ORIGINAL ARTICLE

Prevalence of Cardiovascular Risk Factors Among Health Care Professionals of Rawalpindi & Islamabad

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ABSTRACT

Objective: To find the prevalence of different cardiovascular risk factors among different health care professionals in Rawalpindi and Islamabad.

Study design: Cross sectional survey

Place and Duration: Hospitals of Rawalpindi and Islamabad, from January 2014 to June 2014.

Subjects and Methods: This study was a conducted on 200 health care professionals using convenient sampling technique. We included in the study, health care professionals aged 24-65 years belonging to Rawalpindi and Islamabad. A questionnaire was developed containing 23 questions out of which 21 were close ended and 2 were open ended with a modification in some of the questions also. International Physical Activity Questionnaire (IPAQ) was added because of its high reliability and validity.

Results: Majority of participants in this study (70.1%) had a normal body mass index (18.6-24.9 kg/m^2) whereas only 12.1% were overweight and 5.6% were obese. Underweight participants contributed to 12.1% of the study population. There were 41.1% HCPs having low level of physical activity. It was found that 52.3% health care professionals had family history of cardiovascular risk factors. Moreover 50% health care professionals in this study had first degree relatives having cardiovascular diseases.

Conclusion: Being the health care professionals, majority of the respondents have awareness about risk factors for cardiovascular diseases yet a major portion of them was found to have at least one contributing factor for cardiovascular diseases. The most likely risk factors were poor dietary habits followed by positive family history and low levels of physical activity.

Keywords: Cardiovascular disease, Risk factors, Health personnel, Prevalence

INTRODUCTION:

Cardiovascular diseases (CVDs) are leading worldwide trouble to health-care system with a significant number of deaths occurring in developing countries[1]. They account for 17.5 million (30%) deaths globally every year[2]. The increasing burden of cardiovascular diseases contributes to an approximate cost of 315.4 billion[3]. They affect both genders and cause 34% of all deaths in females and 28% in their counterparts[4]. Increasing mortality rates from CVDs have been reported due to detrimental lifestyle factors including tobacco consumption, lack of physical activity and unhealthy diet[5]. This can be reduced by decreasing the contributive risk factors which may be categorized as independent and dependent risk factors. The former may include age, family history and male gender. The later includes hypertension, diabetes, smoking, dyslipidemias, stress, improper dietary habits and overweight[6]. Pakistan is a developing country with high prevalence of cardiovascular risk factors. CVD-associated mortality rate in Pakistan was reported as 464.6/100,000 for men and 387.6/100,000 for women[1]. Clear evidence exist that complex interaction of multiple risk factors

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during early life manifests are cardiovascular disease later in life[2].

Health care professionals (HCPs) include those providing health services and patient care. They may be doctors, physiotherapists, nurses, pharmacists and similar staff. They account for 59.2 million worldwide population involved in health services[7]. Studies on cardiovascular risk factors among health care professionals have been conducted previously[7-10].

This study aims to find the prevalence of different cardiovascular risk factors among different health care professionals in Rawalpindi and Islamabad.

MATERIAL & METHODS:

Study population

This study was a cross sectional survey conducted from January 2014 to June 2014 on 200 health care professionals of Rawalpindi and Islamabad using non probability convenient sampling. We included in the study, health care professionals aged between 24-65 years belonging to Rawalpindi and Islamabad. Variables under study included age, gender, occupation, marital status, height, weight, and physical activity, body mass index (BMI), smoking/ tobacco use, dietary habits and presence of chronic illnesses. Physical activity was measured by International Physical Activity Questionnaire (IPAQ).

Study instrument

A well structured self-explanatory questionnaire containing 22 close ended questions with few of universal variables was used. A pilot study of questionnaire was performed after which a final questionnaire was developed containing 23 questions out of which 21 were close ended and 2 were open ended with a modification in some of the questions also. International Physical Activity Questionnaire (IPAQ) was added because of it high reliability and validity.

Statistical analysis

The questionnaire was distributed to health professionals directly by a trained researcher and by email. Questionnaire was explained and after completion of questionnaire, the data were collected, coded and analyzed on SPSS Version-20.

RESULTS:

The analysis of results showed that majority of our population was from age group of 24 30 years (87.9%). Females constituted more than males with 69.2% and 30.8% respectively. Most individuals in our sample were dentists 57% (114), followed by physical therapists 21.5% (43), medical doctors 14% (28) and nurses 7.5% (15). Moreover 76.6% HCPs were single while 23.4% were married. [Table: 1] The major variables relating to cardiovascular risk factors are demonstrated in Table: 2.

Table-1: Demographic Variables of Health Care Professionals

Variable		%
Gender	Male	30.8%
	Female	69.2%
Age	24-30 years	87.9%
	31-10 years	8.4%
	41-50 years	0.9%
	51-65 years	2.8%
Health care Professionals	Dentists	57%
	Physical Therapists	21.5%
	Medical Doctor	14%
	Nurses	7.5%
Marital Status	Married	23.4%
	Single	76.6%

DISCUSSION

Global incidence and mortality due to cardiovascular diseases is very high[11]. Moreover, people dying of CVDs will reach 23.3 million by 2030[12]. Noticeably, this increase in CVD is related to presence of hypertension, smoking and diabetes in people from South Asia[13].

Majority of participants in this study had a normal i.e. 18.6-24.9 BMI (70.1%) whereas only 12.1% were overweight and 5.6% were obese. Similar results were reported in a study by Lucy

Table-2: Cardiovascular Risk Factors Among Health Care Professionals

Risk Factor		%
BMI (kg/m^2)	< 18.5	12.1%
	18.6-24.9	70.1%
	25-29.9	12.1%
	> 30	5.8%
TPA Score	Low	41.1%
	Moderate	29%
	High	29.9%
Smoking	Yes	17.8%
	No	82.2%
Alcohol	Yes	0%
	No	100%
Hypertension	Yes	3.7%
	No	96.3%
Diabetes Mellitus	Yes	0.9%
	No	99.1%
Family History	Yes	52.3%
	No	46.7%
	Don't know	1.0%
Degree of Relationship	First Degree	50%
	Second Degree	44.6%
	Third Degree	5.4%

Leong and Sin Eng Chia with 6.3% health workers having obesity[7]. Another study by Al Nassar et al stated that males have high prevalence of BMI than females. Moreover they report more vigorous physical activity in males compared to their counterparts however, 47.7% HCPs in that study had low physical activity level[14]. Our study supported these results with 41.1% HCPs having low level of physical activity. It was observed that individuals with a sedentary lifestyle have 20-30% high risk of mortality compared to those engaging in at least 30 minutes of moderate-level physical activity for most days of the week. In adults, an estimated risk reduction of approximately 30% was reported in ischaemic heart disease and 27% decline in diabetes by participating in moderate-level physical activity for 150 minutes each week[15,16].

Our study showed that 17.8% of HCPs are currently smoking. Jardim et al also reported 5.6% smoking health care professionals in a 15 year cohort while Ibrahim Al Alwan et al demonstrated smoking in 12% physicians[17,18]. These differences among findings of the studies were possibly due to diversity of data and difference in male to female ratio. Additionally religious restrictions may lead to reduced prevalence of smoking and alcoholism in our population. In our study 3.7% participants had hypertension while 0.9% had diabetes mellitus. Similar results were reported in two studies with presence of hypertension in 4.9% and 8% participants while 1.3% and 2% having diabetes mellitus[7,17]. We reported, 52.3% HCPs had family history of cardiovascular risk factors similarly a study by Ibrahim Al Alwan et al[17] reported presence of family history of cardiovascular risk factors in 68% HCPs. Moreover 56.5% physicians in their study had first degree relatives having cardiovascular diseases as reported in this study (50%) also. These factors are important and detrimental for cardiovascular diseases.

LIMITATIONS OF THE STUDY:

This study has some limitation as convenient sampling technique was used because the health care professionals could not be recruited from every hospital. As the results address the population group from Rawalpindi & Islamabad, the findings cannot be generalized.

CONCLUSION:

Being the health care professionals, majority of the respondents have awareness about risk factors for cardiovascular diseases yet a major

portion of them was found to have at least one contributing factor for cardiovascular diseases. There were no significant habits of drugs and tobacco use found in health care professionals.

The most likely risk factors were poor dietary habits followed by positive family history and low levels of physical activity. Moreover, females were more prone to cardiovascular diseases than males due to their poor lifestyle behavior.

CONFLICT OF INTEREST :

There is no conflict of interest or disclosure.

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