

## Original Research Article

# Awareness of coronary heart disease in rural areas of Mangalore

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## ABSTRACT

**Background:** Coronary heart disease is the impairment of heart function due to inadequate blood flow to the heart, compared to its needs caused by obstruction. It is the cause of 25-30 percent of deaths in most industrialised countries. The WHO has drawn its fact that coronary heart disease is a modern epidemic. A steady decline in mortality is seen in western countries due to changes in lifestyles and related risk factors. Objectives of the study to assess the knowledge of the people regarding coronary heart disease, to identify who are at risk and to test their attitudes and practices.

**Methods:** This is a descriptive study. The sample size was 256. The study was done among the OPD patients attending the rural health centres of a tertiary hospital in Mangalore. Time period was two months.

**Results:** Our community based cross-sectional study demonstrated good knowledge (57.42%), good attitude but poor practice regarding the cardiovascular health in the rural population of Mangalore.

**Conclusions:** There is a need for concerted efforts for health education (e.g. audio visual aids) focusing more on Coronary heart disease causations, signs and symptoms, and treatment facilities. Conducting screening camps aiming more towards cardiovascular check-up- including lipid profile, blood sugar, ECG in addition to routine check-up; preferably once in a year covering a mass population for the purpose of prevention and management is necessary.

**Keywords:** Cardiovascular disease, Lifestyle, Prevention

## INTRODUCTION

Coronary heart disease has assumed serious dimensions in developing countries.<sup>1</sup> It has become the single most expected cause of death. There is considerable increase in prevalence of coronary heart disease in urban areas as well as rural areas. The prevalence rate of urban areas was around 6.4% while that of rural areas was around 2.5 percent. In urban areas the estimate was around 6.1% for males and 6.7% for females. The aetiology of coronary heart disease is multifactorial. They are classified into modifiable and non-modifiable. The greater the number of risk factors present the more likely it is to be present. The non-modifiable risk factors include age sex family history, genetic factors personality. The modifiable risk factors include cigarette smoking, high blood pressure,

elevated serum cholesterol, diabetes, obesity, sedentary habits and stress. The prevention of coronary heart disease has strategies like population strategy, high risk strategy and secondary prevention. Population strategy includes a mass approach focussing mainly on the control of risk factors such as dietary changes, smoking, blood pressure which further includes changes like prudent diet, i.e. reduced salt intake and avoidance of alcohol, regular physical activity.<sup>1</sup> Primordial prevention includes the preventing and emergence and spread of risk factors. High risk strategy includes identifying individuals at high risk and giving specific advice. Secondary prevention is a continuation of primary prevention and includes early diagnosis and treatment. It hinders the recurrence and progression of coronary heart disease. The principles governing secondary prevention is the same as the earlier

phases of prevention. The main aim of the study is to assess the knowledge attitude and practise of coronary heart disease in the rural areas of Mangalore.

## METHODS

The present study was a cross sectional study conducted on the patients attending the 7 rural centres of K.S Hegde Medical Academy (Thalipady, Hejamady, Sringeri, Subramaniah, Shashitulu, Farangipettu, Natekal) over a period of two months (September 2016 - October 2016). Convenient sampling was used. Sample size was 256. The study was done by a pretested semi structured questionnaire. The participants were interviewed after obtaining verbal consent. All the participants above 40 years were included in the study. Data was entered in Microsoft excel spread sheet. Statistical analysis was done by SPSS 16.0. Statistical methods used were frequency and percentage.

## RESULTS

Most of the respondents (45.9%) were aged between 40-50 years followed by age 51-60 years (30.7%). Females were more than males (Table 1). 56% have primary school education. Average income of the population was 5000-10,000 26% of the population smoke and 27.2% consume alcohol 6.9% of the female (out of 129) consume alcohol (Table 1).

**Table 1: Demographics.**

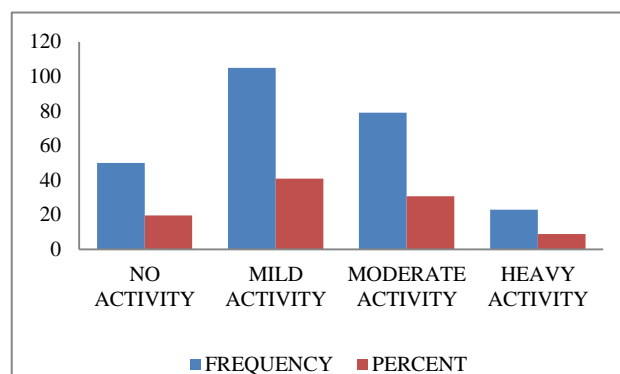
	Frequency	Percentage
<b>Age</b>		
40-50	118	40.09
51-60	79	30.85
61-70	48	18.75
>70	11	4.9
<b>Sex</b>		
Female	129	50.6
Male	127	49.4

**Table 2: Knowledge on heart disease.**

	Yes	No	I dont know
<b>Meaning of CHD</b>	208 (81.25%)	48 (18.75%)	
<b>Lead cause of death</b>	104 (40.62%)	73 (28.52%)	79 (30.86%)
<b>Regular BP check ups</b>	169 (66.02%)	14 (5.47%)	73 (28.52%)
<b>Nearby medical facility</b>	198 (77.34%)	22 (8.59%)	36 (14.06%)

42% of the population was hypertensive and 24.9% were diabetic. 16.4% of the population were both diabetic and HTN. 47.2% of male were HTN (out of 127) 40.9% of the population performed mild activity (Figure 1)14.2%

of the population were newly diagnosed cases of HTN i.e. on clinical examination. 80-86% of the population perceive chest pain to be the most common symptom heart diseases. 89.5% of the population think that low fat diet is better. 58.9% of the population answered that 40.62% of the population believe CHD to be the leading cause of death in India. 66.02% of the study population think that regular BP checkup is essential in preventing heart attack. 77.34% of the population have a medical facility nearby (<1 Km) to get checked for heart diseases (Table 2).



**Figure 1: Showing levels of activity.**

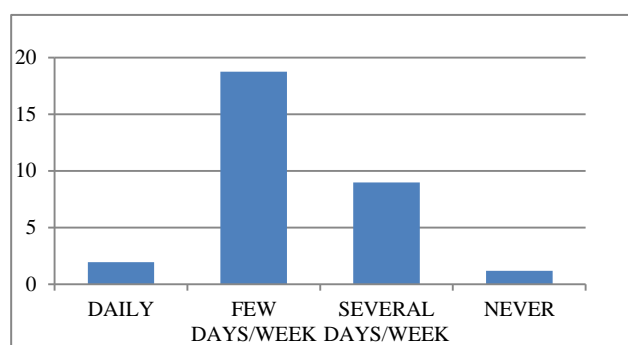
81% understood the meaning of heart disease 40% acknowledge CHD is a leading cause of death in India. 66% agree regular BP checkup is essential for preventing heart attack 62% were HTN, 37% DM. 80% recognized chest pain as a warning sign for impending heart attack. 41% of the population perceive themselves to be at risk for heart diseases. 74.2% would like to get checked for heart diseases. 54.4% said yes to change their lifestyle to avoid CHD (mostly exercise). 54% of the population believed in god/higher power in determining their health. 74% of them told that Health Awareness programs for healthy heart benefit the population (Table 3).

**Table 3: Attitude towards heart disease.**

	Yes	No	I don't know
<b>Self-perception of risk</b>	105 (41.01%)	61 (23.8%)	90 (35.15%)
<b>Checked for CVD</b>	190 (74.21%)	31 (12.10%)	35 (13.67%)
<b>Lifestyle changes</b>	142 (55.46%)	43 (16.79%)	71 (27.73%)
<b>Cutting down food</b>	149 (58.20%)	40 (15.62%)	67 (26.17%)
<b>Benefits of awareness programme</b>	188 (73.43%)	6 (2.34%)	62 (24.21%)

51% of them consumed fruits few days a week and only 19% take several days a week. 30% were diabetic and 25% of the diabetics consumed sugar daily. Whereas

37.5% of the diabetics consumed sugar few days a week. 70.3% of the population never consumed fast food (Figure 2). 51.7% of the population consumed fruits few days a week, 21.8% daily and 18.75% consumed several days a week. 72% of the population thinks that changing their lifestyle will decrease their chances of developing heart disease. 100% of the hypertensives go often (once a month) for BP checkup. 41.2% of the hypertensives (42%) went at least once for the heart disease checkup. 59.6% of the hypertensives want to change their lifestyle to avoid CHD. 89.45% of the population will go to a hospital for the treatment, if they develop heart problem. 74% have undergone checkup for CVD 72% were willing to change the lifestyle. 73% understood the importance of awareness programmes. Very low %, people consumed fast food 57% were unwilling to change their lifestyle to decrease the risk 89.4% were ready to get treatment. 51% have gone for a heart checkup, 77% underwent a checkup once in three years 60% go for regular BP checkup.



**Figure 2: Fast food consumption.**

## DISCUSSION

In contrast to a study done in Manipur by Shah et al which showed 18.16% of the study population to be hypertensive, 16.3% to be diabetic and a co-prevalence of 13.8%.<sup>2</sup> In this study co prevalence was 16.4%. 42% was diabetic and 24% was hypertensive which is higher. A study in urban Mangalore where 72% had done light physical activity where here its 40.9% which is bad for coronary heart disease.<sup>3</sup> 42.4% of the population were HTN and 100% of them were on treatment. This is similar to a study done in coastal Karnataka by Chythra et al which showed 20.2% newly diagnosed cases and males were in higher proportions.<sup>4</sup> 81.25% of the population had good knowledge about coronary heart diseases as compared to a study done in Nepal where the knowledge was poor.<sup>5</sup> 62.89% of the people believed that hypertension is the most common risk factor. Targeting tobacco, diet and physical activity may have huge implications for the Indian population.<sup>6</sup> Cooking oil should not be reused and the most common reason given was that it causes heart diseases. Xin et al showed heated palm oil causes rise in BP and cardiac changes in heart muscles in experimental rats.<sup>7</sup> 77.34% of the population have a medical facility nearby (<1 Km) to get checked for heart diseases. This is highly appreciated when compared

to African countries where a geo processing model was done and approximately 10% of the population lives more than 25 kms from a listed health facility.<sup>8</sup>

41% of the population perceive themselves to be at risk for heart diseases which is low as found by a study by Husein et al in people above 45 years of age, there the perception was around 66 % in Africa which rose to 74% after intervention 74.2% would like to get checked for heart diseases.

37.5% of the diabetics consumed sugar few days a week it was shown in a Harvard study. Over the course of the 15-year study on added sugar and heart disease, participants who took in 25% or more of their daily calories as sugar were more than twice as likely to die from heart disease as those whose diets included less than 10% added sugar. Overall, the odds of dying from heart disease rose in tandem with the percentage of sugar in the diet—and that was true regardless of a person's age, sex, physical activity level, and body-mass index.<sup>9</sup>

## CONCLUSION

Our community based cross-sectional study demonstrated good knowledge (57.42%), good attitude but poor practice regarding the cardiovascular health in the rural population of Mangalore. The population understands the relevant health risk and was aware of main prevention strategies, but implementation such measures into their lives was found to be poor. There is a need for concerted efforts for health education (e.g. audio visual aids) focusing more on CHD causations, signs and symptoms, and treatment facilities. Conducting screening camps aiming more towards cardiovascular checkup- including Lipid profile, blood sugar, ECG in addition to routine checkup; preferably once in a year covering a mass population for the purpose of CHD prevention and management is also recommended.

## Limitation

As far as the population selected is concerned the sample is limited to those who are attending the OPD of the rural centres is taken so generalizability is questionable.

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*Ethical approval: The study was approved by the Institutional Ethics Committee*

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