

FOOD HABITS AND PERCEIVED STRESS AMONG MEDICAL INTERNS OF GANDHI MEDICAL COLLEGE, SECUNDERABAD, TELANGANA, INDIA

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Abstract

Introduction: Transition from college life to internship gives freedom to many doctors to eat anything including junk food even though they are aware of the consequences of bad food habits. Intern's ill health is mainly due to inadequate nutrition. Hospital campuses have canteen facilities, and many interns rely on the variety of food which is provided which could be bad or good. Hence the present study was carried out with an objective to determine the patterns of food habits and the levels of stress amongst interns of Gandhi Medical College, Secunderabad, Telangana, India.

Methods: This cross-sectional study was conducted among 188 interns who were working for Gandhi Medical College, Secunderabad, Telangana during the period of May to June 2021. A semi-structured questionnaire and perceived stress scale were used to collect data. Data was entered in Microsoft Excel 2007 worksheet and analysed using open Epi version 3.01.

Results: Most of the interns 156(83%) went to have food in fast food restaurants and ordered food online 167(88.82%). Irregular meals were reported by 162(86.1%) interns, only females could do self-cooking after joining. Majority of participants both males and females had meals three times a day. Very few 12(21%) males and 33(24.79%) females were vegetarians and vegans.

Conclusion: Perceived stress among interns will lead to change in their food habits and pattern that may lead to further physiological and psychological complications in their life. Behaviour change communication at this point and advocacy of lifestyle modification must be considered and implemented in the internship curriculum.

Key words: food habits, perceived stress, medical interns

Introduction

Medical education proves to be a tough and stressful environment during which these young physicians-in-training gain large amounts of knowledge and skills. Transition from college life to internship gives freedom to many doctors to eat anything including junk food even though they are aware of the consequences of bad food habits. Intern's ill health is mainly due to inadequate nutrition. Hospital campuses have canteen facilities and many interns rely on the variety of food which is provided which could be bad or good. It is crucial to meet daily nutritional requirement to maintain good health especially in the stressful period of internship. Most of the requirements of daily intake of proteins, Fats, Carbohydrates, and minerals are met but some interns take Multivitamin tablets and supplements ^[1]. Study conducted in South India there was awareness about the healthy dietary habits, although 97% were aware of balanced diet, but only 42.9% were following it. Everyday 9.4% of students had junk food, an increase of more than 40%, compared to the previous year, decreased in fruit intake by 50% of medical students. Association between overweight and junk food consumption observed ^[2].

Stress is a physical, mental, or emotional factor that causes bodily or mental tensions. Can be from external environment, psychological or from internal illness ^[3]. Work related stress can impact on mental health, even positive changes might increase stress like in my study. Signs of stress could be feeling of anxiousness, afraid, sadness, irritable, frustrated, and depressed. Also stress effect on other systems of the body like digestive system that may affect the dietary patterns. Eating healthy diet, nutritional diet that supply all the essential vitamins and minerals apart from calories will help to cope up with the stress ^[4]. According to a study conducted in a south Indian tertiary care hospital 45.2% reported high levels of stress, more than 17.6% used alcohol and nicotine to cope with the stress, altered and unhealthy eating habits were reported by 37% to deal with stress ^[5]. Study conducted in Riyadh Saudi Arabia 59% of respondents reported stress and amongst them many were females and change in food habits ^[6]. Academic stress and food habits increased chance of unhealthy food habits was confirmed. Students with higher stress levels changed their food habits and eat healthier foods ^[7].

Hence the present study was carried out with an objective to determine the patterns of food habits and the levels of stress among interns of Gandhi Medical College, Secunderabad, Telangana, India.

Materials and Methods

This cross-sectional study was conducted amongst 188 interns who were working for Gandhi Medical College, Secunderabad, Telangana, India. The duration of study was two months (from May 2021 and June 2021). Interns who were not willing to participate were excluded from the study.

A semi-structured, questionnaire and perceived stress scale were used to collect data. Informed consent was obtained from the study population. Questionnaire also consisted of information pertaining to the dietary habits namely; diet type (vegetarian/non vegetarian), awareness regarding balanced diet, practice of balanced diet, consumption of junk food, diet frequency, practice of skipping meals, binge eating and practicing crash diet. To quantify the perceived stress they were also provided with a 10 item questionnaire of the Perceived Stress Scale (PSS-10) developed by Cohen *et al.* ^[8] which has proved to be reliable in a sample of college students. It has become one of the more popular means of calculating perceived stress in a non-invasive format for psychosomatic health research. Upon completion of PSS-10, the perceived stress score was calculated and noted. The answers to the 10-item questionnaire were graded on a 5-point Likert Scale ranging from never (0), almost never (1), sometimes (2), fairly often (3) and very often (4). The scores were then totalled and ranging

from 0 to 40 with higher scores indicating higher perceived stress. The required data was collected by application of study tool after taking all the COVID preventive measures which were entered in Microsoft excel for data analysis.

Statistical analysis: The data of respondents was collected, compiled and entered in MS Excel 2007 worksheet. It was analysed using open Epi version 3.01. Percentages were calculated wherever necessary. The proportions were compared using chi-square test with and without Yate's correction and the level of significance was set at $p < 0.05$.

Results

Table 1: Gender wise distribution of food pattern in study population

Sr. No.	Food patterns	Male	Female
1	Frequency		
	3 times a day	50 (90.9%)	120 (90.22%)
	2 times a day	05 (9.0%)	13 (10.83%)
2	Timings		
	Regular	15 (27.27%)	11 (8.0%)
	Irregular	40 (72.72%)	122 (91.72%)
3	Type of food		
	Vegans	05 (9.0%)	10 (7.5%)
	Vegetarians	07 (12.0%)	23 (17.29%)
	No veg.	13 (23.0%)	53 (39.8%)
	Mixed	30 (54.5%)	47 (35.33%)
4	Acquired food		
	Family/Hospital	27 (49.0%)	90 (67.0%)
	Online order	47 (85.0%)	120 (90.2%)
	Hostel food	13 (23.0%)	30 (22.5%)
	Self-cooking	-----	50 (37.6%)

It was seen from Table 1 that the most of the interns 156(83%) went to have food in fast food restaurants and ordered food online 167(88.82%). Irregular meals were reported by 162(86.1%) internees, only females could do self-cooking after joining. Majority of participants both males and females had meals three times a day. Very few 12(21%) males and 33(24.79%) females were vegetarians and vegans.

Table 2: Association of Stress with Altered & Unaltered Food habits in study population

Perceived Stress	Food habits		Total	p-value
	Altered	Unaltered		
Present	120 (97.5%)	03 (2.5%)	123 (65.42%)	X ² =36.02 P =0.0001
Absent	42 (64.6%)	23 (35.4%)	65 (34.57%)	
Total	162 (86.17%)	26 (13.82%)	188 (100%)	

As seen from Table 2 that majority of participants 123(65.4%) had stress, among them 67.6% of females. In this

study we found 10(30.3%) males suffered low stress levels whereas 23(69.6%) females had low levels. Moderate stress observed in 15(24%) of participant males, 47(76%) females and was in 62 out of 123 stressed individuals. High stress in 8(28%) males and 20(72%) females. Majority (97.5%) respondents who had stress changed their food habits and only 3% did not and this was statistically significant.

Discussion

Medical undergraduate students including compulsory residential rotatory interns are subject to high levels of stress due to various factors such as academic, health related and psychosocial stressors as perceived by the students. Under various stressful conditions, these students develop unhealthy dietary habits and patterns leading to an overall poor lifestyle.

In the present study, 162(86.1%) interns reported irregular timings and majority consumed non vegetarian diet at 66%. Similarly, a study conducted in Tamil Nadu by Nimmala S *et al.* ^[9] on dietary patterns and the association of perceived stress on body mass index among undergraduate medical students including interns, only 38% of 150 participants had irregular diets. Medical students develop stress due to their strict academic programs and one of the consequences of stress is on eating habits. Stress will change the behavior of the medical students and here in the current study intern's change in perceiving of having food. To generate high energy levels in less time, medical students consume food in fast food restaurants and order food online. Study conducted by Selvi Thangaraj and Lilian D Souza ^[10] in Bangalore revealed that 37(14.8%) out of 250 participants suffered from low stress. Maximum number of respondents 68.4% (171 out of 250) suffered from moderate stress, where as in our study 15(24%) males and 47(76%) females and overall, it is 62(33%) were suffered from stress.

In the present study, 28 of 123 participants who had stress and high perceived stress was reported by 42(16.8%). Similarly, another study by Tamilselvan AS *et al.* ^[11] on stress among medical and dental post graduates found that 73% medical post graduates reported severe stress, while 32.5% dental students reported mild stress. Significant stress association between both groups were reported ($p=0.03$).

Mohammed Al Jaber *et al.* ^[7] conducted a study on effect of academic stressors on eating habits among medical students in Riyadh, Saudi Arabia, revealed that a strong relationship between the stress and negative eating habits, which is similar to our study i.e., 97.5% of students who had stress acquired altered food habits.

Another study by Kandiah J *et al.* ^[12] conducted in the United States regression models for the eating disorders due to stress show statistically significant variance ($p<0.05$) except beverages minorities compared to Caucasians and Hispanics reduced their food choices. Results overall show males eating behaviours in all food categories decreased when stressed. Females increased consumption of sweet and creamy food.

Studies and research are necessary to decrease the negative effects on food habits among internees. Stress reducing activities like Yoga exercises should be encouraged for interns. Counselling is recommended for interns to stay positive and focussed. Awareness should be created among internees about eating habits like fixed time, healthy snacking and balanced diet.

Conclusion

Perceived stress among interns will lead to change in their food habits and pattern that may lead to further physiological and psychological complications in their life. Behaviour change communication at this point and advocacy of lifestyle modification must be considered and implemented in the internship curriculum.

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