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Short Communication

A community based study to assess the awareness about the coronary risk factors in rural Maharashtra.

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Abstract

Background- Since the key to combating the increased incidence of CAD is the control of known risk factors by a population based strategy aimed at comprehensive risk reduction; it is pertinent to study the existing level of awareness about coronary risk factors.

Aim- The present survey was therefore conducted to assess the level of awareness about selected risk factors and symptoms of CAD in rural Marathi population.

Methods- The present community based survey was carried out in the rural area of district Pune using a structured questionnaire during May-August 2012. A modified WHO questionnaire adapted to local conditions was used for data collection.

Results - Only 36% of the study subjects were aware about coronary artery disease and among these, awareness was most common about the symptom of chest pain/discomfort (98.96%) followed by sweating, sinking feeling, and sudden weakness. Least awareness was about nausea/vomiting (18.55%) as a symptom of CAD. Less than two-third (61%) knew about alcohol consumption as a modifiable risk factor whereas more than a half knew that tobacco consumption (58%) is a modifiable risk factor of CAD.

Conclusion –The study demonstrated general lack of awareness about these risk factors especially about modifiable factors. Therefore it is need of the hour to launch

IEC activities like health talks, role plays and health exhibitions especially in local language.

Key words: rural, awareness, coronary risk factors.

Introduction

It is predicted that cardiovascular diseases will be the most important cause of mortality in India by the year 2015.^{1,2} Contemporary research has indicated that the rise in CADs (Coronary artery disease) reflects a significant change in diet habits, physical activity levels, and tobacco consumption worldwide as a result of industrialization, urbanization, economic development and food market globalization.³ People are consuming a more energy-dense, nutrient-poor diet and are less physically active. Imbalanced nutrition, reduced physical activity and increased tobacco consumption are the key lifestyle factors.⁴

Since the key to combating the increased incidence of CAD is the control of known risk factors by a population based strategy aimed at comprehensive risk reduction, it is pertinent to study the existing level of awareness about coronary risk factors in detail. According to best of our knowledge level of awareness about coronary risk factors in this area i.e. in rural Maharashtra has not been closely investigated by the community experts in the field.

In view of the rising trend of CAD, as brought out by various studies and paucity of data with respect to the coronary risk factors especially in rural settings in Maharashtra, the present community based study was undertaken to study the awareness among the rural population about these coronary risk factors so that risk reduction measures can be recommended.

Materials and methods

The present community based survey was carried out in the rural area of district Pune using a structured questionnaire. The area selected was the field practice area of a tertiary medical centre in Pune. It's around 40 km from Pune on the Solapur Highway. It has been adopted by this tertiary medical centre for rural training of under graduate and post graduate students in community medicine and for provisioning of health services to the villagers.

Sample size estimation was based on village population 1600 with 700 more than 35 years (approx.), assuming the prevalence of coronary risk factors to be 25% in a rural setting, 5% absolute error of margin and 95 per cent confidence interval. Following formula was used for calculating the minimum sample size, taking into account the 'Finite population'.⁵
$$n = Nz^2 pq / \{d^2(N-1) + z^2 pq\}$$
 Accordingly, the sample size was worked out to be 204.

All the residents of the village aged 35 years and above (both male and females) were serially listed and subjects for the study were chosen by simple random sampling from the sampling frame using random number table. Only those above 35 years were added because this is the age group in which the incidence of CAD increases geometrically as most of the literature suggests. A questionnaire was framed under supervision and consultation with the experts for the purpose of capturing socio-demographic information, history of alcohol consumption, tobacco consumption

and physical activity etc and other relevant information. The questionnaire was pilot tested on 20 subjects and amended for clarity with the addition of some answer options and was modified accordingly. The questionnaire was designed in English initially and later translated in Marathi and retranslated to English to check validity of questions contained in order to ensure that the respondents were able to comprehend the questions well. Before the interview, the subjects were informed about the scope and nature of the study and were fully assured strict confidentiality.

All those who did not give informed consent for participating in the study and those who were known to be suffering from the coronary heart disease (supported by history or relevant documents) were excluded from the study. Permission from Institutional Review Board was sought before the commencement of the present study. Study population was explained about the nature and purpose of the study and requested to participate. Informed consent of the participants was taken.

House to house survey was carried out in order to conduct interview schedule. The interview schedule was standardized and on an average, it took around 35 - 40 minutes for each individual. Questionnaire was presented and factual data recorded by the investigator.

All the questionnaires were manually checked and edited for completeness and consistency and were then coded for computer entry. Finally they were compiled and summarized. The collected data was entered in Microsoft Excel. Coding of the variables was done. The analysis was done by Statistical Package for the Social Sciences (SPSS) version 20. Interpretation of the collected data was done by using appropriate statistical methods like percentages and proportions.

Results

The present study included a total of 272 subjects in the age group >35 years. There were 144 males and 128 females in the study sample with their mean age 57.33± 12.59years and 50.52± 12.07 years respectively. Majority of the study subjects belonged to socio-economic scale (SES) class 5 followed by class 4 of Prasad scale. Roughly three-fourth of the study subjects were illiterate and out of those educated, majority were educated up to the primary level only.

Table 1: Awareness among Study Subjects about selected Risk Factors of CAD

RISK FACTOR	No. of subjects who considered the selected risk factors	
	MODIFIABLE No (%)	NON-MODIFIABLE No (%)
Age	0 (0.0)	97 (100.0)
Sex	18 (18.56)	79 (81.44)
Family History	4 (8.89)	93 (91.11)
Alcohol Consumption	60 (61.86)	37 (38.14)
Tobacco Consumption	57 (58.34)	40 (41.66)
Physical Inactivity	89 (92.30)	8 (7.7)
High Blood Pressure	88 (90.90)	9 (9.1)
Central Obesity	91 (93.54)	6 (6.46)
Elevated Serum Cholesterol	89 (92)	8 (8)
Diabetes Mellitus	14 (14.43)	83 (85.57)

A total of 97 (35.67%) out of a total of 272 study subjects were not aware about coronary artery disease. As can be seen from figure1, among those who were aware, almost all were aware of 'chest pain' (98.96%) as a symptom of CAD but majority was not aware about remaining symptoms of CAD.

Among those study subjects aware of CAD, all knew about age being a non-

modifiable risk factor and a very high majority knew about sex (81.81%) and family history (91.11%) as a non-modifiable risk factor. (Table 1)

Discussion

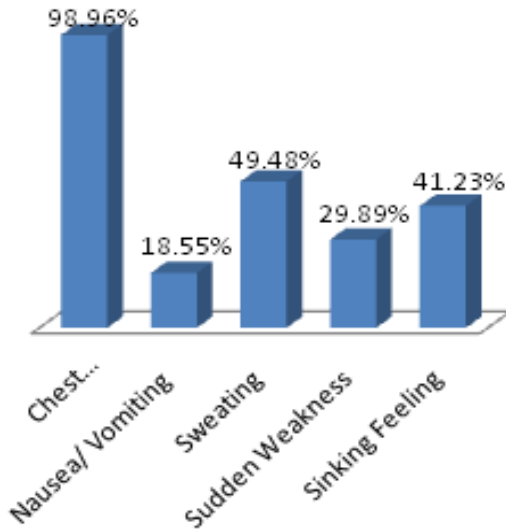
A cross sectional study on awareness of coronary risk factors among the rural population in a village in dist. Pune of Maharashtra, India was performed in this survey. Majority of the study subjects in our study were aware (64.33%) about coronary artery disease as against awareness among 41% of the study subjects in a study conducted on risk factors for CAD by Saeed et al in All India Institute of Medical Sciences (AIIMS).⁶ The small difference may be because of the increased awareness among the already affected patients in the AIIMS study.

Among those study subjects aware of CAD (64.33%), all knew about age being a non-modifiable risk factor and a very high majority of more than three quarters knew about sex (81.44%) and family history (91.11%) as a non-modifiable risk factor. Slightly less than two-third (61.86%) knew about alcohol consumption being a modifiable risk factor of CAD. More than a half knew (58.33%) that tobacco consumption is a modifiable risk factor.

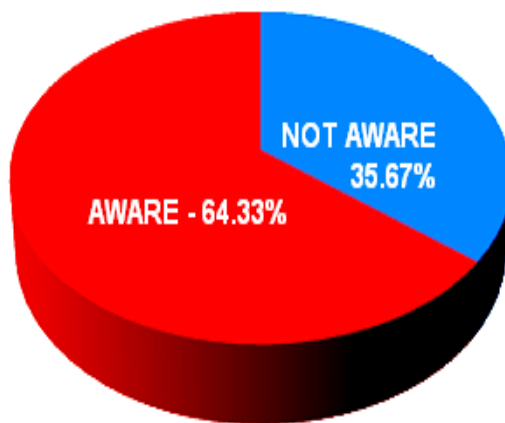
A very high majority were aware that sedentary habits (92.30%), high blood pressure (90.90%), central obesity (93.54%) and elevated serum cholesterol (92.0%) are modifiable risk factors of CAD. Majority thought that diabetes mellitus (85.57%) is a non-modifiable risk factors. This was against the findings as observed by Saeed et al in their study conducted at AIIMS.⁶ A study in Saudi Arabia by Khattab MS et al shows that physically inactive people were least aware of their risk of CAD.⁷ Difference in rates is due to different parameters for determining the level of awareness and different socio-economic and cultural conditions prevalent in these populations

besides differing age groups constituting the study.

Figure 1- Awareness about symptoms of CAD



Subjects aware and not aware of CAD



Conclusion

The study demonstrated a glaring lack of awareness about these risk factors especially about modifiable factors. Therefore it is need of the hour to launch IEC activities like health talks, role plays and health exhibitions especially in local language. Action, in conjunction with all the stakeholders of the village should be initiated for creating more job opportunities so as to improve the overall socio-economic status of the community.

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