CORRELATION OF CARDIOVASCULAR DISEASE PREVALANCE WITH FOOD INTAKE PATTERN

Khogare D. T.

Krishi Vigyan Kendra, Sangli- 416306(MS)
Email ID: khogare_2006@rediffmail.com

ABSTRACT

Cardiovascular disease (CVD) is claim near about 5 to 6 million in the Indian population. It account 64 per cent of all deaths in every year in India. There are several CVD risk factors which gives more burdens to build cardiovascular disease (CVD). Present investigation has been account to assess the correlation in the prevalence of CVD with the specified risk factor in particular food intake pattern among CVD patients in Sangli District of Maharashtra state. 50 cardiovascular disease male patients between 40 to 60 years in age from Sangli district were chosen by purposive random sampling method. Adequate level of food intake and habituated factors were assessed with two way analysis method of correlation coefficient. Present investigation conclude that mostly non vegetarians except fish eaters, consumption of milk and milk products, animal originated fats, groundnut oil and habituated factors like drinking alcohol, soft drinks and smoking cigarette found strongly associated with more prevalence of CVD.

Key words: Cardiovascular disease, Specified risk factors and Correlation.

INTRODUCTION

Cardiovascular disease (CVD) afflicts Indians and other south Asians four times more than any other race in the world. It is estimated that by 2012 India will bear 65 per cent of the worlds CVD burden which measures four times more than its share of the global population (Hakajima, 2000). Fourty percent victims of heart attack in India is unpredictable. The mortality rate from CVD has been coming down in countries like Japan by 60 per cent, and USA, Canada and Australia by 50 per cent, but in India its going up. According to WHO projections, there will be a 100 per cent rise in CVD related mortality rate by 2015 (WHO,2009). One fourth of these deaths occur in people below the age of 45 years (Knnel, 1997). CVD has been estimated is due to multiple factors these termed as risk factors ie. heredity, foulty

dietary habits, smoking, inactive lifestyle, stress etc. (Stamper *et al,* 1999).

Unhealthy dietary habits like excessive intake of fried foods, fast foods, synthetic drinks, coffee/ tea , non vegetarian and spicy foods, ready to eat, ready to serve foods etc. increase the risk of CVD among young males which owing more prevalence in the later stage of life.

New drugs and advance technology which used aggressively to reverse artery damage are made available for temperariry relief. Therefore many researchers and doctors squarely shifted to prevention and promotion of modifiable risk factors. By keeping this in view the present research study has been undertaken to examine the reality between especified risk factors specially food intake patter with the the prevalence of CVD in the population of Western Konkan of Maharashtra state, where the prone of CVD is in an alarming situation.

MATERIALS AND METHODS

Study area

The patients registered in the civil hospitals of Sangli were selected by purposive random sampling method.

Selection of sample

50 male patients in the age group between 40 to 60 years with coronary heart disease, who attended the outpatient unit of the hospital over a period of 3 months were selected from the secondary data maintained by this hospital in Sangli District of Maharshtra for the conduct of this study.

Collection of data

The data related to the study was collected through self structured questionnaire. Specified risk factors were framed and tabulated in the questionnaire. The questions regarding specified risk factors especially their food intake pattern and habituated factors in relation with eating, drinking and smoking were asked during the personal interview with the patients.

Interpretation of data

The data related to food intake pattern and dietary habits

of the patients was collected by three day recall method and observation by personal contact. Per cent adequacy level of food intake was calculated with the comparison of standard RDA level of the same age, sex and working pattern (Gopalan et.al. 2001). Five hundred CVD patients were classified into two categories ie. low and high risk levels. This classification was made by taking into account of their lipid profile ie. level of triglyceride, cholesterol, LDL and HDL.

Statistical analysis

Correlation in prevalence of CVD with their adequate level of food intake and dietary habits was assessed by using two way analysis method of correlation coefficient given by Gomez and Gomez (1984) and Kerlinger (1983).

RESULT AND DISCUSSSION

The data regarding correlation in the prevalence of CVD with the food intake pattern and habituated factors is presented in table 1 to 5.

Type of diet of the person play a vital role in determining their cardiovascular health and nutritional status. In order to assess the relationship of type of diet of the CVD patients with the extent of prevalence of CVD were worked out and tested for its statistical significance. The relevant data is reported in table 1. It could be observed from the table 1 that out of four independent variables studied, three variables viz. eating non vegetarian diet in particular meat and poultry consumption were found to have significant positive relationship with more prevalence of CVD among these patients. Among non vegetarian intake meat (0.481) found strongly associated with more prevalence of CVD. Where as less association was observed in prevalence of CVD with vegetarian diet (0.029). In the non vegetarian dietary pattern, consumption of fish (0.135) was shown low risk in the prevalence of CVD. It indicated that, vegetarian dietary pattern have more significant for keeping healthy heart. However,

fish intake was best alternative option for non vegetarians.

The study made an attempt to find the relationship between prevalence of CVD with the major food consumptions of the patient. It was clear from table 2 that intake of refined cereals or processed cereals ie. use of sieved floor, maida, semolina, sago etc. shown more significant contribution to the high risk in the prevalence of CVD. Where as among the vegetables consumption, roots and tubers noted a positive relation with risk of CVD. Among these 9 tested variables seven variables viz. consumption of citrus fruits (0.066), whole legumes (0.085), leafy vegetables (0.093), other vegetables (0.129), non citrus fruits (0.133), processed pulses (0.180) and non refined cereals (0.184) found non significant association in the prevalence of CVD.

The data regarding correlation between prevalence of CVD with the consumption of milk and milk products was presented

in table 3. It gives an immense idea that, consumption of diluted milk, curd and butter milk without cream found a positive relation in low level prevalence of CVD. Whereas eating of undiluted milk, creamy curd, cheese, paneer and khoa observed increasing the prevalence of CVD. Among these milk products intake of khoa (0.444) shows more significant correlation with high risk in the prevalence of CVD.

Consumption of oilseeds, oil and fat plays a crucial role in increasing the risk of CVD. Hence, the data was analyzed to confirm the relation between type of oil seeds, oils and fat consumption with prevalence of CVD and presented in table 4. It highlights that, the patients who consumed dalda (0.598), groundnut (0.383) and ghee (0.309) shown significantly more prevelant with CVD. Intake of palm oil, safflower, soyabean and sunflower oil were also associated with prevalence of CVD. Among these, the patients who were taking soyabean oil found less correlated with

prevalence of CVD. However the patients who used blended oil were notice nonsignificant relations with prevalence of CVD. Hence, blended oil with more than two cooking oil may be beneficial for reducing the risk of CVD.

Prevalence of CVD is strongly contributed due to wrong habits of food intake , drinking and smoking. Five important variables viz. habituated factors like excessive intake of tea, coffee, soft drink, alcohol and smoking cigarette were tested in their association with prevalence of CVD among these patients. The relevant data reported in table 5. It reveals that, the patients who habituated with soft drink, alcohol and cigarette smoking were more suffered with CVD. Among these variables, alcohol consumption (0.640) was strongly associated with more prevalence of CVD. Intake of coffee shown lightly correlated with CVD where as the patients who consumed tea were not found related with prevalence of CVD.

CONCLUSION

From the above findings it could be concluded that, the patients who were non vegetarian except fish eaters, consumed more roots and tubers, undiluted milk, creamy curd, cheese, paneer, palm oil, safflower oil and coffee were prevalent in CVD. Where as the patients who strongly correlated with more prevalence of CVD were found consumed meat, poultry, refined cereal products, khoa, dalda, groundnut oil and ghee more significant relation was also noticed with the patients who habituated with excessive intake of alcohol, cigarette smoking and soft drink. Vegetarian food intake, consumption of fish, non refined cereals, leafy vegetables, fruits, blended oil and intake of tea were not found more associated with prevalence of CVD.

Table No.1: Correlation with prevalence of CVD and type of diet

Variable No.	Type of diet	Coefficient of correlation (r)
X 1	Vegetarian	0.029
	Non vegetarian	
X 2	Meat	0.481**
X 3	Fish	0.135
X 4	Poultry	0.322**

Table No.2: Relationship between prevalence of CVD with the major food consumption

Variable No.	Dietary intake	Coefficient of correlation (r)
X 1	Refined cereals	0.391**
X 2	Non refined cereals	0.184
X 3	Whole legume	0.085
X 4	Processed pulses	0.180
X 5	Leafy vegetables	0.093
X 6	Other vegetables	0.129
X 7	Roots and tubers	0.240*
X 8	Citrus fruits	0.066
X 9	Non citrus fruits	0.133

Table No.3: Correlation between prevalence of CVD with the consumption of milk and milk products

Variable No.	Milk and milk products	Coefficient of correlation (r)
X 1	Diluted milk	0.163
X 2	Undiluted milk	0.256*
X 3	Curd without cream	0.149
X 4	Creamy curd	0.260*
X 5	Butter milk without cream	0.076
X 6	Cheese	0.262*
X 7	Paneer	0.259*
X 8	Khoa	0.444**

Table No.4: Association in type of oil seeds, oil and fat consumption with prevalence of CVD

Variable No.	Oils and fats	Coefficient of correlation (r)
X 1	Groundnut	0.383**
X 2	Palm	0.291*
X 3	Safflower	0.248*
X 4	Soyabean	0.209*
X 5	Sunflower	0.275*
X 6	Blended oil	0.141
X 7	Ghee	0.309**
X 8	Dalda	0.598**

Table No.5. Association of habituated factors with prevalence of CVD

Variable No.	Habituated factors	Coefficient of correlation (r)
X 1	Tea	0.178
X 2	Coffee	0.277*
X 3	Softdrink	0.318**
X 4	Alcohol	0.640**
X 5	Cigaratte	0.592**

REFERENCES

- Gomez K.A. and Gomez A.A. (1984). Statistical procedure for agriculture researcher, second Edition, John Willey and Sons, New York.

- Gopalan C., B.V. Rama Sastri and S.C. Balasubranian (2001). Nutritive value of Indian foods. National; Institute of Nutrition, Indian council of medical research, Hydrabad.

- Hakajima (2000). Health Promotion-new challenges for the future, Published by *IUHPE-SEARB,*2000. PP, 15-19.

- Kannel W.B. (1997). Hazards, risks and threats of heart disease from the early stages of symptomatic coronary heart disease and cardiac failure. *Journal of American Dietetics Associations.*97: pp 199-212.

- Kerlinger F.N. (1983). Fundamental of behavioural research. Surjeet Publication., New Delhi.

- Stamper M.S., Rimme B. and Manson J.E. (1999). A prospective study of risk factors of cardiovascular diseases in men and women. *Journal of the American Medical Association,*158:pp.2007-2014.

- WHO (2009). Annual report. pp, 54.