intake and depression was found with a high prevalence of 76.5% among those having high salt consumption and a low prevalence of 44.4% among students having low salt intake. **Table#7**

DISCUSSION:

The results obtained from the study among medical students were not encouraging. Despite having adequate knowledge about nutrition, significant percentage of students had unhealthy eating habits which lead to stress.

The students who often miss their breakfast meals fall prey more to stress than those who have regular breakfasts and the percentage is alarming 73% to 27%. This is not limited to breakfasts, meals at irregular times generally contribute to depression.

Another revelation is that students whose diet lack fruits on regular basis are more depression stricken. Beside these, students who rely more on fried food and sweetened beverages for their calories are expected to experience depression from time to time. These observations interestingly coincide with the study done at University of South Carolina [10].

Moreover, it is concluded that students who take more salt in their diet in different forms are more likely to experience depression. These patterns are similar to numerous studies done elsewhere [11, 12].

Fats in diets particularly the saturated fats prove detrimental to the state of mind and often contribute to depression. Students who use fried food and rely more on animal sources for their fat requirements for instance are experiencing depression. [13]

It is concluded that the association of depression with eating habits had little to do with the gender. More or less both are equally affected contrary to some other studies done at other places [14].

In general it is concluded that eating habits play a pivotal role in causing depression beside other numerous factors. So, proper awareness is to be given to this subject and appropriate adjustments should be made to the eating habits if one is to maintain a healthy state of mind.

CONCLUSION:

Using data from the study, we showed an association between eating habits and depression in medical students. Despite of having proper knowledge about

balanced nutrition and healthy life-style, students were found to indulge in unhealthy eating habits which contribute to the development of depression. So interventions should be made to encourage good eating habits among medical students.

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PERFORMA

Assessment of Eating Habits and Depression in Medical Students Serial no. _____

Date: _____

1. Socio demographical characteristics:-

Name (optional) _____ Place of Study: _____

1. Age _____ 2. Gender _____ 3. Class _____

2. Information regarding eating Habits

Q1. Do you take your meals regularly?

A. Regular B. Irregular

Q2. Do you take breakfast?

A. Daily B. Three or four times per week C. Once or twice per week
 D. Rarely

Q3. How often do you eat green, red or yellow colored vegetables?

A. Daily B. Three or four times per week C. Once or twice per week
 D. Rarely

Q4. How often do you eat fruits?

A. Daily B. Three or four times per week C. Once or twice per week
 D. Rarely

Q5. How often do you eat fried food?

A. Daily B. Three or four times per week C. Once or twice per week
 D. Rarely

Q6. What type of food do you think you should eat to have a balanced nutrition?

A. Mainly meat B. Mainly vegetables C. Meat, vegetables and other varieties of food
 D. Others

Q7. How often do you eat fast food?

A. Daily B. Three or four times per week C. Once or twice per week
 D. Rarely

Q8. What do you think about your salt consumption?

A. Low B. Medium C. High

3. Information regarding depression status

Below are symptoms of depression. Choose the option which you find appropriate for yourself

1. Sadness

1) I do not feel sad.

- 2) I feel sad sometimes.
- 3) I feel sad most of the time.
- 4) I am sad all the time.

2. Pessimism

-
- 1) I am not discouraged about my future.
- 2) I feel more discouraged about my future than I used to be.
- 3) I feel I have nothing to look forward to.

3. Past Failure

- 1) I do not feel that I am a failure/unsuccessful.
- 2) I feel I have failed more than I should have.
- 3) As I look back on my life, all I see is a lot of failures.
- 4) I feel I am a total failure as a person.

4. Loss of Pleasure

- 1) I get as much pleasure as I ever did from the things I enjoy.
- 2) I don't enjoy things as much as I used to.
- 3) I get very little pleasure from the things I used to enjoy.
- 4) I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

- 1) I don't feel particularly guilty.
- 2) I feel guilty over many things I have done.
- 3) I feel guilty most of the time.
- 4) I feel guilty all the time.

6. Self-Dislike

- 1) I feel the same about myself as ever.
- 2) I have lost confidence in myself.
- 3) I am disappointed in myself.
- 4) I hate myself.

7. Suicidal Thoughts or Wishes

- 1) I don't have any thoughts of killing myself.
- 2) I have thoughts of killing myself but I would not carry them out.
- 3) I would like to kill myself.
- 4) I would kill myself if I had the chance.

8. Loss of Interest

- 1) I have not lost interest in other people or activities.
- 2) I am less interested in other people or things than before.
- 3) I have lost most of my interest in other people or things.
- 4) It is hard to get interested in anything.

9. Worthlessness

- 1) I don't feel I look any worse than I used to.
- 2) I am worried that I am looking old or unattractive.
- 3) I feel that there are permanent changes in my appearance that make me look unattractive
- 4) I believe that I look ugly.

10. Irritability

- 1) I am no more irritable than usual.
- 2) I am more irritable than usual.
- 3) I am much more irritable than usual.
- 4) I am irritable all the time.