



Assessment of Treatment Adherence Among Patients With Cardiovascular Disease

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ABSTRACT

Cardiovascular diseases (CVDs) are the leading cause of death globally, taking an estimated 17.9 million lives each year. CVDs are a group of disorders of the heart and blood vessels and include coronary heart disease, rheumatic heart disease and other conditionⁱ. International recommendations strongly advocate the use of evidence based drugs for the treatment of CVD which must be taken consistently, to be effectiveⁱⁱ. According to the World Health Organization, medication adherence refers to “the degree to which the person’s behavior corresponds with the mutually agreed-upon recommendations from a health care provider” Poor medication adherence has been associated with a number of adverse health impacts. The consequence of non adherence is waste of medications, diseases progression, reduced functional abilities poo quality of life ,increased use of medical resources ⁱⁱⁱ.

Objective:The objective of the present study was to assess the level of treatment adherence among the patients with cardiac diseases at selected hospital of Srinagar and to associate level of treatment adherence of patients with cardiac diseases with selected demographic variables (age, gender, educational qualification, duration of disease)

Methodology:Quantitative research approach with descriptive research design was used for the study. The study was conducted in the Sheri Kashmir Institute of medical sciences Soura Kashmir. The sample consists of 50 subjects selected by non probability purposive sampling technique. Data was collected from study subjects by using Medication adherence rating scale (MARS). The data Collected was analyzed by using both descriptive and inferential statistics.

Result:The findings of the present study revealed that majority of the study subjects 74% were non adherent, 22% moderately adherent and only 4 % were adherent to treatment .The findings also show that there was no significant association of the level of treatment adherence with selected demographic variables (age, gender, educational qualification, duration of disease)

Conclusion:The study results concluded that majority of the study subjects were non adherent to treatment. Therefore efforts are to be taken to sensitize the people regarding importance of adhering to treatment

INTRODUCTION

The leading cause of mortality and disability worldwide today is cardiovascular illness including acute coronary syndrome, myocardial infarction, and rheumatic heart disease. Cardiovascular diseases (CVDs) are more common now than they were a few years ago in both developed and developing nations. As fatal illnesses, CVDs represent a hazard to human society. Heart disease claims the lives of over 65,500 Americans every year^{iv}. According to estimates, 17.9 million individuals died in 2015 from cardiovascular disorders. The two most common causes of cardiovascular disorders that result in health losses worldwide are ischemic heart disease (IHD) and stroke^v. India has a cardiovascular disease death rate of 272 per 100,000 people, which is substantially higher than the world average of 235. Indians have cardiovascular disease ten years sooner than those in the west.^{vi}

International recommendations strongly advocate the use of evidence based drugs for the treatment of CVD, which must be taken consistently ,to be effective. Some of drugs include Inhibitors of the angiotensin converting enzyme (ACE): Example: Benazepril, Ramipril, Anticoagulants: Examples : Enoxaparin,Heparin,warfarin, Antiplatelet agents: examples: Aspirin, Prasurgel, Beta blockers : examples labetalol, propranolol, Calcium channel blockers: Examples: Amlodipine, Diazepam, Nifedipine,cholesterol lowering medications: Examples: Statins; Atorvastatin, Fluvastatin, Lovastatin and



Digitalis preparations Examples Diuretics . According to the World Health Organization, medication adherence refers to “the degree to which the person’s behavior corresponds with the mutually agreed-upon recommendations from a health care provider.”^{vii}

A World Health Organization (WHO) report underlines the fact that adherence to chronic treatments is as low as 50%^{viii} . Adherence to therapies is a primary determinant of treatment success. Failure to adherence is a serious problem which not only affects the patient but also the health care system. Medication non adherence in patients leads to substantial worsening of disease, death and increased health care costs. A variety of factors are likely to affect adherence. Barriers to adherence could be addressed as patient, provider and health system factors, with interactions among them. Identifying specific barriers for each patient and adopting suitable techniques to overcome them will be necessary to improve medication adherence. Health care professionals such as physicians, pharmacists and nurses have significant role in their daily practice to improve patient medication adherence.^{ix}

Recent research suggests that inadequate adherence is a “silent epidemic” that is likely to play a role in 21-37% of preventable adverse drug events^x. Increased morbidity and mortality rates as well as increased expenditures for healthcare systems are the results of poor adherence^{xi}

Method:

The study was conducted using non-experimental descriptive research design. The quantitative research approach was used to determine the treatment adherence among cardiac patients .The study was conducted at Sher -i-Kashmir institute of medical sciences (SKIMS) Kashmir. Sample size was 50 .Non probability purposive sampling technique was used for selection of sample .Data was collected under two sections. Section 1 ::demographic data pertaining to sample which includes age ,gender, educational qualification and duration of disease. Section 2; Medication adherence rating scale (MARS) The MARS is a 10-item self-reporting multidimensional instrument describing three dimensions, medication adherence behavior (items 1-4), attitude toward taking medication (items 5-8) and negative side effects and attitudes to psychotropic medication (items 9-10) .Scores for each dimension are obtained by summing the items within each dimension. Each question has a yes or no response. A response consistent with non-adherence is coded as 0, whereas a response consistent with adherence is coded as 1. For questions 1-6 and 9-10, a no response is indicative of adherence and is coded as 1, while for questions 7 and 8, a yes response is indicative of adherence and is coded as 1. Total scores on the MARS may range between 0 and 10, with a higher score indicating better medication adherence. Prior to data collection the permission to conduct the study was taken from institute of ethical clearance IUST. Informed consent was also taken from the study subjects .the data collected was organized on master data sheet. The data was analyzed using descriptive and inferential statistics

RESULTS

The results of the study were organized under two sections

Section 1: Findings pertaining to demographic variables.

The findings of study (f table 1) revealed that 42% of study subjects were in the age group of 40 – 60 years,32% of study subjects were above 60 years of age ,16% were in the age group of 20 – 40 years and 10 % were below 20 years of age. The majority of the study subjects i.e, 60% were male and 40% were female . The (66%) study subjects were primarily literate and (34%) were illiterate. 40% of study subjects were having disease duration between 1 -3 years,28 % were having duration of below 1 year, 22% patients were having duration of 3 – 6 years and a only 10% study participants were having duration of above 6 years.

Table 1: Demographic Profile of the Study Subjects $n=50$

Variables	Opts	Frequency(f)	Percentage(%)
Age	Below 20 Years	5	10%
	20-40 Years	8	16%

	40-60 Years	21	42%
	Above 60 Year	16	32%
Gender	Male	30	60%
	Female	20	40%
Educational qualification	Illiterate	17	34%
	Literate	33	66%
Duration of disease	Below 1 year	14	28%
	1-3 years	20	40%
	3-6 years	11	22%
	Above 6 years	5	10%

Section 2: Findings about adherence to treatment:

The findings (figure 1) of the present study revealed that majority of the study subjects 74% were non adherent to treatment,, 22% were moderately adherent and only 4 % were adherent to treatment

Table no 4: Percentage distribution of study subjects according to the level of adherence

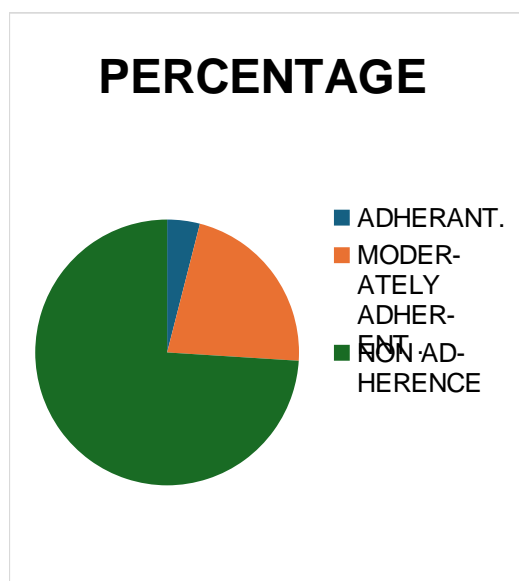


Table no 2: Table Showing Association of level of adherence with Demographic Variables

DEMOGRAPHIC DATA	LEVELS OF MARS (N=50)	ASSOCIATION WITH MARS SCORE
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Variables	Opts	AD HIGH	MOD ADHERENT	NON ADHERENT	Chi Test	P Value	df	Tabl e Value	Result
Age	Below 20 Years	0	0	5	8.45 07	0.2	6	12.5 92	Not Significant
	20-40 Years	1	4	3					
	40-60 Years	1	4	16					
	Above 60 Year	0	3	13					
Gender	Male	2	7	12	1.55 59	0.4	2	5.99 1	Not Significant
	Female	0	4	16					
Education qualification	Illiterat e	1	2	14	1.69 28	0.4	2	5.99 1	Not Significant
	Literate	1	9	23					
Duration of disease	Below 1 year	1	3	10	3.15 90	0.7	6	12.5 92	Not Significant
	1-3 years	0	4	16					
	3-6 years	1	2	8					
	Above 6 years	0	2	3					

The chi-square test was used to determine the association of the score levels with demographic variables. The findings of the present study revealed that there was no significant association of level of adherence score with selected demographic variables i.e. age, gender, duration of disease and educational qualification at 0.05% level of significance.

Ethical considerations:

The Islamic University of science and technology Awantipora, Pulwama's institute Ethical committee (IEC) had granted the permission to conduct their research study, and the study had received ethical clearance and had been judged to be exempt from ethical requirements.

The study concluded that despite the people being diagnosed with cardiovascular diseases, people are still less adherent to their treatment, which could have a greater impact on health and economics. Health care professionals such as physicians, pharmacists, and nurses have a significant role in their daily practice to improve patient medication adherence. A number of



steps like patient education, patient motivation and support, availability of resources can improve the adherence to treatment.

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