

## RESEARCH ARTICLE

### Exploring the cardiovascular disease risk factor perception and barriers faced among working women – A community-based qualitative study

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#### ABSTRACT

**Background:** In India, nearly 31.2% of the labor force participation is provided by the females and working women are vulnerable to neglect their health due to family and work stress. Hence, it is important to know about the working women perception of cardiovascular disease (CVD) risk factors and the challenges that they face to overcome these risk factors.

**Aim and Objective:** The present study was aimed at to explore the perception of risk factors for CVDs among working women in urban Puducherry and to determine the barriers faced by the working women in overcoming the CVD risk factors through qualitative methods. **Materials and Methods:** The present study was a community-based qualitative study done among working women residing in three working women hostels around the Urban Health Centre of Medical College. A total of 6 focus group discussion's and 11 in-depth interview (IDI) were conducted along with free listing and pile sorting.


**Results:** Totally, 68 women participated altogether. Medical, lifestyle, and work-related risk factors were the groups that emerged in the pile sorting following free listing, while five themes emerged in the focused group discussion and three in IDI. Lifestyle factors such as junk food, physical inactivity, and work stress and medical factors such as high blood pressure, diabetics, and high cholesterol level were the perceived risk factors for CVD by the working women and lack of time, lack of motivation and financial constraint was the major barriers faced by them to overcome the risk factors of CVD. **Conclusion:** We conclude that working women in Puducherry have high knowledge and a clear perception of the risk factors, but they face challenges in overcoming these risk factors. Hence, measures needed to be taken to address their challenges.

**KEY WORDS:** Cardiovascular Disease Risk Factors; Working Women; Qualitative Methods

#### INTRODUCTION

In India, nearly 31.2% of the labor force participation is provided by the females and working women are vulnerable to

neglect their health due to family and work stress.<sup>[1]</sup> Majority of death in women in India are Non-communicable Diseases, led by heart attacks, stroke, and respiratory diseases. Despite this, the widespread perception persists that heart disease and stroke are mainly diseases of men and that if a woman develops cardiovascular disease (CVD), it will not be as serious as in a man. Data also show that women and men who have high blood pressure or who smoke have an equal risk of getting heart attack and stroke, whereas women with diabetes have a higher risk of IHD and stroke compared to men.<sup>[2]</sup> The survey visualizing the heart diseases in Indian women conducted

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among cardiologists by heal foundation Bengaluru revealed that 83% of doctors believe that Indian women are ignorant about heart disease, and they have also noted increased heart disease among the working population.<sup>[3]</sup>

In today's sedentary lifestyle scenario, the majority of working women are stressed in creating a work-life balance and are more prone to behavioral risk factors. In today's sedentary lifestyle scenario, the majority of working women are stressed in creating a work-life balance and are more prone to behavioral risk factors. Hence, the present study has been planned to explore the perception of risk factors for CVDs among working women through qualitative techniques with the following objectives:

1. To explore the perception of risk factors for CVDs among working women in urban Puducherry
2. To determine the barriers faced by the working women in overcoming the CVD risk factors through qualitative methods.

## MATERIALS AND METHODS

### Study Design

A community-based qualitative study.

### Study Population

All women residing in the selected working women hostels in the urban field practice area of our medical college working places include various sectors such as banking and information technology.

### Inclusion Criteria

All women >18 years residing in the selected working women hostels in the urban field practice area of our medical college were included in the study.

### Exclusion Criteria

Those eligible individuals whom the investigator fails to meet and interview even after making two visits were excluded from the study.

### Study Area

Three working women hostels in Urban Puducherry.

### Study Period

Two months.

### Sample Size

Three working women hostel with a population of 20–30 in each were selected. For each qualitative method, number of women was decided according to the technique involved

(Focus Group Discussion [FGD] around 6, In Depth Interview [IDI]-Till the point of saturation).

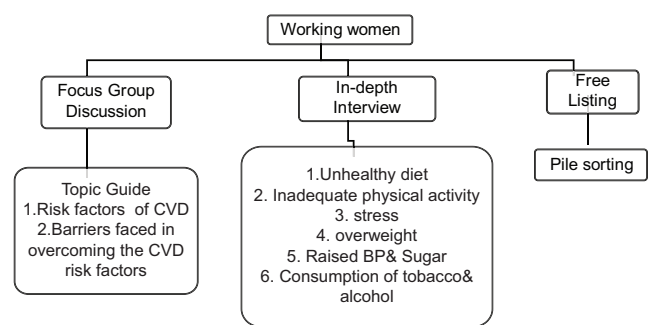
### Sampling Technique

Working women hostels in the urban field practice area of our medical college were selected by purposive sampling.

### Data Collection Procedure

After obtaining necessary permission from the hostel in charge qualitative, data were obtained from the inmates who are willing to participate. FGDs, IDIs, free listing, and pile sorting were used to collect relevant qualitative data.

### Domains of Enquiry



### Statistical Tests to be used for Data Analysis

The analysis of FGDs and IDI was done through a conventional content analysis approach. Data were analyzed and managed simultaneously by sketching ideas, taking field notes, summarizing field notes, identifying codes, reducing codes into themes in Microsoft Excel, and finally developing categories. Smith's salience score was calculated and the reasons with higher Smith's S values were pile sorted. Smith's S value refers to the importance, representativeness, or prominence of items to individuals or to the group. The analysis of free list and pile sort data was done using Anthropic software.

### Ethical Considerations

Institute Ethical Committee approval was obtained before starting the study. The purpose and procedure of the study were verbally explained to the participants and eligible individuals were included in the study only after obtaining informed written consent. To maintain confidentiality a private location was sought for the interview. Inmates who were found to have gaps in CVD knowledge were taken care of and barriers were addressed accordingly.

## RESULTS

A total of 68 participants from three working women hostel participated in the study through 6 FGD (6–8 participants

in each FGD), 11 IDI, 22 free listing, and 12 pile sorting. The majority of the participants are from age group 26–30 (48.5%), followed by 20–25 (41.1%). More than half of the women were single (66.3%) and few were married (27.9%) and very few were separated from their husbands (5.8%). The majority belonged to Hindu religion (61.7%) and more than half of them had an undergraduate level of education (51.4%). Majority of the women were working in IT sector (48.6%) followed by the textile sector (20.6%), nursing (17.6%), and banking (13.2%). The majority of them were in the present job for 1–3 years (44.2%) and only few were in the present occupation for more than 5 years (5.8%). More than half of them were living in the present hostel for 6 months–1 year (58.8%). To explore about the working women’s perception of CVD risk factors, the free listing exercise was done [Table 1].

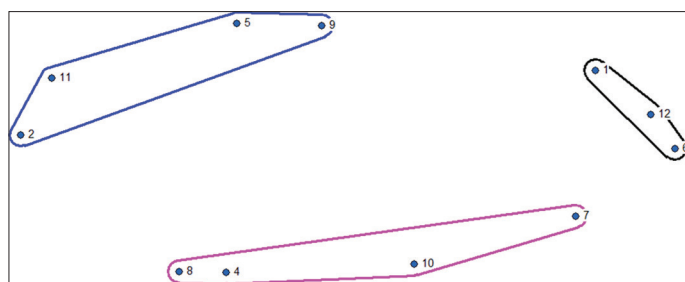
A multidimensional scaling and hierarchical cluster analysis were done with pile sort data to get a collective picture of perceived risk factors of CVD [Figure 1]. Three main categories came up, namely, medical, lifestyle, and work factors. The subdomain medical has four contents: “Overweight,” “High Cholesterol,” “High blood pressure,” and “Hereditary.” The second subdomain lifestyle had four contents “Junk foods,” “Unhealthy lifestyle,” “Improper diet,” and “Physical inactivity.” The third subdomain work-related factors have three contents, namely, “stress” “Long working hours” and “Sleep deprivation” [Table 2].

**Results of FGD**

A total of 6 FGD’s were conducted to explore more about the working women’s perception of CVD risk factors and the barriers that they are facing to overcome the risk. Totally 40 women participated and each FGD had 6–8 participants. The results of the FGD are reported according to the five themes in Table 3. Main themes and categories discussed in FGD.

**Results of IDI**

A total of 11 depth interviews were conducted until the point of saturation. The themes that emerged from the IDIs are presented below as headings and supported by quotes from



**Figure 1 :** Perception of cardiovascular disease risk factors among working women

the participants. Each quote is accompanied by the occupation and age of the participant in parentheses.

**Theme 1: Importance of CVD**

Participants were initially asked “Do you think it is important to know about CVD?” Almost all of the participants agreed that it is important to know about CVD. Subjects that mentioned why it is important to know about the CVD discussed being having a high burden of CVD around the world and high mortality, many related it with their own experiences. A 28-year-old IT employee explained.

*“It’s scary, my brother’s friend who is just 32 years died of heart attack, I still can’t believe he is no more.” (IT employee, age 28)*

While a 25-year-old sales girl explained.

*“There is alarming news about CVD wherever you see or read”(sales girl, age 25)*

**Table 1:** Free listing of perceived risk factors of CVD

Item number	Perceived risk factors	Frequency (%)	Average rank	Saliency
1	Stress	92.3	2.54	0.655
2	Overweight	73.1	2.42	0.517
3	No exercise	57.7	2.33	0.434
4	Junk food	57.7	2.87	0.379
5	High cholesterol	53.8	3.79	0.289
6	Long working hours	42.3	4.18	0.150
7	Unhealthy lifestyle	38.5	2.80	0.265
8	Improper diet	30.8	4.75	0.095
9	High blood pressure	23.1	5.33	0.061
10	Physical inactivity	19.2	3.20	0.108
11	Hereditary	15.4	4.25	0.077
12	Sleep deprivation	11.5	4.33	0.047

CVD: Cardiovascular disease

**Table 2:** Clustering of perceived risk factors for CVD by working women

Participants	Perceived CVD risk factor	Group
2	Overweight	Medical
5	High cholesterol	
9	High blood pressure	
11	Hereditary	
4	Junk food	Lifestyle
7	Unhealthy lifestyle	
8	Improper diet	
10	Physical inactivity	
1	Stress	Work
6	Long working hours	
12	Sleep deprivation	

CVD: Cardiovascular disease

**Table 3: Main themes and categories discussed in FGD**

Themes	Findings from FGD	Response
Perception about CVD	Almost all the women had a clear idea of what is CVD	"...When there is excess fat in the body, it might block the blood vessels" "Isn't it same as heart attack, the blood vessels are blocked by fat in the body"
Perceived risk factor for CVD	A majority of the women had a sound knowledge of CVD and its risk factors	"It's basically a lifestyle disorder due to unhealthy habits" "...I have read that high cholesterol level is one of the major causes" "...we have been reading this from X std biology classes. overweight, lack of exercise, oily food, high cholesterol levels and so on..."
Actions to overcome the risk factors	The actions needed to overcome the risk factors were perceived adequately	"...may be regular exercise can help" "can eat a lot of vegetables and fruits" "I strongly believe yoga can definitely help"
Barriers for taking the action	Poor time management was the major barrier perceived Sustaining the life style changes were the other barrier perceived	"I can't resist the urge of eating pizzas and juicy chicken, as soon as you see things, your mid says come on, go grab it..." "At the end of the day when you are coming back dead tired, it is easier to have a 2 min noodles, than to make vegetables" "...in the morning rush hours, I can't even imagine spending time for yoga, exercise and other stuffs and gyms are too expensive" "I started yoga enthusiastically on the first day then the level dropped on second day and vanished on the 5 <sup>th</sup> day"
Measures to be taken at workplace and resident	Perception on the measures to be taken at workplace was weak, while strongly believe measures at residence can bring changes	"The canteen can provide healthy foods and even can ban soft drinks...we tend to buy only when they are selling it" "Gyms can be provided within the hostel at a nominal rate"

CVD: Cardiovascular disease, FGD: Focus group discussion

## Theme 2: Risk Factors of CVD

Subjects were asked about the risk factors for CVD. They were further probed about the various risk factors that emerged in the free listing, pile sorting, and FGD.

### Lifestyle Factors

When participants were asked about lifestyle factors, Junk food was cited as one of the risk factors by the majority of the women.

*"The whole of cheese in the pizza and burger goes directly and stay as fat in your body"* (IT employee, age 27)

### Medical Factors

Most of the participants had an idea about medical risk factors of CVD, such as diabetics, hypertension, and high cholesterol level. The participants were aware of the medical risk factors when their family or friends are suffering from one of these.

*"whenever I take my daddy to the doctors, they tell that when you are hypertensive, you can be at the risk of getting heart attack, I am little bit worried about it"* (bank employee, age 28)

## Theme 3: Barriers in Overcoming the Risk

We observed in the present study financial hardship, lack of time, and lack of motivation that were the major barriers faced by the woman

*"we try to eat whatever is available, it is difficult to cook in the morning hours and mess food would not be good, so I used to get something on the way to eat, hence I can't be choosy about vegetables and fruits"* (IT employee, age 25)

## DISCUSSION

In the present study, lifestyle risk factors such as junk food, physical inactivity, stress, and medical factors such as high blood pressure, high cholesterol level, diabetics, hereditary, and work-related factors such stress, long working hours and sleep deprivation emerged as the perceived risk factors of CVD.

The results of our study are contrasted to a South-African qualitative study, where the majority of them perceived Tobacco and alcohol as a risk factor for CVD. Some of the participants also mentioned unhealthy diet such as high oil consumption and even a few participants mentioned religious beliefs and even dark deity as the cause of risk factors for CVD.<sup>[4]</sup> In a Malay study by Ramachandran *et al.*, also it was found that smoking and alcohol were one of the major risk factor of CVD.<sup>[5]</sup> This can be due to the Indian cultural settings which were prevalence of smoking and alcohol is very low among the female population; hence, it is not emerged as one of the perceived risk factors for cardiovascular death.

Similarly, management of time, financial hardships, lack of sustainability, and lack of motivation were the perceived barriers to overcome the CVD risk factors among the working women in the present study. Similar findings were

observed in the new California study among the Indian communities were participants expressed their inability to control food options when they ate at friends' homes, and the immense social pressure to eat and prepare heavy and fattening foods at these gatherings,<sup>[6]</sup> while a South African study respondent felt helpless about making lifestyle changes. This was largely attributed to dire living conditions and poverty.<sup>[4]</sup>

There were few limitations to the present study, such as working women only from few sectors participated. It is important to include working women from a wide variety of occupation sectors to understand the difference in their perception and also barriers for overcoming the risk factors. Similarly, working woman from home is not included that this is another important factor to understand the role of the family in the perception of working women CVD risk factors.

## CONCLUSION

This study contributes to our understanding of the perceptions about CVD and its risk factors among working women in Puducherry and also the barriers faced by them and ways to overcome it. It was observed that most of the working women had a clear picture of CVD and its risk factors. However, the working woman faces barriers in overcoming the risk factors. Hence, working women were more knowledgeable about the CVD risk, but knowledge does not transform into behavior, and they face challenges in overcoming these risk factors. Furthermore, screening of CVD risk factors, lifestyle modifications, and management of treatable conditions are some of the critical steps to reduce the burden of CVD.<sup>[7]</sup> Hence, it is important to promote programs that bring in behavior change among the working women and thereby developing a healthier nation.

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