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Assessment of knowledge and compliance on lifestyle modifications and drug regimen among patients attending cardiology OPD at selected hospitals at Darjeeling District, West Bengal

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Abstract

Nowadays non communicable disease is not only affects the health, it has great impact on the lifestyle also. The study is "assessment of knowledge and compliance on lifestyle modifications and drug regimen among patients attending Cardiology OPD at selected hospitals at Darjeeling District, West Bengal". To determine the knowledge and compliance on lifestyle modifications and drug regimen among patients attending cardiology OPD. A non-experimental descriptive survey and non-probability purposive sampling technique was adopted on 176 patients attending cardiology OPD at selected hospitals at Darjeeling District, West Bengal for the study. The data were collected by structured questionnaires and analyzed by descriptive and inferential statistics. The study revealed average knowledge of the respondent's i.e.59% and 64% in lifestyle medications and drug regimen. Moderate compliance has been reported i.e. 65% and 79% in lifestyle modifications and drug regimen. There is a moderate positive correlation exist between knowledge and compliance on lifestyle modifications ($r=0.63$) at 0.001 level of significance. The study also found that there is association between compliance on lifestyle modifications with selected demographic variables i.e. gender at 0.05 and education at 0.01 level of significance and no association with other selected demographic variables at 0.05 level of significance. To prevent cardiovascular disease the nurses can play a key role by providing health education to youths and high risk groups in the society.

Keywords: Cardiovascular disease, knowledge, compliance, lifestyle modifications, drug regimen, Darjeeling district

1. Introduction

Non – communicable diseases commonly include cardiovascular disease (CVD), various cancer, chronic respiratory illnesses, diabetes and so on which are estimated to account for around 60% of all deaths. CVDs such as ischemic heart disease and cerebrovascular such as stroke account for 17.7 million deaths and are the leading cause. In accordance with the World Health Organization, India accounts for one-fifth of these deaths worldwide especially in younger population ^[1].

Adaptation of a lifestyle modification is of critical importance for preventing and managing hypertension. It does not only reduce blood pressure but can delay the incidence of hypertension, enhance antihypertensive drug efficacy and decrease cardiovascular risk irrespective in blood pressure reading. Adherence to medications and lifestyle modifications in patients with CVD is a proven strategy in reducing the risk of cardiovascular disease.

2. Materials and Methods

2.1 Study approach

In the present study quantitative research approach was adopted to assess the knowledge and compliance on lifestyle modifications and drug regimen among patients attending Cardiology OPD at selected hospitals at Darjeeling District, West Bengal.

2.2 Study design

In this present study, non – experimental descriptive survey design was adopted to assess the knowledge and compliance on lifestyle modifications and drug regimen among patients attending Cardiology OPD at Darjeeling district, West Bengal.

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2.3 Setting

This study was carried out in the Cardiology OPD at North Bengal Medical College & Hospital and Neotia Getwel Multispecialty Hospital at Dist- Darjeeling, West Bengal, India.

2.4 Sample size

One hundred and seventy six participants attending Cardiology OPD during the study period from 6th February, 2023 to 4th March, 2023.

2.5 Population

In the present study the population was those patients suffering from cardiovascular disease attending cardiology OPD in Govt. or private hospitals.

2.6 Sample

In the present study sample was patients attending in cardiology OPD of selected hospitals in Darjeeling District, West Bengal.

2.7 Sampling technique

In this present study non-probability purposive sampling technique was adopted. Study settings and samples were selected purposively during the data collection.

2.8 Inclusion criteria

All participants who participated in this study fulfilled the following criteria:

- Patients who attended cardiology OPD on the day of interview.
- Patients aged above 18 years and either sex.
- Who were willing to participate in the study.

2.9 Exclusion criteria

- Below 18 Years of age
- Patients suffering from cardiovascular diseases for less than 1 year.

2.10 Procedure

The purpose of the study was explained to the participants. Rapport was established and confidentiality was maintained. Informed and written consent was taken from the respondents. Code no were used for the subjects instead of respondent's names.

2.11 Data collection tools and technique

Tool I: Semi structured questionnaire and interviewing technique was used to obtain socio-demographic data of patients attending cardiology OPD and consists with 12 open-ended questions to collect necessary socio-

demographic information of the respondents as:- Age, gender, monthly family income, education, occupation, marital status, family history of heart disease, duration of disease, distance from nearest health facility to home, break in treatment, history of alcohol intake, history of smoking.

Tool II: Structured knowledge questionnaire and interviewing technique was used to assess the knowledge regarding lifestyle modifications and drug regimen among patients attending cardiology OPD and consists of constructed structured knowledge questionnaire to assess the knowledge regarding lifestyle modifications and drug regimen among patients attending cardiology OPD. There were 30 questions with that 23 questions are regarding lifestyle medications in which 5 questions cover the concepts of disease, 4 questions about diet, 2 questions about exercise and rest 12 items regarding healthy habits and 7 questions are regarding drug regimen in which 3 questions cover treatment regimen area, 2 questions cover side effects and 2 questions cover medication adherence.

Tool III: 3 point Likert scale and interviewing technique was used to assess compliance regarding lifestyle modifications and drug regimen among patients attending cardiology OPD. There were 28 items. These 3 point Likert scale contains 3 response options in which two extreme sides and one neutral option. In this questionnaire schedule the responders specified their level of agreement to the statements in three points: disagree, neutral, agree.

2.12 Ethical consideration

Ethical permission was taken from Institutional Ethics Committee of North Bengal Medical College, Darjeeling, West Bengal.

2.13 Data analysis

- Knowledge and compliance regarding lifestyle modifications and drug regimen among patients attending cardiology OPD were analyzed by using descriptive statistics.
- The co-relation between knowledge on lifestyle modifications and compliance on lifestyle modification among patients attending cardiology OPD was analyzed by using inferential statistics-correlation coefficient.
- Association between compliance on lifestyle modifications among patients attending cardiology OPD with selected demographic variables i.e. age, education, occupation, family monthly income, alcohol intake was analyzed by using inferential statistics-chi square test.

3. Results

Table 1: Participants demographic data n = 176

Characteristics		%
Age (in years)	21 – 40	6
	41 – 60	53
	61 – 80	41
Gender	Male	66
	Female	34
Family monthly income	10000 – 20000	47
	20001 – 30000	22
	30001 – 40000	15
	40001 – 50000	12
	50001 – 60000	1
	60001 – 70000	1
	70001 – 80000	2
Education	Non literate	28
	Non formal	21

	Primary	10
	Secondary & above	41
Occupation	Home maker	27
	Business	18
	Retired	22
	Service	33
Marital status	Married	85
	Unmarried	1
	Widow	9
	Widower	3
	Divorcee	2
Family history of heart disease	Yes	11
	No	89
Duration of disease	1 – 10 years	91
	10 years 1 day – 20 years	9
Distance from nearest health facility to home (KM)	1 – 100	95
	101 – 200	5
Break in treatment	Yes	16
	No	84
History of alcohol intake	Yes	2
	No	98
History of smoking	Yes	23
	No	77

Table 2: Frequency and percentage distribution of knowledge score on lifestyle modification of study participants n=176

Level of Knowledge	Score	Frequency (f)	Percentage (%)
Good	>14.94	35	20
Average	7.45 – 14.94	104	59
Poor	<7.45	37	21

The data presented in the table 2 depicts that majority of the study participants had average knowledge, i.e. 59% as their obtained score were existing within the score range from 7.45 – 14.94, whereas 21% of them had poor knowledge as their obtained score below 7.45 and only 20% of them had good knowledge as their obtained score was above 14.94.

Table 3: Frequency and percentage distribution of knowledge on drug regimen of study participants n=176

Level of Knowledge	Score	Frequency (f)	Percentage (%)
Good	>5.92	34	19
Average	3.24 – 5.92	112	64
Poor	<3.24	30	17

The data presented in the table 3 depicts that majority of the study participants had average knowledge, i.e. 64% as their obtained score were existing within the score range from 3.24 – 5.92, whereas 17% of them had poor knowledge as their obtained score below 3.24 and only 19% of them had good knowledge as their obtained score was above 5.92.

Table 4: Frequency and percentage distribution of compliance on lifestyle modification of study participants n=176

Level of Compliance	Score	Frequency (f)	Percentage (%)
High compliance	>38.5	28	16
Moderate compliance	31.1 – 38.5	114	65
Low compliance	<31.1	34	19

The data presented in the table 4 depicts that majority of the study participants had moderate compliance, i.e. 65% as their obtained score were existing within the score range from 31.1 – 38.5, whereas 19% of them had low compliance as their obtained score below 31.1 and only 16% of them had High compliance as their obtained score was above 38.5.

Table 5: Frequency and percentage distribution of compliance on drug regimen of study participants n=176

Level of compliance	Score	f	%
High compliance	>27	8	5
Moderate compliance	23.5 – 27.5	139	79
Low compliance	<23.5	29	16

The data presented in the table 5 depicts that majority of the study participants had moderate compliance, i.e. 79% as their obtained score were existing within the score range was 23.5 – 27.5, whereas 16% of them had poor compliance as their obtained score below 23.5 and only 5% of them had high compliance as their obtained score was above 27.5.

Table 6: Coefficient-correlation between knowledge and compliance on lifestyle modifications among patients attending cardiology OPD n=176

Variables	Mean	SD	'r'	't'
Knowledge on lifestyle modifications	11.2	3.74	0.63	10.48***
Compliance on Lifestyle modifications	34.8	3.70		

t (df174) 3.34 (approx); p<0.001

The data presented in the table 6 depicted that the calculated 'r' value between knowledge and compliance on lifestyle modifications score was 0.63 which indicate that there is positive moderate correlation between knowledge and compliance on lifestyle modifications among patients attending cardiology OPD and that was evident from calculated 't' value 10.48 at df₁₇₄ which is more than table value in df (n-2) 176 at 0.001 level of significance. So, from the above table research hypothesis (H₁) can be developed that there is significant correlation between knowledge and compliance on lifestyle modifications among patients attending cardiology OPD.

Data presented in the table 7 revealed that calculated chi square value computed between compliance score with selected demographic variable i.e. gender is 5.73 which is more than tabulated value of 3.84 at df1 at 0.05 level of significance. So it can be concluded that the selected demographic variable i.e. gender is significantly associated with compliance score.

Table 7: Association between compliance on lifestyle modifications with selected demographic variable i.e. gender. n=176

Demographic Variable	Compliance on Lifestyle Modification	Total	χ^2
	>Median	≤Median	
Gender			
Male	66	51	117
			5.73*
Female	22	37	59

χ^2 (df1) 3.84, p < 0.05

Table 8: Association between compliance on lifestyle modifications with selected demographic variable i.e. education n=176

Demographic Variable	Compliance on Lifestyle Modification	Total	χ^2
	>Median	≤Median	
Education			
Non literate	17	33	50
Up to Primary	24	30	54
			13.29**
Secondary and above	47	25	72

χ^2 (df2) 9.21, p < 0.01

Data presented in the table 8 revealed that calculated chi square value computed between compliance score with selected demographic variable i.e. education is 13.29 which is more than tabulated value of 9.21 at df2 at 0.01 level of significance. So it can be concluded that the selected demographic variable i.e. education is significantly associated with compliance score. So, the result was indicative that, if the education level of study participants was more the compliance level was also high with recommended lifestyle modifications.

Note: Rest of other demographic variables are not significantly associated with compliance score.

4. Discussion

4.1. Major study findings

Section-1: Findings related to demographic characteristics of study participants

1. Maximum 53% participants were belongs to the age group 41 – 60 years.
2. Maximum 66.4% participants were male
3. Maximum 47% participants were monthly family income Rs. 10000 – 20000/-
4. Maximum 41% participants had up to the secondary and above level of education.
5. Maximum 33% participants were serviceman.
6. Maximum 85% participants were married.
7. Maximum 89% participants had no family history of heart disease.
8. Maximum 91% participants had 10 years1day – 20 years duration of disease.
9. Maximum 95% participants had 1 – 100 km of distance from nearest health facility to home.
10. Maximum 84% participants had no break in treatment.
11. Maximum 98% had no history of alcohol intake.
12. Maximum 77% had no history of smoking.

Section II: Findings related to knowledge score on lifestyle modifications of the study participants

1. Majority of participants had (59%) average knowledge.
2. In the areas of knowledge the participants had the maximum 73% knowledge in the concept of disease area followed by 48% knowledge had healthy habits

area, 38% knowledge in the diet and 17% regarding the area of exercise.

Section III: Findings related to knowledge score on drug regimen of the study participants

1. Majority of participants had (64%) average knowledge
2. In the areas of knowledge the participants had the maximum 91% knowledge in the area of medication adherence followed by 79% knowledge in the treatment regimen area and 21% knowledge had side effects area.

Section IV: Findings related to compliance score on lifestyle modifications of the study participants

1. Majority of participants had (65%) moderate compliance
2. In the areas of compliance the participants had 83% high compliance in the area of sleep pattern followed by 79% compliance in the area of diet, 58% in the area of healthy habits, 51% in the area of exercise and 45% compliance had risk factors area.

Section V: Description of the compliance score on drug regimen of the study participants

1. Majority of participants had (79%) moderate compliance
2. In the areas of compliance the participants had 95% high compliance in the area of medication adherence followed by 75% compliance in the area of treatment regimen.

Section VI: Correlation between knowledge and compliance on lifestyle modifications of the study participants

- There is a positive moderate correlation (r = 0.63) between knowledge and compliance on lifestyle modifications of the study participants.

Section VII: Association between compliance on lifestyle modifications with selected demographic characteristics of the study participants

1. The chi square value computed between compliance on lifestyle modifications with selected demographic characteristics of the study participants like – gender of the study participants were statistically significant at 0.05 level of significance and education of the study participants were statistically significant at 0.01 level of significance which indicate there is association between compliance on lifestyle modifications with selected demographic characteristics of the study participants like – gender and education of the study participants.
2. The chi square value computed between compliance on lifestyle modifications with remaining selected demographic characteristics of the study participants like – age, family monthly income, occupation, break in treatment, family history of heart disease, history of smoking of the study participants were statistically not significant at 0.05 level of significance which indicate there is no association between compliance on lifestyle modifications with selected demographic characteristics of the study participants like – age, family monthly income, occupation, break in treatment, family history of heart disease, history of smoking of the study participants.

5. Conclusion

The aim of present study was to reveal the knowledge and compliance on lifestyle modifications and drug regimen

among patients attending cardiology OPD.

From the above discussion, it can suggest that the knowledge on lifestyle modifications and drug regimen had average knowledge and moderate compliance on lifestyle modifications and drug regimen among patients attending cardiology OPD.

From the above discussion, found that the gender and education had association between compliance on lifestyle modifications with selected demographic variables.

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“All our knowledge begins with the senses, proceeds then to the understanding, and ends with reason. There is nothing higher than reason”. - Immanuel Kant

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