



PROSPECTIVE STUDY ON EVALUATION OF RISK FACTORS AND IMPACT OF PATIENT COUNSELLING IN THE MANAGEMENT OF CORONARY ARTERY DISEASE IN A TERTIARY CARE HOSPITAL

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BACKGROUND:

Cardiovascular diseases, especially coronary artery disease are epidemic in India. Coronary artery disease is leading to 17% of total deaths in 2001-2003, which is increased to 23% over three years i.e., 2010-2013. Evaluation of risk factors and counseling the patient can decrease the percentage of deaths and increase the quality of life among the people.

OBJECTIVES:

The main objective of this study is to collect the data from patients who had been suffering from Coronary artery disease in Lalitha super specialty hospital, Guntur and to evaluate risk factors and improve the quality of life and medication adherence.

METHODOLOGY:

The study is a prospective observational study performed by using medication assessment scale, at Lalitha super specialty hospital, Guntur over a period of 6 months by using patient data collection form and analyzing patient history, treatment chart and communication with the patient.

RESULTS:

A group of 120 patients was taken under the study. Among the group 77 males and 43 females are included. The percentage of males is 64.16% and that of female is 35.83%. Among them 3.33% are under 30-40, 11.66% in 40-50, 40% in 50-60, 33.33% in 60-70, and 11.66% in 70-80 age groups. Knowledge and medication adherence on an average increased to 33.33% to 90.47% in 30-40, 31.28% to 90.80% in 40-50, 32.80% to 88.47% in 50-60, 31.19% to 84.6% in 60-70 and 32.61 to 82.95% in 70-80 age groups. The test is performed by using student t test p value is 0.0001 which gives more confidence to conclude that patient counselling improves knowledge and medication adherence in coronary artery disease patients.

CONCLUSION:

The study showed positive results towards the improvement of patient's knowledge over coronary artery disease. Consumption of alcohol and cigarette smoking was reduced in some patients. Comparatively, the risk factors like hypertension, diabetes, cholesterol levels are under control. Patient's interest towards healthy life style modifications was increased. Medication adherence was improved in most of the people.

Key words: coronary artery disease, medication adherence, patient counselling, student t test.etc

Introduction:**CORONARY ARTERY DISEASE:**

Coronary artery disease is a impedance or blockage of one or more arteries that supply blood to the heart, usually due to atherosclerosis [hardening of the arteries].

Coronary artery disease also called as coronary heart disease [CHD], ischemic heart disease [IHD] or simply heart disease. It is the most common of the cardiovascular diseases.

Coronary artery disease is the main cause heart attacks. It is the most common kind of heart disease in the U.S. It involves the reduction of blood flow to the heart muscle due to build up of plaque [atherosclerosis] in the arteries of the heart.

Cardiovascular diseases, especially coronary artery disease are epidemic in India. The register general of India reported that CAD led to 17% of total deaths and 26% of adult deaths in 2001-2013, which increased to 23% of total and 32% of adult death in 2010-2013. The Global Burden of Disease [GBD] study has reported that death as well as disability from CHD have more than doubled in India in the last 30 years. The absolute number of persons dying from CHD increased from 1.01 million in 2005 and 1.13 million in 2010.

PATIENT COUNSELLING:

Patient counselling can be defined as providing information orally or in written form to the patients or their representatives or providing proper directions of use, or advice on side effects, storage, diet, and life style modifications.

The management of chronic illness needs life style modifications and drug therapy for a long period. Effective patient counselling helps make a patient understands their illness, necessary life style modifications, and pharmacotherapy in a better way and thus enhance patient compliance. The pharmacist has immense responsibility in counseling the patients with chronic illness. The counseling pharmacist should posses adequate knowledge and should be an effective communicator, making use of the verbal and Non-verbal communication skills.

It involves a one-to-one interaction between a pharmacist and a patient and/or a caregiver. It is interactive in nature. The effective counseling should encompass all the parameters to make the patient understand his/her disease, medications, and lifestyle modifications required.

STUDY DESIGN:

The current study is a prospective observational study in which information was obtained on the risk factors, knowledge and medication adherence performed by using medication assessment scale to assess medication adherence in patients with coronary artery disease.

This study was carried out from November 2020-August 2021.

STUDY SITE:

The study was carried out at Lalitha super specialty hospital, Guntur.

STUDY PERIOD:

The prospective study was conducted over a period of six months from November 2020 to August 2021.

STUDY CRITERIA:

Inclusion criteria:

1. Patients of both genders with age of above 20 years.
2. Patients with alcohol and smoking.
3. Patients with coronary artery disease.
4. Patients with hypertension, diabetes.

Exclusion criteria:

1. Patients with the age of less than 20 years.
2. Patients with cerebrovascular diseases.
3. Pregnant women.
4. Patients who are not interested to participate in the study.

SOURCES OF DATA:

All demographic data was collected from the following sources Patient data collection form

Patient case history Laboratory data sources Treatment chart

Communication with the patient.

QUESTIONARY VALIDATION:

Dr.P.V.R Sharma, Dr.Yudisther, Dr.P.Kalyan of the neurology department validated the clarity, relevance, and conciseness of items included in the questionnaire. The observation and comments of the questionnaire were taken in to account.

STATISTICAL TOOL:

Appropriate statistical analysis tool would be employed to analyze the data obtained.

STUDY PROCEDURE:

- First of all the ethical clearance was obtained to conduct this study from institutional Human Ethical Committee A.M Reddy Memorial College of pharmacy, Narasaraopet and Lalitha super specialtyHospital, Guntur.
 - Informed consent was obtained from the patients both orally and by written forms.
 - The demographic details, social habits, knowledge of the disease, symptoms of the disease, medication adherence were collected from the patients by using questionnaireform.
 - Then after obtaining required details and necessary aspects, patient would counseledregarding:
 - *About disease
 - *About medication
 - *About risk factors
 - *How to improve quality of life in coronary artery disease patients.
 - *Importance of medication adherence
 - *About environmental modification, life style changes which majorly include diet and exercise, and importance of avoiding smoking and alcohol.
- After one month the patients would be followed up for adherence.

1. 9.DATA ANALYSIS:

The filled patient awareness and medication adherence questionnaire form would be analyzed as per the study objectives. The various parameters such as age, gender, smoking, alcohol and risk factors would be calculated and then analyzed. Scores of both before and after counseling are evaluated to determine the improvement in the knowledge and medication adherence. The data would be analyzed using student t test.

5. 9. 1.Student t-test:

A test is a type of inferential statistic used to determine if there is a significant difference between the means of two groups, which may be related in certain features.

A large t-score indicates that the groups are different they are mainly 3types

1. One sample t-test
2. Independent t-test
3. Paired sample test

Paired t-test:

In a paired t-test we measure one group at different times. We compare separate means for a group at two different times or under two different conditions.

Formula:

$$t_{calc} = \frac{\bar{d}}{s_d / \sqrt{n}}$$

P value:

P value is the probability obtaining results at least as extreme as the observed results of statistical hypothesis test, assuming that the null hypothesis is correct.

A smaller p value means that there is stronger evidence in favour of the alternative hypothesis.

A total of 120 patients were included in the study. The participants included in the study were from the patients visiting Lalitha super specialty hospital. The patient data was collected from the patients profile form and were periodically contacted over phone for counselling and face to face interview for filling the questionnaire form for the patients.

RESULTS AND DISCUSSION:

Gender wise distribution of the study:

Among 120 patients, 77[64.16%] patients were males and 43[35.83%] females are as shown below

GENDER	NO.OF STUDENTS	PERCENTAGE
MALES	77	64.16%
FEMALES	43	35.83%

Table-2.Gender wise distribution of patients.

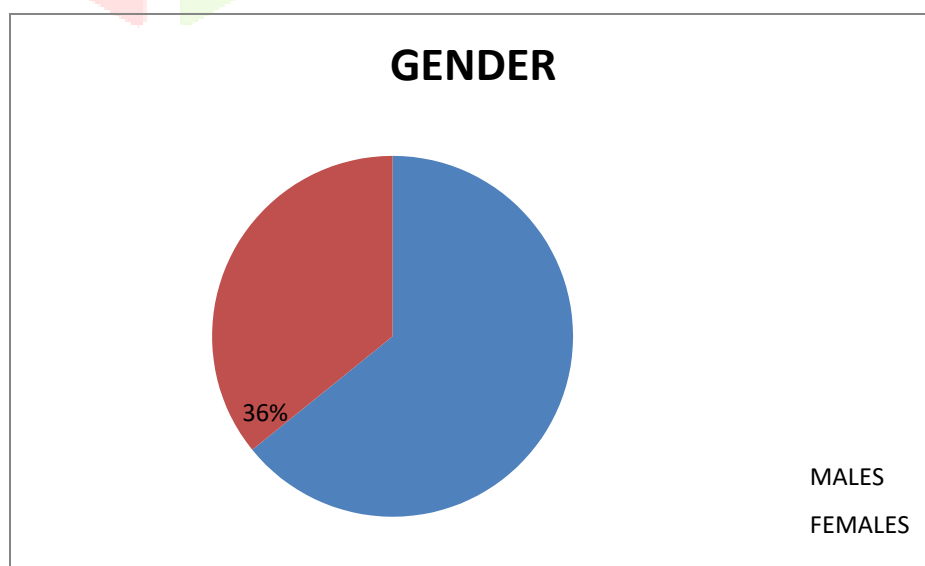


Figure-11.Gender wise distribution of patients.

Age wise distribution of patients:

Total 120 patients are divided based on age as follows 30-40age contains 4 [3.33%]patients in that males are 2 and female are 2, 40-50 age contains 14 [11.66%]patients were males are 8 and females are 6, 50-60 age contains 48 [40%] patients were males are 28 and females are 20,60-70 age contains 40 [33.33%]patients were males are 28 and females are 12and 70-80 age contains 14 patients[11.66%] were males are 11 and females are 3.

AGE	MALES	FEMALES	TOTAL	PERCENTAGE
30-40	2	2	4	3.33%
40-50	8	6	14	11.66%
50-60	28	20	48	40%
60-70	28	12	40	33.33%
70-80	11	3	14	11.66%

Table-3. Age wise distribution of patients.

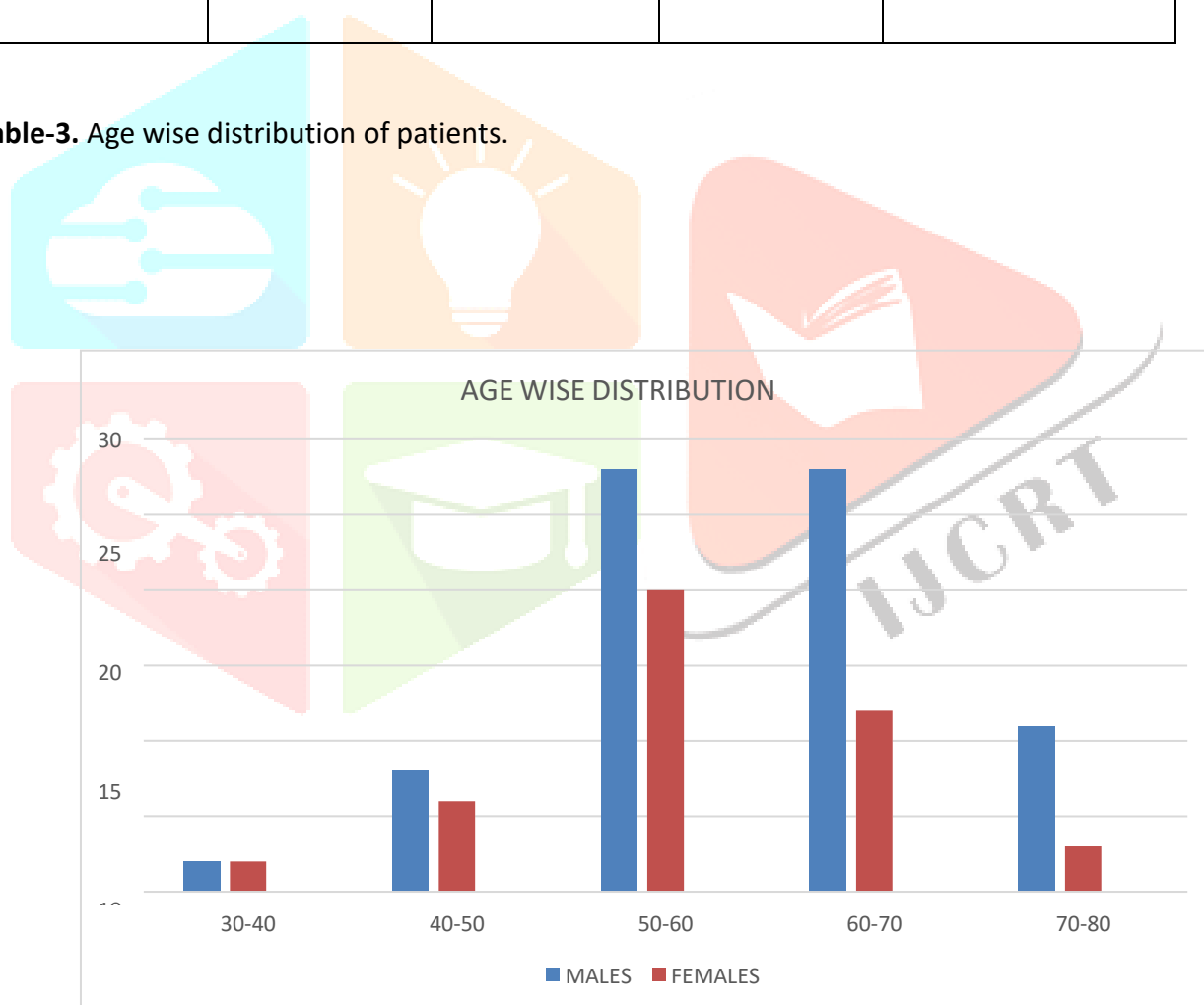


Figure-12.Age wise distribution of patients.

Risk factor wise distribution of a patient:

Total 120 patients are distributed based on risk factors. The patients contains hypertension 79 [65.83%], diabetes 62 [51.66%], family history 2 [1.66%], stress 2 [1.66%], smoking 14 [11.66%], alcoholic 6 [5%], cholesterol 1[0.83%] and without risk factors 14[11.66%].

RISKFACORS	NO.OF PERSONS	PERCENTAGE
HTN	79	65.83%
DM	62	51.66%
FAMILY HISTORY	2	1.66%
STRESS	2	1.66%
SMOKING	14	11.66%
ALCOHOLIC	6	5%
CHOLESTEROL	1	0.83%
WITHOUT RISKFACORS	14	11.66%

Table-4.Risk factor wise distribution of patients.

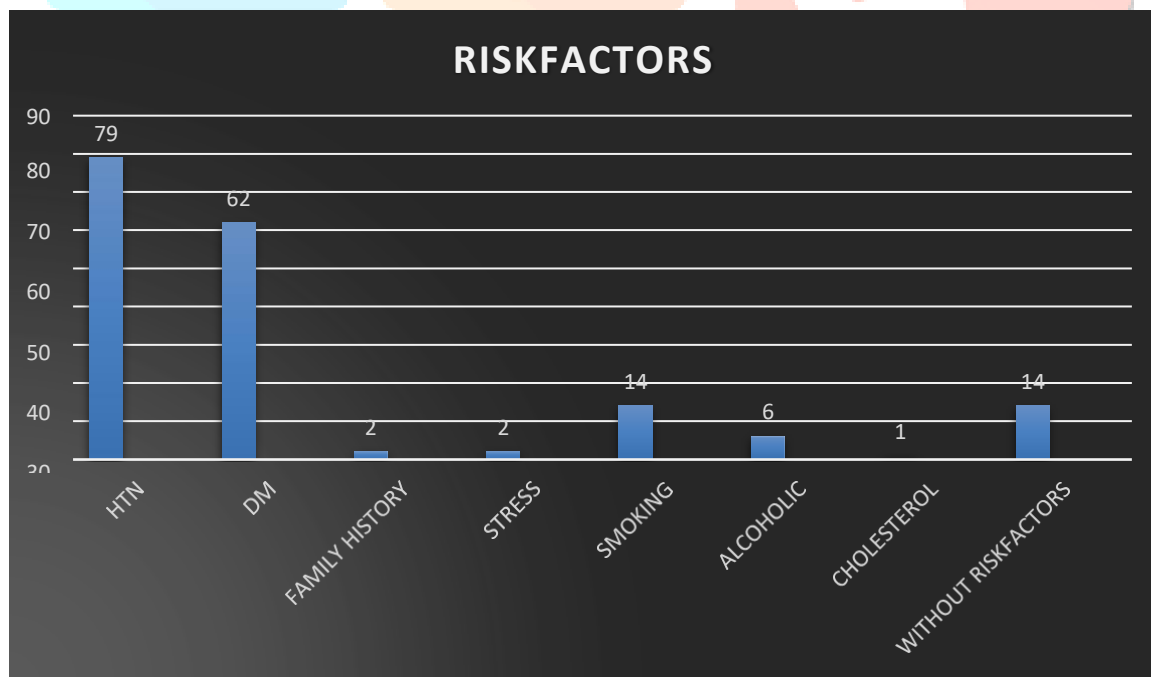


Figure-13. Risk factor wise distribution of patients.

knowledge and medication adherence before and after patient counseling:

Knowledge and medication adherence before and after patient counseling are divided based on age the percentage was increased in 30-40 age group is 33.33% to 90.47%, 40-50 age group is 31.28% to 90.80%, 50-60 age group is 32.80% to 88.47%, 60-70 age group is 31.19% to 84.61%, 70-80 age group is 32.61% to 82.95%.

AGE	BEFORE COUNSELLING	PERCENTAGE	AFTER COUNSELLING	PERCENTAGE
30-40	7	33.33%	19	90.47%
40-50	6.57	31.28%	19.07	90.80%
50-60	6.89	32.80%	18.58	88.47%
60-70	6.55	31.19%	17.77	84.61%
70-80	6.85	32.61%	17.42	82.95%

Table-5. Knowledge and medication adherence before and after counseling.

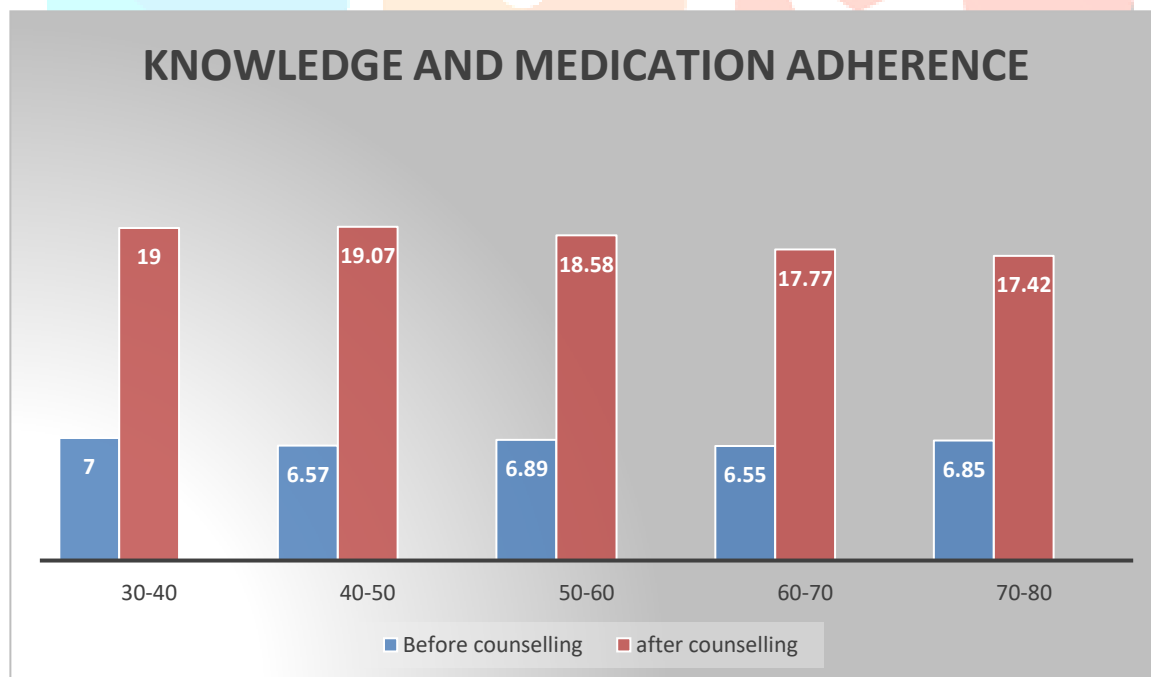


Figure-14. Knowledge and medication adherence before and after patient counseling.

Decline in smoking before and after patient counseling:

Smoking was declined from 14members to 2members after patient counselling.



Figure-15. Smoking decline before and after patient counseling

Decline in Alcohol consumption before and after patient counseling:

Alcohol consumption was declined from 6to 1after patient counselling.

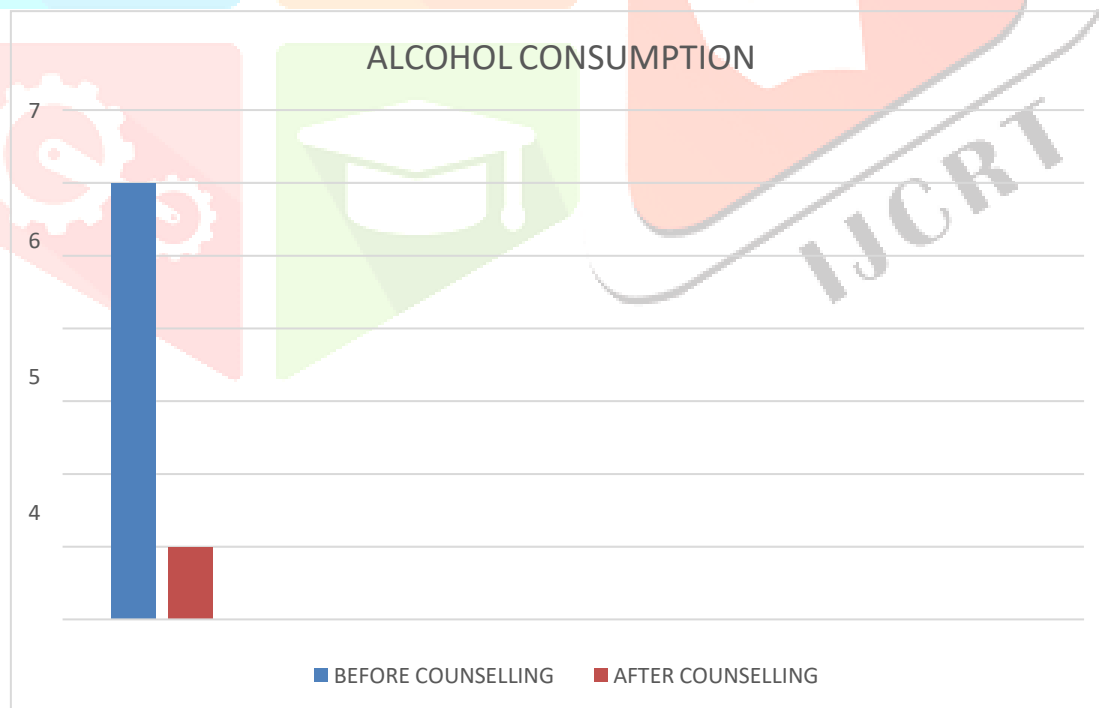


Figure-16. Alcohol consumption decline before and after patient counselling.

Student t-test:

A test is a type of inferential statistic used to determine if there is a significant difference between the means of two groups, which may be related in certain features.

A large t-score indicates that the groups are different they are mainly 3types

1. One sample t-test
2. Independent t-test
3. Paired sample test

Paired t-test:

In a paired t-test we measure one group at different times. We compare separate means for a group at two different times or under two different conditions.

Formula:

$$t_{calc} = \frac{\bar{d}}{s_d / \sqrt{n}}$$

Result:

The value of t calculated value is 35.1

The value of t tabulated value is 35.096557. The value of p is < 0.0001.

The result is significant at p<0.05.

P value:

P value is the probability obtaining results at least as extreme as the observed results of statistical hypothesis test, assuming that the null hypothesis is correct.

A smaller p value means that there is stronger evidence in favour of the alternative hypothesis.

CONCLUSION:

In Conclusion the study demonstrates the various factors like knowledge of the patient over the disease, the extent of the disease progression and risk factors, Individual interest of the patient towards a healthy lifestyle and quitting the habits like consumption of alcohol and smoking, and up to what extent the person is being adhered to the medication

The study showed positive results towards the improvement of patient's knowledge over Coronary Artery Disease. Comparatively the risk factors like hypertension, diabetes, cholesterol levels are observed to be in control. Patient's interest towards healthy lifestyle modifications was increased. The percentage of people who stick to their regular medication was increased.

Consumption of alcohol and cigarette smoking was reduced in some patients. Decline in stress levels was also reported. Our study also shows reduced intake of oil and increased intake of fibre rich foods by patients. Dietary salt intake was observed to be low.

As per our assessment, the people who had slipped their medication with the reasons like fasting, being not able to buy the medication at proper time were improved and no dosage skipplings were observed. Most common drawback observed among few people was not being to recognise the medication and their names and the purpose of its use.

As per the study results among the people under age group 30-40 yrs, on an average the result of improvement of knowledge about the disease and medication adherence increased from 7 to 19 [33.33% to 90.47%]. The result of people under age group 40-50 increased from 6.57 to 19.07[31.28%to 90.80%]. Similarly 6.89 to 18.58[32.80%to 88.47%] for 50 to 60 age group and 6.55 to

17.77[31.19%to 84.61%] for 60-70 age group and 6.85 to 17.42 [32.61%to82. 95%]for 70-80 age group was reported.

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