RESEARCH PAPER

Impact of Antiplatelet Therapy on Medication Adherence and Health-Related Quality of Life in Patients with Coronary Artery Disease: A Prospective Observational Study

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Abstract

Background: Antiplatelet medicines are central to secondary prevention in coronary artery disease (CAD). Their real-world benefit depends partly on patients taking treatment as prescribed, while treatment burden and symptoms may affect perceived health and daily functioning.

Objective: To describe the demographic and clinical profile of patients receiving antiplatelet therapy and to assess medication adherence and health-related quality of life (HRQoL).

Methods: A prospective observational study was conducted at a tertiary-care hospital in Hyderabad, Telangana, India. One hundred patients were enrolled; 90 completed follow-up and were included in the reported analysis. Demographic and clinical information was collected from patient interviews and clinical records. HRQoL was assessed using the EQ-5D-5L questionnaire. The name and scoring approach of the medication-adherence instrument, study period, ethics approval details, and statistical software should be inserted from the study records before submission.

Results: Of 100 enrolled patients, 90 completed follow-up and were analysed (90% follow-up completion). Mean age was 59.8 ± 10.5 years; 62 participants (68.9%) were male and 28 (31.1%) were female. All analysed participants had CAD. Previous myocardial infarction was recorded in 35 patients (38.9%), and 48 (53.3%) had a history of percutaneous coronary intervention or coronary artery bypass grafting. Hypertension affected 55 patients (61.1%), while 42 (46.7%) had diabetes mellitus. The supplied results did not contain adherence scores or EQ-5D-5L results; therefore, the adherence rate and relationship between adherence and HRQoL could not be quantified.

Conclusion: The analysed cohort had established CAD and a considerable burden of cardiovascular comorbidity. Complete reporting of adherence and EQ-5D-5L outcomes is necessary before conclusions can be drawn about adherence levels or their association with HRQoL.

Keywords: Antiplatelet therapy; coronary artery disease; medication adherence; health-related quality of life; EQ-5D-5L; prospective observational study.

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1. Introduction

Coronary artery disease remains a major cause of illness and long-term health-care use. Management commonly combines evidence-based pharmacotherapy with risk-factor control and ongoing follow-up. For patients with atherosclerotic disease, antiplatelet agents are used to reduce thrombotic risk, with the choice and duration of therapy guided by the clinical presentation, history of coronary intervention, and balance between ischaemic and bleeding risks [1,6,7]. Aspirin and P2Y12-receptor inhibitors, including clopidogrel, prasugrel and ticagrelor, inhibit platelet activation through different mechanisms. Depending on the clinical indication, treatment may involve one antiplatelet agent or dual antiplatelet therapy. Because the risks and benefits vary between patients, treatment changes should be guided by the treating clinician rather than undertaken independently [1,7].

Medication adherence is a key part of effective long-term treatment. Missed doses or unplanned discontinuation may arise from forgetfulness, concerns about adverse effects, treatment costs, complex regimens, limited understanding, or difficulties obtaining medicines. These influences are often interrelated and may change over time [2,3,15]. A prescription alone does not establish that a patient is taking treatment consistently. HRQoL complements clinical outcomes by describing how health affects daily life. The EQ-5D-5L captures five dimensions—mobility, self-care, usual activities, pain/discomfort, and anxiety/depression—and may also include a visual analogue rating of perceived health [4]. Considering adherence and HRQoL together can help identify patients who may benefit from additional counselling or clinical review.

This study described the demographic and clinical characteristics of patients with CAD receiving antiplatelet therapy. It was also intended to evaluate medication adherence and HRQoL; however, the numerical adherence and HRQoL outcomes must be reported from the original study dataset to support analysis of their relationship.

2. Aim and Objectives

2.1 Aim

To evaluate medication adherence and HRQoL among patients receiving antiplatelet therapy for coronary artery disease.

2.2 Objectives

1. To describe the demographic and clinical characteristics of the study participants.
2. To document relevant antiplatelet treatment patterns and clinical history.
3. To assess medication adherence using the validated instrument specified in the study protocol.
4. To evaluate HRQoL using the EQ-5D-5L questionnaire.
5. To examine the association between medication adherence and HRQoL when complete outcome data are available.

3. Materials and Methods

3.1 Study Design and Setting

A prospective observational study was conducted among patients receiving antiplatelet therapy at a tertiary-care hospital in Hyderabad, Telangana, India. Treatment was observed under routine clinical practice; the research did not assign or alter participants' prescribed therapy. The actual recruitment dates and study duration should be entered from the approved protocol.

3.2 Participants

Adults with a documented cardiovascular indication for antiplatelet therapy who provided informed consent were considered eligible. Participants were required to be able to complete the relevant assessments independently or with appropriate assistance. Patients who declined participation or whose records were insufficient for eligibility or outcome assessment were excluded, in accordance with the study protocol. The exact eligibility criteria should be checked against the ethics-approved protocol before submission.

3.3 Data Collection

Demographic and clinical information was obtained from patient interviews, prescription records, medical records, and follow-up assessments, as applicable. Variables included age, sex, CAD history, prior myocardial infarction, history of percutaneous coronary intervention or coronary artery bypass grafting, diabetes mellitus, hypertension, prescribed antiplatelet therapy, concomitant medicines, adherence-related information, and reported adverse effects where documented.

3.4 Medication Adherence Assessment

Medication adherence was intended to be assessed with a validated instrument and classified according to its published scoring instructions and the study protocol. The source manuscript does not identify the actual instrument or provide adherence scores. Before submission, insert the exact instrument name and version, score range, cut-off values, and observed adherence results. Do not infer or manufacture these values.

3.5 Health-Related Quality-of-Life Assessment

HRQoL was assessed using the EQ-5D-5L questionnaire. The instrument evaluates mobility, self-care, usual activities, pain/discomfort, and anxiety/depression across five response levels per dimension. If collected, the EQ visual analogue scale and the method used to derive an EQ-5D-5L index value should also be reported. The manuscript dataset must supply the observed dimension responses, index values and/or EQ VAS scores before these outcomes can be presented as results.

3.6 Statistical Analysis

Categorical variables were presented as frequencies and percentages, while continuous variables were summarised using means and standard deviations or medians and interquartile ranges, depending on distribution. The source document does not identify the statistical software or provide adherence–HRQoL effect estimates. The final manuscript should report the actual tests used, missing-data handling, effect estimates with 95% confidence intervals where appropriate, and exact p-values. A threshold of $p < 0.05$ may be reported only if it was prespecified and applied in the actual analysis.

3.7 Ethical Considerations

The source manuscript indicates that informed consent and ethics approval were part of the intended study procedures, but the ethics committee name, approval number, and approval date are not supplied. These details must be completed using the authentic approval documentation before journal submission.

4. Results

4.1 Participant Flow

A total of 100 patients were enrolled. Ninety participants completed follow-up and were included in the final analysis, corresponding to a follow-up completion rate of 90%. Ten enrolled participants (10%) were not represented in the final analysis.

4.2 Demographic Characteristics

The mean age of the 90 analysed participants was 59.8 ± 10.5 years. Men accounted for 62 participants (68.9%), while women accounted for 28 (31.1%). The study population was therefore predominantly male.

4.3 Clinical Characteristics

All 90 participants (100%) had coronary artery disease. A previous myocardial infarction was

recorded in 35 participants (38.9%). A history of percutaneous coronary intervention or coronary artery bypass grafting was reported for 48 participants (53.3%). Hypertension was present in 55 participants (61.1%), and diabetes mellitus was recorded in 42 (46.7%).

4.4 Medication Adherence and HRQoL

The supplied document did not provide the adherence instrument, adherence classifications or scores, EQ-5D-5L dimension results, EQ index or EQ VAS values, or a statistical estimate of the association between adherence and HRQoL. These outcomes cannot be reported quantitatively until the original participant-level data or completed analysis tables are available.

Table 1. Participant enrolment and follow-up

Participant status	n (%)
Enrolled	100
Completed follow-up	90 (90.0%)
Included in final analysis	90 (90.0%)
Not included in final analysis	10 (10.0%)

Table 2. Demographic characteristics

Characteristic	Result
Mean age, years	59.8 ± 10.5
Male	62 (68.9%)
Female	28 (31.1%)
Total analysed	90 (100%)

Table 3. Clinical characteristics

Clinical characteristic	n (%)
Coronary artery disease	90 (100%)
Previous myocardial infarction	35 (38.9%)
Previous PCI or CABG	48 (53.3%)
Diabetes mellitus	42 (46.7%)
Hypertension	55 (61.1%)

5. Discussion

This prospective observational study described 90 patients with CAD who completed follow-up after 100 individuals had been enrolled. The mean age was 59.8 years, and approximately two-thirds of the analysed cohort were men. These data characterise a predominantly male cohort with established CAD and should not be interpreted as representing all cardiovascular-disease populations. A history of myocardial infarction was present in 38.9% of participants, and 53.3% had previously undergone PCI or CABG. These findings indicate that many participants had experienced a major coronary event or a revascularisation procedure. Antiplatelet therapy is an important element of secondary prevention for appropriately selected patients, although agent selection and treatment duration require individual assessment of ischaemic and bleeding risks [1,6,7].

The prevalence of hypertension (61.1%) and diabetes mellitus (46.7%) indicates a substantial burden of coexisting conditions. Patients managing multiple chronic diseases may face complex medication schedules and a need for continued monitoring. Prior literature describes adherence as being affected by patient, treatment, health-system and socioeconomic factors, including forgetfulness, concerns about adverse effects, medication access and regimen complexity [2,3,15]. These factors are relevant context, but they were not quantified in the results provided for this cohort.

The relationship between adherence and HRQoL was a central objective of the study. The EQ-5D-5L can describe health status across mobility, self-care, usual activities, pain/discomfort and anxiety/depression [4]. However, the source document does not contain the measured adherence results or EQ-5D-5L scores. Consequently, it is not possible to state whether adherence was high or low, which HRQoL dimensions were most affected, or whether a statistically significant association was observed. The abstract and discussion should be updated after the actual outcome data have been analysed.

The 10% loss between enrolment and final analysis should also be considered. If participants who did not complete follow-up differed from those retained, the final estimates may be affected by attrition bias. The single-centre setting and modest analysed sample also limit generalisability. In line with reporting recommendations for observational research, the final submission should clearly state the study dates, sampling approach, validated assessment instruments, missing-data procedures, ethical approval information and statistical methods [5].

From a clinical pharmacy perspective, medication reconciliation, explanation of the reason and intended duration of antiplatelet therapy, discussion of affordability, and review of possible adverse effects may be appropriate elements of routine follow-up. Any suspected bleeding, planned procedure or concern about treatment should be discussed with the treating clinician; patients should not stop antiplatelet medicines without clinical guidance. These supportive measures were not tested as an intervention in the present observational study.

6. Conclusion

Among 100 patients enrolled, 90 completed follow-up and were analysed. The cohort had a mean age of 59.8 ± 10.5 years, was predominantly male, and consisted entirely of patients with CAD. Previous myocardial infarction, prior PCI/CABG, hypertension and diabetes mellitus were common. These findings describe a population with considerable cardiovascular and comorbidity burden. Because the available report does not contain quantitative medication-adherence or EQ-5D-5L outcomes, no conclusion can yet be drawn regarding adherence levels or the association between adherence and HRQoL. The relevant

analyses should be completed and reported before making claims about these outcomes.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from AIG Hospitals, Irrumanzhil, Hyderabad, Telangana, India.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Author contributions

Both authors contributed equally to the work. The specific contributions of each author should be described according to the journal's authorship policy if required.

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