ASSESS LIFESTYLE ADOPTED AND FACTORS INFLUENCING LIFESTYLE MODIFICATIONS AMONG PATIENTS WITH CORONARY ARTERY DISEASE ATTENDING CARDIOLOGY OPD

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Abstract

Background: Coronary artery disease is the most common health problem that people face around the world and it is one of the most common causes of death worldwide.[1] Sedentary lifestyles and urbanization, as well as many risk factors such as dyslipidemia, hyperglycemia, excessive triglycerides and hypertension are the leading causes of CAD.[2] Peoples suffering with coronary artery disease are motivated to adopt healthy life style practices and take regular medications to prevent cardiovascular complications.[3]

Objectives: To assess lifestyle adopted and factors influencing lifestyle modification among coronary artery disease patients.

Methods: A descriptive (Quantitative and Qualitative) study was done in 120 coronary artery disease patients from Himalayan hospital of Dehradun, samples were selected by purposive sampling technique. Data were collected by self-structured lifestyle adopted assessment tool and semi structured factors influencing lifestyle modification tool.

Results: The findings shows that participants improved their lifestyle after diagnosis of coronary artery disease and there are some factors like addiction, unawareness, lack of time, family and financial problems, peer pressure are restricting them to modify their lifestyle and among all socio-demographic variables considered only education was found significant. Conclusion: Study concluded that patients had modified their lifestyle after diagnosis of coronary artery disease.

Key words: Lifestyle adopted, lifestyle modification, Diagnosis.

I. Introduction

Coronary artery disease is the most common health problem that people face around the world and it is one of the most common causes of death worldwide. In 2019 approximately 17.9 million people deceased due to cardiovascular disease, which stands for 32% of all global deaths, in which 85% people were died because of myocardial infarction and cerebrovascular accident. In low- and middle-income countries three quarter's deaths from cardiovascular disease occurred. Almost cardiac diseases can be prevented by modifying risk factors like chewing tobacco, unhealthy dietary pattern, obesity, sedentary lifestyle and alcohol consumption. It is very essential to diagnose cardiovascular conditions in primordial stage so that prevention of disease progression with counseling and pharmacotherapy can be started.[4]

Sedentary lifestyles and urbanization, as well as many risk factors such as dyslipidemia, hyperglycemia, excessive triglycerides and hypertension are the leading causes of CAD. There are some risk factors like Cigarette smoking, increased LDL cholesterol, hypertension for coronary artery disease. Global burden of disease 2019 estimated 197 million prevalent cases of coronary atherosclerotic disease in 2019. By execution of primary and secondary preventive methods, cardiovascular mortality rate can be reduced. Peoples suffering with coronary artery disease should adopt healthy life style practices and regular medications to prevent cardiovascular complications. So a healthy lifestyle is essential for prevention of cardiovascular disease.[5]

According to World Health Organization in 2016 about nine million deaths occurred due to coronary artery disease. In developing countries level of ischemic heart disease is worse with increasing direction of mortality. By execution of primary and secondary preventive methods, cardiovascular mortality rate can be reduced.[6] Various studies have been concentrated on the effectiveness of treatment for secondary prevention in the circumstances of coronary atherosclerotic disease. A short time ago following a healthy life style has received attraction and had motivated for primary prevention of cardiovascular disease.[7] Diets lower in Trans-fat, saturated fat, refined carbohydrates, sugar beverages, fruits and vegetables, whole grains,

unsaturated fats are also related to reducing probability of cardiovascular disease, according to conclusive evidence from nurse's health studies. Quitting smoking, regular exercise, maintaining a healthy weight and cautious alcohol consumption are healthy lifestyle choices. Almost all cardiovascular events can be prevented by following a combination of these healthy dietary and daily lifestyle habits.[8]

II. Material and Methods

Ethical issues:

Ethical permission was taken in writing from the Principal (Himalayan College of Nursing) and the Swami Rama Himalayan University ethics committee. The chief medical superintendent of the concerned hospital gave formal permission. The HOD of the cardiology department was informed regarding purpose of the study and data collection. Informed written consent was taken from the study participants.

Study design and setting:

The research design used in this study was descriptive exploratory design. The study was conducted at Himalayan Hospital, Dehradun, Uttarakhand. The sample size was 120 coronary artery disease patients selected by using purposive sampling technique.

Study tool: The tool used for the study was Section- A includes socio-demographic characteristic of the study participants (Demographic data such as Age, Gender, educational status, occupation, personal income/ month, area of living, any other co morbidity etc.), Section -B consist Lifestyle adopted assessment tool (Checklist) and Section - C consist semi structured questionnaire for factors influencing lifestyle modification.

III. Data Analysis:

Table 1: Related to Demographic variables of CAD patients:(N= 120)

S. N.	Characteristics		f	%
1	Age (in yrs.)	35 - 45 yrs.	9	7.4
		46 - 55 yrs.	33	27.3
		56 - 65 yrs.	47	38.8
		66 - 75 yrs.	24	19.8
		76 - 85 yrs.	7	5.8
2	Gender	Male	89	74.2
		Female	31	25.8
3	Educational status	Illiterate	8	6.7
		Primary education	59	49.2
		Secondary education	35	29.2
		Graduate and postgraduate	18	15.0
4	Marital status	Married	120	100
5	Family type	Joint	43	35.8
		Nuclear	77	64.2
6	Area of Living	Urban	48	40
		Rural	72	60
7	Occupation	Unemployed	31	25.8
		Farmer / Labor	28	23.3
		Business	11	9.2
		Private job	18	15.0
		Govt. job	32	26.7
8	Personal Income	<20,000	51	42.5
		21,000 – 40,000	49	40.8
		41,000 – 60,000	13	10.9
		61,000 – 80,000	7	5.8
9	Health related source of information	Electronic media (TV/ Radio, Internet)	1	0.8
		Health care worker (Doctor)	119	99.2
10	Attended any educational program	Yes	1	0.8
		No	119	99.2

Table 1: Illustrate that out of 120 samples, maximum (38.8 %) of the subjects belongs to the age of 56 – 65 yrs. The majority (74.2 %) were male. the majority of (49.2 %) subjects received primary education. 100% participants were married. More than half (64.2 %) participants belonged to the nuclear family. Maximum 60% participants belonged from rural areas. Most of (26.7 %) participants were in government job. More than half 51 % of the participants had family income of about less than 20,000. Maximum (99.2 %) participants get health related information from health care workers. Maximum (99.2%) participants did not attend any educational program on CAD / Heart disease prevention.

Table 2. Frequency and percentage of clinical profile of participants. (N= 120)

S. N.	Description		f	%
1.	Family history of CAD	Yes	12	10
		No	108	90
2.	When diagnosed with CAD	Within 5 yrs.	70	58.3
		Between 5 – 10 yrs.	33	27.5
		More than 10 yrs.	17	14.2
3.	Do you have any co- morbidity	Diabetes	19	15.83
		Hypertension	32	26.66
		More than one	18	15
		No	51	42.5
4.	Have you had heart attack?	Yes	47	39.2
		No	73	60.8
5.	BMI	Underweight (<18.5)	5	4.2
		Normal (18.5 – 24.9)	77	64.2
		Overweight (25 – 29.9)	38	31.7

Table 2: Depicts that only 10 % participants had family history of CAD. More than half (58.3 %) participants were diagnosed within 5years (2017 –2021). Maximum (57.5%) participants had known co- morbidity (Hypertension and diabetes accounted for the most). Most of the participants (60.8 %) had not had heart attack before. Maximum (64.2 %) participants were having normal body weight.

Table 3: Clinical parameters of CAD patients. (N =120)

Parameters	Minimum	Maximum	Mean ±SD
Heart rate	68 beat/ min.	85 beat/ min.	72.89 ± 3.108
Respiratory rate	12 breath / min.	22 breath / min.	14.77 ± 2.582
Systolic Blood Pressure	100 mmHg	200 mmHg	126.35 ± 17.65
Diastolic blood Pressure	60 mmHg	120 mmHg	80.20 ± 9.16

Table 3: Depicts that mean heart rate of the participants was 72.89, respiratory rate was 14.77, systolic blood pressure was 126.35 and diastolic blood pressure was 80.20.

Table 4: To compare lifestyle adopted before and after diagnosis of CAD. (N = 120)

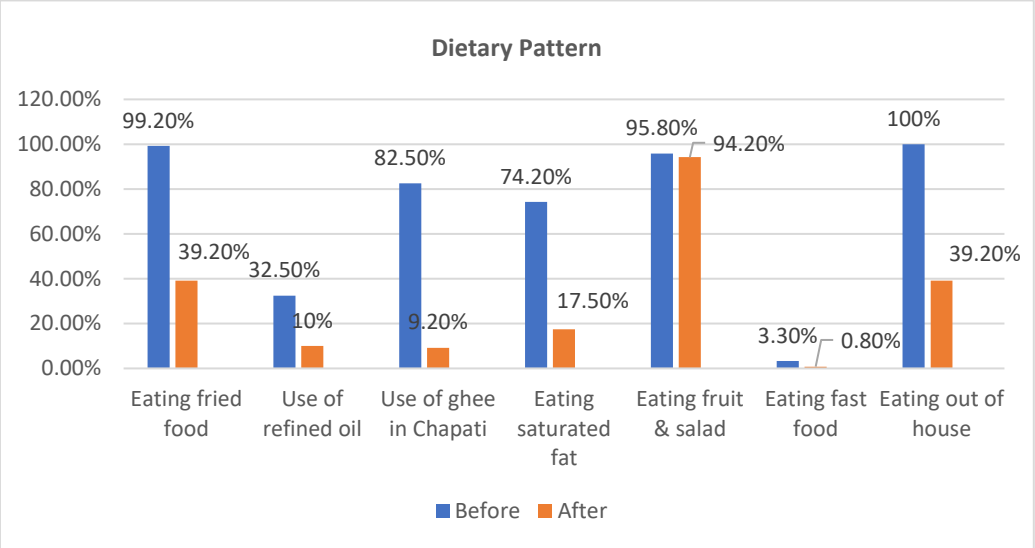
S. No.	Diagnosis of CAD	Mean ± SD
1.	Before diagnosing CAD	8.68 ± 2.192
2.	After diagnosing CAD	14.89 ± 2.29

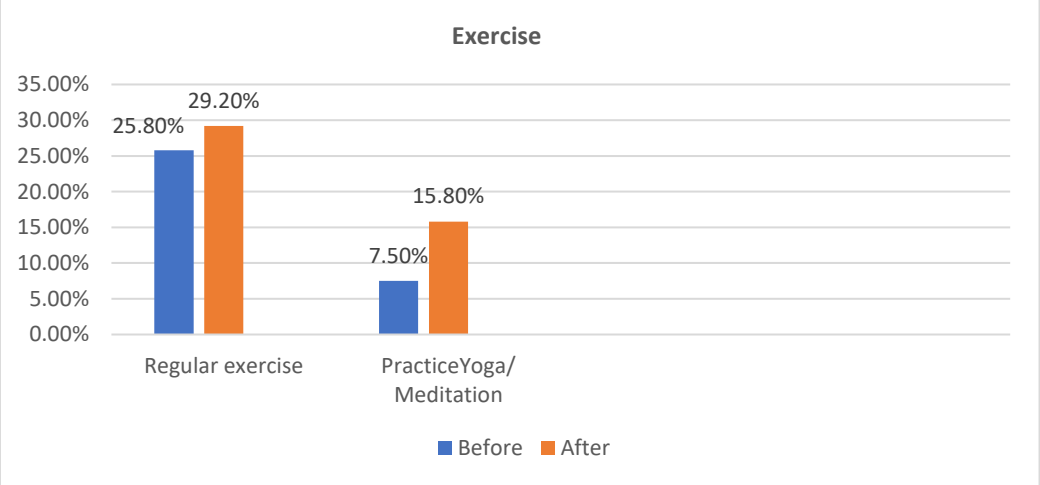
Table 4: Shows that in the study, the mean score before diagnosis of CAD was 8.68 ± 2.192 and after diagnosis, it increased to 14.89 ± 2.29 with lifestyle modification.

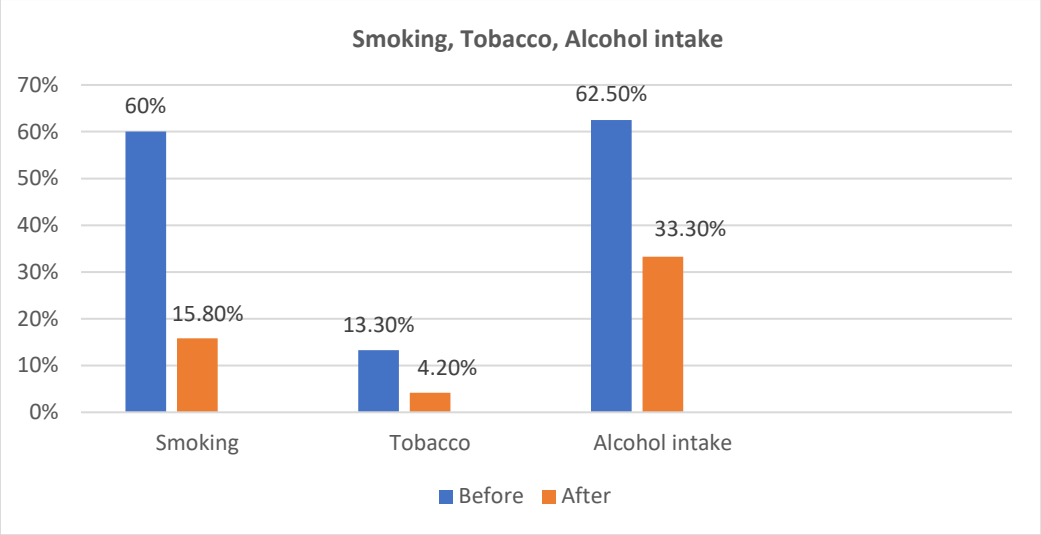
Table 5: Item wise Frequency of Lifestyle before & after diagnosis of coronary artery disease area wise: (N= 120)

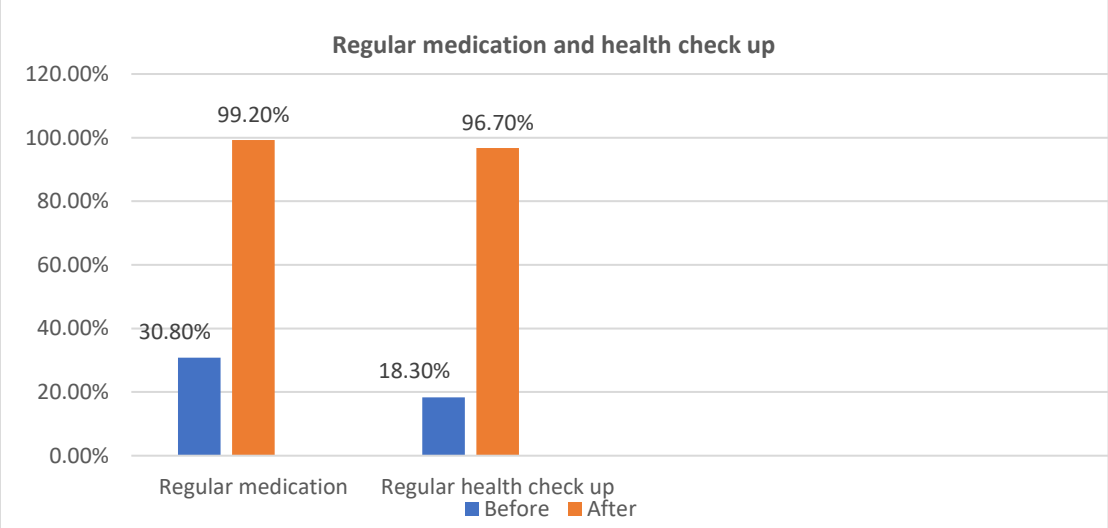
S. N.	Statement	Before diagnosing CAD				After diagnosing CAD			
		Yes		No		Yes		No	
		f	%	f	%	f	%	f	%
Diet									
1.	Do you eat fried food such as puri, paratha, kachori, tikki etc?	119	99.2	1	0.8	47	39.2	73	60.8
2.	Do you use refined oil for cooking?	39	32.5	81	67.5	12	10	108	90
3.	Do you use ghee in chapatti?	99	82.5	21	17.5	11	9.2	109	90.8
4.	Do you eat saturated fat like mutton, egg yolks?	89	74.2	31	25.8	21	17.5	99	82.5
5.	Do you eat fruit and salad?	115	95.8	5	4.2	113	94.2	07	5.8
6.	Do you eat refined food items like burgers, pizza etc.?	4	3.3	116	96.7	01	0.8	119	99.2
7.	Do you eat out of the house such as wedding, parties, family functions?	120	100	0	0	47	39.2	73	60.8
Exercise									
8.	Do you exercise regularly like cycling, walking and running?	31	25.8	89	74.2	35	29.2	85	70.8
9.	Do you practice meditation/ yoga?	9	7.5	111	91.7	19	15.8	101	84.2
Smoking									
10	Do you smoke?	72	60	48	40	19	15.8	101	84.2
Tobacco									
11	Do you chew tobacco?	16	13.3	104	86.7	05	4.2	115	95.8
Alcohol									
12	Do you drink alcohol?	75	62.5	45	37.5	40	33.3	80	66.7
Medication									
13	Do you take your medication regularly?	37	30.8	83	69.2	119	99.2	01	0.8
14	Do you get your health check up done on a regular basis?	22	18.3	98	81.7	116	96.7	04	3.3
Sugar intake									
15	Do you consume sweet foods?	117	97.5	3	2.5	66	55	54	45
Caffeine intake									
16	Do you drink tea/coffee?	116	96.7	04	3.3	99	82.5	21	17.5
Salt intake									

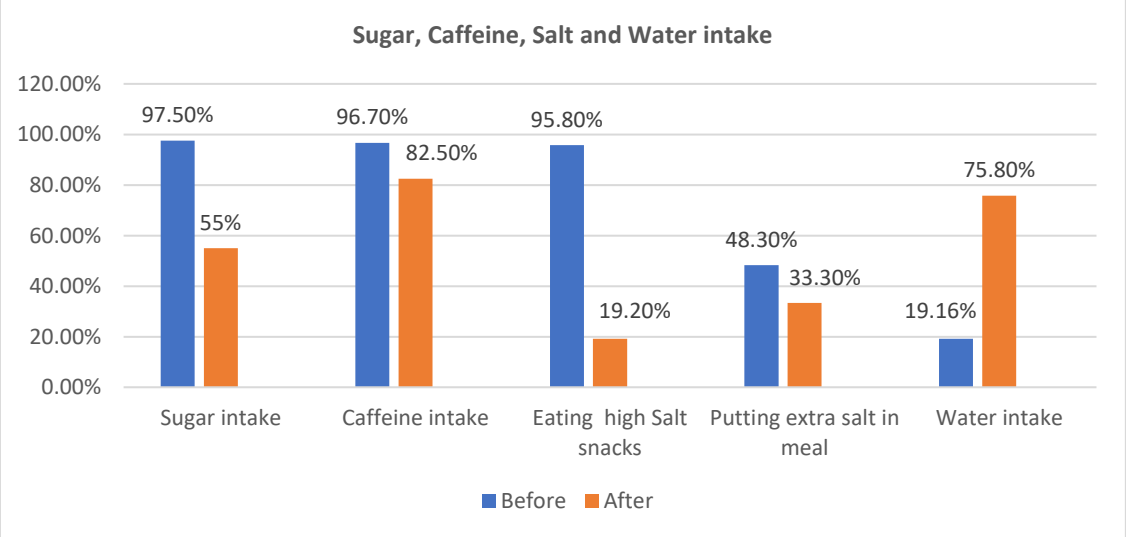
17	Do you eat high salt containing snacks such as namkeen, pickle, chutney?	115	95.8	05	4.2	23	19.2	97	80.8
18	Do you add extra salt in your cooked meal?	58	48.3	62	51.7	40	33.3	80	66.7
Water intake									
19	Do you drink at least 6 to 8 glass of water in a day?	23	19.16	101	84.1	91	75.8	29	24.16
Stress									
20	Are you stressed?	17	14.2	103	85.8	45	37.5	75	62.5
Personality type									
21	Do you get angry easily?	21	17.5	101	82.5	30	25	90	75






Smoking, Tobacco, Alcohol intake
70%
60%
50%
40%
30%
20%
10%
0%
60%
15.80%
13.30%
4.20%
62.50%
33.30%
Smoking
Tobacco
Alcohol intake
Before
After


Regular medication and health check up
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
99.20%
30.80%
96.70%
18.30%
Regular medication
Regular health check up
Before
After


Sugar, Caffeine, Salt and Water intake
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
97.50%
55%
96.70%
82.50%
95.80%
19.20%
48.30%
33.30%
19.16%
75.80%
Sugar intake
Caffeine intake
Eating high Salt snacks
Putting extra salt in meal
Water intake
Before
After

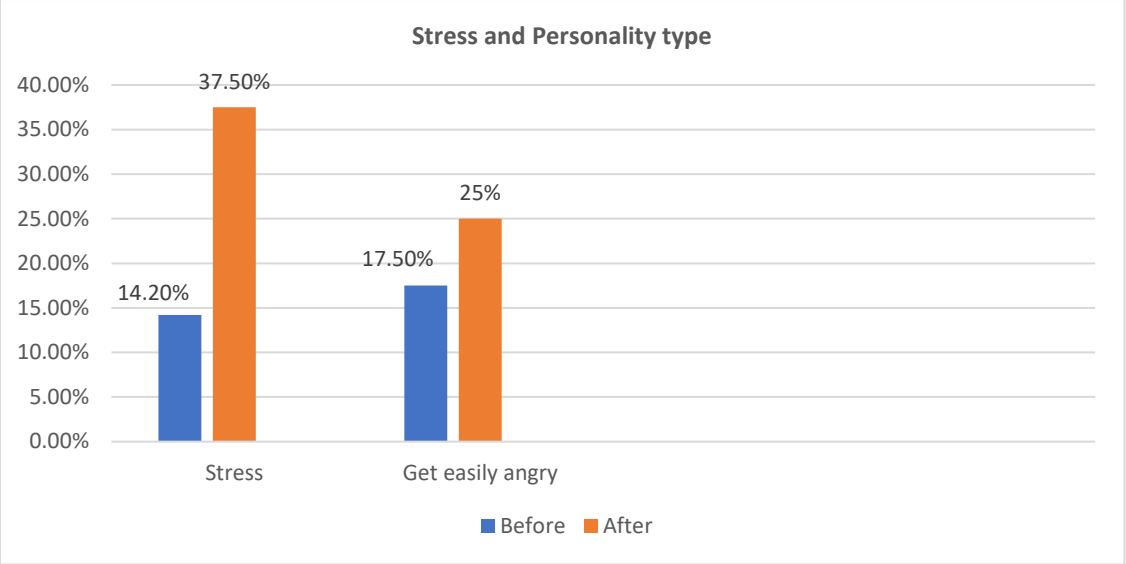


Table 6: Association between socio-demographic variable and lifestyle adopted score. N = 120

S. no.	Socio demographic variable		Below Median < 15	Above Median > 15	Chi square	DF	P value
1.	Age (in yrs.)	35- 60 yrs.	29	42	1.307	1	0.253
		61 –85 yrs.	15	34			
2.	Gender	Male	31	58	0.500	1	0.480
		Female	13	18			
3.	Educational Status	Illiterate	6	2	5.424	1	0.020
		Literate	38	74			
4.	Family type	Joint	17	26	0.237	1	0.626
		Nuclear	27	50			
5.	Area of living	Urban	17	31	0.054	1	0.817
		Rural	27	45			
6.	Occupation	Unemployed	14	17	1.299	1	0.254
		Employee	30	59			
7.	Income	< 40,000	34	59	0.002	1	0.964
		40,000 – 80,000	44	76			

Table 6: Shows that among all socio demographic variables considered only education was found significant in our study.

Factors influencing lifestyle modification

Item 1: Why are you not able to adopt a healthy dietary pattern? n= 54

Majority (74%) participants said that "I feel cravings for oily food and I am not able to control myself".

11% participants said that "I am not aware about dietary pattern".

9.25% participants said that "I eat whatever food is cooked at my home because I don't want to disturb my family members".

1.85% participants said that "I don't feel any need to change my lifestyle in old age".

3.7% participants said that "I am a driver so mostly I live outside my house and eat whatever I get to fill my stomach, not for taste and I am not aware that I should stop eating red meat in this condition".

Item 2: Why are you not able to do exercise regularly? n= 67

40.2% participants said that "I don't feel any need to exercise, I do a lot of work in the home/ farming thus I feel my exercise for the day is done along with it".

1.49% participants said "I get tired easily by doing exercise so I don't do exercise".

23.88% participants said that "I don't get time to exercise".

16.41% participants said that "I don't like to do exercise".

Item 3: What is the reason for not being able to stop smoking? n= 19

47.36% participants said that "I am habitual to smoking and I am not able to control it".

36.84% participants said that "I smoke to get relieve from stress and tiredness".

15.78% participants said that "I smoke when my friends force me to do"

Item 4: What are the factors that are preventing you from giving up tobacco use? n= 05
100% participants said that "I am habitual to chew tobacco so I am not able to stop it"

Item 5: What are the factors that influence you to not stop drinking alcohol? n= 40
57.5% participants said that "I am habitual to drink alcohol so I can't stop drinking it".
22.5% participants said that "I drink alcohol to relieve from stress and tiredness".
10% participants said that "I can't sleep at night without drinking alcohol"
10% participants said that "I drink alcohol when someone forces me to drink"

Item 6: What is the reason for not taking medications regularly? n= 05
40% participants said that "I don't feel any need for regular checkup and I come only when I feel any health related problem".
20% participants said that "I don't have enough money for a regular checkup.
40% participants said that my home is too far so I can't come to get checkup on regular basis"

Item 7: What do you think why you are not able to taper down sugar intake? n= 66
56.06% participants said that "I eat sweets because I am not diabetic"
36.36% participants said that "I like to eat sweets and I am not able to cut it down"
7.57% participants said that "I am not aware about harmful effects of sugar"

Item 8: Why have you not been able to cut down caffeine intake? n= 99
70.7% participants said that "I am habitual to drink tea everyday so I can't stop drinking tea"
19.19% participants said that "I drink tea to relieve my stress and tiredness in office/ field"
4.04% participants said that "I live in hilly area so I drink tea to avoid cold"
6.06% participants said that "I am not aware that tea is harmful"

Item 9: What is the reason to not able to reduce salt intake? n= 46
71.73% participants said that "I don't like food containing less salt"
26.08% participants said that "I am not aware that salt is harmful in this condition"
2.17% participants said that "I eat the same food as the family members eat so that no one gets disturbed"

Item 10: Why are you not able to drink adequate water in a day? n= 29
79.31% participants said that "I avoid drink water unless I feel thirsty",
13.79% participants said that "I feel frequent urination when I drink water so I drink less water"
6.89% participants said that "I am not aware that I have to drink 6 to 8 glass of water in a day"
3.45% participants said that "I do not drink enough water due to tooth sensitivity".

Item11: What is the reason for stress? n= 45
55.56% participants said that "due to family problems, I feel stressed"
24.45% participants said that "I am afraid about my health that's why I feel stressed"
20% participants said that "I feel tensed about money which I need for medication and regular health checkup"

Item 12: How do you react when someone talks to you in an aggressive way? n= 30
76.66% participants said that "I also get angry when someone talks to me aggressively"
23.34% participants said that "I ignore the person which makes me angry"

IV. DISUSSION

Lifestyle adopted after diagnosis of coronary artery disease
The current study revealed that participants improved their lifestyle by modification in dietary pattern, smoking cessation, reduction of alcohol intake & sugar, increase physical activities, reduction in caffeine and salt.

Factors influencing lifestyle modification among coronary artery disease patients

1. Dietary pattern
Factors which were influencing dietary habits are addiction to oily food, sweets and salt intake, disinterest in adopting healthy dietary pattern, eating food without choice as prepared by family members, unawareness about healthy dietary pattern and harmful effect of sugar & salt consumption. Participants also avoid enough amount of water intake to avoid frequent urination.

2. Physical activity
The factors that resulted in participant's avoidance of exercise were not feeling the need to exercise, tiredness, dislike towards exercise and insufficient time to perform exercise.

3. Addictive habits
Factors behind not able to stop smoking, chewing tobacco, consumption of alcohol and caffeine intake were its habitual dependency to relieve stress, tiredness and due to peer pressure.

4. Stress
Reason behind being stressed was having family problems, health issues and financial problems.

5. Regular checkup
Reason behind not coming for regular check -up was not feeling any need, financial problems and long distance of home from hospital.

V. CONCLUSION

Study concluded that majority participants modified their lifestyle after diagnosis of coronary artery disease and there were some factors like addiction, unawareness, family and financial problems, negative attitude towards health, which are restricting them to modify their lifestyle.

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