

# Awareness of cardiac disease among caregivers of cardiac patients reporting to a tertiary care hospital - A cross-sectional study

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## Abstract

**Background:** Globally, cardiovascular diseases (CVDs) are responsible for one in four deaths. Compounding the issue is poor awareness about CVDs, risk factors and prevention. **Objectives:** This study determined the knowledge, attitude and practice/behavior of cardiovascular health among caregivers of cardiac patients reporting to tertiary care hospital. **Materials and Methods:** This study was conducted among 64 adult participants (caregivers of cardiac patients). Caregivers were interviewed using a questionnaire based stepwise approach to surveillance and other resources, scoring all responses. **Results:** The source of information about the general and heart related health information were given by doctors/health professional in 82.8% and this shows clearly that medias did not play enough role in educating the patients about general and heart related health information. Most (71.88%) of the caregivers accompany the patient to the hospital all the time, and majority (90.63%) of them support the patient financially. Majority of caregivers (75%) spend 4 to 6 hours with the patient on average per day. Regarding the knowledge about protective factors against heart diseases, nearly 70% stated that meditation, exercise and healthy diet can reduce the risk of heart disease. About 71.88% of caregivers said that heart disease can be prevented by lifestyle modifications. Regarding the knowledge about practices, about 85.94% stated that they will take the patient to the nearest hospital immediately, on seeing him getting severe chest pain. **Conclusion:** Our study demonstrates a gap between cardiovascular health knowledge, attitude and practice/behavior. Even though knowledge is scored little a bit lower, the attitude and practices were high enough among the caregivers. This clearly shows the role of doctors/healthcare workers on educating the caregivers about the knowledge on cardiac diseases.

**Key Words:** attitude of caregivers, awareness, cardiac disease

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## INTRODUCTION

Globally, cardiovascular diseases (CVDs) are responsible for one in four deaths (12.9 million).<sup>1</sup> Non-communicable

diseases (NCDs) pose increasingly important public health problems in developing countries like India. Eighty percent of CVDs results from tobacco smoking, unhealthy diet, physical inactivity and harmful use of alcohol<sup>2</sup>. The risk of all-cause mortality among individuals who score poorly in behavioral factors is fourfold higher than in those who score best<sup>3</sup>. The WHO promotes public awareness of diet and physical activity as a 'best buy' to improve cardiovascular behavior<sup>4</sup>. Realization of risk factors for CVD and its prevention steps are an important key that can ensure early detection of CVDs.<sup>5,6,7</sup> Achieving the desired health behaviour requires a deeper understanding of the underlying social context of disease. And early detection of CVDs can save lives and resources<sup>8,9</sup>. Hence, studies on knowledge,

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attitude and practice (KAP) increase our understanding of cardiovascular health literacy and community behaviour<sup>10</sup>. Currently, such studies have been limited in South Asia. Though many cardiac patients in India are assisted by a younger caregiver during their disease therapy continuum. Many studies have focused on awareness among patients, the value of the caregiver and the importance of awareness among caregivers are often neglected. Our aim is to target those caregivers in an attempt to identify early awareness strategies.

### MATERIALS AND METHODS

The present study was conducted in the Department of General Medicine, Saveetha Medical College and Hospital, Chennai during March 2019 to June 2019. After receiving the approval of Institutional Ethical Committee, the study was conducted.

#### Study design

A cross-sectional study was conducted.

Following inclusion and exclusion criteria was used to select the study subjects.

#### Inclusion criteria

Subjects who were willing to give consent to participate in this study, above 18 years of age accompanying cardiac patients to the hospital were included.

#### Exclusion criteria

Subjects who were below 18 year of age.

Patients not willing to participate in the study.

Thus, a total of 64 caregivers of cardiac patients were selected in the study. On entry, a detailed history and clinical examination were conducted. After obtaining informed consent from the patient and relatives, the information collected was entered in a structured proforma. All data that were collected were keyed in and analyses by using statistical package for the Social Science (SPSS) version 21.0.

### RESULTS

Sociodemographic characteristics of the subjects: This study was conducted among 64 adult participants (caregivers of cardiac patients) with a response rate of 100%. This study managed to get 22 (34%) male subjects and 42 (66%) female subjects. The socio-demographic characteristics, literacy and occupational status of the study sample are shown in Table 1. As shown below, 59% were agricultural workers, More than two-thirds(70%) of the subjects were literates (Table 1).

Table 1: Demographic variables

Options	Male(N=22) Frequency(%)	Female (N=42) Frequency (%)	Total (N=64) Frequency (%)
Level of education			
Non formal schooling	9 (14.06)	10 (15.63)	19 (29.69)
Primary education (up to 8th standard)	11 (17.19)	21 (32.81)	32 (50.00)
Higher education (up to 12th Standard)	1 (1.56)	9 (14.06)	10 (15.63)
College graduate / Post graduate	1 (1.56)	2 (3.13)	3 (4.69)
Occupation of caregiver			
Homemaker	8 (12.50)	3 (4.69)	11 (17.19)
Industrial worker	3 (4.69)	1 (1.56)	4 (6.25)
Agricultural worker	2 (3.13)	36 (56.25)	38 (59.38)
Shop owner	9 (14.06)	0 (0.00)	9 (14.06)
Office / Desk worker	0 (0.00)	2 (3.13)	2 (3.13)

Majority of the caregivers were children (39% were sons and 22% were daughters), as depicted in figure 1 and figure 2.

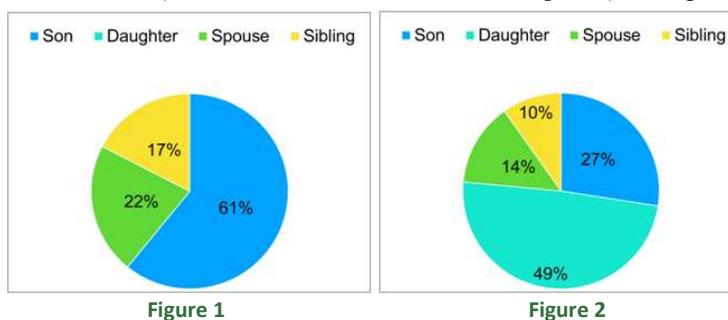


Figure 1: Relationship of the caregiver to the cardiac patient - Male(n=22); Figure 2: Relationship of the caregiver to the cardiac patient - Female(n=22)

Since, most of the caregivers are accompanying the patients to the hospital, the source of information about the general health and cardiac disease were given by doctors/health professional, nearly 82% (Table 2).

**Table 2:** The source of information for general and cardiac health related information

Options	Male (N=22) Frequency(%)	Female (N=42) Frequency(%)	Total (N=64) Frequency (%)
My doctor or health professional	19 (29.69)	34 (53.13)	53 (82.81)
My doctor or health professional and Radio	1 (1.56)	1 (1.56)	2 (3.13)
Television	0 (0.00)	3 (4.69)	3 (4.69)
My doctor or health professional and Television	1 (1.56)	2 (3.13)	3 (4.69)
Radio	1 (1.56)	2 (3.13)	3 (4.69)

Majority (72%) of the cardiac patients were not able to take care of themselves, hence were assisted by caregivers (Table 3). Most of the caregivers(72%) accompany the patient to the hospital always(Table 4), and majority(90%) of them support the patient financially also (Table 5). Majority (75%) of the caregivers used to spent nearly 4 to 6 hrs with the patient every day (Table 6).

**Table 3 :** The reason for being a caregiver for the patient

Options	Male (N=22) Frequency (%)	Female (N=42) Frequency (%)	Total (N=64) Frequency (%)
The patient needs assistance	4 (6.25)	4 (6.25)	8 (12.50)
Patient is not able to take care of himself or herself	14 (21.88)	32 (50.00)	46 (71.88)
Moral support	4 (6.25)	6 (9.38)	10 (15.63)

**Table 4 :** Caregivers accompanying the patient

Options	Male (N=22) Frequency (%)	Female (N=42) Frequency (%)	Total (N=64) Frequency (%)
Always	16 (25.00)	30 (46.88)	46 (71.88)
Sometimes	3 (4.69)	10 (15.63)	13 (20.31)
First time	3 (4.69)	2 (3.13)	5 (7.81)

**Table 5:** Financial support by the caregivers

Options	Male (n=22) Number (%)	Female (n=42) Number (%)	Total (n=64) Number (%)
Yes	19 (29.69)	39 (60.94)	58 (90.63)
No	3 (4.69)	3 (4.69)	6 (9.38)

**Table 6 :** Time spent by the caregivers for the patients

Number of hours per day on an average	Male (N=22) Frequency (%)	Female (N=42) Frequency (%)	Total (N=64) Frequency (%)
> 2 to 4 hours	3 (4.69)	8 (12.50)	11 (17.19)
> 4 to 6 hours	16 (25.00)	32 (50.00)	48 (75.00)
> 6 to 8 hours	3 (4.69)	2 (3.13)	5 (7.81)

Regarding the knowledge about protective factors against heart diseases among caregivers, nearly 70% stated that meditation, exercise and healthy diet can reduce the risk of heart disease and nearly 10% stated that they don't even know any of the protective factors against cardiac disease (Table 7).

**Table 7:** Knowledge about protective factors against heart disease among caregivers

Options	Male (N=22) Frequency (%)	Female (N=42) Frequency (%)	Total (N=64) Frequency (%)
Combination of meditation, exercise and healthy diet	17 (26.56)	28 (43.75)	45 (70.31)
Not aware	1 (1.56)	5 (7.81)	6 (9.38)
Exercise	1 (1.56)	7 (10.94)	8 (12.50)
Healthy food and diet	3 (4.69)	2 (3.13)	5 (7.81)

Nearly three fourths (78%) of the caregivers were aware about the fact that the commonest test to diagnose cardiac disease is ECG, 15% were not aware about it and 6% of them considered angiogram as the primary test. More than three fourths (83%) of the caregivers were worried about developing further acute cardiac events in future. The awareness

about the risk factors for heart disease among caregivers, including obesity, decreased physical activity, family history of heart disease, smoking, history of diabetes, hypertension and dyslipidemia, mental stress and lack of adequate sleep was assessed. The findings indicate that the more than two-thirds (70%) of the subjects were not much aware about majority of these risk factors. Caregivers were assessed about knowledge regarding the symptoms of acute cardiac events like chest pain radiating to axilla and shoulder, breathlessness, profuse sweating and epigastric pain. Results suggests that majority (75%) of them were aware about the symptoms of cardiac event. More than two thirds (71.88%) of the caregivers were aware about the role of lifestyle modifications in prevention of cardiac disease. Majority (84%) of subjects believed that cardiac diseases are not because of ancestral sins. However still few believed ancestral sins as a cause for cardiac disease. Majority of the caregivers (86%) were aware of the need to take the patient suffering from severe chest pain to the nearest hospital immediately, and the rest 14% of them were not aware about this fact. About 88% subjects believed that early intervention of patients with cardiac disease will prevent more serious complications (Table 8).

**Table 8 : Role of early interventions in patients with cardiac disease**

Options	Male (N=22) Frequency (%)	Female (N=42) Frequency (%)	Total (N=64) Frequency (%)
Strongly agree	9 (14.06)	21 (32.81)	30 (46.88)
Agree	10 (15.63)	17 (26.56)	27 (42.19)
Don't know	1 (1.56)	4 (6.25)	5 (7.81)
Disagree	2 (3.13)	0 (0.00)	2 (3.13)
Strong Disagree	0 (0)	0 (0)	0 (0)

## DISCUSSION

The global burden of disease due to cardiovascular diseases (CVDs) is escalating, principally due to a sharp rise in the developing countries which are experiencing rapid health transition [11]. In comparison to other studies on CVDs and risk factors, this population also demonstrated wide gaps in knowledge as well as a discrepancy between knowledge and practices with attitudes [12]. Similarly, our study population also demonstrates a wide gap between cardiovascular health knowledge, attitude and practice/behavior. In the present study, majority of the participants were females. This finding may be due to the fact that males, often being the wage earners in the family, are reluctant to attend morning clinics accompanying the cardiac patients in hospitals with its long waiting hours. Most male patients, if they attended the clinics, were reluctant to get enrolled in a study because of time constrains. It would be important to consider these behaviors in interventional studies as well as in the development and application of CVD awareness programs in situations similar to this setting. Majority of the caregivers were agricultural workers. This may be due to the fact that our hospital being located in a rural area and this population predominantly availed the free medical services provided by our centre. More than half of the caregivers were children, who are genetically closer to the cardiac patients and they are more susceptible for the disease in future. Hence this conveys the need for maximum awareness about cardiac disease among the caregivers. More than three fourths of these caregivers gained information regarding cardiac diseases from health professionals,

which shows the importance of psychoeducation by health care providers. Majority of the cardiac patients were not able to take care of themselves, hence were assisted by caregivers, they accompany the patient to the hospital always, and support the patient financially also. This clearly shows high morbidity caused by the cardiac diseases and the need for better interventions. The findings of the current study show the lack of knowledge among the nearly one third of the caregivers about the factors that reduce the risk of heart attacks despite the fact that they are accompanying the patients to the hospital most of the time. In a study done by Vaidya *et al* [12] participants showed only poor knowledge of heart disease causes; 29.7% identified hypertension and 11% identified overweight and physical activity as causes, whereas only 2.2% identified high blood sugar as causative. Around 60% of respondents did not know any heart attack symptoms compared with 20% who knew 2-4 symptoms. These results were in correlation with the present study, which shows majority of the caregivers were not aware about the risk factors and symptoms of cardiac disease. This indicates the need for better education about cardiac disease among these population. This study also shows the lack of awareness about golden period of interventions in cardiovascular disorders among some caregivers.

## CONCLUSION

Our study demonstrates a wide gap between cardiovascular health knowledge, attitude and practice/behavior. Even though knowledge is scored little a bit lower, the attitude and practices were high enough

among the caregivers. This clearly shows the role of doctors/healthcare workers on educating the caregivers about the knowledge on cardiac diseases. Future interventions for cardiac disease patients must involve family members throughout the treatment process. Health personnel involved with cardiac health services need to be cognizant about the lack of awareness and efforts may be taken to improve information education and counselling services.

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