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by Imran Gilani

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Frequency of risk factors and awareness regarding ischemic heart diseases among medical students of a private medical college

1. Dr. Syed Imran Gilani B.D.S, M.P.H
Assist.Prof. Community & preventive Dentistry,
Sardar Begum Dental College & Hospital
Gandhara University Peshawar.
Email: imrangilani@hotmail.com

2. Dr Saira Afridi BDS, MPH (Corresponding Author)
Assist. Prof. Department of Community and Preventive dentistry
Sardar Begum Dental College & Hospital, Peshawar

ABSTRACT

Background: The burden of disease for Ischemic heart disease is a great public health concern in Pakistan. Since medical students experience highest degree of pressure from studies, thus becoming more vulnerable to risk factors for Ischemic heart disease. This study aims to find out the frequency of risk factors and awareness levels regarding Ischemic heart disease among medical students.

Methods: It was a cross-sectional study design. All the students from first and second year MBBS were invited, off which 143 participated. Data was collected using an interview based questionnaire, which included questions regarding frequency of risk factors and awareness level of students regarding ischemic heart disease. Descriptive statistics were drawn using an SPSS 15.0.

Results: Mean age of the study population was 19.8. Vast majority of the students (90.2 %.) were well aware of the risk factors associated with Ischemic heart disease. Significant numbers of students were found to be vulnerable to risk factors associated with IHD such as lack of exercise (43%), family history of IHD (27.3%), presence of stress (66.3%) and use of junk food per week (39.1%). No association found between awareness levels of students with smoking habits, exercise, stress, use of oil or ghee and consumption of junk food.

Conclusion: Despite the fact that over whelming majority of the students were well aware of the risk factors for IHD, they were significantly prone to common risk factors such as lack of exercise, use of junk food, family history of IHD and presence of stress. These factors may impose both short term as well as long term threats to the overall health of the medical students.

Keywords: Ischemic heart disease, awareness, risk factors, medical students, stress.

INTRODUCTION

Ischemic heart disease is, undoubtedly, one of the most vexing and crucial medical problem that face the civilized world today. It does not respect class, race or locality. IHD is major cause of illness and disability and is the leading cause of death in modern world and that is why is considered as great epidemic menace of mid –twentieth century. It is the "Black Death" of our time. Nowadays average healthy adult has got one in five chance of attainment of myocardial infarction before the age of 60 year and has one in fifteen chance of dying from it. Population who live the "good life" are much more likely to have ischemic heart disease than their leaner brethren.[1]

Statistics reveal that in 1937, in USA the death rate due to IHD was 4.8 percent of all deaths, while it was 31 percent in 1967. The enormous increase in this problem over span of 30 years, justifies the term epidemic small wonder, then affluent societies. Incidence of the disease is different in different countries, Death rate due to IHD in 1967; in USA was 350, in Sweden, Italy and Switzerland it was 150. Only East Finland has rate higher then USA. For men between the ages of 35 to 64, death rate in Japan is 64 as compared to 40 in USA, Just as heart disease is the leading cause of death coronary heart disease is the chief from cardiac disease (80%).[2]

In Pakistan Ischemic heart disease (IHD) comprises 23 percent of all cardiac cases admitted in hospital. In a study, Ilyas reported that 28 percent of patients admitted in hospital for IHD are under the age of 45 years. IHD may manifest as angina pectoris, acute myocardial insufficiency or myocardial infarction. According to most careful estimates based on sound scientific studies nearly one hundred thousand individuals suffered an acute myocardial infarction in Pakistan in the calendar year 2010. This is against the back ground of only seven patients suffering heart

attack being admitted in during a five year period (1944-1948) to the Mayo Hospital Lahore, the only major medical facility providing health care to almost all the population of the region.[3]

Coronary artery disease (CAD) is a major health issue in Pakistan, placing a significant burden in terms of morbidity and mortality on the population and the terms of cost on the individual and the public health system.[4] Major risk factors for IHD are divided into non modifiable and modifiable. Non modifiable are age, sex, and family history of IHD in a parent or a sibling. Modifiable include Dyslipidemia, smoking, Hypertension, obesity, Diabetes mellitus, physical inactivity and stress.[5]

Studies indicate the medical students experience highest degree of pressure from studies [6] leading to severe depression. Inam SNB reported (60%) anxiety and depression in medical students,[7] while another study in Karachi reported 70% anxiety and depression among medical students.[8] Several lines of evidence suggest that clinical depression may be a risk factor for coronary artery disease (CAD).[9,10]

Keeping in view the burden of ischemic heart disease, this study is being conducted to find out the frequency of risk factors and awareness among medical students so that better planning and treatment strategies be adopted right from the beginning and disease be prevented in the way to help the community as well as economy of country.

MATERIALS AND METHODS

It was a cross sectional study conducted at Rehman medical college Peshawar. All the students from 1st and 2nd year MBBS were invited, however 143 participated with a 71% response rate. There were 84 (58.7%) males and 59 (42.3%) female medical students.

An interview based questionnaire was used, divided into two sections. Section A dealt with the awareness levels of the students regarding risk factors for Ischemic heart disease, while section B had questions to determine the frequency of risk factors for ischemic heart disease. The questionnaire contained both open ended and close ended questions. Awareness levels of students were graded by a grid given in table 1.

Table 1. Awareness level Grid

≤5 score (≤34%)	Less aware
6 to 10 score (35% - 66%)	Moderately aware
≥11 score (≥67%)	Well aware

An SPSS version 15 was used for data analysis. Frequencies were determined in terms of percentages and presented in the form of bar charts/ pie charts. Chi square test was used to compare categorical data to determine any association.

RESULTS

A total number of 143 students participated in the study with 83 students from 1st year MBBS and 60 from second year MBBS. Mean age of the study population was 19.8. Out of total, 58.7% (n=84) students were male while 48.3% (n=59) were females. Vast majority of the students were well aware of the risk factors associated with Ischemic heart disease i.e. 90.2%. Only 8.4% of students were moderately aware with 1.4% less aware.

Table 2. Awareness level of Medical Studnets

Awareness Level		Frequency	Percent
	Less aware	2	1.4
	Moderately aware	12	8.4
	Well aware	129	90.2
	Total	143	100.0

On comparison no statistical difference was found between awareness levels of first year and second year MBBS students (P= 0.382). Cross tabulation of awareness levels between male and female students also came out to be statistically insignificant (P= 0.47). There was no association found between awareness levels of students with smoking habits, exercise, stress or use of oil or ghee.

Table 3. Frequency of Common Risk Factors

Variable		Frequency (n=143)	Percentage%
Do you exercise	Yes	81	56%
	No	62	44%
Do you smoke	Yes	6	4.2%
	No	137	94.8%
Family history of IHD	Yes	39	27.3%
	No	104	72.7%
Medium of cooking	Oil	123	86%
	Ghee	20	14%
Use of Steroids	Yes	9	6.3%
	No	134	93.7%

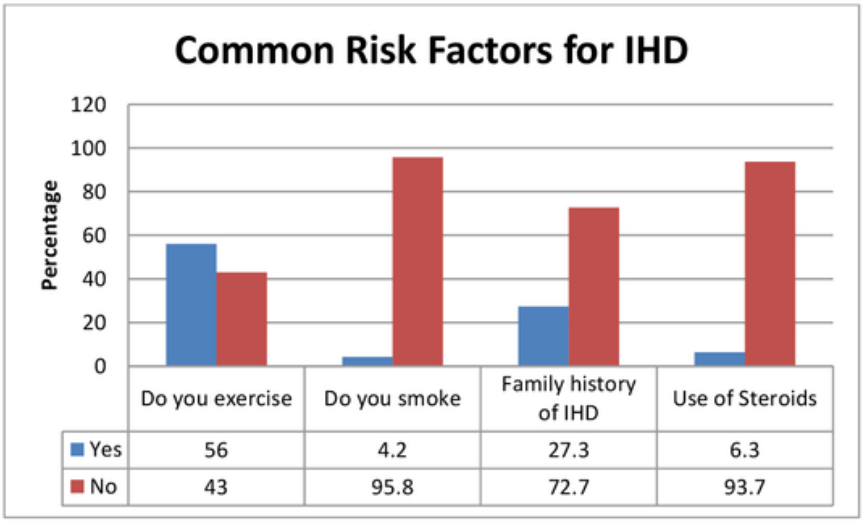


Figure 1. Use of Junk Food in Male & Female students

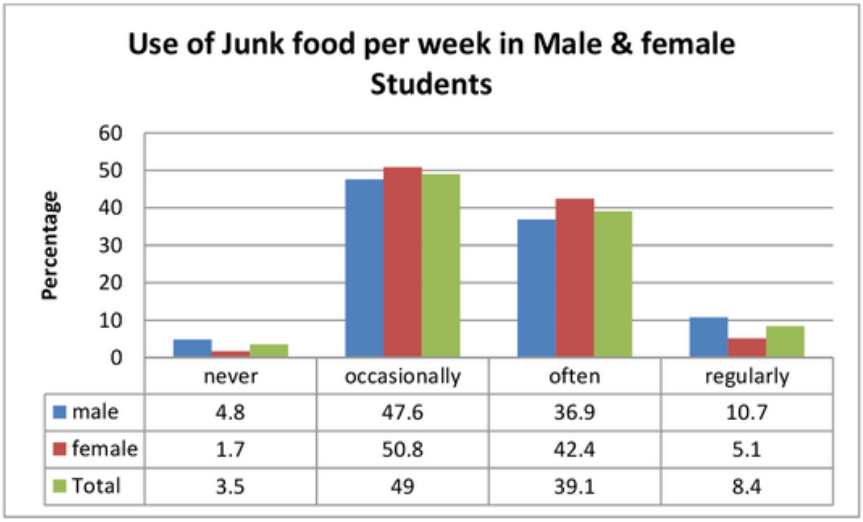
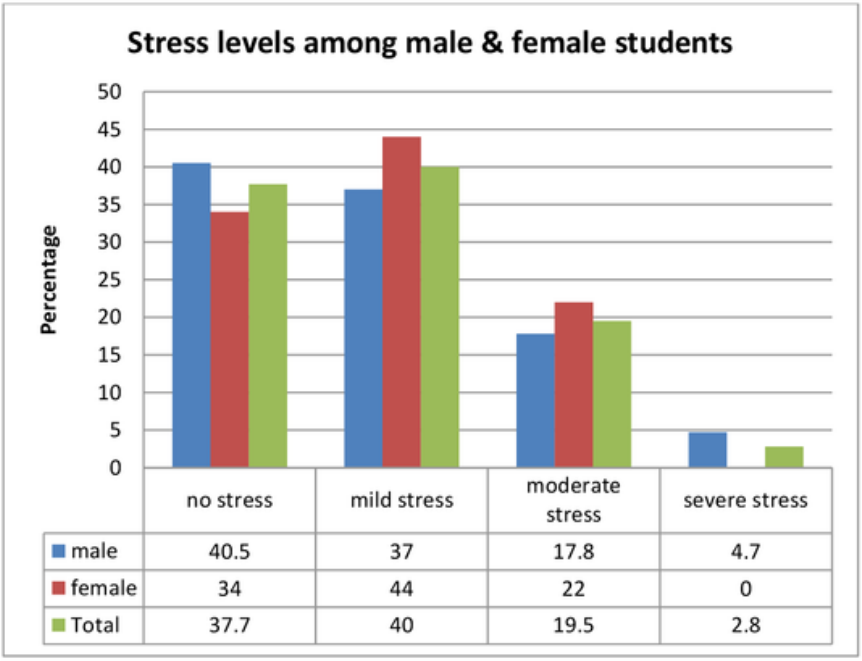


Figure 2. Stress levels among Male & Female students



DISCUSSION

The results of this study indicate that that majority of the students at RMC were well aware of the risk factors associated with the ischemic heart disease. In comparison a study conducted by Ayesha Almas et al,[11] conducted in University students in Karachi (2008) found that the knowledge of the students regarding coronary artery disease was around 50%. Since the current study was performed on medical students, thus the awareness level was better.

Regular exercise provides considerable benefits in reducing morbidity and mortality from several chronic diseases in adults, especially from CHD and its risk factors. [12] Current study revealed that 44% of the students did not exercise on regular basis, hence being at risk of developing ischemic heart disease. Al Refaee and Al-Hazza in (2001) Riyadh, KSA had also reported that over 53% of Saudi students were totally physically inactive.[13]

A high proportion of medical students in the present study were consuming fast foods which contain a high amount of calories and saturated fats. Almost 90% of the students reported that they consume junk food often or occasionally in a week. More than 10% of the male students reported to consume junk food regularly as compared to the female students (5%). Similar results were also reported by Amr a Sabra et al, who reported high consumption of junk food in KSA University students. [14]

The present study also showed presence of stress of various intensity among the medical students. The results show that more than 60% of the students reported to have some degree of stress. Female students reported to have more stress as compared to male students. This is in agreement with another study carried out in Saudi Arabia, which reported the presence of stress in medical students to be around 57%.[15] A similar study conducted by Babar T Shaikh and et al in medical students of Karachi reported the presence of stress to be 90%. The same study reported the presence of stress to be more in males, which is in contrast to the results of our findings.[16]

Family history of ischemic heart disease is also an important risk factor. Our study revealed that more than 27% of the students, reported to have a family history of ischemic heart disease. In comparison a hospital based study conducted in Karachi revealed that 42% of the subjects had family history of ischemic heart disease.

Smoking is another common risk factor for ischemic heart disease. The current study showed only 4.2% of students smoke. Another study carried out on medical students in Ziauddine medical college reported the prevalence of smoking around 14.5%, which is far more than the current study. [17] Another study conducted in Peshawar on medical students reported smoking rate of 31.8%, which again is much more than the smoking rate in the current study. [18]

CONCLUSION

This study concluded that vast majority of the students were aware of the risk factors for ischemic heart disease. Despite that nearly half of the students reported not to exercise on regular basis. Many students reported often use of junk food on weekly basis. Use of junk food was found to be more common in female students comparatively. Majority students reported mild to moderate stress levels, which is also a risk factor for ischemic heart disease.

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AUTHOR'S DECLARATION

We, the undersigned authors of the article "Frequency of risk factors and awareness regarding ischemic heart diseases among medical students of a private medical college " Submitted for publication in KHYBER MEDICAL UNIVERSITY JOURNAL (KMUJ), have contributed significantly to and share in the responsibility for above. • The undersigned stipulate that the material submitted to KMUJ is new, original and has not been submitted to another publication for concurrent consideration. • Upon acceptance by KMUJ, all copyright ownership for the article is transferred to KMUJ. • It is attested that all human and/or animal studies undertaken as a part of the research are in compliance with regulation of our institution(s) and with generally accepted guidelines governing such work. • It is hereby submitted that the manuscript has been seen and approved by all authors.

Authors:

1. **Dr. Syed Imran Gilani**

Assist. Prof. Department of Community and Preventive dentistry

Sardar Begum Dental College & Hospital, Peshawar

2. **Dr Saira Afridi (Corresponding Author)**

Assist. Prof. Department of Community and Preventive dentistry

Sardar Begum Dental College & Hospital, Peshawar

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