

RESEARCH ARTICLE

AN EVALUATION OF TEN YEARS ABSOLUTE RISK OF DEVELOPING CORONARY ARTERY DISEASE EVENT BASED ON FRAMINGHAM CRITERIA AMONG BANK EMPLOYEES IN MUMBAI.

DR. RANI SHETTY, Principal, Maniba Bhula College of nursing

Gopal Vidyanagar-Tarsadi, Bardoli.

ARTICLE INFO

Article History:

Received on 5th Sept 2019
Received in revised form 11th Sept 2019
Accepted on 17th Sept 2019
Published online on 18th Sept 2019

Key Words:

Evaluation, absolute risk, CAD, Framingham criteria.

Corresponding Author:

**DR. RANI SHETTY, Principal,
Maniba Bhula College of nursing
Gopal Vidyanagar-Tarsadi, Bardoli**

ABSTRACT

A survey was done to identify the awareness of bank employees regarding risk factors of coronary artery disease (CAD) and to determine the presence of ten years absolute risk of developing CAD event among them. Awareness regarding risk factors was elicited using a structured questionnaire. Physical examination was conducted to identify their height, weight, body mass index, blood pressure and heart rate. Blood sample was collected to measure serum lipid profile. Ten years absolute risk for CAD event was calculated using Framingham criteria. The findings revealed that 57% of the participants had poor awareness of CAD risk factors. With regard to the 10 years absolute risk of CAD event, none of the participants had high risk. Among the male participants, seven percent of them had moderate risk, 26% of them had low risk, and 29% of them had very low risk. Among the female participants, 81% of them had very low risk and 19% of them had low risk. Health education was imparted to the participants after completion of the study.

Copyright © UTUJAH I 2019. **DR. RANI SHETTY.** This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction

Coronary artery disease is one of the common and serious causes of death in Indian population. Fatty deposits build up in blood vessel walls and narrow the passageway for the movement of blood. The resulting condition, called atherosclerosis often leads to blockage of the coronary arteries and leads to acute myocardial infarction or heart attack. Indian population are predisposed to CAD six times more than western population and 20 times than Chinese population. Specific risk factors for Indians are sedentary life style, abdominal obesity, uncontrolled diabetes, insulin resistance, high LDL cholesterol and low HDL

cholesterol, high blood pressure and smoking. WHO has predicted 11 million deaths due to heart attacks by 2020.

Need for the study

According to AMERICAN HEART ASSOCIATION (AHA) 80% of the CAD cases could be prevented if the population follow the basic guidelines for prevention. CAD is preventable, predictable, and curable. Early identification of risk factors can help the population to take adequate preventive measures. Studies have proven that sedentary life style, hypertension, high body mass index, smoking

and alcohol consumption, and job stress are the major risk factors for CAD. Many studies have proven that lack of awareness regarding risk factors and life style modification have played an important role in the increasing morbidity and mortality related to it. Bank employees are sedentary workers. Identifying their risk factors and providing information regarding life style modification can delay coronary events among them.

Statement of the Problem

An evaluation of ten years absolute risk of developing coronary artery disease event based on framingham criteria among bank employees in mumbai.

Objectives of the study

1. To identify the level of awareness regarding risk factors of CAD among bank employees.
2. To determine the presence of ten year absolute risk of developing CAD event among bank employees.
3. To provide health education to bank employees regarding CAD and its prevention.

Methodology

An exploratory survey design was used to assess the awareness of risk factors of CAD of 70 bank employees of AXIS BANK and State bank of India in Church gate, Mumbai. Bank employees who were leading sedentary life style and did not have diagnosed CAD were recruited to the study if willing. Using a structured questionnaire, demographic and medical data, awareness regarding modifiable and non-modifiable CAD risk factors were collected. Physical assessment was conducted to assess anthropometric parameters (height, weight, BMI), and physiological parameters (systolic and diastolic BP, heart rate). Blood sample was collected and sent for biochemical parameters (HDL and LDL cholesterol). Using the Framingham criteria, the parameters of Age, systolic BP, diastolic BP, S. Cholesterol, HDL, smoking habit, history of Diabetes were scored separately for males and females. The total risk score was calculated in percentage. The participants were categorized as per the scale provided. The findings were informed to the participants and health education was provided to them.

FINDINGS OF THE STUDY

Demographic data:

Age of the participants varied from 24 to 60 years, the majority (53%) being between 41 to 60 years. Sixty one percent of the participants were males, 51% of them were graduates, and majority (86%) of them were performing clerical work.

Medical data:

Twenty six percent of the participants had positive family history of CAD, seven percent of them were diagnosed with Diabetes, 17% of them were having hypertension, only nine percent of them had checked their cholesterol levels, 16% of them were smokers, 20% of them exercised daily and majority (57%) reported job stress at work place.

Anthropometric parameters:

Forty seven percent of the participants were overweight (BMI 26-30), and nine percent of them were obese (BMI >30).

Physiological parameters:

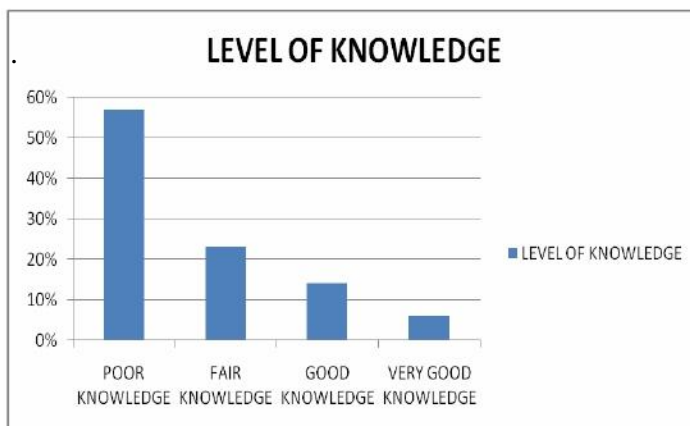
Only 14 % of the participants had high systolic and diastolic blood pressure, and Cent percent of them had their heart rate within normal range.

Biochemical parameters:

Thirty nine percent of the participants had high cholesterol levels (>220 mg/dl), and 51% of them had low HDL levels (<40 mg /dl).

Awareness regarding risk factors:

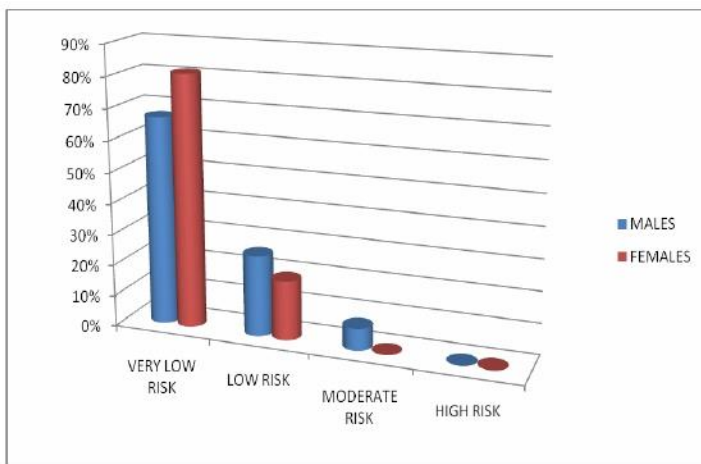
Majority (57%) of the participants had poor level of knowledge, 23% of them had fair level of knowledge, whereas 14 % of them had good level of knowledge, and six percent of them had very good level of knowledge.



Ten years absolute risk for CAD event based on Framingham criteria:

Both males and females were scored separately. None of the participants had a high risk score (>20%). Among the male participants, seven percent of them had moderate risk (15-20%), 26% of them had low risk score (<15%), and majority (67%) of them had a very low risk score (<10%). Among the female participants, majority (81%) of them had very low score and 19% of them had low risk score. Health education: All the participants in the banks were educated regarding CAD, risk factors, signs and symptoms and importance of life style modification was explained.

Discussion



Though the sample size was small, the findings of the study was significant, i e, male (53%)middle aged group(41-60yrs.),having positive family history of CAD,(26%),DM (7%), hypertension (14%),smoking (16%), with job stress (57%), and 86% of them having sedentary work. Eighty percent of them did not perform any exercises daily,49% of them had a BMI .26M²,39%of them had high cholesterol level, 51% of them with low HDL levels. Though 51% of them were graduates their awareness regarding risk

factors of CAD were poor (57%). The findings highlight the predisposition of Indian population for CAD. None of the participants had a high-risk score (>20%) which was encouraging. The health education provided may improve their awareness and may motivate them to adopt healthy life styles and may contribute towards primary prevention of heart at- tacks. Large scale study will enable for generalization.

Conclusion

The objectives of the study were achieved. Poor awareness and increasing risk factors are an eye opener for health care workers. Imparting information through health education, mass media and other means are very important to prevent the epidemic proportion of CAD which is waiting to explode on Indian population in the coming years.

References:

1. Athavale A.V. The prevalence and risk factors of CAD in sedentary workers. Indian journal of industrial medicine.2007June; 43(2):10-14.
2. Athavale A.V. The total serum cholesterol and risk of CAD among sedentary workers. Indian journal of industrial medicine 2008Mar; 98(3)100 - 1.
3. Hinayasu Iso, Changes in coronary heart diseases risk among Japanese, AHA Inc, Circulation.2008118 2725-29.
4. Dirk De Bacquer, Perceived job stress and incidence of coronary events. Journal of public health.2005 sep; 67(4) 23-5.
5. Dr Dutta K., Impact of life style on heart disease, Indian journal of epidemiology 2009;161(5) 434-41.