Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/17876
DOI URL: http://dx.doi.org/10.21474/IJAR01/17876

RESEARCH ARTICLE

"ADHERENCE TO LIFESTYLE MODIFICATION AMONG THE POST-PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY PATIENTS IN CARDIOLOGY OPD OF A SELECTED HOSPITAL IN KOLKATA"

Joyeeta Biswas[1] and Prof (Dr.) Uma Rani Adhikari[2]

1. CCU, S.S.K.M Hospital, A.J.C.Bose Road, Kolkata-20, W.B.
2. Principal, College of Nursing, NRS MC & H, Kolkata. W.B.

Manuscript Info

Manuscript History
Received: 15 September 2023
Final Accepted: 17 October 2023
Published: November 2023

Key words:-
Post-PTCA Patient, Lifestyle Modification, Cardiology OPD

Abstract

Background: The prevalence of coronary artery disease is increasing every year in India. As the prevalence of coronary artery disease is increasing, the number of PTCA is also increasing every year. Lifelong adherence to medication and lifestyle modification is required to prevent major adverse effects after PTCA. The purpose of the study was to assess theadherence to lifestyle modification among post-PTCA patients of a selected hospital, Kolkata.

Methods:A total of 100 post-PTCA patients attending Cardiology OPD of a tertiary care hospital, Kolkata were surveyed using the purposive sampling technique.Data were collected by using the demographic proforma and structured interview schedule for adherence to lifestyle modification. All the tools were tested for validity and reliability.

Results:A Majority(61%) of the patients weremedium adherent to lifestyle modification and 35% and 4% of patients were high adherent and low adherent to lifestyle modification respectively. Adherence to lifestyle modification was significantly associated with education, occupation and monthly per-capita income.

Conclusion: To improve health outcomes, in post-PTCA patients, early detection of patients with poor adherence to lifestyle modification and motivational education programmes to improve adherence is important.

Introduction:-

Coronary artery disease (CAD) is a major cause of morbidity and mortality throughout the world including India. The annual number of deaths from cardiovascular disease is increased from 2.26 million (1990) to 4.477million (2020)[1]. Coronary artery disease prevalence in India has been estimated over the past several years and has ranged from1% to 13.2% in urban populations and 1.6% to 7.4% in rural populations[1]. Obesity, hypertension, diabetes, hyper-cholesterolemiaand smoking are the major risk factors for CAD.

In India, mortality due to cardiovascular disease (CVD) is higher than in the countries with high and middle income, despite having lower risk factors among younger group[2]. The high-income countries have controlled their mortality by better control over the risk factors and frequent use of proven pharmacologic therapy and revascularization[2].
Evidence-based medical therapies and comprehensive management of risk factors through lifestyle modification (e.g., smoking cessation, weight control, physical activity, low salt diet, drinking moderation) are essential for the

Corresponding Author:- Prof (Dr.) Uma Rani Adhikari
Address:- CCU, S.S.K.M Hospital, A.J.C.Bose Road, Kolkata-20, W.B.

prevention of recurrent cardiovascular events and the improvement of survival[3].Jenna Bet al[4] reported that just 8% of smokers had quit smoking and only 46% of patients exercise regularly, 13% received dietary counseling and 75% of patients were overweight at 13 months after PCI.Poor adherence to lifestyle recommendations leads to poor control of the condition reduces the effectiveness of treatment and increases the risk of cardiovascular events, hospitalization leads to relapses, complicationsor even death[5].

Lifestyle modifications are important for the patient with CAD who has undergone PTCA. Many studies revealed that lifestyle modification has a significant impact on the major cardiac events after PTCA. Regular checking of blood pressure and blood glucose is also an important part of lifestyle modification[6].

As the number of cardiovascular diseases is increasing day by day, the number of PTCA is increasing in private hospitals as well as government hospitals. But in India, there is a very limited study for assessing the patients' adherence with lifestyle modification which is most important. The attitude towards adherence to lifestyle modification may differ among patients with different demographic characteristics. The investigators have seen in their clinical experience that many patients come to the hospital after PTCA with fatal or non-fatal cardiac events.

Automatically, the question came to mind whether they were following the instructions of the healthcare provider or not? So, the study was chosen and objectives of the study are-

1. To assess the adherence to lifestyle modification among the post-PTCA patients.
2. To find out association between lifestyle modification adherence with selected demographic variables.

Patients&Methods:-

Descriptive survey research approach was selected for the study. Following institutional ethics committee approval, total 100 patients who has undergone PTCA more than one month,aged >18 to<70 years and who were willing to participate in this study with written consent were selected for study. Data were collected during 2nd January 2021 to 31st January 2021. The study was conducted at Cardiology OPD of a selected tertiary care centreand physical distancing maintained and mask used during data collection. The study procedure was explained and informed consent was taken from the subjects at the time of selection. Purposive sampling technique was used to select subjects, excluding patients for 1st follow up visit, post PTCA patients with unfavorable short-term prognosis such as cancer patients or patients with CKD & cardiomyopathy, patients with diagnosed psychiatric disorder.

In this studylifestyle modification means altering long-term habits and maintaining healthy lifestyle practices to reduce the chance of major cardiac events after PTCA such as maintain healthy food habits, avoidance of addiction, performing the exercise, periodic health check-up and stress management which are recommended by the health care provider. To assess the lifestyle adherence structured four-point Likert scale was prepared and it consists of 23 questions and is also sub-divided into five parts. Part A consists of 10 items for healthy food habits practice of the study sample. Part B consists of 3 items to assess the participants' behavior for the avoidance of addiction. Part C consists of 2 items for the assessment of exercise practice. Part D consists of 3 items for assessment of periodic health checkup practice and part E consists of 5 items for assessment of stress. Scoring was: Daily=4, frequently =3, rarely=2, Never=1 for positive stated practice (for Item no: 1 to 3). Daily=1, frequently =2, rarely=3, Never=4 for negative stated practice (for Item: 4to 13). Always=4, Sometimes=3, Rarely =3, Never=1 for positive stated practice (for Item: 14 to 23). <60%=low adherence, 60%-79%=Medium adherence, ≥80%= High adherence. Sociodemographic variable includes Age, gender, Marital status, Religion, Type of family, Type of habitat, educational status, Occupation, Monthly family, Dietary pattern, Presence of comorbidity, family history of CAD, Duration since PTCA etc. Validity & reliability of the interview questionnaire was calculated by validation of its construction & content by two cardiologist, one statistician and five nurses from Medical Surgical Nursing field. Content validity index was 0.88 for lifestyle adherence Likert scale& 0.94 for sociodemographic variable. Reliability of lifestyle adherence likert scale was computed by Chronbach alpha and it was .86 and for sociodemographic variable it was 1. The original English version of interview schedule was translated into Bengali and back translated into English by two independent language experts and there was no significant difference found. Time taken for data collection for each participant was 25-30 mins.Data were planned to be analyzed by using both descriptive and inferential statistics. Frequencyand percentage distribution arecomputed for describing the socio-demographic characteristics and assessing adherence to lifestyle modification.Graphical presentation was done for lifestyle adherence. Chi-square test is computed to find out the association between lifestyle modification adherence and selected demographic variables. Statistical descriptions and test above were performed using SPSS version 20 and P value of less than 0.05 was considered significant.

Results:-

Table -1depicts that the maximum of post-PTCA patients (44%) are under the age group of 51-60 years and most (86%) of patients are of male and eighty nine percent of the patients are also married. A majority (75%) of patients are from the Hindu religion and a majority (67%) of the patients are from nuclear family and maximum (57%) of patients live in rural areas. Fifty four percent subjects are educated up to secondary level and maximum patients (38%) are self-employed. Maximum (49%) patients' per capita family income per month is less than Rs. 2000.Among all the patients, Majority (66%) patients are hypertensive and 2% of patients have comorbidity like Hypothyroidism and Parkinson's disease. It was found that the maximum(41%) number of patients were within 1-3 years of intervention.Fig-1 depicts that the majority (61%) patients' have medium adherence to lifestyle modification.Fig-2 depicts that the highest (89.5%) mean percentage score in avoidance of addiction and lowest (49.50%) mean percentage score is obtained in the practice of exercise.Figure-3A revealed that 54% of patients consume green leafy vegetables, and only 10% consume fresh fruit, and 47% never consume excess oil.Figure 3B depicting that 68% never consume extra salt in their diet. Figure-4 depicting that among the total patients and 64%, never smoke.Figure-5 depicting that only 35% of patients always walk 30 min/day at least 5 days a week and Figure-6 reflecting that 32% PTCA patient always check monthly blood pressure.Figure-7 depicting that only 6% patients practice meditation and 51% always sleep 6 to 8hrs per day.Table-2 revealsthat there is a significant association between lifestyle modification adherence with educational status, occupation and monthly per capita income of post PTCA patients.

Discussion:-

It is observed from the findings of the present study that 35% of post-PTCA patients' have high adherence to lifestyle modification, 61% have medium adherence and 4% have low adherence to lifestyle modifications (Fig-1). In this study, it is also found that 54% of patients consume green leafy vegetables daily and 10% of patients daily consume fresh fruits, 80% were non-eaters of butter or ghee, 59% were non-consumers of red meat (Fig-3B). This study supported by the study which was conducted by SheiliniM et al[7]that 59.4% were following overall lifestyle practices, 67.5% and 17.1% reported eating vegetables and fruits every day and 95.5% were non-consumers of deep-fried food or snacks and 71.4% were non-eaters of meat high in fat. In the present study, it was observed that 93% are non-consumers of alcohol and 14% practice yoga or exercise (Fig-5). This finding is also supported by the study of SheiliniM et al[7]that 94.8% were non-consumers of alcohol and 24.9% and 8.3% of patients practice exercise and yoga. Study findings of Elbur AI[8] also supported the findings of present the study that 20.1% of hypertensive patients practice regular exercise.

In this study, it is also found that adherence to lifestyle modification significantly associated with occupation, monthly per capita family income and educational level of the patients. This study is also supported by the study which was conducted by Buda ES et al[9] that lifestyle modification was significantly associated with educational status and monthly income for hypertensive patients. This is a natural phenomenon that educated people can better change their lifestyle for prevention of diseases.

The study implication is that nurses are in the key position to counsel their patients to consume heart-healthy diet, engage in structured exercise, quit smoking and avoid psychological stressors.

This study assessed all aspect of lifestyle modification adherence still it has limitations. Firstly, the study assessed adherence to lifestyle modification as reported by patients only, data not taken from any secondary source. So, the report may be biased. Secondly, the sampling technique is purposive sampling technique which may reduce the generalizability of the findings.Thirdly,this study was conducted in only one government hospital which may reduce the generalizability of the findings.Lastly,due to time constraints only once data has been collected but it would be better if a longitudinal study can be done.

Conclusion:-

Lifestyle modification adherence remains suboptimal as the majority of the post PTCA patients are moderately adherent to lifestyle modification.Themajority of patients have healthy food habits,they avoid addiction and few patientsonly practice exercise. So, counselling regarding healthy lifestyle practice is very much important during each follow-up visit to prevent post-PTCA complications.

Acknowledgements:-

The authors are grateful for the cooperation from the study participants and all the personnel who directly or indirectly helped in data collection in a particular tertiary care center.

Tables & Figures:

Table1:- Characteristics of the post PTCA patients. n=100.

Sl.no	Demographic variables	Frequency	Percentage (%)
1	**Age**		
	31-40 years	13	13
	41-50 years	18	18
	51-60 years	44	44
	61-70 years	25	25
2	**Gender**		
	Male	86	86
	Female	14	14
3	**Marital status**		
	Married	89	89
	Unmarried	2	2
	Widow	9	11
4	**Religion**		
	Hindu	75	75
	Muslim	22	22
	Christian	3	3
5	**Type of family**		
	Nuclear	67	67
	Joint	33	33
6	**Type of habitat**		
	Urban	43	43
	Rural	57	57
7	**Educational status**		
	Illiterate	19	19
	Primary	22	22
	Secondary	54	54
	H.S and above	15	15
8	**Occupation**		
	Service	15	15
	Self employed	38	38
	Labour	23	23
	Other	24	24
9	**Presence of comorbidity***		
	Hypertension	66	66
	Diabetes mellitus	32	32
	Hyperlipidaemia	30	30
	Others	02	02
10			
	Duration since PTCA		
	Less than 1 year	18	18
	1-3 years	41	41
	3-5 years	22	22
	More than 5 years	19	19

N.B. ***** Data is mutually exhaustive but not mutually exclusive

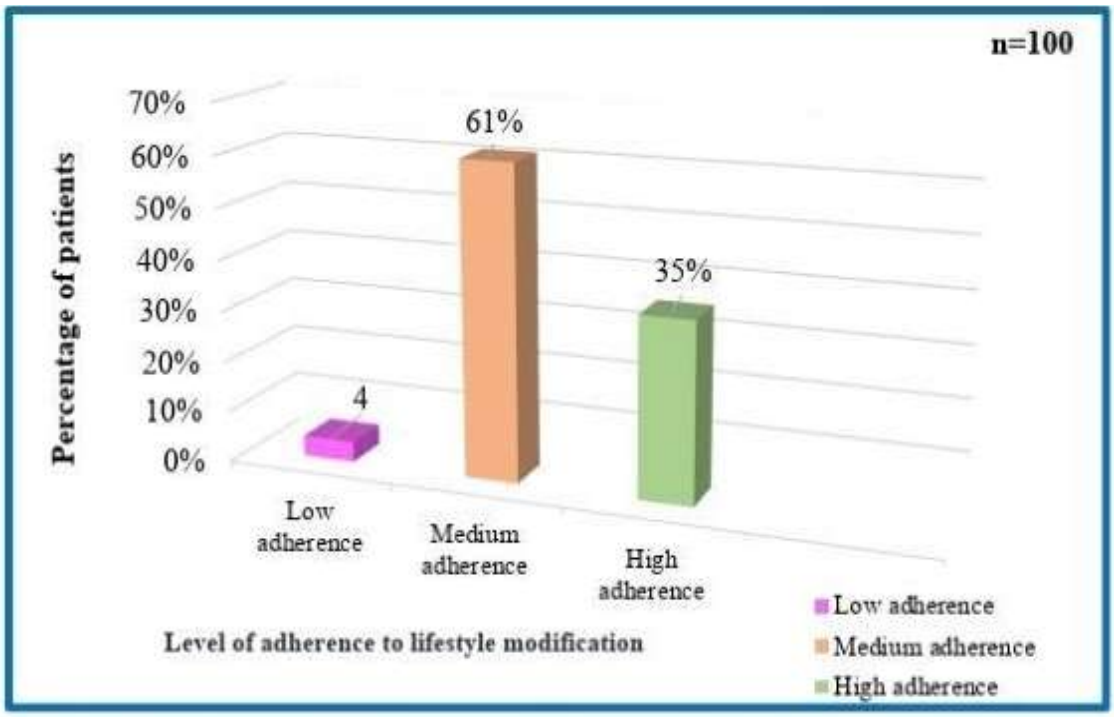

Fig 1: Bar diagram showing the level of lifestyle modification adherence among Post PTCA patients.

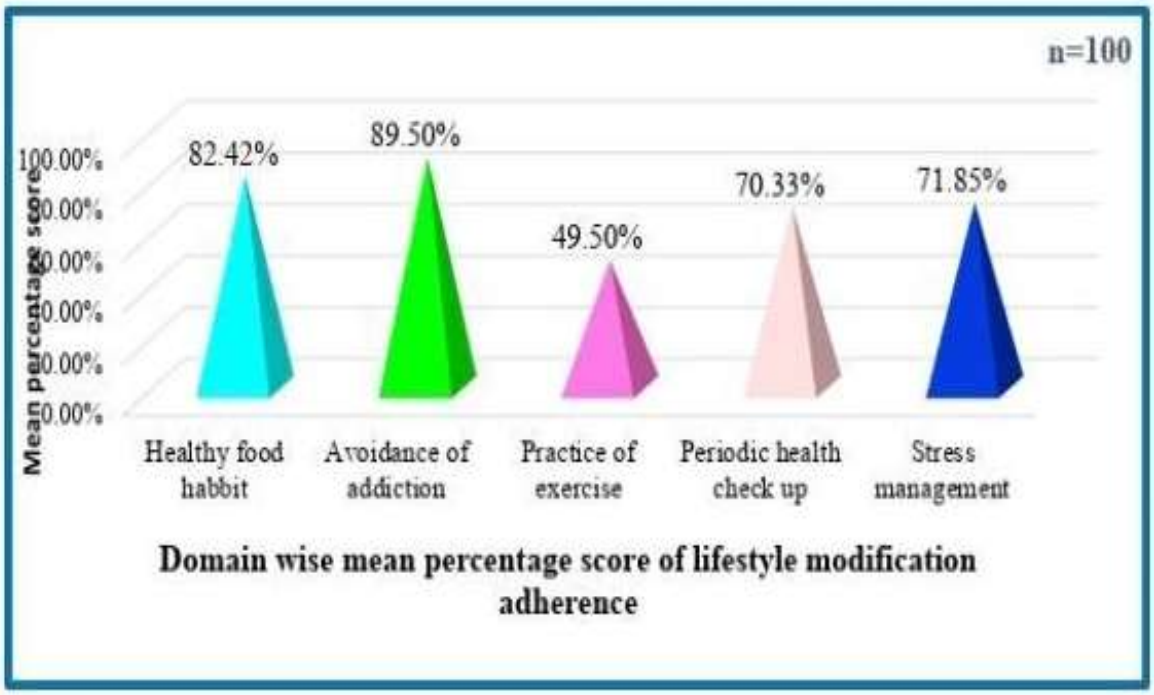

Fig 2: Pyramid diagram showing domain wise mean percentage score of lifestyle modification adherence among post PTCA patients.

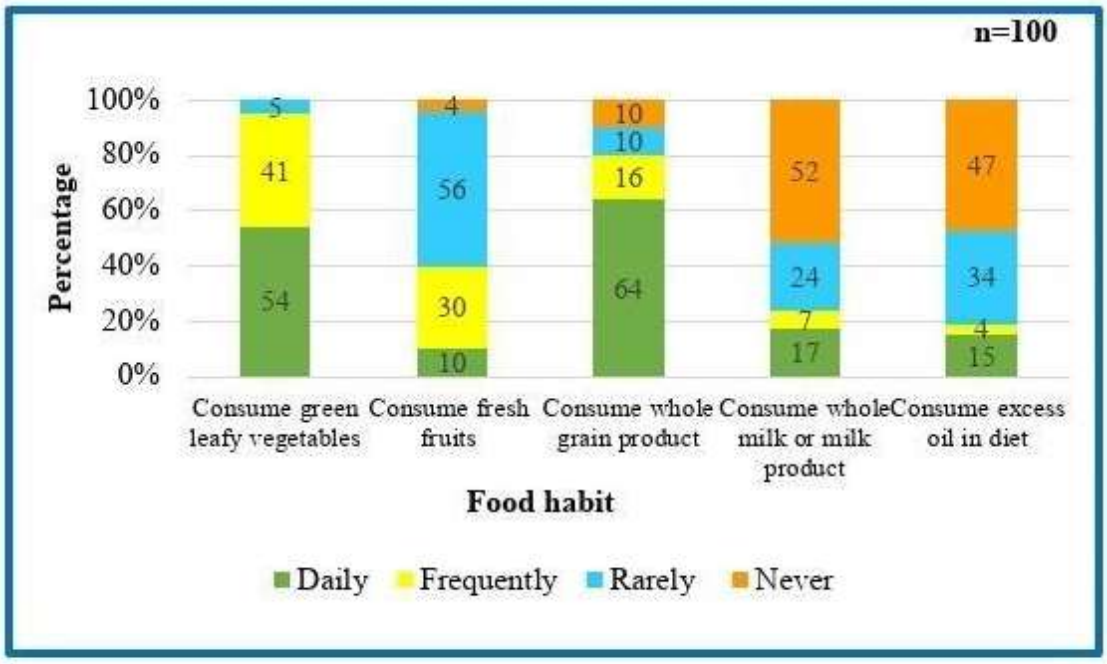

Fig 3A: Composite bar diagram showing the percentage distribution of food habit among post PTCA patients.

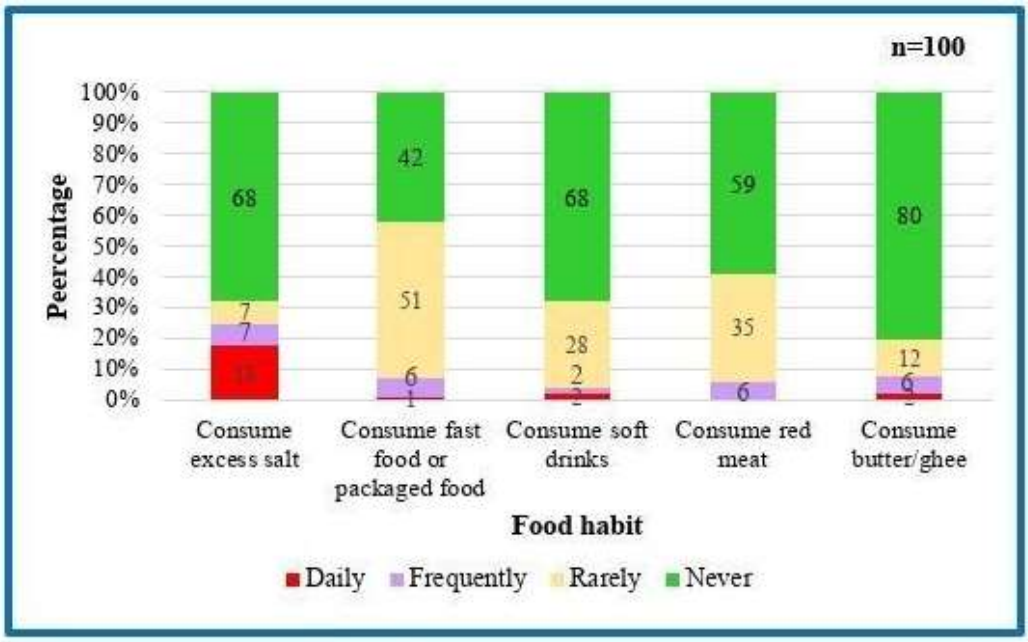

Fig 3B: Composite bar diagram showing the percentage distribution of food habit among post PTCA patients.

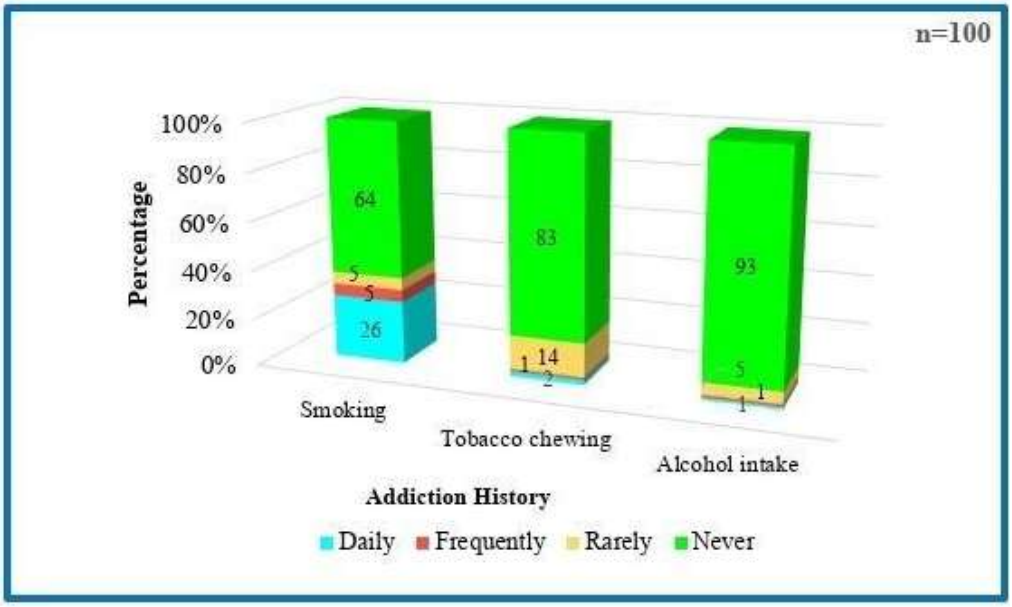

Fig 4: Composite bar diagram showing the percentage distribution of addiction history among post PTCA patients.

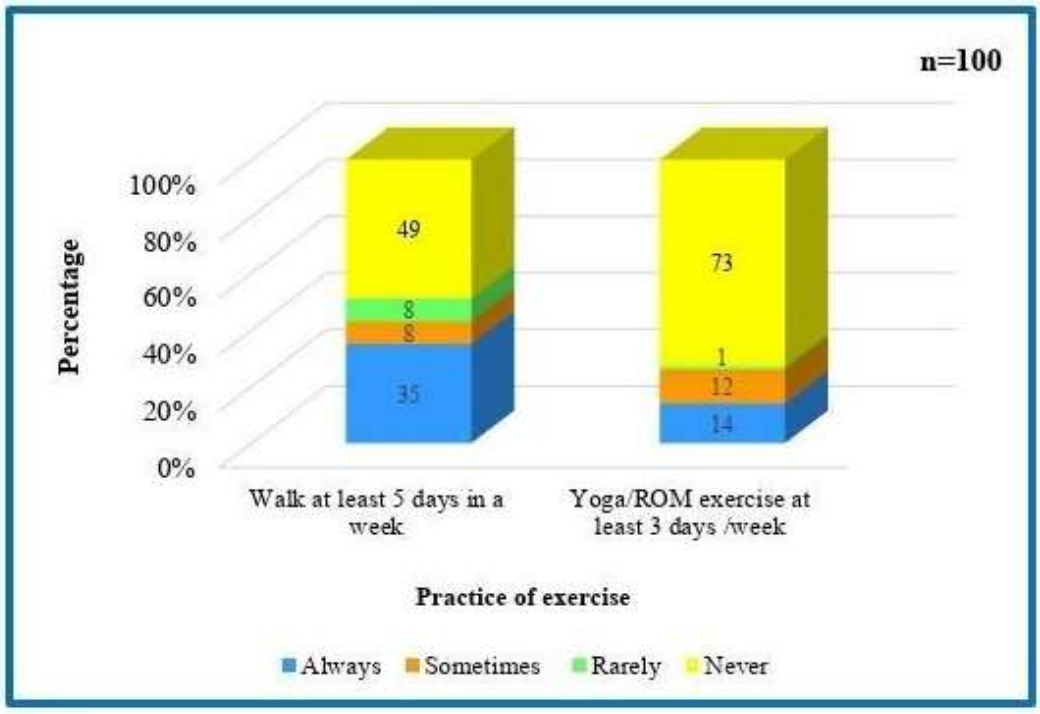

Fig 5: Composite bar diagram showing the percentage distribution ofpractice of exercise among post PTCA patients.

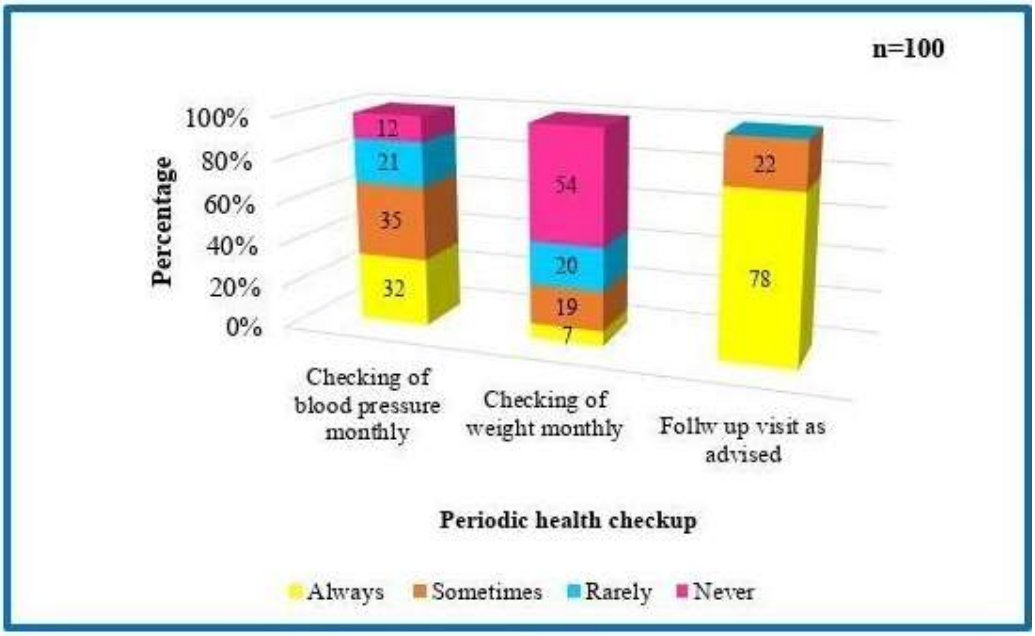

Fig 6: Composite bar diagram showing the percentage distribution ofPeriodic health check-up among post PTCA patients.

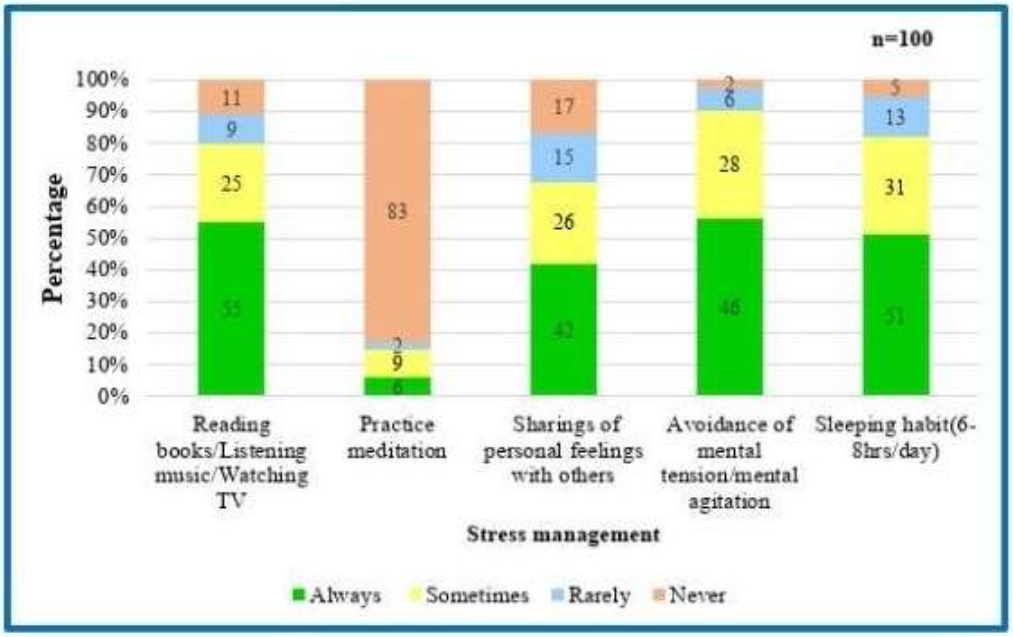

Fig 7: Composite bar diagram showing the percentage distribution of stress management among post PTCA patients.

Table 2:- Association between lifestyle modifications adherence with selecteddemographic variables.n=100.

Demographic variables	**Lifestyle modification adherence median score (71.5)**		χ^2	**df**	**P value**
	≤ median	> median			
Age			1.663	3	0.64

31-40 years	07	06			
41-50 years	08	10			
51-60 years	20	24			
61-70 years	15	10			
Gender	41	45		1	0.25
Male	09	05	1.329		
Female					
Marital status	44	45	0.102	1	0.75
Married	06	05			
Others					
Religion	38	37	0.533	1	0.82
Hindu	12	13			
Muslim & Christian					
Type of family Nuclear	32	35	0.407	1	0.52
Joint	18	15			
Type of habitat					
Urban	19	24	1.02	1	0.31
Rural	31	26			
Educational Status	14		**13.329**	**3**	**0.003***
Illiterate	03	05			
Primary	30	09			
Secondary	03	24			
H.S and above		12			
Occupation	02	13	**17.144**	3	**0.006***
Service	22	16			
Self employed	08	15			
Labour	18	06			
Other					
Monthly per capita income (in Rs)			**9.184**	**2**	**0.01***
<2000	26	23			
2000-3999	21	13			
≥4000	03	14			

References:-

1. Huffman M, Prabhakaran D, Osmond C, Fall C, Tandon N, Lakshmy R et al. Incidence of Cardiovascular Risk Factors in an Indian Urban Cohort. Journal of the American College of Cardiology 2011; 57(17):1765-1774.
2. Devasia T, Shetty P, Kareem H, Karkala Y, Singh A. Manipal lifestyle modification score to predict major adverse cardiac events in post coronary angioplasty patients. Indian Heart Journal 2018; 70: S353-S358.
3. Lee Y, Kim R, Lee H, Kim K, Shin M, Park H et al. Relationships among medication adherence, lifestyle modification, and health-related quality of life in patients with acute myocardial infarction: a cross-sectional study. Health and Quality of Life Outcomes 2018;16 (1).
4. Jenna B, Fowler AL, Franklin B, Dulai J. Lifestyle Modification in Secondary Prevention. American Journal of Lifestyle Medicine 2016;11(2):137-152.
5. Sharma B, Agarwal M. Factors Affecting Adherence to Healthy Lifestyle. International Journal of Pure & Applied Bioscience 2017;5(4):105-116.
6. Sheilini M, Hande H, Prabhu M, Pai M, Devi E, Kamath A et al. Antihypertensive Prescription Pattern, Self-reported Reasons for Non-adherence to Antihypertensives and Lifestyle Practices among the Elderly. Journal of clinical and diagnostic research 2018; Vol-12(1): 1-5.
7. Petrie J, Guzik T, Touyz R. Diabetes, Hypertension, and cardiovascular disease: Clinical Insights and Vascular Mechanisms. Canadian Journal of Cardiology 2018;34 (5):575-584.
8. Bhatt PA, Parikh PK and Parikh KH. Prevalence, Assessment and Clinical Outcome in Cardiovascular Disease: Impact of Gender Disparities. Austin J PharmacolTher 2014; 2 (8).4.
9. Buda E, Hanfore L, Fite R, Buda A. Lifestyle modification practice and associated factors among diagnosed hypertensive patients in selected hospitals, South Ethiopia. Clinical Hypertension 2017;23(1):2-9.