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Assessment of Adherence to Drug Regimen, Its Potential Factors and Quality of Life Among Patients who have Undergone Myocardial Revascularization- a Pilot Study

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Abstract

Introduction: *Adherence to secondary prevention medication after Myocardial revascularisation is imperative in slowing the progression of atherosclerosis in both native and grafted vessels [1,2]. Patients who experience impaired quality of life (QOL) have reported low medication adherence. [3] Health care professionals such as physicians, pharmacists and nurses have significant role in their daily practice to improve patient medication adherence [4].*

Objectives: *The objectives of the study were to assess the level of adherence to drug regimen, to explore potential factors of adherence to drug regimen and to assess quality of life among patients who have undergone myocardial revascularization.*

Methodology: *A quantitative research approach and prospective longitudinal cohort study design was adopted to collect data from forty (40) patients who have undergone either PTCA or CABG, selected by nonprobability convenience sampling technique. ARMS, SF-36 short form and an interview schedule were used to collect data from the subject within one month and at three months after revascularisation.*

Result: *The study result shows that majority (82.5%) of the patients with myocardial revascularization were adherent to drug regimen at initial month after revascularization but reduced to 55% after three months($p<0.05$). The percentage of adherence with medication was reduced from 80% to 55 % after 3 months among patients with CABG whereas percentage of adherence among patient with PTCA was also reduced from 85% to 55% after 3 months(($p<0.05$). The associated factor was history of smoking but not established as a predictive factor for adherence to drug regimen. The quality of life separated in two main domains of Physical component summary and Mental component summary of patient with myocardial revascularisation were improved from one month to 3 months after intervention ($p<0.001$). Physical component summary (PCS) and Mental component summary (MCS) of Quality of life had no significant relationship with adherence to drug regimen at 3 months' time period.*

Conclusion: *Adherence to drug regimen was decreased over time but Quality of life was improved among patients with myocardial revascularisation. There was no significant relationship found between adherence to drug regimen with PCS and MCS domain of quality of life among patients with myocardial revascularisation. Pilot study result showed feasibility and practicability to conduct main study without further modification of research design.*

Keywords: Coronary Artery Disease, Adherence to Drug Regimen, Quality of Life (QOL), Myocardial Revascularization

1. Interdiction

1.1. Background of the Study

Cardiovascular diseases (CVDs) constitute an important cause of morbidity and mortality globally [1]. In India, CVDs are the leading cause of death and disability and accounted for 31.8% of all deaths and 14.7% of disability-adjusted life years (DALYs) globally in the year 2017. As of the year 2017, CVD was responsible for 26.6% (25.3%–27.4%) of total deaths and 13.6% (12.5%– 14.6%) of total DALYs in India, [2]. While optimal medical therapy is crucial for reducing symptoms, counteracting progression of atherosclerosis, and preventing atherothrombotic events, myocardial revascularization has a central role in the management of Chronic Coronary Syndrome as an adjunct to medical therapy. Compared to medical therapy alone, revascularization with coronary artery bypass grafting (CABG) or primary percutaneous coronary intervention (PCI) can relieve angina, minimize the need for antianginal medication, and enhance the quality of life [3]. Myocardial revascularisation is the procedure to restore blood supply to ischemic myocardium of patients with CAD or Acute Coronary Syndrome (ACS) in an effort to limit ongoing damage, reduce ventricular irritability, and improve short-term and long-term outcomes The recent data shows that CABG and PCI remain the most common management of CAD in developing countries like India, China, Pakistan etc [4-6]. In India the number of cardiac procedures performed are estimated to be around 300,000 per year [7]. A total of 4,38,351 percutaneous interventions were performed in 1-year period during 2018 and utilized 5,78,164 coronary stents with a 13.14% increase in number of procedures from 709 centres. The major indication for PCI was post myocardial infarction [8]. Coronary revascularization does not affect the underlying disease process of coronary atherosclerosis, so medical therapy is routinely recommended after coronary artery bypass graft (CABG) surgery or percutaneous coronary intervention (PCI) [9].

Current guidelines recommend that after CABG, statins and antiplatelet agents should be given to all patients with no contraindications, renin–angiotensin–aldosterone system (RAAS) inhibitors (angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers) should be given to patients with reduced left ventricular ejection fraction (LVEF), hypertension, or previous myocardial infarction, and β-blockers should be given to patients with previous myocardial infarction and/or reduced LVEF [10-12]. Antithrombotic agents are fundamental throughout the management of patients undergoing coronary stent implantation, starting from the procedure itself to the long-term prevention of cardiovascular events [13]. Oral antiplatelet agents are essential to both short- and long-term management after PCI. In patients undergoing PCI, the association of aspirin plus a P2Y12 inhibitor, a strategy known as dual antiplatelet therapy (DAPT), has represented the cornerstone of treatment for patients undergoing PCI [14]. But a study conducted by Mark A and others on Use of Medications for Secondary Prevention After Coronary Bypass Surgery Compared With Percutaneous Coronary Intervention, Between 2000 and 2007, among 8,837 patients with new onset coronary disease underwent initial CABG, and 14,516 underwent initial PCI revealed that Patients receiving CABG were more likely than patients receiving PCI to not fill a prescription for a statin (7.1% vs. 4.8%, $p < 0.0001$) or for an ACEI/ARB (29.1% vs. 22.4%, $p < 0.0001$), but similar proportions never filled a prescription for a beta-blocker (6.4% vs. 6.1%). Among those who filled at least 1 prescription post-revascularization, patients receiving CABG had lower medication possession ratios than patients receiving PCI for ACEI/ARBs (69.4% vs. 77.8%, $p < 0.0001$), beta-blockers (76.1% vs. 80.6%, $p < 0.0001$), and statins (82.7% vs. 84.2%, $p < 0.001$). Patients who received CABG were generally less likely than patients who received PCI to fill prescriptions for secondary preventive medications and to use those medications consistently in the first year after the procedure [15]. Another study conducted at northern part of Iran, among CABG patients showed that more than 50% of patients take medicine regularly, but only 21% have acceptable follow up adherence [16]. Adherent behaviour was reported in 73 of 132 patients (55%) among patients with CABG [17].

The finding of the study conducted by Horwitz RI and others showed that patients who did not adhere well to treatment regimen (ie, who took less than or equal to 75% of prescribed medication) were 2.6 times more likely than good adherers to die within a year of follow-up (95% confidence interval, 1.2, 5.6). Poor adherers had an increased risk of death whether they were on propranolol (OR = 3.1) or placebo (OR = 2.5) [18]. But the outcomes after surgical or catheter-based interventions of coronary artery disease have intensively been evaluated in terms of clinical effectiveness. These evaluations have invariably focused on outcome measurements such as mortality, morbidity, relief of angina and clinical functional parameters [19]. But important outcome measure after any intervention is the patients' subjective appraisal of the intervention [20]. So, in recent years there has been an increasing use of patient-oriented outcomes, in particular health-related quality of life (HRQOL) [19]. Good QOL implies the person's ability to function normally on a daily basis and to be satisfied with the participation in daily activities which includes preserved physical mobility, independence, sufficient energy for self-care activities, social contacts, emotional stability, absence of pain or other symptoms of discomfort and adequate sleep and rest [21]. Studies revealed that secondary preventive therapies help maintain long-term graft patency and help patients to obtain the highest level of physical health, quality of life after CABG and in the prevention of adverse cardiovascular outcomes [6]. Nurses are well positioned to provide adherence care, yet currently represent an underutilised force in improving adherence and outcomes [22]. Nurses play a pivotal role in enhancing medication adherence by providing education, counselling, and ensuring that patients understand the purpose, dosage, and potential side effects of their medications. Through patient-centered care and effective communication, nurses can address individual barriers to adherence and foster

a trusting relationship that encourages patients to follow their prescribed regimens [23]. A study on Barriers and facilitators to medication adherence in patients after PCI surgery: A mixed-methods systematic review revealed that there were 31 factors identified that influenced medication adherence in patients after PCI surgery. Among these factors, 14 served as facilitators while 17 acted as barriers [24]. So, it would seem beneficial to carry out advanced research based on a randomized and double-blind protocol, however, large-cohort, real-world observations are also essential to investigate non-adherence across a broad array of treatment settings above and beyond the scope of prospective clinical trials [25]. The available data on level of adherence to drug regimen and potential factors among patients with myocardial revascularisation was currently sparse. Nevertheless, there wasn't much evidence to support regarding change in level of adherence to drug regimen in the Indian context. Furthermore, Data on the predicting factors of adherence to drug regimen and association with quality of life was lacking in the literature or research paper conducted in the eastern region of India. So, more studies need to be conducted to find current situation, which will help to give more attention and collaborative approach for enhancing adherence and promote better quality of life among patients after Myocardial revascularisation.

1.2. Title of the Study

Assessment of adherence to drug Regimen, its potential factors and quality of life among patients who have undergone myocardial revascularization attending cardiac OPD of NRS Medical College and Hospital of Kolkata, West Bengal.

1.3. Objectives of the Study

Primary Objectives

- To assess the level of adherence to drug regimen among patients who have undergone myocardial revascularization.
- To find potential factors related to adherence to drug regimen among patients who have undergone myocardial revascularization.
- To assess quality of life of patient who have undergone myocardial revascularization.

Secondary Objectives

- To find association between level of adherence to drug regimen among patients who have undergone myocardial revascularization with selected demographic variables.
- To find association between level of adherence to drug regimen with potential factors.
- To find association between quality of life of patients who have undergone myocardial revascularization with selected demographic variables.
- To find relationship between level of adherence with Quality of life.

1.4. Variables

Research Variables

- Socio demographic variables including Potential factors.
- Adherence to drug regimen.
- Quality of life.

1.5. Hypotheses

All the hypotheses were be tested at 0.05 level of significance

- $\mathbf{H_1}$ There is a significant difference in level of adherence to drug regimen between initial month and three months after surgery or intervention among the patient who have undergone Myocardial revascularization (CABG or PTCA).

- $\mathbf{H_2}$ There is a significant association between level of adherence to drug regimen with potential factors such as socio-demographic factors, condition related factors, therapy related factors, patient or person related factors and provider and health care delivery system related factors.

- $\mathbf{H_3}$ There is significant correlation between level of adherence to drug regimen with PCS and MCS of Quality of life among patients who have undergone Myocardial revascularization.

1.6. Operational Definitions of the Variables

Adherence to Drug Regimen

In the present study adherence to drug regimen is the degree to which a patient follows medication schedule. It is referred as prescription be obtained promptly and the medication be taken as prescribed in terms of dose, dosing interval, duration of treatment, and any additional special instructions (eg, taking the medication without food). Medication adherence by refilling refers to the practice of obtaining prescription refills on schedule to maintain a consistent and uninterrupted supply of medication as prescribed by a healthcare provider including refilling [26]. It is a key measure and strong indicator of whether a patient is likely taking their medication as directed for chronic conditions [27]. Medication refill records provide an objective yet inexpensive source of information about medication adherence [14]. which is the main issue of developing country. So, Adherence to refills and medications scale (ARMS) tool would be used to assess the level of medication adherence [28].

1.7. Potential Factors Related to Adherence to Drug Regimen

In the present study potential factors of medication adherence meant which have effect on adherence to drug regimen and composed of five significant factors. Socio-demographic factors included demographic, social and economic variables condition related factors as illness representation with comorbid conditions, therapy related factors as medicine characteristics and consumption of medicine, Patient or Person related factors as person providing medications ,cost of purchasing unavailable medicine from Govt. medicine counter and knowledge about drugs and Provider and health care delivery system related factors included no of medicines unavailable in Govt. medicine counter free of cost and Information provided by person disbursing medicine in counter/Doctor/Pharmacist regarding time and medicine and which were be assessed by a self- developed Interview schedule [29].

1.8. Quality of life

It is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life as physical functioning, psychological wellbeing, social and role functioning and health perceptions. In the present study it would be assessed by SF-36 Health related quality of life tool [30-32].

1.9. Patient Undergone Myocardial Revascularization

The patients who have undergone procedures that restore blood supply to the diseased myocardium which can be achieved through various methods, including surgery, bypass procedures, minimally invasive techniques or interventions like angioplasty and stenting by bypassing or removing the blockage of affected coronary arteries and attending cardiology or Cardiovascular and Thoracic surgery OPD for follow up [33].

2. Material and Methods

A non-experimental quantitative approach and prospective, longitudinal cohort research study design was adopted to collect data from the patients who have undergone myocardial revascularization. The ethical permission was obtained from Institutional Ethics committee of NRS Medical College and Hospital and written informed consent from individual subjects, after explaining the information guide sheets in Bengali and Hindi as per language spoken. Anonymity and confidentiality were maintained throughout the study. The subjects of either gender, aged more than 18 years, willing to participate in the study and undergone CABG or PTCA and come for first follow up within one month were grouped in major two separate cohorts of One who have undergone CABG and another cohort who have undergone PTCA by non-probability convenience sampling technique. Data collection was commenced from January2020 and completed in the month of April 2020 at OPDs of NRS Medical College and Hospital. A total 23 patients after CABG and 34 patients after PTCA were approached and agreed to participate in the participate in the study at first follow up visit within one (1) month. But subsequently three (3) patients with CABG and fourteen (14) patients with PTCA respectively, left the study due to death, Irregular visit to the setting, continuing follow up from nearby Medical College and Hospital and private clinics. So total forty (40) patients were followed up after three (3) months. After the doctor's visit subjects were interviewed in a separate small room at CTVS department in the OPD no 5 and also at the corner of the cardiology OPD room. The written informed consent was obtained from individual subject. The three (3) validated, reliable, translated and pretested tools, self-structured interview schedule, ARMS (standardized) and SF-36 were administered by interview technique and clinical records were analyzed from discharge paper, OPD sheet and medicine slip written by the Physician. The total time taken to complete all the tools were 45 minutes. Subjects were informed for follow up after 3 months of surgery or intervention or intervention with the investigation reports. The subjects were informed over phone for follow up after three months of the surgery at the OPDs. The tool II and Tool III were re-administered by interview technique after three (3) months the data were enrolled in Microsoft excel and conversion of scores of quality of life data was done as per guidelines considering blank space of response. The statistical analysis was done by Social Science Statistics Reference software: R 4.x with standard packages (stats, car and pwr package for power analysis). The data were checked by KS test for normality of distribution for total patients and subgroup of patients. The parametric and nonparametric tests were applied accordingly.

3. Results

3.1. Section I Description of Sample Characteristics and Potential Factors

The average age of the patients undergoing myocardial revascularization was 58.3±9.14 years, majority of them were male (70%) and married (95%) whereas maximum (67.5%) of the patients had below primary level of education. Majority of patients (70%) were Disabled/not working or retired from work and resided in rural areas (77.5%) of South 24 PGS (N), Murshidabad, Melda districts of West Bengal, India, with a monthly family income of less than 20000/-rupees per month and belonged to nuclear family. Majority of the patient who have undergone Myocardial revascularisation had the history of smoking (87.5%) and history of alcohol (65%) consumption and majority (52.5%) of the patient had family history of heart disease. Out of 40 patients with myocardial revascularization, majority (85%) of patients had normal BMI but were in the state of NYHA class II category with a baseline increase of heart rate (≤ 20 bpm) but SBP remained static with a minimum variation from baseline. On admission LVEF was >40% among majority (67.5%) of the patients. Lung field were found clear on auscultation among majority (75%) of the patients in initial visit after Operation or intervention. Majority of the patients (55%) had CAD in more than two vessels. Average duration of hospitalization was for 8.2±2.12 days. All the patients had one or more than one comorbid disease conditions like 77.5 % were suffering from Hypertension, 47.5% were suffering from type II DM, 10% were suffering from hypothyroidism and 7.5% patients had previous history of stroke. The average number of medications consumed by the patients with myocardial revascularization was 7.4±1.36. The independent student "t" test result showed the existence of a significant difference between patients with CABG and PTCA based on number of medicines consumed daily. The data also showed that antiplatelet, antianginal, beta blocker and Antilipidemic drugs were prescribed for 100% patients with CABG and PTCA where two types of antiplatelet group of medications were prescribed as single or in combined form. ACE inhibitor group of drugs were prescribed for 62.5% patients; Calcium channel blockers group of drugs were prescribed for 70% patients. Diuretics were prescribed for 57.5% patients, Digoxin and antiarrhythmic group of drugs were prescribed for 5% and 22.5% cases respectively. The other group of medications (pan 40, Antibiotic Mupirocin ointment, Tab paracetamol Syr. lactose, Tab Alprazolam, Tab. Thyronorm) (any one) were prescribed for 100% patients along with cardiac drugs. The majority (70%) patients were

taking medications by the help of family members (like wife, son, daughter, daughter in law and son-in law). The number of medication unavailable from the hospital medicine counter was 2.5 ± 0.96 and approximate cost of purchasing unavailable medication from Govt. medicine counter was Rs.817.5±285.45. The data also shows that average knowledge score about drugs was 4.715+0.05 against the maximum possible score of 7. Information regarding time of taking medicine was provided to all the patients but effects of medicine was explained to only 7.5% patients. The intergroup analysis revealed that patients with CABG and PTCA were homogeneous except, variation in Systolic Blood pressure measurement, duration of hospitalization and the number of medicines unavailable from Govt. Medicine counter.

3.2. Section II Adherence to Drug Regimen

Sl No	Name of the Group	Level of Adherence to Drug Regimen	Initial Month n (%) (T_1)	3Months n (%) (T_2)	P Value (within Group)
1	Total group	Adherent	33(82.5)	22(55)	0.043[a]
		Non-adherent	7(17.5)	18(45)	
2	CABG (n=20)	Adherent	16(80)	11(55)	0.061[a]
		Non-adherent	4(20)	9 (45)	
3	PTCA (n=20)	Adherent	17(85)	11(55)	0.031[a]
		Non-adherent	3(15)	9(45)	
	P value (Between group 2 and 3)		0.677[b]	1[b]	

Table 1: Frequency and Percentage Distribution of Subjects Based on Level of Adherence to Drug Regimen

• Values are presented as Mean±SD for numerical variables and as count (%) for categorical variables.
• P value of last column denotes within group comparison by McNemar's Chi-Square Test[a] and last row denotes between group comparison by chi square (χ^2)[b] test as appropriate.

The data presented in table 1 revealed that majority (82.5%) of the patients with myocardial revascularization were adherent to drug regimen at initial month after revascularization was significantly decreased to 55% after 3 months ($p<0.05$) and significant reduction of level of adherence was also observed among patients with PTCA ($p<0.05$) but no significant difference was observed between patients with CABG and PTCA at initial or three months' time period.

3.3. Section III Association between Level of Adherence to Drug Regimen with Potential Factors

There was no significant association found between adherence to medication with potential factors except with history of smoking.

Sl No.	Types of Variables	Coefficient	Std. Error	Wald	P	Odds Ratio	95% CI
Demographic Variables							
1	Monthly family Income	-0.789	0.803	0.956	0.326	0.455	(0.094,2.195)
2	History of smoking	0	1.195	5.237	1	1	(0.096,10.408)
Clinical Variables							
3	LVEF_%_	1.6094	0.8367	3.872	0.054	5	(0.970,25.771)
4	Heart Rate	-0.952	0.5716	3.026	0.096	0.386	(0.126,1.183)
5	No of coronary artery /vessels affected	-0.535	0.478	1.28	0.263	0.586	(0.229,1.494)
Medicine Related, Person Related and Healthcare Delivery System Related Variables							
6	Knowledge related to medication	-20.145	7531.762	5.237	0.997	0.00	(0.0000)
	Constant						

Table 2: Binary Logistic Regression Analysis for Association Between Level of Adherence with Potential Factors Among Patients with Myocardial Revascularization n=40

The variables with a significance level ≤0.20 in univariate analysis were included in Binary logistic regression analysis. The data presented in table 2 showed no significant relationship or association between level of adherence to drug regimen with potential factors among patients with myocardial revascularization.

3.4. Section IV Quality of Life of Patients who have Undergone Myocardial Revascularization

Sl No	Name of the Group	Physical Component Summary (PCS)		"p" Value
		1 month (M±SD)	3 months (M±SD)	
1	Total patient(n=40)	159±65.99	193.8±55.92	<0.05
2	CABG(n1=20)	157.3±64.53	211.5± 43.79	<0.05
3	PTCA(n2=20)	161.9± 69.01	176±61.94	0.264
	P value	0.944	0.10	

Table 3: Comparison of Physical Component Summary (PCS) Of Quality of Life n=40

• Friedman Annova test for within group and Mann Whitney U test for between groups.

The data presented in table 3 revealed that Physical component score (PCS) of quality of life was improved from initial month to three months among patients who have undergone Myocardial Revascularization. (p<0.05) and among patients who have undergone CABG.

Sl No	Name of the Group	Mental Component Summary (MCS)		"p" Value (Within Group)
		1 month (M±SD)	3 months (M±SD)	
1	Total patient(n=40)	171±66.35	196.9± 58.16	<0.05
2.	CABG(n1=20)	166.5± 62.78	193±57.33	<0.05
3.	PTCA (n2=20	175.63±71.07	200.38±60.27	<0.05
	P value (between groups)	0.726	0.825	

Table 4: Comparison of Mental Component Summary (MCS) of Quality of Life n=40

• Friedman Anova for within group and Mann Whitney U test for between groups.

The data presented in table 4 showed that Mental Component score (MCS) of quality of life was improved from initial month to three months among patients who have undergone Myocardial revascularization and also among patients who have undergone either CABG or PTCA. (p<0.05)

3.5. Section V Relationship of Quality of Life with Adherence to Drug Regimen

Sl No	Correlational matrix (Spearman Rho and p value)	Within 1 month	3months
1	PCS of QOL with Adherence to drug regimen	**0.116 P=0.476**	**-0.052 P=0.748**
2	MCS of QOL with Adherence to drug regimen	**0.131 P=0.421**	**0.025 P=0.880**

Table 5: Correlation Matrix Between PCS and MCS Of Quality of Life with Adherence to Drug Regimen in Two-Time Points n=40

The calculated correlation of coefficient result presented in table 5 shows that PCS and MCS of quality of life were not associated with adherence to drug regimen.

4. Discussion

The findings of the present study showed that average age of the patients undergoing myocardial revascularization was 58.3±9.14 years, majority of them were male (70%) and married (95%) whereas maximum (67.5%) of the patients had below primary level of education. Majority of patients (70%) were Disabled/not working or retired from work and resided in rural areas (77.5%) with a monthly family income of less than 20000/-rupees per month and belonged to nuclear family. Majority of the patient who have

undergone Myocardial revascularisation had the history of smoking (87.5%) and history of alcohol (65%) consumption and majority (52.5%) of the patient had family history of heart disease. The findings are in line with the finding of the study conducted by Zirak M, Nayeri ND, Yadegary MA, Seylani K, Navab E. on Adherence to Treatment Regimen and its Related Factors in Patients Undergoing Coronary Artery Revascularization in the City of Zanjan in 2017.The result showed that mean age of 318 patients was 61.38 ± 10.66 years ranging from 33 to 80 years. The majority of patients were male (67.9%) and married (98.4%). About half of the patients (48.4%) had reading and writing level of education and majority of patients (75.1%) were employed. In the present study the level of adherence to drug regimen among patients were significantly decreased with time from first follow-up as majority (82.5%) of the patients with myocardial revascularization were adherent to drug regimen at initial month after revascularization was significantly decreased to 55% after 3 months ($p<0.05$) and significant reduction of level of adherence was also observed among patients with PTCA ($p<0.05$) but no significant difference was observed between patients with CABG and PTCA at initial or three months' time period. The findings were in accordance with the findings of the study conducted by Sreeraj K, Ramakrishna CD, VargheseD, Farsana NK, Anil F, Mohan M, on Adherence to Drug Therapy in Elderly Patients after Hospitalization for Coronary Revascularisation the prevalence of medication adherence on first follow up was 100% followed by 53.5% on second follow-up,58.4 on third follow up and 65.3% on fourth follow up. Medication adherence was found to be improved in third and fourth follow-up by clinical pharmacist interventions such as medication calendar, telephonic reminding, and patient counselling [34]. The findings were also supported by the result of the study conducted by Alexandrou K and others among patients with CABG in Cyprus that Specifically, at three months, 62.89% of patients showed a moderate level of adherence, while at six months, this proportion decreased to 49.5% [35].

The Physical component summary (PCS) and Mental Component summary (MCS) scores are two meta-scores of SF-36 calculated from the SF-36 questionnaire which reflect a patient's overall physical and mental health status. In the present study in all eight domains and the PCS and MCS domain of QOL of patient with myocardial revascularisation was significantly improved from within one month to 3 months after intervention or surgery. These findings were in line with the findings of a study conducted by Singh S, Sinha A VK, Singh S, Kapoor L, Praharaj SK, Tikka SK, Singh LK where comparison of pre-post scores on WHO-QoL showed a significant change (over a period of six months' post-intervention) on scores of totals, physical and psychological domains in the CABG group and total and physical domains in the PTCA group [36]. There was no significant association found between adherence to drug regimen with potential factors. The findings of the present study also showed that the PCS and MCS of QOL had no significant relation with adherence to drug regimen. The improvement in Quality of life may be due to surgical or interventional procedure itself, which might be reason for not relating with socio-demographic variables and clinical variables. The improvement in quality of life might be associated with lifestyle modification and the graft or stent that had improved the blood flow on the affected coronary artery and reduction of symptoms of CAD during mobilization. Consequently, that had been perceived as medications were not necessary, it is the sign of healing, so the patient had a better quality of life but low adherence to drug regimen.

5. Conclusion

Based on the findings, the present study concluded that level of adherence to drug regimen decreases with time interval from within one month to 3 months among patients who have undergone myocardial revascularization either in the form of CABG or PTCA. The adherence to drug regimen was associated with history of smoking but not established as significant predictor of adherence to drug regimen. The quality of life of patients who have undergone myocardial revascularization improved with time interval from within one (1) month to three (3) months for all the domains of QOL. But there was no significant association found between adherence to drug regimen with quality of life.

Limitations

The findings of the present study could not be generalized due to the following reasons

- The pilot study was conducted with a small sample.
- patients who were attending cardiac OPD of Government hospital belonged to middle- and lower-income group so findings may not be generalizable to the patients with higher income status.
- Adherence to drug regimen was measured through self-reporting, which may be liable for recall biasness and social desirability response biasness
- Subjects were selected by non-probability convenience sampling technique

Recommendation

- The following recommendations were made based on the present study findings
- A longitudinal study can be conducted to find adherence to drug regimen and its potential factors.
- A cross sectional study can be conducted to find relation between adherence to drug regimen and quality of life among patients with Myocardial Revascularization who are receiving treatment from Tertiary care hospitals run by Government of India.
- A comparative study can be conducted to compare quality of life before and after surgery or intervention among patients with myocardial revascularization and factors affecting it.

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Conflict of interest

There was no conflict of interest.

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