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Research Paper

Analysis Of Treatment Outcome and Quality of Life in Diabetic Versus Non-Diabetic Patients with Myocardial Infarction

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ABSTRACT

Diabetes mellitus (DM) is a prevalent metabolic disorder associated with significant cardiovascular morbidity and mortality. Myocardial infarction (MI) remains a leading cause of death worldwide, with worse outcomes observed in individuals with diabetes. The coexistence of DM and MI has a detrimental impact on patients' quality of life (QoL), which remains inadequately studied.OBJECTIVES:This study aimed to compare treatment outcomes and quality of life (QoL) in diabetic versus non-diabetic individuals following myocardial infarction.METHODS:A prospective observational study was conducted in a 450-bedded tertiary care hospital over a period of 6 months. Male and female patients aged 18 years and above with a confirmed diagnosis of myocardial infarction were enrolled and categorized into two groups: patients with diabetes mellitus and patients without diabetes mellitus. The study included 114 patients, comprising 76 diabetic and 38 non-diabetic individuals. Data were collected using structured data entry forms, informed consent forms, and questionnaires. Quality of life was assessed using the World Health Organization Quality of Life–BREF (WHOQOL-BREF) questionnaire. Data were statistically analyzed using IBM SPSS Statistics version 22.0 RESULTS:A total of 114 MI patients were included, comprising 76 diabetics (66.7%) and 38 non-diabetics (33.3%). Hypertension was more common in diabetics (89.5% vs 63.2%), along with higher rates of dyslipidaemia and chronic kidney disease. STEMI was more frequent in diabetics (80.3%) compared to non-diabetics (55.3%), whereas NSTEMI was more common in non-diabetics. Diabetic patients had higher rehospitalisation rates (51.3% vs 36.8%), longer hospital stays, and greater delays in intervention. Heart failure (42.1% vs 31.6%) and stroke (10.5% vs 2.6%) were more frequent in diabetics, while recurrent MI was higher in non-diabetics (63.2% vs 42.1%). Mortality was slightly higher in diabetics (5.3% vs 2.6%). Regarding management,

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angioplasty was more common in non-diabetics (39.5% vs 27.6%), whereas CABG was more frequent in diabetics (26.3% vs 18.4%). Quality of life assessment using WHOQOL-BREF showed comparable domain scores between groups.CONCLUSION:Diabetic patients with myocardial infarction exhibit a higher burden of comorbidities, more severe clinical presentation, increased rehospitalisation, and greater procedural complexity compared to non-diabetic patients. Although mortality remains low, diabetics demonstrate a higher risk of adverse cardiovascular outcomes, including heart failure and stroke. Quality of life was broadly comparable between the two groups across WHOQOL-BREF domains. These findings highlight the need for early risk stratification, aggressive cardiovascular risk management, and integrated long-term care strategies in diabetic patients following myocardial infarction to improve outcomes and overall well-being

INTRODUCTION

Diabetes mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycaemia and represents a major global health burden. It is strongly associated with accelerated atherosclerosis and significantly increases the risk of cardiovascular morbidity and mortality. Among cardiovascular diseases, myocardial infarction (MI) remains one of the leading causes of death and disability worldwide.

Patients with diabetes who develop MI experience worse clinical outcomes compared to non-diabetic individuals, including higher rates of heart failure, recurrent ischemic events, and mortality. This adverse prognosis is multifactorial and is attributed to diffuse and premature coronary artery disease, endothelial dysfunction, impaired fibrinolysis, and a higher burden of associated comorbidities such as hypertension and dyslipidaemia. In addition, atypical symptom presentation in diabetic patients often leads to delayed diagnosis and intervention, further worsening outcomes.

Beyond survival and clinical endpoints, myocardial infarction has a profound impact on functional capacity and overall well-being. In recent years, quality of life (QoL) has emerged as a critical patient-centred outcome in cardiovascular research, encompassing physical, psychological, social, and environmental domains of health. Assessment of QoL provides important insights into the long-term burden of disease and the effectiveness of treatment beyond traditional clinical measures.

Although numerous studies have evaluated outcomes in MI patients, comparative data on both clinical outcomes and QoL between diabetic and non-diabetic individuals remain limited, particularly in resource-constrained settings. Understanding these differences is essential for optimizing risk stratification, guiding individualized management, and improving long-term recovery strategies.

Therefore, the present study was undertaken to compare treatment outcomes and quality of life in diabetic and non-diabetic patients following myocardial infarction.

1. OBJECTIVES

- To compare major adverse cardiovascular events (MACE) in diabetic and non-diabetic patients with myocardial infarction (MI).
- To assess and compare quality of life (QoL) in diabetic and non-diabetic MI patients using a standardized instrument.
- To evaluate the impact of diabetes on treatment outcomes in patients with MI.
- To identify predictors of adverse outcomes in diabetic and non-diabetic MI patients.

2. METHOD

- **Study Design**

A prospective observational study was conducted.

- **Study Site**

The study was carried out in the Cardiology and General Medicine departments of a 450-bedded multispecialty tertiary care teaching hospital.

- **Study Duration**

The study was conducted over a period of 6 months.

- **Study Population and Criteria**

Inclusion Criteria:

- Patients with a confirmed diagnosis of myocardial infarction (MI).
- Patients aged 18 years and above.
- Patients admitted within the defined study period.

Exclusion Criteria:

- Patients with malignancies or end-stage organ failure.
- Patients with incomplete medical records.
- Paediatric patients, pregnant and lactating women.
- Patients unable to cooperate due to severe illness or critical condition.

Grouping of Study Population

- Diabetic group: Patients with a prior or new diagnosis of diabetes mellitus (based on blood glucose levels, HbA1c > 6.0%, or use of antidiabetic medications).
- Non-diabetic group: Patients with no history of diabetes mellitus and HbA1c < 6.0%.

- **Data Collection and Study Procedure**

Patient demographic details, comorbidities, past medical and medication history, laboratory investigations, prescribed drugs, and other relevant clinical information were collected from case records and documented using a predesigned data entry form. The collected data were used to compare treatment outcomes and quality of life (QoL) between diabetic and non-diabetic patients with myocardial infarction.

Quality of life was assessed using the World Health Organization Quality of Life–BREF (WHOQOL-BREF) questionnaire. Written informed consent was obtained from all participants prior to accessing case records and administering the questionnaire.

- **Treatment Outcome Assessment and Statistical Analysis**

Treatment outcomes were assessed by comparing duration of hospital stay, rates of revascularisation, and other relevant clinical parameters between the two groups. Data were analysed using appropriate statistical methods, including independent t-tests, and expressed as mean ± standard deviation. A p-value < 0.05 was considered statistically significant. Statistical analysis was performed using IBM SPSS Statistics version 22.0, and results were presented in graphical form where appropriate.

3. RESULTS & DISCUSSIONS

A prospectively conducted observational study was performed in the cardiology and general medicine departments of a 450-bedded tertiary care teaching hospital for a duration of 6 months. The study aimed to systematically compare the clinical treatment outcomes and health-related quality of life (HRQOL) between diabetic and non-diabetic patients presenting with myocardial infarction (MI). By utilizing the standardized WHOQOL-BREF evaluation questionnaire, changes across core quality-of-life domains were appraised alongside clinical endpoints including rehospitalisation rates, length of hospital stay (LOS), and the development of major adverse cardiovascular events (MACE). A cohort of 114 post-MI patients met the predefined inclusion and exclusion parameters, comprising 76 diabetic and

38 non-diabetic individuals. Individual medical records and structured interview data were collected, organized, and statistically analyzed.

Demographic and Baseline Characteristics

Analysis of the gender-based distribution revealed clear variances in the prevalence of diabetes mellitus among the studied MI cohorts. Among female patients, non-diabetics comprised a higher proportion (47.4%) relative to the diabetic cohort (39.5%). This variation may stem from the protective cardiovascular mechanisms of endogenous estrogen in premenopausal women, which can temper the metabolic impact of diabetes risk factors. Conversely, a predominant proportion of male patients were diabetic (60.5%) compared to non-diabetic males (52.6%), suggesting a heightened susceptibility among males to the deleterious macrovascular implications of diabetes. This trend is frequently linked to a higher prevalence of metabolic syndrome, visceral obesity, and lifestyle risk factors such as poor diet and physical inactivity.

Table 1. Gender-based distribution of diabetic and non-diabetic MI patients

GENDER	DIABETIC (N=76)		NON-DIABETIC(N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
FEMALE	30	39.5	18	47.4
MALE	46	60.5	20	52.6

The age-specific distribution highlighted diverging patterns between the two groups. Among patients aged <= 60 years and 61–70 years, non-diabetic individuals constituted a greater percentage of MI cases (26.3% and 31.6%, respectively) than diabetic patients (21.1% and 23.7%). This pattern points to the significant influence of behavioral risk factors and premature age-related vascular changes within the non-diabetic population. However, within the 71–80 age bracket, diabetic patients experienced a substantial rise in MI prevalence, reaching 44.7% compared to 18.4% for non-diabetics. This surge reflects cumulative macrovascular compromise driven by long-standing chronic hyperglycemia. Beyond 80 years of age, non-diabetics predominated once more (23.7% vs. 10.5%), an observation potentially biased by reduced long-term survival rates among older diabetic patients.

Table 2. Age-based distribution of MI patients with and without diabetes

AGE IN YEARS	DIABETIC (N=76)		NON-DIABETIC(N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
≤ 60	16	21.1	10	26.3
61-70	18	23.7	12	31.6
71-80	34	44.7	7	18.4
>80	8	10.5	9	23.7

4.2 Clinical and Biochemical Parameters

Biochemical analysis of blood glucose parameters within the diabetic MI cohort demonstrated marked elevations. The mean random blood sugar (RBS) was 235.96 +- 83.79 mg/dL, fasting blood sugar (FBS) stood at 186.41 +- 65.05 mg/dL, and glycosylated hemoglobin (HbA1c) averaged 7.41% +- 1.33%. These metrics confirm suboptimal immediate and long-term glycemic management. Elevated HbA1c values indicate sustained chronic hyperglycemia, while high acute

RBS and FBS measurements reflect severe stress-induced glycemic spikes during acute myocardial infarction. Poor baseline glycemic control is strongly associated with worse cardiovascular prognosis, underlining the necessity for aggressive glucose monitoring and management protocols in patients recovering from or at risk of MI.

Table 3. Distribution based on baseline blood sugar levels (N=76)

BLOOD SUGAR VALUES (N=76)	MEAN	SD
RBS	235.96	83.79
FBS	186.41	65.05
HbA1c	7.41	1.33

Evaluation of Body Mass Index (BMI) showed a prominent proportion of underweight individuals among both diabetic (40.78%) and non-diabetic (36.84%) MI cohorts. While diabetes mellitus is traditionally linked to obesity, this finding points to chronic illness burdens or inadequate dietary intake as significant, overlooked clinical realities. Side effects from intensive diabetic treatment regimens may also contribute to this clinical profile. Obesity was present in 21.05% of diabetic and 23.68% of non-diabetic patients, validating excess adiposity as a persistent cardiovascular hazard across both groups. Overweight patients accounted for 19.73% of diabetics and 18.43% of non-diabetics, whereas a healthy target BMI was maintained by only a clear minority (18.42% of diabetics and 21.05% of non-diabetics).

Table 4. Distribution based on Body Mass Index (BMI)

BMI	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
HEALTHY WEIGHT	14	18.42	8	21.05
UNDER WEIGHT	31	40.78	14	36.84
OVER WEIGHT	15	19.73	7	18.43
OBESE	16	21.05	9	23.68

Clinical classification of the presenting coronary events showed that non-ST-elevation myocardial infarction (NSTEMI) was highly prevalent among diabetic patients, affecting 80.3% compared to 55.3% of non-diabetic individuals. ST-elevation myocardial infarction (STEMI) occurred in 19.7% of diabetic and 44.7% of non-diabetic patients. The elevated prevalence of NSTEMI among diabetic patients is often attributed to atypical symptom presentation, delayed personal recognition, and extended underlying coronary artery disease (CAD), which increases the likelihood of diffuse multi-vessel ischemia over focal complete occlusion. This structural variance demands heightened clinical vigilance and rapid diagnostic triaging for diabetic cohorts presenting with acute coronary syndromes.

Table 5. Distribution based on clinical type of Myocardial Infarction

TYPE OF MI	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
NSTEMI	61	80.3	21	55.3
STEMI	15	19.7	17	44.7

Baseline Troponin I concentrations showed substantial variation across both arms of the study. The mean Troponin I value was slightly lower within the diabetic cohort (1437.40 +- 3286.33 ng/L) relative to the non-diabetic cohort (1686.26 +- 4488.04 ng/L). Both groups exhibited very wide standard deviations, revealing significant inter-individual variability in baseline cardiac biomarkers. These differences are typically driven by discrepancies in clinical presentation timing, total infarct sizing, or the presence of silent ischemic pathways common in diabetic neuropathy.

Table 6. Distribution based on continuous Troponin I levels

PATIENTS	TROPONIN I	
	MEAN	SD
DIABETIC (N=76)	1437.40	3286.33
NON-DIABETIC (N=38)	1686.26	4488.04

Comorbidity tracking established that diabetic post-MI patients bear a heavier disease burden than non-diabetics across multiple systems. Hypertension was the most prevalent comorbidity, affecting 89.5% of diabetic patients compared to 63.2% of non-diabetic individuals. Dyslipidemia (38.2% vs. 31.6%) and Chronic Kidney Disease (CKD; 18.4% vs. 5.3%) were similarly more frequent in the diabetic arm, highlighting the cardiorenal and metabolic risks linked with long-term hyperglycemia. Conversely, non-diabetic patients demonstrated higher rates of COPD/Asthma (21.1% vs. 7.9%) and generalized cerebrovascular disease (15.8% vs. 7.9%). Cerebrovascular stroke was more common among diabetics (10.5% vs. 2.6%), confirming their elevated systemic vascular risk. These findings highlight distinct comorbidity profiles that can heavily influence post-MI clinical management strategies.

Table 7. Comorbidity profiles among diabetic and non-diabetic MI patients

COMORBIDITIES	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
HYPERTENSION	68	89.5	24	63.2
DISLIPIDEMIA	29	38.2	12	31.6
THYROID	6	7.9	4	10.5
COPD/ ASTHMA	6	7.9	8	21.1
CKD	14	18.4	2	5.3
CVD	6	7.9	6	15.8
STROKE	8	10.5	1	2.6

Social history screening indicated that a higher proportion of non-diabetic MI patients reported regular alcohol consumption (21.1%) compared to the diabetic cohort (14.5%). Combined alcohol and tobacco use was identical between both groups (10.5%). Tobacco smoking alone was recorded in 5.3% of non-diabetic individuals and 1.3% of diabetic individuals. Notably, a higher percentage of diabetic patients reported no substance use whatsoever (73.7%) relative to non-diabetics (63.2%). These results suggest a lower burden of traditional behavioral risk factors among diabetics, likely due to pre-existing lifestyle modifications adopted following their initial diabetes diagnosis, whereas lifestyle-related risk factors play a more prominent role in driving coronary events among non-diabetics.

Table 8. Social history and behavioral risk profiles

SOCIAL HISTORY	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
ALCOHOL	11	14.5	8	21.1
SMOKING	1	1.3	2	5.3
ALCOHOL, SMOKING	8	10.5	4	10.5
NONE	56	73.7	24	63.2

Outcomes and Interventions

The total length of hospital stay (LOS) varied considerably between the two arms of the study. The absolute majority of patients across both cohorts required a 5-day hospitalization period; however, this specific duration was far more uniform among non-diabetic individuals (81.6%) than diabetic individuals (48.7%). Diabetic patients showed a broader distribution characterized by prolonged hospital stays, with hospitalizations frequently extending to 10 days (11.8%) or longer. This wider range reflects the clinical complexity, higher comorbidity burden, and slower healing processes typical in diabetic individuals. In contrast, non-diabetic patients experienced shorter, more consistent stays, indicating a less complicated acute clinical course.

Table 9. Distribution based on length of acute hospital stay

LENGTH OF HOSPITAL STAY (Days)	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
3	6	7.9	1	2.6
4	9	11.8	1	2.6
5	37	48.7	31	81.6
6	7	9.2	2	5.3
7	3	3.9	1	2.6
8	1	1.3	1	2.6
9	1	1.3	-	-
10	9	11.8	1	2.6
11	2	2.6	-	-
14	1	1.3	-	-

Post-discharge rehospitalisation rates were noticeably more common among diabetic MI patients, with 51.3% requiring readmission compared to 36.8% of non-diabetic individuals. This elevated readmission rate is driven by a higher comorbidity load, an increased risk of complications, and a more aggressive progression of coronary artery disease in diabetics. In contrast, a higher proportion of non-diabetic patients did not require any acute rehospitalisation (63.2% vs. 48.7%), indicating more stable post-discharge health status. These findings highlight the critical need for closer follow-up and optimized secondary prevention strategies for diabetic patients following an MI.

Table 10. Comparative post-discharge rehospitalisation rates

RE-HOSPITALIZATION	DIABETIC (N=76)		NON-DIABETIC(N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
NO	37	48.7	24	63.2
YES	39	51.3	14	36.8

Surgical and percutaneous coronary reperfusion strategies varied between the two study populations. Angioplasty was more frequently performed among non-diabetic patients (39.5%) than diabetic patients (27.6%). Conversely, coronary artery bypass grafting (CABG) was more common in the diabetic cohort (26.3%) compared to non-diabetics (18.4%). Notably, a substantial proportion of patients in both groups did not undergo any invasive intervention, indicating potential medical contraindications, late hospital presentation, or preference for conservative medical management. The higher utilization of CABG in diabetic patients reflects their tendency to present with complex, multi-vessel coronary artery disease, whereas the greater use of angioplasty in non-diabetics suggests focal lesions that are more amenable to percutaneous treatment.

Table 11. Distribution based on type of coronary intervention

TYPE OF INTERVENTION	DIABETIC (N=76)		NON-DIABETIC(N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
ANGIOPLASTY	21	27.6	15	39.5
CABG	20	26.3	7	18.4

The total time elapsed prior to performing coronary intervention revealed significant delays within the diabetic MI cohort compared to non-diabetics. While 26.31% of non-diabetic patients received necessary interventions within 1 day of presentation, only 6.6% of diabetic individuals achieved the same timeline. A large proportion of diabetic patients faced long delays, with some receiving intervention as late as 6 to 8 months post-MI. This delay may reflect atypical symptom presentation in diabetics, leading to late diagnosis and treatment, or systemic barriers in healthcare access and clinical follow-up. In contrast, non-diabetic patients were more likely to receive timely interventions, with very few cases experiencing long delays.

Table 12. Distribution based on time taken for therapeutic intervention

TIME TO INTERVENTION	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
1 DAY	5	6.6	10	26.31
2 DAYS	3	3.9	3	7.89
3 DAYS	2	2.6	0	0
5 DAYS	0	0	1	2.63
7 DAYS	0	0	1	2.63
10 DAYS	0	0	2	5.26
1 WEEK	4	5.3	0	0
2 WEEKS	5	6.6	1	2.63
3 WEEKS	2	2.6	1	2.63
1 MONTH	0	0	2	5.26

2 MONTHS	2	2.6	0	0
3 MONTHS	0	0	1	2.63
5 MONTHS	2	2.6	0	0
6 MONTHS	6	7.9	0	0
7 MONTHS	4	5.3	0	0
8 MONTHS	6	7.9	0	0

Incidence profiles of acute post-MI complications demonstrated differing trends between the two patient cohorts. Sinus tachycardia emerged as the most frequent complication in both groups, but was more prevalent among diabetics (34.2%) than non-diabetics (23.7%), likely reflecting autonomic dysfunction and heightened sympathetic activity associated with diabetes. Ventricular arrhythmias occurred more frequently in non-diabetic patients (10.5%), while bradycardia was also more common in this group (7.9% vs. 3.9%). Acute pulmonary edema was observed equally across both cohorts (7.9%), whereas thromboembolic stroke occurred exclusively within the diabetic group (3.9%), reinforcing their elevated thromboembolic risk profile.

Table 13. Incidence of acute post-MI complications

MI COMPLICATION	DIABETIC (N=76)		NON-DIABETIC(N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
BRADYCARDIA	3	3.9	3	7.9
PULMONARY EDEMA	6	7.9	3	7.9
SINUS TACHYCARDIA	26	34.2	9	23.7
STROKE	3	3.9	-	-
VENTRICULAR	2	2.6	4	10.5

The clinical development of Major Adverse Cardiovascular Events (MACE) revealed notable differences between diabetic and non-diabetic subjects. Recurrent myocardial infarction was more frequent among non-diabetics (63.2%) compared to diabetics (42.1%), a pattern potentially due to variations in initial disease severity or acute treatment response. Conversely, clinical heart failure occurred more often in the diabetic arm (42.1% vs. 31.6%), reflecting the heavier burden of diastolic dysfunction and microvascular coronary disease in this group. Stroke incidence was significantly higher in diabetics (10.5% vs. 2.6%), consistent with their systemic thromboembolic risk. Overall mortality remained low in both groups, though slightly elevated among diabetic individuals (5.3% vs. 2.6%).

Table 14. Development of Major Adverse Cardiovascular Events (MACE)

MACE	DIABETIC (N=76)		NON-DIABETIC (N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
HEART ATTACK	32	42.1	24	63.2
STROKE	8	10.5	1	2.6
HEART FAILURE	32	42.1	12	31.6
DEATH	4	5.3	1	2.6

Pharmacotherapy Evaluation

Prescription patterns for cardiac medications showed areas of both uniformity and variation between the two patient cohorts. Antiplatelet agents were universally prescribed across both groups (100%), reflecting adherence to standard post-MI care protocols. Anticoagulant therapies were more repeatedly used in diabetic patients (82.9%) than non-diabetics (63.2%), likely driven by higher perceived thromboembolic risks. Non-diabetic individuals received beta-blockers (50.0% vs. 30.3%), nitrates (31.6% vs. 15.8%), and ARBs (50.0% vs. 31.6%) more commonly, indicating differences in hemodynamic status, treatment tolerance, or underlying ischemic burdens. In contrast, calcium channel blockers (CCBs) were prescribed more frequently to diabetics (30.3% vs. 15.8%). Statin utilization was nearly universal among non-diabetics (97.4%) but comparatively lower in diabetics (76.3%), while diuretic usage remained comparable between the groups. These patterns highlight how pharmacotherapy is tailored based on individual patient comorbidity and risk profiles.

Table 15. Prescribing patterns for post-MI cardiac pharmacotherapy

CARDIAC DRUGS	DIABETIC (N=76)		NON-DIABETIC(N=38)	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
ANTI-PLATELETS	76	100	38	100
ANTI-COAGULANT	63	82.9	24	63.2
BETA BLOCKER	23	30.3	19	50
NITRATES	12	15.8	12	31.6
CCB	23	30.3	6	15.8
ARBS	24	31.6	19	50
DIURETICS	36	47.4	16	42.1
STATINS	58	76.3	37	97.4

Among diabetic patients, the prescription of antidiabetic medications was diverse, reflecting the varied therapeutic strategies employed for glycemic control. Biguanides, specifically metformin, were the most commonly prescribed class (61.8%), consistent with their role as first-line therapy in type 2 diabetes management. Sulfonylureas followed at 36.8%, frequently added to metformin to enhance glycemic control. Insulin therapies and SGLT-2 inhibitors were each prescribed to 21.1% of patients, indicating their use in managing more advanced or treatment-resistant diabetes. DPP-4 inhibitors, though effective, were the least frequently prescribed class (11.8%), likely due to higher cost considerations or limited additional clinical benefits compared to alternative agents.

Table 16. Utilization patterns for antidiabetic medications (N=76)

ANTI-DIABETIC DRUGS	DIABETIC (N=76)	
	FREQUENCY	PERCENTAGE
INSULIN	16	21.1
SGLT	16	21.1
SULPHONYL UREAS	28	36.8
BIGUANIDES	47	61.8
DPP-4 INHIBITORS	9	11.8

Health-Related Quality of Life (HRQOL) Outcomes

Quality-of-life outcomes appraised using the WHOQOL-BREF scale revealed minimal differences between diabetic and non-diabetic patients following myocardial infarction. In the physical domain, diabetic patients reported a slightly higher average score (47.41 +- 16.39) compared to non-diabetic patients (46.84 +- 8.25), suggesting comparable physical health perceptions between both groups. Similarly, psychological well-being scores were nearly equivalent, with diabetics scoring 47.42 +- 15.19 and non-diabetics scoring 46.55 +- 8.25, indicating a similar psychological toll regardless of diabetic status. A more notable difference appeared in the social domain, where diabetic patients scored higher (47.71 +- 16.92) than non-diabetics (44.89 +- 12.39). This could reflect stronger familial or community support mechanisms in the diabetic cohort, possibly linked to longer-term chronic illness management and coping networks. Environmental domain scores were slightly higher in non-diabetics (51.66 +- 7.86 vs. 50.5 +- 13.98), though this variation was modest and unlikely to be clinically significant.

Independent sample t-test comparisons of the WHOQOL-BREF domain scores confirmed that none of the observed variations reached statistical significance ($p > 0.05$). The mean difference in physical functioning was minor (0.57; $t = 0.200$; $p = 0.842$). Similarly, the psychological domain (0.87 mean difference; $t = 0.329$; p = 0.743$) and environmental domain (1.16 mean difference; $t = 0.475$; $p = 0.637$) showed no significant variation, indicating that myocardial infarction exerts a substantial, uniform negative impact on these aspects of patient well-being irrespective of metabolic comorbidities. The difference in the social domain (2.82; $t = 0.910$; $p = 0.365$) also remained non-significant. The uniformly low scores across all domains for both groups highlight the severe, multi-dimensional impact of MI, emphasizing the critical need for targeted, comprehensive rehabilitation and support programs for all post-MI patients, regardless of glycemic status.

Table 17. Comparison of WHOQOL-BREF domain scores between groups

QUALITY OF LIFE DOMAINS	DIABETIC (N=76)		NON-DIABETIC (N=38)		MEAN DIFFERENCE	T VALUE	P VALUE
	MEAN	SD	MEAN	SD			
PHYSICAL	47.41	16.39	46.84	8.25	0.57	0.200	0.842 (NS)
PSYCHOLOGICAL	47.42	15.19	46.55	8.25	0.87	0.329	0.743 (NS)
SOCIAL	47.71	16.92	44.89	12.39	2.82	0.910	0.365 (NS)
ENVIRONMENTAL	50.5	13.98	51.66	7.86	1.16	0.475	0.637 (NS)

*NS: Not Significant at the 0.05 baseline parameter level.

CONCLUSION

- This observational study compared clinical characteristics, management, outcomes, and quality of life between diabetic and non-diabetic patients estimated with MI. The primary aim was to appraise how diabetic status influences the treatment outcome and QOL of MI patients.

- Diabetic MI patients were predominantly older males and had a higher prevalence of comorbidities, especially HTN and CKD.
- STEMI was more frequent in diabetics, whereas NSTEMI was more common among non-diabetics, suggesting differing pathophysiology.
- Diabetics experienced longer hospital stays, higher rates of rehospitalisation, and increased incidence of MACE—particularly HF and recurrent MI.
- Medication patterns differed: diabetics were more likely to receive calcium channel blockers and antidiabetic medication, while non-diabetics received more beta-blockers and statins.
- Quality of life, measured by WHOQOL-BREF, was marginally lower in diabetics across physical, psychological, and environmental domains.
- These findings highlight the need for tailored secondary prevention strategies and long-term care approaches for diabetic patients post-MI.

Conflict of interest

The authors declare that the research was conducted inthe absence of any commercial or financial relationshipsthat could be construed as a potential conflict of interest.

Ethical clearance

The study protocol was reviewed and approved by the Institutional Ethics Committee (IEC). Written informed consent was obtained from all participants before data collection, and patient confidentiality was strictly maintained throughout the study.

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