LIFE STYLE RELATED RISK FACTORS FOR CARDIOVASCULAR DISEASE AMONG PATIENTS AT A TEACHING HOSPITAL IN KARACHI

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Background: Cardiovascular disease is a leading cause for morbidity and mortality all over the world. It is important to study life style related, modifiable cardiovascular risk factors among patients, in order to devise preventive strategies. **Methods:** We surveyed family practice patients visiting the out-patient clinics of Aga Khan University Hospital, Karachi. The interview was questionnaire-based and recorded the demographic profile of the patients, in addition to information on life style related cardiovascular risk factors. The ethical requirements for the study were met. SPSS computer software was used for data management. **Results:** Fifty patients were surveyed and included 28 (56%) men and 22 (44%) women. Thirty seven (74%) respondents were married, nineteen (38%) had graduate education, Twenty five (50%) were in private service, and twelve (24%) were housewives. Twenty six (52%) respondents were overweight or obese. Butter, cream, margarine and red meat was consumed by 17(34%) and 32(64%) respondents respectively. White meat, fresh fruits and vegetables were consumed by 30 (60%), 29(58%) and 38(76%) respondents respectively. Oil from vegetable sources was used by 49(98%) respondents. Addition of table salt was found occasionally and always in 18(36%) and 09(18%) respondents respectively. Twenty seven (54%) respondents exercised at least twenty minutes, three times a week, while eleven (22%) were current smokers. **Conclusions:** Life style related modifiable risk factors are prevalent in patients reporting to our hospital. This offers an opportunity for preventive strategies, to prevent cardiovascular disease. Such surveys, followed by interventional strategies, are recommended to be followed by all Primary care facilities.

Key-words: Cardiovascular disease-Risk factors-Life Style-Obesity

INTRODUCTION

Life style related risk factors are the ones whose presence increases the chances of getting cardiovascular disease and are part of a person's life style. Since a person's life style can be changed, they are regarded as modifiable. Lack of physical exercise can be regarded as an example of life style related risk factor for cardiovascular disease.

Modifiable behavioral risk factors lead to cardiovascular diseases that are leading causes of mortality. The prevalence of modifiable risk factors for cardiovascular disease, such as tobacco use, inappropriate diet and physical inactivity, are responsible for significant morbidity and mortality.[1]

There is evidence to suggest that the control of cardiovascular risk factors, particularly smoking, has resulted in a decline in mortality due to Coronary artery disease.[2-4] It is for this reason, that a need for a more preventive orientation in health care is felt, even in the developed world.[1]

Cardiovascular disease is reported to be the leading cause of mortality in parts of Karachi.[5] The adoption of an urbanized life style, is thought to be among the major determinants of Coronary Heart Disease morbidity and mortality in Pakistan.[6] The control of cardiovascular disease risk factors in Pakistan have been attempted, but with limited success.[7]

Based on above stated background, we established a need to conduct a survey of family practice patients, to study the prevalence of life style related risk factors for cardiovascular disease. It is expected that identification and correction of modifiable risk factors will lead to a decrease in morbidity and mortality due to cardiovascular disease in the target population.

MATERIAL AND METHODS

We interviewed fifty patients, at the Family Practice Clinic, Aga Khan University Hospital, Karachi, in February 2004. The Aga Khan University Hospital is a private facility and offers primary, secondary and tertiary level services. One hundred and fifty patients are seen daily at the clinic by ten Family Physicians.

Patients presenting at this clinic are family practice patients with different primary and secondary care level problems. The surveyed patients were not screened for cardiovascular disease and those who consented for participation, were included in the study regardless of the nature of their presenting problem.

We used convenience sampling. Patients sitting in the waiting area were requested to participate after the study objective was explained. Written, informed and voluntary consent was taken and confidentiality assurance was provided to those who agreed to participate in the study.

The interview was questionnaire-based and recorded the demographic profile of the patients, in addition to the questions on modifiable life style related risk factors for cardiovascular disease. We measured patient height and weight, in order to determine whether they were normal weight, over weight or obese. SPSS computer software was used for data management.

RESULTS

Fifty patients were surveyed and included 28 (56%) men and 22 (44 %) women. Thirty seven (74 %) respondents were married, nineteen (38%) had graduate education, Twenty five (50%) were in private service, and twelve (24 %) were housewives (Table-1) The prevalence of life style related risk factors for cardiovascular disease are listed in Table-2.

Table-1: Demographic profile of the patients (n=50)

Parameter	Number (%)
SEX:	
Males	28 (56)
Females	22(44)
Mean Age (In years)	38.14
Marital Status:	
Single	13 (26)
	37 (74)

Married	
Educational Status:	
Illiterate	06(12)
Primary	05(10)
Matriculation	11(22)
Intermediate	09(18)
Graduate and above	19(38)
Occupational status:	
Private service	25(50)
Government service	04(08)
Housewife	12(24)
Jobless	05(10)
Student	04(08)

Table-2: Life style related cardiovascular disease risk factors (n=50)

Parameter	Number (%)
Body Weight:	
Normal weight	24 (48)
Overweight	10 (20)
Obese	16 (32)
Dietary consumption:	
Butter/Cream/Margarine	17 (34)
Red meat (Beef/Mutton)	32 (64)

Organ meat(Liver/kidney)	-
White meat (Chicken/fish)	30 (60)
Eggs	19 (38)
Vegetables	38 (76)
Pulses/Beans	31 (62)
Fresh fruits	29 (58)
Sweets	02 (04)
Dry fruits & nuts	03 (06)
Type of oil used in cooking:	
Oil from animal sources	01 (02)
Oil from vegetable sources	49 (98)
Add table salt to the food:	
Never	23 (46)
Occasionally	18 (36)
Always	09 (18)
Physical exercise:	
At least 20 minutes, three times a week	27 (54)
Smoking:	
Current smokers	11 (22)
Ex-smokers	12(24)

DISCUSSION

The study sample comprised of relatively well educated and better socio-economically placed individuals. Moreover, we interviewed a small sample of fifty patients. It is for these reasons that we cannot generalize the findings of our study, to the rest of the population. Nonetheless, findings of our study offer an insight into the magnitude of the problem, and can be the basis for future studies on the subject, including interventional strategies.

An earlier study from Pakistan, has reported obesity as high as 23% and 40% among 45-64 year olds urban men and women respectively[8]. It is significant to note that over half the respondents in our study population were either overweight or obese. This could be partly because of high prevalence of consumption of butter, cream,

margarine, red meat, eggs, sweets and dry fruits that has been reported. These are the areas where intervention is required to prevent cardiovascular disease.

A protective effect of fruit and vegetables for stroke and coronary heart disease has been reported[9]. A preference for consumption of pulses, beans, fresh vegetables and fruits among our study population is encouraging, and needs to be reinforced.

The role of cooking oil in the development of Coronary Heart Disease is hotly debated in literature[10]. It is indeed heartening to note that majority of the respondents have a preference for the consumption of oil from vegetable sources.

Since dietary sodium is associated with elevation of blood pressure[11], there is a need to discourage the addition of table salt to food. Fortunately, such practice is carried out by only a few respondents in our study population, showing the effectiveness of preventive measures already in place. However, we must remember that our study sample included very educated patients and the situation in the community may be entirely different. This outlines the need for a community based survey of cardiovascular risk factors.

More than half of the respondents were exercising for more than 20 minutes and at least three times a week. We have earlier reported 47% respondents exercising on a regular basis, in another study sample[12]. Even though we have a biased sample population, comprising of well educated and motivated patients, visiting a teaching hospital for treatment, it is indeed a healthy trend that we are seeing in our society.

It is unfortunate that 11 (22 percent) respondents were smokers. Earlier studies have reported prevalence of smoking between 21-33%, in Karachi[13]. This is an area which is crucial in the prevention of cardiovascular disease. It is the decline in smoking prevalence in the developed world that has led to a reduction in the mortality from cardiovascular disease.[2] Our efforts to control cardiovascular disease will not be successful unless we control tobacco use in our population.

We have documented the frequency of cardiovascular risk factors, among a small selected group of family practice patients. There is a need to conduct such a survey on a larger scale in the community. There is an urgent need to control modifiable risk factors for cardiovascular disease, among our population. Only such preventive measures are likely to reduce morbidity and mortality from cardiovascular disease.

CONCLUSIONS

We have studied the frequency of life style related modifiable behavioral risk factors for cardiovascular disease among our patient population. The results of our study demonstrates the existence of an unique opportunity to practice preventive medicine by identifying and correcting risk factors for cardiovascular disease among patients.

Such surveys, if conducted globally and on a larger scale, can lead to identification and correction of cardiovascular disease risk factors. Such a planned interventional, it can be hoped, will eventually lead to help prevent cardiovascular disease in the community and thereby decreased morbidity and mortality due to it. strongly recommended at all heath care facilities in the country.

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