



Assessment of Dietary Patterns in Medical Students of RMC

AUTHORS :

1. DR ANAM HAMEED
2. DR SYEDA RUMASA KHALID
3. DR AMNA IBRAR

INTRODUCTION

Poor eating habit is a major public health concern among young adults who experience transition into university life during which, they are

exposed to stress and lack of time.^{1,2} Some common unhealthy eating patterns among young adults included meal skipping, eating away from home, snacking and fast food consumption.^{3,4} Young adults are vulnerable to nutritional deficiencies and non-communicable diseases.³⁻⁸ A study in China showed that only 7% of university students follow a healthy dietary pattern.⁹

In a Japanese study, almost half of the dental students missed one of the three main meals.¹⁰ A study in UAE revealed that 50% of medical students had unhealthy diet and high stress levels.¹¹ Another study conducted in Yugoslavia showed unhealthy eating habits and lifestyle among Medical students.¹² Diet patterns of university students were found to be unhealthy, especially among boarders in a Glasgow's study.¹³ Changes in living environment influence their dietary habits.^{14,15}

A study in Karachi showed that more than 90% of the medical students experienced stress which affected all aspects of their health, including diet.¹⁶ As evident from a study done in Islamabad almost 52% students were stressed, and this stress leads to disturbance in dietary pattern.^{2,17}



The nutritional knowledge of university students^{18,19}, and their food consumption patterns have received global attention.^{18,20-2} A change toward a more favorable diet pattern is associated with improved body size and metabolic profile.²³ A study in Malaysia concluded that there was a need to promote healthy eating habits among young adults to achieve a healthy nutritional status.²⁴

No study has been conducted about the dietary patterns of medical student in Rawalpindi medical college. This study is intended to know the current dietary habits of medical students of RMC so that proper health education can be ensured, and policies made. Nutritional education can be used as a tool to improve the health status of nation.

OBJECTIVES OF STUDY

- To determine the BMI of medical students of R.M.C.
- To determine the dietary pattern of medical students in relation to their gender.
- To determine the dietary pattern of boarding and non-boarding students.
- To determine the dietary pattern of students in relation to their B.M.I.
- To determine the common health problems of students in relation to their diet.

OPERATIONAL DEFINITION

Dietary pattern:

Multiple dietary components operationalized as a single exposure. This will be determined by identifying each component separately which are:

type of meal (regular meal or snacks), food servings taken per day, skipping meal, food groups included in meals, source of meal.



Type of meal:

It may be regular meal or snacks.

Regular meal is a portion of food taken at some fixed time, it is usually larger than snacks.

Snack is a small quick meal eaten between or in place of regular meal.

Total food servings:

One serving is equal to:

Grains: 1 ounce (e.g. small chapati / small slice of bread, ½ cup cooked rice)

Vegetable: ½ cup cooked potato

Meat: 2-3 ounce cooked meat

Cheese: 1 ounce or 1 thin slice

Fruit juice: ½ cup

Fat and oil: 1 tsp

Skipped Meal: A meal which is missed or omitted due to any cause.

Form of meal:

Form in which food is taken in regular meals and snacks e.g.

Regular meal forms: Rice and curry, bread and curry, fast food.

Snacks forms: packed or bakery item, fried item, fresh fruits item, low calorie item.

Type of food group:

Category of food included in regular meal or snack e.g. meat, vegetables, cereals, mixed.

Source of Meal/Food:

A place where meal is cooked e.g home, hotel or packed food.

BMI:

It is defined as the weight in kgs divided by height in meter square.

Underweight <18.50.

Normal 18.50-25.

Overweight \geq 25.00



Health Problem:

State in which an organ/ system of body is not functioning as in a normal person.

Effect of stress on diet: It is the change in amount of food intake as a result of stress.

SUBJECTS AND METHODS

STUDY DESIGN:

Descriptive qualitative, cross-sectional study.

STUDY SITE:

Rawalpindi Medical College New Teaching Block.

SAMPLE SIZE:

200 students.

STUDY POPULATION:

Students of 3rd, 4th and 5th year M.B.B.S of R.M.C who gave consent to fill questionnaire



SAMPLING TECHNIQUE:

Non-probability convenience sampling

DATA COLLECTION TOOLS:

A structured Performa was used.

Prior consent was taken from respondent and their confidentiality assured.

DATA ANALYSIS:

Statistical analysis was done using SPSS Version 21

DISCUSSION

According to our study, 56% students skip their breakfast. This goes in line with a Malaysian study which showed majority of students skip breakfast regularly.^{1, 2, 25-6} Poor time management, stress and anxiety may be the causes of skipping breakfast.

Our study showed that only 6% students were overweight. This is in contrast to a study done at Medicina where 23% students were found to be overweight²⁷, and a study done in Islamabad where 49% university students were overweight²⁸, more commonly females.²⁹ This may be because medical students are more conscious of maintaining their BMI within normal limits.

Another research on Lebanese students showed fried fast food consumption was 73%, often due to its palatability, availability and convenience.³⁰ This is in contrast to our study where 39% students consumed fried fast food.

A study on university students of Karachi revealed 97% junk food consumption by students. 41% students were overweight and junk food consumption was identified as its main cause.³¹ While our study showed that only 6% were overweight although junk food consumption (i.e. fried or fast food, bakery and packed food) was 76%. This less percentage of overweight may be due to less food servings taken in a day.



A study on French students showed high daily consumption of snacks in males.³² This result is similar to ours which shows that male students consume more snacks as compared to females who take regular meals more.³³ This may be because females were significantly better informed about the nutritive value of the food consumed¹³.

In our study, 32% students don't take milk which was seen to be associated with health problems and males were found to be taking less milk(64%) as compared to females(74%). A study of Islamabad gave different result that milk is taken more by males.³⁴⁻⁷ This may be because female medical students are well aware of their mineral and vitamin requirements.

A study done on Chinese university students showed 48% students took vegetables mainly in their meals.⁹ This percentage was only 7% in our study. Our study result is similar to a Malaysian study result where only 19% students consumed vegetables as main food.²⁴ It was found that although medical students had sufficient knowledge regarding good dietary habits ,yet they failed to apply it into practice.²⁵

CONCLUSION

The results showed that majority of students are of normal BMI. Majority preferred home made food and mixed diet. Some deficiencies in diet were observed like milk intake and source of food (hotelling) which were more common in males and boarders and more associated with health problems.



RECOMMENDATIONS

1. Proper health education of students about the importance of balanced diet.
2. Availability of healthy foods like fruits, fresh juices and milkshakes at the college café and tuck shops at reasonable prices should be ensured to discourage the trend of fast foods.
3. Improving food quality and hygienic conditions at hostel and college café to decrease the incidence of GIT problems.
4. Students should be taught time management skills because “lack of time” and ”poor time management” are major factors in skipping of meals.
5. Stress and anxiety among students can be minimized by Counseling since medical students face more stress than students of any other fields.
6. Use of food labels, another form of communication, does influence dietary habits.
7. Create awareness regarding the role of nutritionist in giving advice for underweight or overweight [Powerpoint](#) persons. [Templates](#)



LIMITATIONS OF STUDY

1. Time constraints
2. Budget constraints, as increasing the sample size would have meant more expenses in the form of questionnaires.
3. Standard questionnaire for measuring balanced diet as formulated by researchers was not used like health eating index or diet quality index and self formulated questionnaire may not be very effective.
4. The number of students with BMI>30 was only 1 so comparison of their dietary pattern with normal ones could not be done.
5. Unequal participation of the students from different classes, so the results are not predictive of the entire student body of the college.



REFERENCES

1. Nelson MC, Story M, Larson NI, Neumark-Sztainer D, Lytle LA: Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior change. *Obes* 2008, 16(10):2205-2211.
2. Webb E, Ashton CH, Kelly P, Kamah F: An update on British medical students' lifestyles. *MedEduc* 1998, 32:325-331.
3. Savige GS, Ball K, Worsley A, Crawford D: Food intake patterns among Australian adolescents. *Asia Pac J Clin Nutr* 2007, 16:738-747.
4. Shi Z, Lien N, Kumar BN, Holmboe-Ottesen G: Socio-demographic differences in food habits patterns of school children and adolescents in and preferences of school adolescents in Jiangsu Province, China. *Eur J Clin Nutr* 2005, 59:1439-1448.
5. World Health Organization. Global strategy for NCD prevention and control (Draft). Geneva: WHO; 1997. WHO document WHO/NCD/GS/97.1.
6. Eyre H, Kahn R, Robertson RM. Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the American Diabetes Association, and the American Heart Association. *Diabetes care* 2004; 27: 1812-24.
7. Ignarro LJ, Balestrieri ML, Napoli C. Nutrition, physical activity, and cardiovascular disease: an update. *Cardiovasc Res* 2007; 73: 326-40.
8. Chin YS, Mohd NM: Eating behaviors among female adolescents in Kuantan District, Pahang, Malaysia. *Pak J Nutr* 2009, 8(4):425-432.
9. Sakamaki R, Toyama K, Amamoto R, Liu CJ, Shinfuku N. Nutritional knowledge, food habits and health attitude of Chinese university students--a cross sectional study. *Nutr J* 2005; 4: 4.
10. Motoko A, Kayoko S, Keiko E, Keiko K, Naomi Y, Yoko K. [The relationship among eating habits, lifestyles, and oral health status of students]. *KokubyoGakkaiZasshi* 2002; 69: 290-5
11. Carter AO, Elzubeir M, Abdulrazzaq YM, Revel AD, Townsend A. Health and lifestyle needs assessment of medical students in the United Arab Emirates. *Med Teac* 2003; 25: 492-6
12. Nola IA, Jeliniaè JD, Mataniaè D, Pucarín-Cvetkoviæ J, Bergman Markoviæ B, Senta A. Differences in eating and lifestyle habits between first- and sixth-year medical students from Zagreb. *CollAntropol.* 2010 Dec;34(4):1289-94.
13. Kremmyda LS, Papadaki A, Hondros G, Kapsokefalou M, Scott JA. Differentiating between the effect of rapid dietary acculturation and the effect of living away from home for the first time, on the diets of Greek students studying in Glasgow. *Appetite.* 2008;50:455-463. doi:



14. Brevard PB, Ricketts CD. Residence of college students affects dietary intake, physical activity, and serum lipid levels. J Am Diet Assoc. 1996;96:35–38. doi: 10.1016/S0002-8223(96)00011-9
15. Walid El Ansari,¹ Christiane Stock,² and Rafael T Mikolajczyk. Relationships between food consumption and living arrangements among university students in four European countries - A cross-sectional study. Nutrition Journal 2012, 11:28
16. Shaikh BT, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan whichN, et al. Students, stress and coping strategies: a case of Pakistani medical school. Educ Health (Abingdon) 2004; 17: 346-53.
17. Siddiqui FR, Sabih F, Danish KF, Bhatti MA. Stress; A cross sectional study at Islamic International Medical College (IIMC), Rawalpindi. Professional Med J Sep 2009; 16(3): 395-399.