TO ASSESS KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING FAST FOOD CONSUMPTION AND ITS EFFECTS ON CORONARY HEART DISEASE; A COMPARATIVE STUDY AMONG MEDICAL AND NON-MEDICAL STUDENTS OF PESHAWAR

Dr Imad Ali[1], Dr Salman Khan[2], Dr Ejaz Ahmad[3]
[1,2,3,] MBBS, Rehman Medical College Peshawar

Abstract:
Nowadays fast food consumption is increasing among people especially in students, which is one of the main risk factors for development of CHD; whereas CHD are amongst the most serious problems worldwide.
Methods: *A multi-center cross sectional study was conducted in Rehman Medical College (Medical) and University of Engineering and Technology (Non-Medical) from January 2016 to June 2016.Questionnaire were distributed to 75 students of each Institute. The data were analyzed in SPSS 16.0.*
Results: *Out of 150 students, 109 were males and 39 were females and 2 students didn't return the questionnaire. Overall medical students had more knowledge as compared to non-medical students regarding CHD and fast food but there were some aspects in which there was little or no difference. Majority (71.2%) of medical students and some (32.0%) of nonmedical students considered increase cholesterol diet as risk factor for CHD. Most of medical students (87.7%) and nonmedical students (92.0%) have never done a diagnostic test for cardiovascular diseases or high cholesterol level.*

Corresponding author:

Dr Imad Ali,
Rehman Medical Institute,
Peshawar, Pakistan

QR code

INTRODUCTION:

Cardiovascular diseases are the topmost causes of death worldwide(1).More people die of CVD's per annum than from any other condition(1). Approximately 17.5 million people died from CVD's in 2012, about 31% of all deaths globally (1). Low and middle income countries contribute over than 75% of CVD's deaths (1).CHD is the largest cause of death in developed countries and of leading causes of disease burden in developing countries(2). In 2001 7.3 million died of CHD globally(2). 43% of all CVD deaths are due to CHD(2).

Risk factors of Coronary Heart Diseases are identified and they can be prevented by modification of some of these factors. Family history, age and male sex are non-modifiable factors whereas high cholesterol diet, smoking, hypertension, diabetes mellitus, sedentary life style and obesity are modifiable risk factors(3). The most usual risk factors of CHD's are daily intake of high fat diet (73.4%), physical inactivity (57.9%), obesity (31.2%), hypercholesterolemia (17.2%), consumption of fast food (13.1%), hypertension (9.3%) (4). Regular intake of fast food items (> 2 times per week) has high risk of developing and dying of CHD (hazard ratio = 95% and confidence interval = 1.03-1.54) as compared to those who has little or no intake of fast food(5). According to WHO data, about 1.1 billion adults are overweight worldwide and 115 million of them are having obesity related disorders, of which CHD are very significant(6,7). High cholesterol levels amount for about 4.4 million deaths worldwide annually. Regardless of the association between hypercholesterolemia and obesity with CHD, the percentage of people eating fast food is increasing(8). Mortality rate due to CHD can be greatly reduced by decreasing fast food (high saturated fat and cholesterol) consumption and cigarette smoking (9,10)

One in 5 adults in urban parts of Pakistan have CHD and it is roughly calculated that only a fourth are aware of their disease and seeking medical care(11). In Pakistan, minimal data is present on the level of awareness about CHD(12).

Objectives:
1. To determine the knowledge regarding fast food and its relation with Coronary Heart Disease among medical and non-medical students.
2. To compare the knowledge, attitude and practice about CHD and its risk factors among medical and no-medical students.

Importance (Rationale) of study:
To the best of my knowledge this study has not been done in Peshawar. In low income countries like Pakistan, resources are limited to fight against diseases, lifestyle modification and preventive measures are essential weapons. Efforts should be made to increase awareness about CHD risk factors and its prevention on large scale, encouraging active lifestyle and dietary modification in order to control the risk factors.

MATERIALS AND METHODS:

Setting: RMC and UET Peshawar
Study Design: Cross sectional study
Duration: January 2016 to June 2016
Population & Sample: Medical and non-medical students of Peshawar
Sample Size: 150

The following formula (Daniel, 1999) was used to obtain the sample size:

$$n = Z^2 p\,(1-p)\,/\,d^2$$

Where;

n= sample size,

Z= Z statistic for a level of confidence (1.96)

P= expected prevalence or proportion (in proportion of one; if 24%, P = 0.24)

d= precision (in proportion of one; if 5%, d = 0.05).
Sampling Technique: convenient sampling
Selection criteria:
  Inclusion: RMC and UET students of 3rd and 4th year

Exclusion: Defaulters and incomplete data

Data Collection: A cross sectional survey was conducted in March 2016 at UET and RMC Peshawar. The study population was medical and non-medical students a structured questionnaire was distributed among 75 students of each institute by research members. The data were later entered into SPSS 16.0 for analysis which included frequencies, proportions, percentages, cross tabs, pie charts and bar charts.

RESULTS:

A survey recruited 150 students comprising 39 females and 109 males and 2 students didn't return the questionnaire. Overall medical students had more knowledge as compared to non-medical students regarding CHD and fast food but there were some aspects in which there was little or no difference. Majority (71.2%) of medical students and some (32.0%) of nonmedical students considered increase cholesterol diet as risk factor for CHD.as shown in table 1.1

data collected from class * Increase cholesterol diet as risk factor Cross tabulation

			Increase cholesterol diet as risk factor		Total
			0	yes	
data collected from class	Medical	Count	21	52	73
		% within data collected from class	28.8%	71.2%	100.0%
	Nonmedical	Count	51	24	75
		% within data collected from class	68.0%	32.0%	100.0%
Total		Count	72	76	148
		% within data collected from class	48.6%	51.4%	100.0%

Table 2.1 shows and bar chart 2.2 clearly shows that medical students have more knowledge than non-medical students about the type of fat which raises blood cholesterol level.

Data collected from class * do you know which type of fat or lipid raises blood cholesterol level? Cross tabulation

			Do you know which type of fat or lipid raises blood cholesterol level?			Total
			saturated	unsaturated	idk	
data collected from class	Medical	Count	37	25	11	73
		% within data collected from class	50.7%	34.2%	15.1%	100.0%
	Nonmedical	Count	31	11	33	75
		% within data collected from class	41.3%	14.7%	44.0%	100.0%
Total		Count	68	36	44	148
		% within data collected from class	45.9%	24.3%	29.7%	100.0%

Table 3.0 shows knowledge of medical students regarding bad cholesterol was clearer than the non-medical students among which 46.7% checked IDK option which was due to their lack of awareness.

Data collected from class * do you know which type of blood cholesterol is known as bad cholesterol? Cross tabulation

			Do you know which type of blood cholesterol is known as bad cholesterol?			Total
			HDL	LDL	idk	
data collected from class	Medical	Count	4	68	1	73
		% within data collected from class	5.5%	93.2%	1.4%	100.0%
	Nonmedical	Count	33	7	35	75
		% within data collected from class	44.0%	9.3%	46.7%	100.0%
Total		Count	37	75	36	148
		% within data collected from class	25.0%	50.7%	24.3%	100.0%

Table 4.0 shows that 43.9% and 47.3% students will adopt low fat diet and active life style respectively to lower their cholesterol level.

Do you know if you have high cholesterol level which option would you choose?

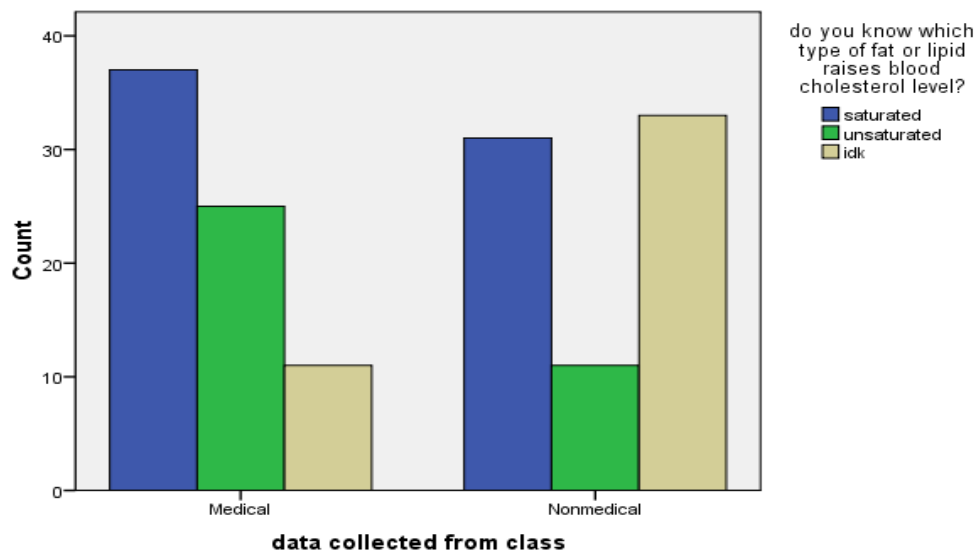|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	eat low fat diet	65	43.9	43.9	43.9
	take cholesterol lowering drugs	12	8.1	8.1	52.0
	eat regular diet	1	.7	.7	52.7
	adopt active life style	70	47.3	47.3	100.0
	Total	148	100.0	100.0	

Bar Chart

Table 5.0 shows that non-medical students consider high cholesterol diet and high cholesterol level as cause of CHD in percentages as 32% and 69.3% respectively. But awareness about other factors like smoking, diabetes and male gender are 29.3%, 9.3% and 2.7% respectively

Risk factors	Medical students	Non-medical students
Smoking	74%	29.3%
diabetes	61.6%	9.3%
Increase blood pressure	75.3%	42.7%
Increase cholesterol level	94.5%	69.3%
Increase cholesterol diet	71.2%	32%
Increase age	60.3%	16%
Obesity	91.8%	24%
Less active life style	80.8%	25.3%
Male gender	31.5%	2.7%

Figure 1.0 displaying physical activity status of medical and non-medical students.

which of the following statement best implies to you?

- i currently don't exercise and don't intend to start exercise
- i currently don't exercise but intent to start exercise
- i currently exercise but not regular
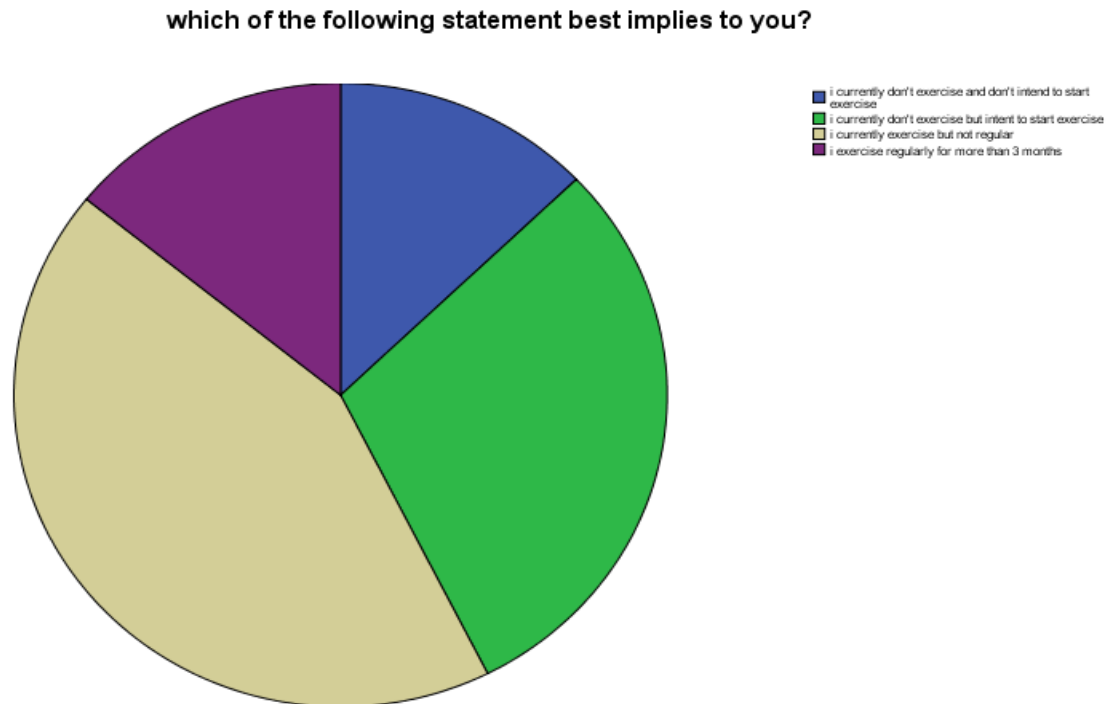- i exercise regularly for more than 3 months

Table 6.0 depicts that most contributing informational source were doctors and friends and family as 24.3% and 23.2% respectively.

		Responses	
		N	Percent
Informational source or sources	Doctor as source	65	24.3%
	TV/Radio as source	58	21.7%
	Magazine as source	30	11.2%
	Pamphlets as source	12	4.5%
	Friends/Family as source	62	23.2%
	Journals/Articles as source	40	15.0%
Total		267	100.0%

DISCUSSION:

CHD is the largest cause of death worldwide, while its risk factors are preventable. There are lot of researches do ne assessing the knowledge, attitude and practice regarding CHD. Very few studies have been done in Pakistan about CHD and no study has been done comparing medical and non-medical students. Through this study we have tried to measure the knowledge of students about CHD and fast food consumption and then compare them.

The findings show that there are some aspects of CHD related to fast food which are known amongst students. However, most of medical and few medical students had knowledge of certain important risk factors, type of lipid that raises blood cholesterol level and type of blood cholesterol that is known as Bad cholesterol.

In this study it is observed that majority of participants do not exercise regularly and half (49.3%) of them try to avoid fast food and half (50.7%) of them don't try to avoid fast food. A study in Ireland shows that there is strong relationship between obesity and CHD, while higher level of physical activity and aptitude protects against cardiac events (7). Similar study in Singapore showed that intake of fast food (high cholesterol diet) items $\geq$ 2 times per week was significantly associated with a stronger 56% increased risk of dying of CHD. The results in our study are contrary to the expectations because they are well educated

students even then they don't care much about themselves (13).

In this study it is seen that 89.9% students have never done a diagnostic test for CVD's or high cholesterol.83.8% students have never consulted doctor or any other health professional for their diet patterns. These two facts show that students are careless about their health and most of them don't practice their knowledge.

CONCLUSION:
There is need for awareness and educational programs for students concentrating on non-medical students regarding fast food consumption and its relation with CHD.

REFERENCES:
1. WHO | Cardiovascular diseases (CVDs). World Health Organization; [cited 2016 Jan 12]; Available from: http://www.who.int/mediacentre/factsheets/fs317/en/
2. Gaziano TA, Bitton A, Anand S, Abrahams-Gessel S, Murphy A. Growing Epidemic of Coronary Heart Disease in Low- and Middle-Income Countries. Curr Probl Cardiol [Internet]. 2010 Feb [cited 2015 Apr 7];35(2):72–115. Available from: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2864143&tool=pmcentrez&rendertype=abstract
3. Pesek K, Pesek T, Rados M, Buković D, Fures R, Cuk V. The prevalence of cardiovascular disease risk factors in patients from Croatian Zagorje County treated at Department of Medicine, Zabok General Hospital from 2000 to 2006. Coll Antropol [Internet]. 2007 Sep [cited 2016 Jan 22];31(3):709–15. Available from: http://www.ncbi.nlm.nih.gov/pubmed/18041378
4. Ibrahim NK, Mahnashi M, Al-dhaheri A, Al-zahrani B, Al-wadie E, Aljabri M, et al. Risk factors of coronary heart disease among medical students in King Abdulaziz University , Jeddah , Saudi Arabia. 2014;1–9.
5. Odegaard AO, Koh WP, Yuan J, Gross MD, Pereira MA. Epidemiology and Prevention Western-Style Fast Food Intake and Cardiometabolic Risk in an Eastern Country. 2012;182–9.
6. Misra A, Khurana L. Obesity and the metabolic syndrome in developing countries. J Clin Endocrinol Metab [Internet]. Endocrine Society; 2008 Nov 2 [cited 2016 Jan 29];93(11 Suppl 1):S9–30. Available from: http://press.endocrine.org/doi/10.1210/jc.2008-1595?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dpubmed&
7. Boreham C, Twisk JOS, Murray L, Savage M, Strain JJ, Cran G. Fitness , fatness , and coronary heart disease risk in adolescents : the Northern Ireland Young Hearts Project. 1990;(9):270–4.
8. Thomas NE, Baker JS, Davies B. Established and recently identified coronary heart disease risk factors in young people: the influence of physical activity and physical fitness. Sports Med [Internet]. 2003 Jan [cited 2016 Jan 22];33(9):633–50. Available from: http://www.ncbi.nlm.nih.gov/pubmed/12846588
9. Jackson R, Beaglehole R. Trends in dietary fat and cigarette smoking and the decline in coronary heart disease in New Zealand. Int J Epidemiol [Internet]. 1987 Sep [cited 2016 Jan 29];16(3):377–82. Available from: http://www.ncbi.nlm.nih.gov/pubmed/3667035
10. Zatonski WA, Willett W. Changes in dietary fat and declining coronary heart disease in Poland : population based study Commentary : Will Europe ' s agricultural policy damage progress on cardiovascular disease ? 2005;187–8.
11. Jafar TH, Qadri Z, Chaturvedi N. Coronary artery disease epidemic in Pakistan : more electrocardiographic evidence of ischaemia in women than in men. 2008;408–13.
12. Almas A, Hameed A, Sultan FAT. Knowledge of coronary artery disease (CAD) risk factors and coronary intervention among university students. J Pak Med Assoc [Internet]. 2008;58(April):553–7. Available from: http://www.ncbi.nlm.nih.gov/pubmed/18998308
13. Odegaard AO, Koh WP, Yuan J-M, Gross MD, Pereira MA. Western-style fast food intake and cardiometabolic risk in an Eastern country. Circulation [Internet]. 2012 Jul 10 [cited 2015 Dec 17];126(2):182–8. Available from: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4059207&tool=pmcentrez&rendertype=abstract