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Article

Adherence to Lifestyle Modification Recommendations and Psychosocial Factors After Percutaneous Coronary Intervention in Patients With ST Elevation Myocardial Infarction: LIMOPFA-PCI

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Abstract

Background: A large proportion of patients with ST-elevation myocardial infarction (STEMI) have unfavorable lifestyle habits such as smoking, insufficient physical activity, and an unhealthy diet. This situation complicates the management of cardiovascular risk factors and adversely affects clinical outcomes. The aim of this study was to evaluate the level of adherence to lifestyle modifications and medical treatment recommendations in patients after a STEMI. **Methods:** This is a prospective study involving 97 patients with a diagnosis of STEMI who underwent primary percutaneous coronary intervention (PCI) from October 10, 2024 to September 8, 2025. To compare pre- and post-intervention (baseline and 6-month follow-up) categorical variables such as smoking status, physical activity, dietary habits, medication adherence, and psychosocial indicators were recorded. To compare baseline and 6-month follow-up data, categorical parameters were analyzed using the standard chi-square test (or Fisher's exact test, if applicable). **Results:** During the 6-month follow-up period, 3 patients were excluded due to mortality (n = 2) and/or loss to follow-up (n = 1); thus, the final analysis for both baseline and 6-month follow-up assessments was conducted on 94 patients. Physiologically, body weight decreased significantly during the follow-up period. A substantial increase in regular physical activity was detected, from 18.1% at baseline to 46.8% after 6-month ($p < 0.001$). Medication adherence demonstrated a dramatic enhancement, with an increase from 55 (58.5%) at baseline to 93 (98.9%) 6-month later ($p < 0.001$). However, a significant decline in maintaining an active social life from 86.2% at baseline to 53.2% at follow-up. **Conclusions:** Lifestyle modifications and adherence to medication recommendations after PCI are important in the follow-up of STEMI patients. There was a significant improvement in medication adherence and regular physical activity from baseline to follow-up in STEMI patients after PCI; however, their social life activity declined. The decline in social life suggests a need for psychosocial support programs post-PCI.

Keywords: STEMI; lifestyle modification; follow-up; percutaneous coronary intervention

1. Introduction

Atherosclerotic cardiovascular diseases (CVD) are one of the leading causes of mortality and morbidity globally, with their prevalence increasing particularly in low- and middle-income countries. Ischemic heart disease is the most common cause of CVD-related deaths, accounting for approximately 38% of deaths in women and 44% in men [1,2]. A large proportion of coronary artery disease patients have unfavorable lifestyle habits such as smoking, insufficient physical activity, and unhealthy eating [1,2,3]. This situation complicates the management of cardiovascular (CV) risk factors and adversely affects clinical outcomes. Most patients fail to achieve target blood pressure, low-density lipoprotein cholesterol, and normal glucose levels [4,5].

CVD prevention should be carried out through a multidisciplinary approach that includes lifestyle changes and comprehensive management of risk factors to reduce the risk of recurrent events [6]. In this regard, modern preventive cardiology practices should be implemented by multidisciplinary teams of healthcare professionals that integrate lifestyle modifications, medical treatment optimization, and continuous patient education processes [4,7,8].

Lifestyle modification recommendations are offered as part of standard care to all patients with acute coronary syndrome (ACS) [4]. Differences in adherence to lifestyle modifications and medical treatment are influenced not only by clinical factors but also by individual characteristics such as health awareness and psychosocial factors [8,9]. However, long-term adherence to these behavioral recommendations varies substantially among survivors, driven not only by clinical parameters but also by post-discharge psychosocial adaptation. The abrupt onset of a life-threatening event, such as an acute myocardial infarction, routinely imposes severe emotional distress and reshapes the patient's social environment, directly affect-

ing treatment compliance [10]. While contemporary literature widely addresses macro-level risk factors, the real-time longitudinal interplay between acute ischemic events, perceived stress, and subsequent social withdrawal remains underreported.

In this regard, this study evaluated the level of adherence to lifestyle modifications and medical treatment recommendations in patients who have experienced an ST-elevation myocardial infarction (STEMI), and also examined the effects of health awareness and psychosocial factors on this adherence.

2. Methods

2.1 Study Design and Inclusion-Exclusion Criteria

The research protocol was reviewed by the Local Non-Interventional Clinical Trials Ethics Committee prior to the conduct of the study and was found to be ethically appropriate (Ethics Committee Date: 10/09/2024, Approval Number: 2024/33-35).

The study included 97 patients, hospitalized in the coronary care unit, with a diagnosis of STEMI, who underwent primary percutaneous coronary intervention (PCI) from October 10, 2024 to October 8, 2025. Demographic characteristics, lifestyle habits (stress level, diet, and smoking), laboratory parameters, imaging findings, clinical data, and treatment approaches of the participants were recorded in a pre-established standard case report form. Left ventricular ejection fraction (LVEF) was routinely measured for all patients within the first 24 hours of admission via standard transthoracic echocardiography (TTE) using the biplane Simpson's method.

The study consecutively enrolled adult patients (age $\geq$18 years) hospitalized in the coronary care unit with a confirmed diagnosis of STEMI who underwent primary PCI. Patients were included if they achieved successful reperfusion and provided written informed consent. Patients were excluded based on the following criteria: (1) active malignancies or a life expectancy of less than 6 months, (2) severe renal and/or liver failure, (3) previous acute coronary syndrome, (4) previous PCI/Coronary artery bypass grafting (CABG), (5) severe cognitive impairment or psychiatric disorders precluding reliable lifestyle and behavioral recall, and (6) refusal to participate in the study.

During the discharge process, a standardized face-to-face counseling session was provided to all patients by the clinical team, supported by lifestyle recommendations. At the 6-month follow-up, patients were invited back to the outpatient clinic for an in-person visit. During these follow-up appointments, all participants underwent physical examinations and completed the study questionnaires to update the case report form. Due to the lack of available infrastructure, none of the enrolled patients participated in a formal cardiac rehabilitation program.

2.2 Definitions of Lifestyle and Psychosocial Variables

Lifestyle and Psychosocial indicators were evaluated through structured, face-to-face clinical interviews using targeted binary questions within the standard case report form. Perceived stress after myocardial infarction was recorded as a binary outcome ("High" vs. "Low") based on the patient's subjective feedback regarding persistent anxiety and perceived difficulty in coping with daily stressors post-discharge.

An active social life was categorized as "Active" or "Inactive" based on self-reported participation in regular family, occupational, or community activities; a classification of "Inactive" reflected significant social withdrawal or isolation following the cardiac event. Antidepressant use was strictly defined as the active daily consumption of prescribed antidepressant medications, which was cross-checked and verified via the national electronic health registry.

Main Outcome Measures

To evaluate adherence to medical treatment and lifestyle parameters from baseline to follow-up in STEMI patients after PCI.

2.3 Statistical Analysis

All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) software, version 30.0 (IBM Corp., Armonk, NY, USA). Continuous variables were expressed as mean ± standard deviation (SD) and minimum–maximum values, whereas categorical variables were presented as frequencies and percentages. To compare pre- and post-intervention (baseline and 6-month follow-up) categorical variables, the standard Chi-square test (or Fisher's exact test, if applicable) was applied. Paired-sample *t*-tests were conducted to evaluate changes in continuous variables, such as body weight, between baseline and 6-month follow-up. All tests were two-tailed, and a p-value < 0.05 was considered statistically significant. Missing data were excluded listwise from the analyses.

Due to the exploratory nature of evaluating multiple lifestyle and behavioral parameters, the potential accumulation of Type I error was considered. All clinical outcomes maintained their high statistical significance under strict adjusted thresholds, whereas the borderline psychological finding for perceived stress was interpreted strictly as non-significant and descriptive.

3. Results

The study population consisted of 97 patients, of whom the majority were male (78.4%), with a mean age of 59.0 ± 11.9 years. The mean body mass index was 27.6 ± 4.3 kg/m^2, indicating that most participants were overweight. Average systolic and diastolic blood pressures were 121.4 ± 16.9 mmHg and 78.8 ± 11.9 mmHg, respectively. Regarding comorbidities, 59.8% of the participants had hy-

pertension, 33.0% had diabetes mellitus, and 16.5% had hyperlipidemia. The mean LVEF was 45.99 ± 8.14%, reflecting mildly reduced systolic function in most patients. Laboratory parameters showed normal average values for renal, electrolyte, and lipid profiles.

Behaviorally, 63.9% of the participants were current smokers, 16.5% reported alcohol consumption, and only 18.6% engaged in regular physical exercise. Baseline demographic and clinical characteristics of the study population are summarized in Table 1. Overall, the descriptive findings depict a middle-aged, predominantly male cohort with a high burden of cardiometabolic risk factors, mildly reduced systolic function, and moderately adequate pharmacological management.

During the 6-month follow-up period, 3 patients were excluded due to mortality (n = 2) and/or loss to follow-up (n = 1); thus, the final analysis for both baseline and 6-month follow-up assessments was conducted on 94 patients. Among 94 post-STEMI participants, statistically significant behavioral improvements were observed in several lifestyle domains between baseline and the 6-month follow-up period (Table 2). Physiologically, there was a significant reduction in body weight following the 6-month follow-up. The mean weight decreased from 79.77 ± 13.71 kg at baseline to 78.57 ± 13.32 kg at the 6-month, representing a mean loss of 1.20 ± 3.68 kg ($t = 3.138$, $df = 93$, $p = 0.002$). The 95% confidence interval for the mean difference (0.44 to 1.95 kg) confirmed a statistically meaningful reduction, corresponding to a small-to-moderate standardized effect size (Cohen's $d = 0.32$; Hedges' $g = 0.32$).

A substantial increase in regular physical activity was detected, as the proportion of participants reporting routine walking or exercise rose from 17 (18.1%) at baseline to 44 (46.8%) after the 6-month ($p < 0.001$). Conversely, the prevalence of excessive salt consumption (>5–6 g/day) declined significantly, from 70 (74.5%) at baseline to 30 (31.9%) at follow-up ($p < 0.001$). Adherence to a Mediterranean-type diet also improved markedly, with the proportion of participants following this dietary pattern increasing from 21 (22.3%) to 78 (83.0%) ($p < 0.001$). In parallel, medication adherence demonstrated a dramatic enhancement, with regular medication use increasing from 55 (58.5%) at baseline to 93 (98.9%) 6-month later ($p < 0.001$). These findings collectively suggest that the early post-intervention period was highly effective in reinforcing core lifestyle and treatment behaviors. In contrast, antidepressant use showed no significant change (10 [10.6%] vs. 9 [9.6%]; $p = 0.999$). Notably, however, a significant decline in social engagement was detected, as the proportion maintaining an active social life dropped from 81 (86.2%) at baseline to 50 (53.2%) at follow-up ($p < 0.001$). Regarding lifestyle modifications involving smoking habits, the LIMOPFA-PCI study results demonstrated a highly significant modification in smoking patterns from baseline to the 6-month ($p < 0.001$). Within the initially enrolled population (n = 97), 62 individuals were classified as current smokers. Following the exclusion of 3 patients due to clinical attrition—2 of whom were active smokers at admission—the baseline smoking frequency was established as 60 (63.83%) within the final analyzed cohort (n = 94). At the 6-month follow-up, 45 of these 60 patients successfully quit smoking, demonstrating a 75.0% smoking cessation rate in response to post-PCI lifestyle recommendations (Table 2).

The clinical endpoints and adverse CV events documented during the 6-month follow-up period are comprehensively presented in Table 3. Within the initial safety cohort (n = 97), all-cause mortality occurred in 2 patients (2.06%) during the index hospitalization. Among the patients who completed the 6-month clinical and lifestyle follow-up (n = 94), the incidence of non-fatal CV complications was characterized by low overall event rates under guideline-directed medical therapy (Table 3).

Recurrent myocardial infarction was observed in 4 patients (4.26%). Regarding subsequent interventional procedures, subsequent target lesion revascularization (TLR) was required in 3 patients (3.19%), whereas non-culprit vessel revascularization was performed in 16 patients (17.02%) during the follow-up period. Additionally, 6 patients (6.38%) required rehospitalization due to decompensated heart failure, and a non-fatal stroke or transient ischemic attack (TIA) was recorded in 1 patient (1.06%) (Table 3).

4. Discussion

Significant behavioral improvements in lifestyle were observed in STEMI patients during the follow-up period after PCI. This situation demonstrates that the early post-PCI period is quite effective in strengthening basic lifestyle and treatment behaviors. Epidemiological data from 57 member countries of the European Society of Cardiology (ESC) reveal that the prevalence of obesity and diabetes has increased approximately 2–3-fold over the past 30 years, and that the World Health Organization's global targets for reducing cardiometabolic risk factors have not been met. Mortality due to CVD is particularly high in middle-income countries, and the potential loss of life years in these countries is significantly higher than in high-income countries [2,4]. These findings clearly demonstrate that combating CVD requires strengthening not only medical strategies but also the strengthening of socio-economic and public health-based strategies.

According to the 2023 ESC guidelines for the management of patients with ACS, for ACS patients, adopting healthy lifestyle habits such as completely quitting tobacco products, adopting a healthy Mediterranean-style diet, limiting alcohol consumption, performing regular aerobic physical activity and resistance training, and reducing sedentary lifestyle is recommended (Class I, Level of Evidence B) [4]. These recommendations emphasize that lifestyle changes are as vital as pharmacological treatments

Table 1. Baseline demographic and clinical characteristics of the study population (n = 97).

Variables	n (%)/Mean ± SD	Range (Min–Max)
Gender (Male/Female)	76 (78.4)/21 (21.6)	—
Age (years)	59.0 ± 11.9	29–82
Body mass index (kg/m^2)	27.6 ± 4.3	16.9–45.1
Heart rate (bpm)	78.4 ± 14.1	48–111
Systolic BP (mmHg)	121.4 ± 16.9	82–172
Diastolic BP (mmHg)	78.8 ± 11.9	48–110
NYHA class I/II	94 (96.9)/3 (3.1)	—
Chest pain (Yes)	7 (7.2)	—
Dyspnea (Yes)	41 (42.3)	—
Atrial fibrillation/flutter	1 (1.0)	—
Diabetes mellitus	32 (33.0)	—
Stroke/TIA history	3 (3.1)	—
Hypertension	58 (59.8)	—
Hyperlipidemia	16 (16.5)	—
Thyroid disease	6 (6.2)	—
Peripheral artery disease	0 (0.0)	—
Left ventricular ejection fraction (%)	45.99 ± 8.14	25–60
Serum creatinine (mg/dL)	1.02 ± 0.50	0.52–4.90
Uric acid (mg/dL)	5.58 ± 1.41	2.45–10.04
eGFR (mL/min/1.73 m^2)	81.9 ± 22.9	8.7–116
Sodium (mEq/L)	137.7 ± 3.0	129–146
Potassium (mEq/L)	4.22 ± 0.51	3.30–6.33
Calcium (mg/dL)	8.98 ± 0.53	7.45–10.12
Total cholesterol (mg/dL)	202.6 ± 47.9	90–336
LDL cholesterol (mg/dL)	129.1 ± 39.1	40–239.9
HDL cholesterol (mg/dL)	44.8 ± 10.9	22.1–74.1
Triglycerides (mg/dL)	143.0 ± 66.5	39.9–370
Fasting glucose (mg/dL)	148.2 ± 59.0	47–340
HbA1c (%)	6.70 ± 1.83	5.0–13.5
TSH (µIU/mL)	2.43 ± 3.01	0.13–18.44
FT4 (ng/dL)	0.98 ± 0.25	0.57–1.82
Current smokers	62 (63.9)	—
Alcohol use	16 (16.5)	—
Regular exercise	18 (18.6)	—
Cardiac rehabilitation awareness	0 (0.0)	—
Omega-3 use	3 (3.1%)	—
Antidepressant use	11 (11.3)	—
ACE inhibitor	18 (18.6)	—
ARB	20 (20.6)	—
Beta-blocker	20 (20.6)	—
Calcium channel blocker	13 (13.4)	—
ASA (Acetylsalicylic acid)	24 (24.7)	—
Clopidogrel	5 (5.2)	—
Statin	9 (9.3)	—
Oral antidiabetic drug	26 (26.8)	—
SGLT-2 inhibitor	4 (4.1)	—
Insulin	11 (11.3)	—

BP, blood pressure; NYHA, New York Heart Association; eGFR, estimated glomerular filtration rate; HDL, high-density lipoprotein; LDL, low-density lipoprotein; HbA1c, glycated hemoglobin; TSH, thyroid-stimulating hormone; FT4, free thyroxine; ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker; ASA, acetylsalicylic acid; SGLT-2, sodium-glucose cotransporter-2; TIA, transient ischemic attack.

Table 2. Changes in lifestyle and behavioral variables at the 6-month follow-up (n = 94).

Variable	Baseline (during hospitalization) (n/%/Mean ± SD)	6-month follow-up (n/%/Mean ± SD)	*p*-value (2-sided)
Body weight, kg	79.77 ± 13.71	78.57 ± 13.32	**0.002**
Regular walking/exercise	No = 77 (81.9%) Yes = 17 (18.1%)	No = 50 (53.2%) Yes = 44 (46.8%)	**<0.001**
Daily salt intake >5–6 g	No = 24 (25.5%) Yes = 70 (74.5%)	No = 64 (68.1%) Yes = 30 (31.9%)	**<0.001**
Mediterranean-type diet adherence	No = 73 (77.7%) Yes = 21 (22.3%)	No = 16 (17.0%) Yes = 78 (83.0%)	**<0.001**
Regular medication use	No = 39 (41.5%) Yes = 55 (58.5%)	No = 1 (1.1%) Yes = 93 (98.9%)	**<0.001**
Omega-3 supplement use	No = 91 (96.8%) Yes = 3 (3.2%)	No = 88 (93.6%) Yes = 6 (6.4%)	0.375
Perceived stress after myocardial infarction	High = 64 (68.1%) Low = 30 (31.9%)	High = 77 (81.9%) Low = 17 (18.1%)	0.060
Active social life	Active = 81 (86.2%) Inactive = 13 (13.8%)	Active = 50 (53.2%) Inactive = 44 (46.8%)	**<0.001**
Antidepressant use	No = 84 (89.4%) Yes = 10 (10.6%)	No = 85 (90.4%) Yes = 9 (9.6%)	0.999
Current smokers	60 (63.83%)	15 (15.96%)	**<0.001**

Each cell represents the number (n), percentage (%) and Mean ± SD of participants in each response pattern between baseline and 6-month follow-up. Bolded interpretations indicate statistically significant changes at $p < 0.05$.

Table 3. Major clinical outcomes and cardiovascular events.

Adverse events	n (%)
Clinical endpoint (Analyzed based on initial cohort, n = 97)	
All cause mortality	2 (2.06)
Clinical events at follow-up (Analyzed based on completed cohort, n = 94)	
Recurrent myocardial infarction	4 (4.26)
Subsequent target lesion revascularization	3 (3.19)
Non-culprit vessel revascularization	16 (17.02)
Hospitalization due to heart failure	6 (6.38)
Stroke/Transient ischemic attack	1 (1.06)

in secondary prevention. In the LIMOPFA-PCI study results, the frequency of regular physical activity showed a statistically significant increase after PCI in STEMI patients.

In a large-scale meta-analysis, the smoking cessation rate after ACS was reported to be 45% and another study also found a high rate of smoking cessation after PCI [11,12]. In the LIMOPFA-PCI study, it was determined that a significant proportion (75.0%) of patients who were initially active smokers had quit smoking by the 6-month of follow-up; this finding supports the effectiveness of early lifestyle interventions.

Comprehensive evaluations of previous studies reveal that patient compliance to pharmacological treatments for secondary prevention after ACS has generally been suboptimal and tends to show a marked decline over time [13]. In the LIMOPFA-PCI study, medication adherence demonstrated a dramatic enhancement, with regular medication use increasing from 58.5% at baseline to 98.9% 6-month later ($p < 0.001$).

Behavioral factors are not only supportive as a secondary prevention but are also a central component in the long-term management of cardiometabolic risk [14,15,16,17]. Therefore, the systematic structuring of the early post-STEMI period with multidisciplinary rehabilitation programs is of high strategic importance from a clinical perspective for reducing mortality and morbidity, as well as in sustainably improving quality of life.

5. Limitations

This study has several limitations that warrant acknowledgment. The most significant limitation of our study is its single-center nature. Although the small number of patients included in the study is a limitation, it appears sufficient in terms of results. The absence of coronary angiography/angioplasty findings may also be a limitation. In addition, the morbidity and psychosocial impact of anterior myocardial infarction may be more severe than was studied here. Furthermore, multivariate predictive modeling was not performed due to our relatively small sample size (n = 94) and the extreme ceiling effect in follow-up variables (e.g., 98.9% medication adherence), which would increase the risk of statistical overfitting. Finally, the predominance of male participants (78.4%) within our cohort represents a significant limitation, as the small number of female patients (n = 21) limits the statistical power required to perform a robust sex-based subgroup analysis regarding

psychosocial outcomes. Given that behavioral and psychological responses to STEMI, such as social withdrawal and perceived stress, may vary significantly between sexes, our findings should be interpreted with caution. Consequently, these psychosocial and behavioral observations may not be entirely generalizable to the broader female patient population; thus, larger and more gender-balanced cohorts are warranted to elucidate these sex-specific differences.

6. Conclusion

Lifestyle modification and adherence to medication recommendations after PCI are important in the follow-up of STEMI patients. There was a significant improvement in medication adherence and regular physical activity from baseline to follow-up in STEMI patients after PCI; however, their active social life had declined.

Availability of Data and Materials

The datasets analyzed in this study are not publicly available due to patient confidentiality and ethical restrictions; however, they may be obtained from the corresponding author upon request for academic purposes.

Author Contributions

Significant contributions to the concept or design of the study: MK, FA, MBY, collecting data: FA, ÇO, BS, analyzing data for study: MEA, MK, ÇO, drafting the study or critically reviewing it for important intellectual content: MK, MEA, BS, MBY. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the study and agreed to be accountable for all aspects of the study.

Ethics Approval and Consent to Participate

The study was conducted in accordance with the guidelines of the Declaration of Helsinki. Ethics committee approval of our study was obtained from Dokuz Eylul University Faculty of Medicine Non-Interventional Clinical Research Committee with date (10/09/2024) and approval number 2024/33-35.

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Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] GBD 2017 Causes of Death Collaborators. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980-2017: a systematic analysis for the Global Burden of Disease Study 2017. Lancet (London, England). 2018; 392: 1736–1788. https://doi.org/10.1016/S0140-6736(18)32203-7

[2] Timmis A, Vardas P, Townsend N, Torbica A, Katus H, De Smedt D, et al. European Society of Cardiology: cardiovascular disease statistics 2021. European Heart Journal. 2022; 43: 716–799. https://doi.org/10.1093/eurheartj/ehab892

[3] Kandasamy G, Subramani T, Almanasef M, Orayj K, Shorog E, Alshahrani AM, et al. Exploring Factors Affecting Health-Related Quality of Life in Coronary Artery Disease Patients. Medicina (Kaunas, Lithuania). 2025; 61: 824. https://doi.org/10.3390/medicina61050824

[4] Byrne RA, Rossello X, Coughlan JJ, Barbato E, Berry C, Chieffo A, et al. 2023 ESC Guidelines for the management of acute coronary syndromes. European Heart Journal. 2023; 44: 3720–3826. https://doi.org/10.1093/eurheartj/ehad191

[5] Mach F, Koskinas KC, Roeters van Lennep JE, Tokgözoğlu L, Badimon L, Baigent C, et al. 2025 Focused Update of the 2019 ESC/EAS Guidelines for the management of dyslipidaemias. European Heart Journal. 2025; 46: 4359–4378. https://doi.org/10.1093/eurheartj/ehaf190

[6] Bäck M, Antoniou S, Butler T, Dendale P, Greco A, Hansen D, et al. A multidisciplinary approach to reduce the burden of cardiovascular disease, with special reference to the allied professionals' perspective: a clinical consensus statement by the European Society of Cardiology Task Force on Allied Professionals with contributions from the Association of Cardiovascular Nursing and Allied Professions, the Association for Acute CardioVascular Care, the European Association of Percutaneous Cardiovascular Interventions, the European Association of Preventive Cardiology, the European Heart Rhythm Association, and the Heart Failure Association of the European Society of Cardiology. European Journal of Cardiovascular Nursing. 2026; 25: 219–224. https://doi.org/10.1093/eurjcn/zvaf165

[7] Vrints C, Andreotti F, Koskinas KC, Rossello X, Adamo M, Ainslie J, et al. 2024 ESC Guidelines for the management of chronic coronary syndromes. European Heart Journal. 2024; 45: 3415–3537. https://doi.org/10.1093/eurheartj/ehae177

[8] Visseren FLJ, Mach F, Smulders YM, Carballo D, Koskinas KC, Bäck M, et al. 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice. European Heart Journal. 2021; 42: 3227–3337. https://doi.org/10.1093/eurheartj/ehab484

[9] Szczepańska E, Białek-Dratwa A, Filipów K, Kowalski O. Lifestyle and the risk of acute coronary event: a retrospective study of patients after myocardial infarction. Frontiers in Nutrition. 2023; 10: 1203841. https://doi.org/10.3389/fnut.2023.1203841

[10] Levine GN, Carney RM, Cohen BE, Dunn SL, Gaffey AE, Kronish IM, et al. Post-Myocardial Infarction Psychological Distress: A Scientific Statement From the American Heart Association. Circulation. 2025; 152: e298–e310. https://doi.org/10.1161/CIR.0000000000001381

[11] Lovatt S, Wong CW, Holroyd E, Butler R, Phan T, Patwala A, et al. Smoking cessation after acute coronary syndrome: A systematic review and meta-analysis. International Journal of Clinical Practice. 2021; 75: e14894. https://doi.org/10.1111/ijcp.14894

[12] Yang YL, Leu HB, Yin WH, Tseng WK, Wu YW, Lin TH, et al. Adherence to healthy lifestyle improved clinical outcomes in coronary artery disease patients after coronary intervention. Journal of the Chinese Medical Association: JCMA. 2021; 84: 596–605. https://doi.org/10.1097/JCMA.0000000000000536

[13] Bahit MC, Korjian S, Daaboul Y, Baron S, Bhatt DL, Kalayci A, et al. Patient Adherence to Secondary Prevention Therapies After an Acute Coronary Syndrome: A Scoping Review. Clini-

cal Therapeutics. 2023; 45: 1119–1126. https://doi.org/10.1016/j.clinthera.2023.08.011

[14] Breeman LD, Janssen VR, Kraaijenhagen RA, Al-Dhahir I, IJzerman RVH, Wolstencroft K, et al. Lifestyle behaviour change of patients following cardiac rehabilitation: the BENEFIT intervention study with one-year follow-up. European Journal of Preventive Cardiology. 2025; zwaf193. https://doi.org/10.1093/eurjpc/zwaf193

[15] DiCaro M, Ogurek I, Tak N, Dawn B, Tak T. Optimizing Cardiovascular Health: A Narrative Review of Lifestyle, Psychobehavioral, and Alternative Strategies for Management and Prevention. Heart and Mind. 2025; 9: 29–39. https://doi.org/10.4103/hm.HM-D-24-00066

[16] Dutt C, Nunes Salles JE, Joshi S, Nair T, Chowdhury S, Mithal A, et al. Risk Factors Analysis and Management of Cardiometabolic-Based Chronic Disease in Low- and Middle-Income Countries. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy. 2022; 15: 451–465. https://doi.org/10.2147/DMSO.S333787

[17] Yudi MB, Farouque O, Andrianopoulos N, Ajani AE, Brennan A, Murphy AC, et al. Prognostic significance of suboptimal secondary prevention pharmacotherapy after acute coronary syndromes. Internal Medicine Journal. 2021; 51: 366–374. https://doi.org/10.1111/imj.14750