Original Research Article

A Study to Assess the Short Term Non-Laboratory Parameters of Coronary Heart Disease and Its Association with Knowledge of Rural Community of Pune District

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ABSTRACT

Cardiovascular diseases, especially coronary heart disease (CHD), are epidemic in India. The Registrar General of India reported that CHD led to 17% of total deaths and 26% of adult deaths in 2001-2003, which increased to 23% of total and 32% of adult deaths in 2010-2013. [1]

Methodology: This study was conducted on 100 rural people of Urawade village in Pune district and the convenience sampling technique was used. Research design was descriptive research design. Short term non – laboratory parameters and knowledge on CHD was assessed.

Result: Result shows 41% of the rural community had poor non-laboratory parameters of CHD and 51% of them had average non-laboratory parameters of CHD. 79% of the rural community had average knowledge, 16% of them had good knowledge and 5% of them had poor knowledge regarding CHD.

Conclusion: The association between knowledge and non-laboratory parameters of CHD was not found to be significant.

Keywords: non- laboratory parameters, CHD, knowledge, rural community.

INTRODUCTION

The concept that coronary heart disease (CHD) can be prevented has increasingly become a driving force in cardiovascular medicine. For many years, the field gave lip service to prevention but neglected to take it seriously. The possibility of effective prevention was met with skepticism from many quarters. Gradually, however, the tide has turned, and prevention is getting the upper hand. Widespread acceptance of the benefits of prevention came first in the area of secondary prevention, i.e., preventing recurrent coronary events in patients with established CHD. [1] Heart diseases are the leading causes of death worldwide claiming several million lives each year. WHO Report predicts that in the year 2020, 2.6 million Indians will die of coronary heart diseases (CHDs), which constitute 54.1% of all CVD deaths. Moreover, around half of these deaths are likely to strike young and middle-aged individuals in the age group of 30 to 69 years, whereas only 23% of CHD-related deaths in Western countries occur in this age group. [2] Secondary prevention stands at the boundary between prevention and treatment. Many cardiologists consider secondary prevention to be treatment of coronary artery disease; others see it as prevention of recurrent coronary events. There is a more uniform agreement that prevention of new-onset CHD should be

called primary prevention. This article examines some of the major issues currently under scrutiny for primary prevention of CHD. Without question, the area of primary prevention is complex and contentious; some of the issues will not be easily resolved. However, if the burden of CHD in industrialized and developing societies is to be substantially reduced, effective strategies for primary prevention must be put in place. [3]

The major causal risk factors are cigarette smoking, high blood pressure, elevated serum cholesterol (or LDL cholesterol), low HDL cholesterol, and high plasma glucose. [4] Although the precise mechanisms whereby these [6] risk factors promote atherosclerosis and predispose to CHD are not fully understood, abundant evidence supports a directly causal role. Moreover, they act independently of one another. Even so, some elevation of serum LDL cholesterol seems to be required for a thermogenesis; when LDL cholesterol levels are very low, thermogenesis proceeds slowly even when other risk factors are present. [5] Once the serum LDL cholesterol reaches a "permissive" level, the other causal risk factors come into play and independently accelerate thermogenesis. In addition, the causal factors are called major risk factors because they occur commonly and act powerfully in societies that have high rates of CHD.

MATERIALS AND METHODS
PROBLEM STATEMENT:
A study to assess the short term non-laboratory parameters of Coronary Heart Disease and its co-relation with knowledge of rural community of Pune District.
OBJECTIVE:
1) To assess the short term non- laboratory parameters of CHD.
2) To assess the knowledge of rural community regarding CHD.
3) To correlate the knowledge with short term non laboratory parameters.
HYPOTHESIS:

H1: There will be significant association between knowledge and short term non-laboratory parameters of CHD among rural community of Pune district.
H0: There will not be significant association between knowledge and short term non-laboratory parameters of CHD among rural community of Pune district.

RESEARCH DESIGN:
Descriptive research design

SAMPLE SIZE:
Sample of 100 rural people were selected for conducting the study at Urawade village of Pune district. Convenient sampling technique was used for selecting the samples.
SAMPLING TECHNIQUE:
Convenience sampling technique

VALIDATION:
Validation was done by 10 experts who are a professor, associate professor, assistant professor, tutor from various nursing institutes. They had given their valuable opinion and suggestions for the items in the tool and after which the needed correction and modification were done with the best efforts.

RELIABILITY:
Reliability was done by carrying out the pilot study on 10 samples. It was calculated by coefficient correlational method and the score was 0.784, which is reliable.

DATA COLLECTION METHOD:
Convenience sampling technique was used for 100 samples. Questionnaires were given to all 100 participants requested to answer the questions and return the questionnaires back to the researcher in 30 minutes.
Intervention: prepared module for all participants all information related to coronary Heart Disease was added in the module and handover and explain to the participants while data collection was going on. Module prepared in Marathi and English language.

RESULT

Presentation of data is organized in 3 sections.

Section I: Description of samples based on their personal characteristics in term of frequency and percentages.

Section II: Analysis of data related to non-laboratory parameters of Coronary Heart Disease

Section III: Analysis of data related to knowledge on Coronary Heart Disease

Section I: Description of samples (rural community) based on their personal characteristics

Table 1: Description of samples (rural community) based on their personal characteristics in terms of frequency and percentages.   N=100

Demographic variable	Freq	%
Age		
31-40 years	3	3%
41-50 years	24	24%
51-60 years	37	37%
61-70 years	33	33%
71-80 years	3	3%
Gender		
Female	60	60%
Male	40	40%
Education		
Illiterate	38	38%
Secondary education	45	45%
Higher education	17	17%
Occupation		
Anganwadisevika	1	1%
Farmer	39	39%
House wife	47	47%
Laundry	1	1%
Shopkeeper	12	12%
Socio-economic status		
Upper middle	61	61%
Lower middle	39	39%
Habits		
Smoking	18	18%
Alcohol	2	2%
Mishri	57	57%
Smoking, Alcohol	14	14%
Smoking, Alcohol, Tobacco	9	9%
BMI		
Normal	59	59%
Obese	4	4%
Overweight	35	35%
Underweight	2	2%

Section II: Analysis of data related to the short term non- laboratory parameters of CHD

Table 2: Short term non- laboratory parameters of CHD N=100

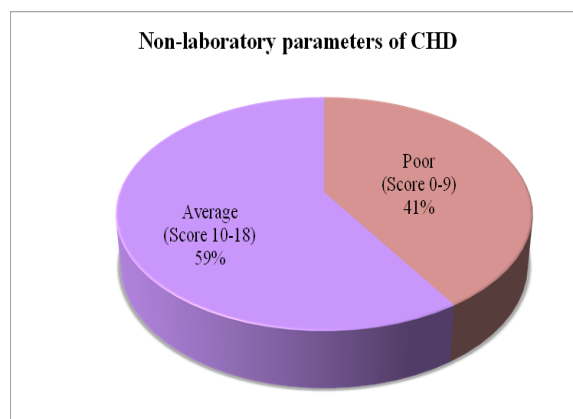| Non – lab parameters of CHD	Frequencies	%
Poor (score 0-9)	41	41%
Average (score 10-18)	59	59%
Good (score 19 – 28)	0	0%

Fig no 1: 41% of the rural community had poor (score 0-9) non-laboratory parameters of CHD and 51% of them had average (score 10-18) non-laboratory parameters of CHD.

Table 3: Non-laboratory parameter-Obesity Item analysis N=100

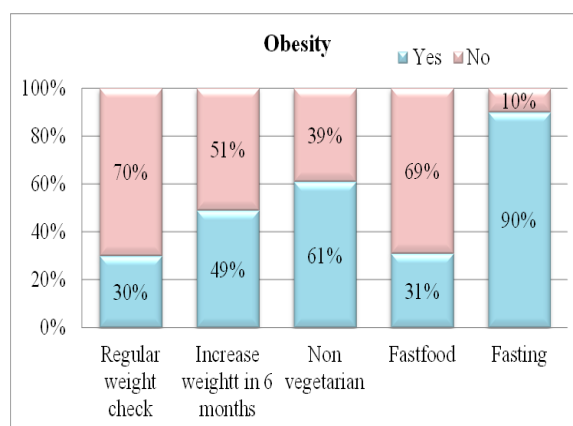| Obesity	Yes		No	
	Freq	%	Freq	%
Regular weight check	30	30%	70	70%
Increase weight in 6 months	49	49%	51	51%
Non vegetarian	61	61%	39	39%
Fastfood	31	31%	69	69%
Fasting	90	90%	10	10%

Fig no 2: 30% of them had regular weight check. 49% of them had increase weight in 6 months. 61% of them were non-vegetarian. 31% of them had fastfood. 90% of them had fasting.

Table 4: Non-laboratory parameter-Sleep Item analysis N=100

Sleep	Yes		No	
	Freq	%	Freq	%
Difficulty in falling sleep	64	64%	36	36%
Fix sleep time	17	17%	83	83%
Day sleep	32	32%	68	68%
Sleeping tab	40	40%	60	60%
Sleep with free mind	100	100%	0	0%

Table 5: Non-laboratory parameter-Blood pressure Item analysis   N=100

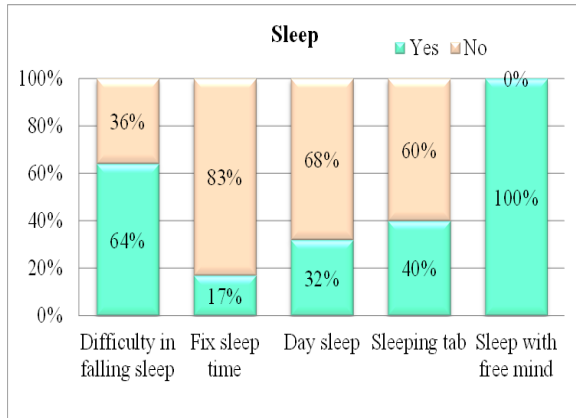| Blood Pressure	Yes		No	
	Freq	%	Freq	%
B.P problem	62	62%	38	38%
Regular B.P check	28	28%	72	72%
Hypertensive tab	39	39%	61	61%
Yearly full check up	100	100%	0	0%

Fig. no .3: 64% of them had difficulty in falling sleep. 17% of them had fix sleep time. 32% of them had day sleep. 40% of them had sleeping tab. All of them had sleep with free mind.
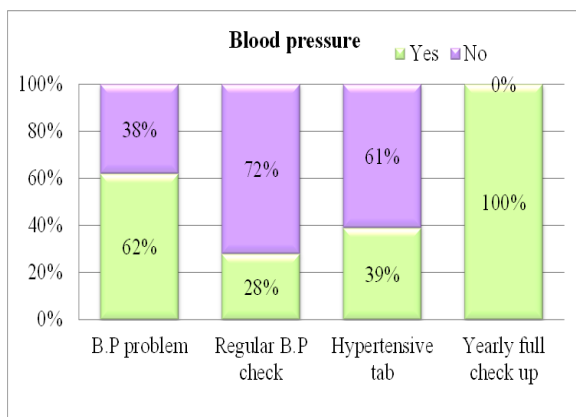

Fig no 4: 62% of them had BP problem. 28% of them had regular BP check. 39% of them had hypertension. All of them had yearly full check-up.

Table 6: Non-laboratory parameter-Life style Item analysis N=100

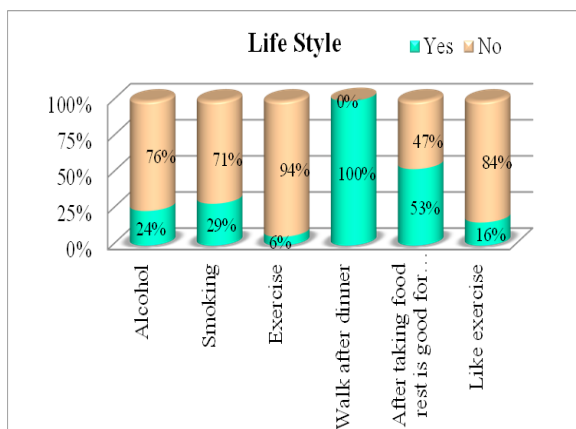| Life Style	Yes		No	
	Freq	%	Freq	%
Alcohol	24	24%	76	76%
Smoking	29	29%	71	71%
Exercise	6	6%	94	94%
Walk after dinner	100	100%	0	0%
After taking food rest is good for health	53	53%	47	47%
Like exercise	16	16%	84	84%

Fig no 5: 24% of them had alcohol. 29% of them were smoking. 6% of them had exercises. All of them walk after dinner. 53% of them opined that after taking food rest is good for health. 16% of them like exercise.
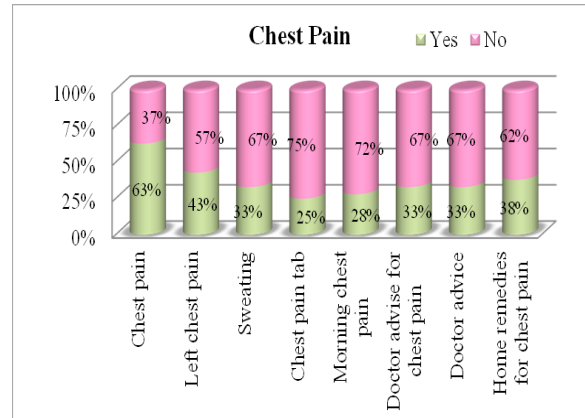

Fig no 6: 63% of them had chest pain. 43% of them had left chest pain. 33% of them had sweating. 25% of them had chest pain tablet. 28% of them had morning chest pain. 33% of them had doctor advice for chest pain. 33% of them were following doctor's advice for chest pain. 38% of them had home remedies for chest pain.

Table 7: Non-laboratory parameter-Chest pain Item analysis N=100

Chest Pain	Yes		No	
	Freq	%	Freq	%
Chest pain	63	63%	37	37%
Left chest pain	43	43%	57	57%
Sweating	33	33%	67	67%
Chest pain tab	25	25%	75	75%
Morning chest pain	28	28%	72	72%
Doctor advise for chest pain	33	33%	67	67%
Doctor advice	33	33%	67	67%
Home remedies for chest pain	38	38%	62	62%

Section III: Analysis of data related to the knowledge of rural community regarding CHD

Table 8: Knowledge of rural community regarding CHDN=100

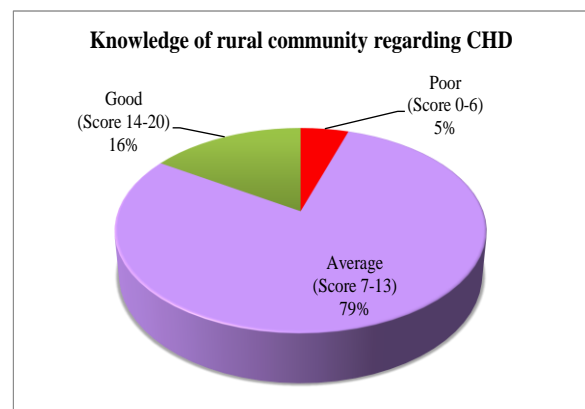| Knowledge	Freq	%
Poor (Score 0-6)	5	5%
Average (Score 7-13)	79	79%
Good (Score 14-20)	16	16%

Fig no 7: 79% of the rural community had average knowledge (score 7-13), 16% of them had good knowledge (score 14-20) and 5% of them had poor knowledge (score 0-6) regarding CHD.

Section IV: Analysis of data related to the association of knowledge of rural community on CHD with their short term non laboratory parameters of CHD

Table 9: Knowledge on CHD-Item analysis   N=100

Knowledge item	Freq	%
What is mean by coronary heart disease	33	33%
What are the non-laboratory parameters of CHD	63	63%
What is the range of normal B.P	69	69%
Which are the risk factors of CHD	63	63%
In CHD, exactly which side chest pain will occur	61	61%
When chest pain occur in CHD	64	64%
Which type of sweating occur during chest pain	67	67%
During chest pain which type of tablet have to take	34	34%
Which disease occur if there is obesity	67	67%
Due to obesity which organ is more affected	35	35%
How you will reduce obesity	65	65%
How B.P will increase	59	59%
What you will do for the better sleep	62	62%
What is the normal duration of sleep	37	37%
When the human being sleep more	63	63%
What is mean by healthy lifestyle	63	63%
Because of which habit CHD occur	67	67%
How to prevent CHD	66	66%
Which type of diet you will prefer in hypertension	65	65%
How to diagnose CHD	36	36%

Table no 9 Above table gives the frequency and percentages of the correct responses of the rural community to the knowledge items on CHD.

Researcher applied Fisher's exact test for association of knowledge of rural community with their short term non-laboratory parameters of CHD. Since p-value corresponding to this test was large (greater than 0.05), the association between knowledge and non-laboratory parameters of CHD was not found to be significant.
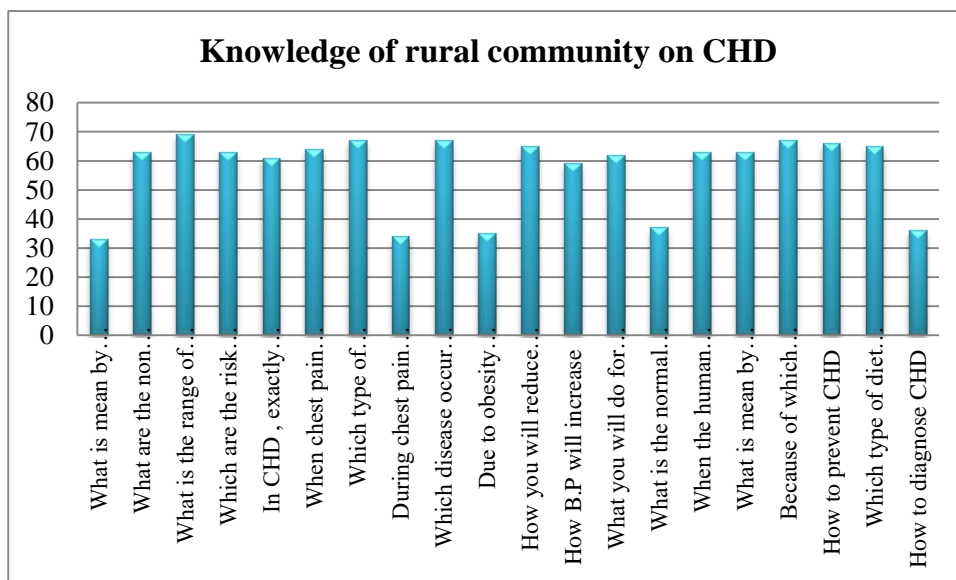

Fig 8: Above fig gives the frequency and percentages of the correct responses of the rural community to the knowledge items on CHD.

Table 10: Association of knowledge of rural community on CHD with their short term non laboratory parameters of CHD   N=100

		Knowledge			
		Average	Good	Poor	p-value
Non-lab parameters of CHD	Average	48	8	3	0.851
	Poor	31	8	2	

DISCUSSION

Present study was undertaken to assess the short term non – laboratory parameters and its association with the knowledge of rural community on CHD. The study shows there is no association between the short term non- laboratory parameters and knowledge of rural community on CHD.

Study conducted by Athavale AV; Durge PM; Zodpey SP; Deshpande SG, A cross sectional study was carried out to find out the association between sedentary lifestyle and coronary heart disease in Nagpur Municipal Corporation department. The study was conducted on 309 sedentary workers working in Municipal Corporation. The overall prevalence of CHD was estimated to be 5.2%. The prevalence was relatively higher in older age group, females and upper middle socio economic classes. [7]

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