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Optimizing cardiovascular risk control after an acute coronary syndrome: the role of a structured follow-up program

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Abstract

Effective secondary prevention after an acute coronary syndrome (ACS) remains a challenge, particularly in achieving optimal control of cardiovascular risk factors (CVRF). This study aimed to evaluate the impact of a Structured Coronary-Disease Follow-up Program (SCCC) on the management of key CVRFs 12 months after ACS. A comparative analysis was conducted between patients enrolled in the SCCC and a historical cohort receiving routine care (RCC). Primary outcomes included low-density lipoprotein cholesterol (LDL-C), glycated hemoglobin (HbA1c) in patients with diabetes mellitus, systolic blood pressure (SBP), and smoking cessation at 12 months. Intragroup changes were assessed using paired Wilcoxon tests, while the program's impact was evaluated through analysis of covariance (ANCOVA) and logistic regression. A total of 521 patients were included (237 SCCC, 284 RCC). In the SCCC group, significant reductions were observed in LDL-C [from 99 (interquartile range, IQR: 74-126) to 52 (IQR: 43-66) mg/dL, $p<0.001$], HbA1c [from 7.00% (IQR 6.30-7.60) to 6.40% (IQR 6.10-6.85), $p<0.001$], and SBP [from 134 (IQR 120-145) to 130 (IQR 117-140) mmHg, $p<0.001$]. ANCOVA confirmed the program's significant impact on LDL-C ($\beta=-13.0$, $p<0.001$), HbA1c ($\beta=-0.49$, $p=0.026$), and SBP ($\beta=-3.5$, $p=0.018$). No significant difference was observed in smoking cessation ($p>0.9$). In conclusion, implementation of a structured follow-up program after ACS was associated with improved control of LDL-C, HbA1c, and SBP, supporting the role of coordinated post-ACS care in enhancing CVRF management.

Key words: acute coronary syndrome, dyslipidemia, follow-up, secondary prevention, smoking cessation.

Introduction

An acute coronary syndrome (ACS) is a challenging manifestation of ischemic heart disease, contributing significantly for global morbidity and mortality [1-4]. Scientific evidence shows that optimization of medical therapy, coupled with lifestyle changes and the judicious use of revascularization procedures, are pivotal to improve patients' prognosis and quality of life [5,6].

Current guidelines are recommending more ambitious goals for cardiovascular risk factors (CVRF) control, targeting low-density lipoprotein cholesterol (LDL-C) levels inferior to 55 mg/dL (<1.4 mmol/L), with a concurrent 50% reduction from baseline [7], and a glycated hemoglobin (HbA1c) inferior to 7% (<53 mmol/mol) in type 2 diabetes mellitus (DM) [7,8]. As for arterial blood pressure (BP), treatment targets for systolic BP (SBP) range between 120-130 mmHg in patients younger than 70-years-old and 140 mmHg in older patients, while the diastolic BP (DBP) target is 80 mmHg [7]. The proportion of patients who achieve these target levels remains suboptimal and there is a strong need to implement follow-up strategies to improve secondary prevention, like cardiac rehabilitation (CR) programs [9-16].

Wittlinger *et al* reported that patients participating in a CR program achieved their lowest LDL-C levels within the first month following ACS, however, maintaining these levels over the 12-month follow-up period proved challenging [17]. Additionally, it is well-established that CR programs are not suitable for all individuals, either due to timing constraints or patients' physical limitations [18]. Indeed, Peters *et al*. demonstrated that only one-third of patients participated in these programs, despite their potential benefits [15].

To address these challenges, some authors recommend a timely and evidence-based follow-up program for ACS patients, encompassing scheduled follow-up appointments, tailored nutritional and physical exercise recommendations, as well as education on several topics such as weight loss and smoking cessation, beyond standard rehabilitation [5,19]. In addition to traditional CR programs, other structured care models—such as nurse-led consultations or digital follow-up approaches—have also been implemented in various settings, aiming to improve adherence and cardiovascular risk management [14-16,20]. The French National Health Agency suggests that an early and systematic evaluation for post-ACS patients following discharge can improve treatment compliance [21]. The 2019 ESC guidelines for the management of chronic coronary syndromes also support this approach, recommending a first patient contact in the first weeks after discharge and suggesting an echocardiographic re-evaluation in the first 8 to 12 weeks [22].

With this background, we designed and implemented a new structured follow-up program for patients after an ACS, alongside a CR program. This Structured Coronary Artery Disease Cardiology Consultation (SCCC) framework aimed to standardise patients' follow-up after discharge, including early post-discharge re-evaluations, regular and predefined monitoring

of CVRF and collaborating with nutrition and smoking cessation programs. In this study we aimed to assess the impact of this SCCC program on the control of CVRF 12 months after an ACS event.

Materials and Methods

The SCCC program

The SCCC program was implemented in August 2021 at the Hospital Vila Nova de Gaia/ Espinho and includes patients admitted with myocardial infarction (MI) or unstable angina, according to the International Classification of Diseases (10th edition) [23]. Type 2 MI was excluded, as these events can be multifactorial and are not necessarily linked to acute atherothrombotic plaque disruption [24]. A schematic representation of the program is provided in Figure 1.

The program comprises mandatory follow-up appointments with a cardiologist scheduled in the first 2 months and 12 months after the ACS with prespecified blood tests - complete blood count, ionogram, renal and hepatic profiles, lipid profile, glucose, and HbA1c in patients with DM. A transthoracic echocardiogram (TTE) is performed at 12 months, or earlier (at 2 months) in those with a reduced or mildly reduced Left ventricle ejection fraction (LVEF) at discharge. Additional evaluations can be performed in patients with heart failure, uncontrolled CVRF, or according to clinical symptoms.

Over the course of the program, the patient engaged in a multidisciplinary setting, with the collaboration of highly trained specialists, including physicians, nurses, nutritionists and rehabilitation physiotherapists. In these appointments, personalized and informative discussions took place, focusing on lifestyle modifications, health education, and underscoring the importance of managing CVRF.

After 12 months of follow-up, asymptomatic patients, without new events, preserved LVEF (or stable mildly reduced) and on optimized medical therapy are discharged to a general practitioner. Patients not meeting these criteria are discharged to a general cardiology consultation. Though the program was designed for a one-year follow-up, additional assessments up to 18 months after the event were also possible, after which the patient is discharged.

Study design

We conducted a retrospective and comparative analysis between two groups: 1) the SCCC group encompassed patients admitted between August 2021 and July 2022 that followed the new SCCC program for at least 12 months; and 2) the Regular Cardiology Consultation (RCC) group, where we used as reference an historical control group of patients who were admitted to the hospital with the same diagnosis from January to December 2018. Unlike the SCCC

group, no specific predefined schedules for consultations or CVRF assessment were done in patients included in the RCC group, whose follow-up was conducted according to the attending physician's judgment. All patients were included in the same rehabilitation program.

Patients who missed the 12-month follow-up were excluded from the present analysis.

Clinical and analytical variables

We performed the collection of baseline patients characteristics and other clinical data from hospital electronic clinical records. Data related to CVRF levels at baseline (ACS admission date) and at the end of the 12-month follow-up (12-months appointment or the one closest to this date) were gathered. In this analysis CVRF evaluated included LDL-C, HbA1c, SBP and self-reported smoking habits.

Additionally, details of medical therapy were recorded, including lipid-lowering agents - statins, ezetimibe, proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors - antidiabetic medications - metformin, insulin, glucagon-like peptide-1 (GLP-1) receptor agonists, dipeptidyl peptidase-4 (DPP-4) inhibitors, and sodium–glucose cotransporter-2 (SGLT2) inhibitors - and antihypertensive drugs - beta-blockers, mineralocorticoid receptor antagonists, calcium channel blockers, angiotensin II receptor blockers, angiotensin-converting enzyme inhibitors, and angiotensin receptor–neprilysin inhibitors.

Because this was a retrospective analysis of existing clinical records, data collectors were not blinded to group assignment.

Statistical analysis

Categorical variables were presented as counts and percentages, and continuous variables as median and interquartile range. HbA1c was evaluated only in those with type 2 DM. Patients with smoking habits at baseline were assessed based on whether they reduced or ceased smoking at the end of the follow-up.

Patient stratification was performed per program, and baseline characteristics were compared using the Chi-Square test, Fisher's exact test, or Wilcoxon tests, as appropriate. LDL-C, HbA1c, and SBP values at baseline and end of the program were compared between groups using Wilcoxon test. Also, in both groups, LDL-C, HbA1c, and SBP values at baseline were compared to values at the end of the follow-up. Intragroup paired analyses for each study variable were conducted using the paired Wilcoxon test.

The impact of the program on the variation of LDL-C, HbA1c, or SBP levels was assessed through an analysis of covariance (ANCOVA). For this, a linear regression model was fitted with each parameter change (calculated as its value at 12 months of follow-up minus its

value at baseline) as dependent variables. To minimize potential confounding and adjust for baseline imbalances between groups, the following variables were included as independent covariates: the corresponding baseline value (LDL-C, HbA1c, or SBP), age, sex, overweight/obesity, history of coronary artery disease (CAD), and the group indicator (SCCC or RCC).

The impact of the SCCC program on smoking cessation, compared to patients who reduced or remained active smokers, was evaluated through a logistic regression. Similarly, to account for baseline differences, the independent variables included were the program indicator (SCCC or RCC), age, sex, overweight/obesity, and history of CAD.

Statistical analyses and graphical representations were conducted using the R statistical software, version 4.1.2 [25]. A $p < 0.05$ was considered statistically significant.

Results

A total of 521 patients were included in this analysis: 237 patients in the SCCC group and 284 patients in the RCC group.

Patients' baseline characteristics are depicted in Table 1. There were no significant differences in baseline characteristics between groups, except for a small difference in the prevalence of overweight/obesity [SCCC group: 71 (30%) vs. RCC group: 113 (40%), p=0.019] and previous history of CAD [SCCC: 43 (18%) vs. RCC group: 78 (27%), p=0.012].

The results of the intergroup comparison at the baseline and at end of the program are reported in the *Supplementary Content 1*. The number of missing values for each variable is reported in *Supplementary Content 2*. A comprehensive description of the prescribed drugs in both groups, covering lipid-lowering, antidiabetic, and antihypertensive treatments, is available in *Supplementary Content 3*.

The effect of SCCC program on LDL-C levels

LDL-C levels were significantly reduced in the SCCC group, decreasing from 99 (IQR: 74, 126) mg/dL at baseline to 52 (IQR: 43, 66) mg/dL (p<0.001) at the end of the follow-up (Figure 2A). In the RCC group, LDL-C levels were reduced from 101 (IQR: 80, 142) mg/dL, to 66 (IQR: 52, 83) mg/dL (p<0.001) (Figure 2A).

The analysis of covariance (ANCOVA), adjusted for the covariates, showed that the new SCCC program had a significant impact on improving the control of LDL-C levels [β= -13 (-19, -6.4), p<0.001] (Table 2). The baseline LDL-C levels [β= -0.72 (-0.79, -0.64), p<0.001] and a previous history of CAD [β = 9.7 (2.3, 17), p=0.010] were also independently associated with the change of LDL-C levels.

The effect of SCCC program on HbA1c levels

In the SCCC group, there was a significant reduction in HbA1c values, from 7.00% (IQR: 6.30, 7.60) at baseline to 6.40% (IQR: 6.10, 6.85) (p<0.001) at the end of follow-up (Figure 2B). Conversely, in the RCC group no significant reduction in HbA1c levels was observed, with a mean HbA1c of 7.10% (IQR: 6.40, 8.30) at baseline and of 7.00% (IQR: 6.20, 7.80) at the end of the 12 month follow up (p=0.09) (Figure 2B).
The ANCOVA analysis showed that the SCCC program had a significant impact on the reduction of HbA1c levels [β = -0.49 (-0.91, -0.06), p= 0.026] (Table 2).

The effect of SCCC program on BP levels

In the SCCC group there was a significant reduction in SBP values, which decreased from 134 (IQR: 120, 145) mmHg at baseline to 130 (IQR: 117, 140) mmHg at the end of the program, (p<0.001) (Figure 2C). In contrast, in the RCC group there were no significant differences, with a mean value of 130 (IQR: 114, 143) mmHg at baseline and 130 (IQR: 120, 141) mmHg at the end of the follow-up, [p=0.23] (Figure 2C).
Once again, the ANCOVA demonstrated that the SCCC program had a significant impact on SBP values change [β = -3.5 (-6.3, -0.59), p=0.018] (Table 2).

The effect of SCCC program on smoking cessation

In the SCCC group there were 69 active smokers at baseline. At the 12-month consultation 45 (65.2%) patients quit smoking, 6 (8.7%) patients reduced the number of cigarettes smoked and 18 (26.1%) patients continued to be active smokers (Figure 3, *Supplementary Content 4*). In the SCCC group, 22 (31.9%) patients participated in smoking cessation appointments.
In the RCC group there were 87 active smokers at baseline. At the end of follow-up, 55 (63.2%) patients quit smoking, 2 (2.3%) patients reduced the number of smoked cigarettes, and 30 (34.5%) patients continued to be active smokers (Figure 3, *Supplementary Content 4*). In this group, 19 (21.8%) patients participated in smoking cessation programs.
We did not observe a significant impact of the SCCC on smoking cessation [OR = 1.01 (0.50, 2.04), p > 0.9] (Table 3).

Discussion

In this study we showed that the implementation of a structured program of patient follow-up after an ACS was associated with significant improvements in LDL-C, HbA1c and SBP levels after 12 months. CVRF control at the end of the program was significantly better compared to standard follow-up strategies, and closely aligned with the targets established by the latest guidelines for post-ACS patient management. The SCCC program emerged as a multifaceted addition to CR programs, aiming to address and enhance some of their shortcomings, such as limited patient coverage and high drop-out rates [13,20,26]. These findings highlight

practical implications for institutions aiming to optimize secondary prevention strategies, underscoring the potential of structured follow-up programs to improve care delivery and long-term outcomes in this high-risk population.

The effect of the SCCC program on LDL-C levels

In our study we observed a significant decrease in LDL levels from a median of 99 mg/dL to 52 mg/dL at the end of the 12 months program. These values were significantly lower compared to other studies in the literature employing structured follow-up programs in secondary prevention.

As an example, Gitt *et al* enrolled 10661 patients from 18 different countries: 6794 with history of stable CAD and 3867 with an ACS. Follow-up was conducted through regular consultations and phone interviews at 120 days after discharge. At the beginning of the follow-up mean LDL-C levels were 108 mg/dl for patients with history of ACS, with only 18.9% of them achieving LDL-C levels of 70 mg/dl at the end of follow-up period [2]. Our findings should also be interpreted in light of the well-documented gaps in guideline-directed medical therapy (GDMT) after ACS. This large international registry by Gitt et al. also showed that one of the reasons patients fail to achieve recommended LDL-C targets is the underutilization or delayed intensification of high-intensity statin therapy [2].

In a different study, Wittlinger *et al* followed 1100 patients with CAD admitted in different rehabilitation clinics. Patients were submitted to a 3-week rehabilitation program and the follow-up was conducted through e-mail and telephone questionnaires. In this study, a decrease in LDL-C values from 91.4 (±30.8) mg/dL to 79.3 (±27.2) mg/dL was reported [17].

In a smaller study, Silva *et al* enrolled 379 post-ACS patients and reported a reduction of LDL-C values from 107 (85-135) mg/dL to 66 (52-82) mg/dL after an 8-week follow-up. This study focused on highly compliant post-ACS patients participating in a CR program, with a shorter follow-up period, potentially benefiting from improved patient adherence immediately following the ACS [14].

We think that the success of the SCCC program in secondary prevention is linked to standardized and frequent measurements of CVRF enabling tailored medication prescriptions. This underscores the impact of a more rigorous and time-effective schedule of follow-up consultations and an intensified physician-patient relationship, especially in the first year post-ACS. The protocolized monitoring of cholesterol levels is, in part, responsible for a higher awareness of the patient's lipid profile by the clinicians, allowing prompt pharmacological intervention, as well as compliance assessment and reinforcement. Additionally, it facilitates addressing any reported side effects and enhances patient

engagement in their treatment. The program's success is also supported by early referrals to nutrition appointments and the continuous contact with various healthcare professionals.

The effect of the SCCC program on HbA1c

Measuring HbA1c in all patients admitted for ACS is currently recommended for DM screening. However, the real challenge lies in maintaining controlled HbA1c levels, as inadequate blood glucose control is linked to adverse microvascular and macrovascular events [8]. In our study, patients in the SCCC program achieved median HbA1c levels < 7.0% at the end of follow-up.

Denegri et al. enrolled 171 patients with type 2 DM and impaired glucose tolerance in a 3-month CR program, noting a reduction in HbA1c values among diabetic patients (from 7.70% to 7.50%) [27]. However, these results were not as significant as those observed in our study. In the study by *Silva et al*. mentioned above, 86 diabetic patients were followed in the 8-week CR program and similar HbA1c values were observed [6.40% (6.05-7.05)] [14]. These results enhance the role of the SCCC program in decreasing and maintaining HbA1c levels in the critical distant 12-month period after an ACS.

The effect of the SCCC program on BP control

According to Canoy *et al*, the reduction of 5 mmHg in SBP can decrease the risk of cardiovascular (CV) event by 10% in patients with previous CV disease [28]. Although SBP of patients in the SCCC program was higher than in patients in the RCC program, both groups reached the same median value at the end so the SBP reduction was higher in the SCCC than in the RCC group. This fact was corroborated by the ANCOVA analysis, which showed that our structured follow-up program for post-ACS patients was associated with a greater reduction of SBP values, and therefore contributed to decreased patients' CV risk. Given that arterial hypertension is a prevalent manifestation of atherosclerosis disease, this outcome further strengthens the effectiveness of SCCC program, addressing multiple CVRF simultaneously in a real-world population.

The effect of the SCCC program on smoking cessation

While the SCCC program did not show a significant effect on smoking cessation, our study unveiled a noteworthy success rate of 65.2%, surpassing values observed in other studies (45% smoking cessation following an ACS) [29]. However, despite this relatively high overall cessation rate, the difference between the SCCC and RCC groups was not statistically significant after adjustment for baseline characteristics. This may be explained by the fact that smoking cessation is often driven predominantly by the acute cardiovascular event itself

—the so-called “teachable moment”—which strongly motivates patients to quit regardless of the follow-up strategy.

Although the SCCC program allowed to reinforce the importance of smoking cessation, one third of the active smokers at baseline maintained or resumed this habit during the follow-up. This fact can be attributed to the low-adherence to smoking cessations consultations, with most of the patients at discharge refusing to be referred to these consultations and choosing to address this habit by themselves or resorting to nicotine replacement therapy. Additionally, history of CAD and psychiatric disease are shown to be important factors that may play a significant role in reducing the number of patients that successfully abandon this habit [7,29].

Study limitations

Although providing valuable insights into the role of organization of care after a CV event, our study has some limitations.

Firstly, we included a medium-sized sample and this was not a randomized controlled trial, but rather a retrospective, population-based analysis. However, this real-world design provides valuable insights into routine clinical practice and the implementation of structured follow-up strategies. Furthermore, the use of a historical comparison cohort, with a 3-year gap between both groups, may introduce bias, particularly considering the evolution of treatment options during this period. We intentionally selected a period before 2020 and 2021 to avoid potential bias related to the COVID-19 pandemic, during which patient follow-up was often irregular [30].

Thirdly, although the two groups shared broadly similar clinical characteristics at baseline, they differed in the prevalence of overweight/obesity and in their history of CAD. These baseline differences may in part reflect changes in referral patterns and clinical practice over time, as well as the implementation of more comprehensive cardiovascular risk assessment protocols in more recent years. For instance, increasing awareness of obesity as a modifiable risk factor and broader use of structured risk evaluation tools may have led to a higher detection and recording of overweight/obesity in the later cohort. Similarly, a higher prevalence of documented prior CAD in the SCCC group could reflect improved diagnostic accuracy and record-keeping, rather than a true difference in disease burden. To address these differences, these variables were incorporated as covariates in our statistical models, allowing a more accurate estimation of the independent effect of the SCCC program.

Finally, although the lower proportion of paired LDL-C and HbA1c measurements in the RCC group represents a limitation, it also reflects the absence of routine, protocol-driven

monitoring at that time. This difference itself highlights one of the key messages of our study: a structured follow-up program such as the SCCC can lead to more complete data collection, greater clinician awareness of patients' risk profiles, and more timely therapeutic adjustments, ultimately contributing to improved cardiovascular risk control.

Despite these constraints, the study provides important real-world data regarding CVRF control in post-ACS patients, illustrating the potential impact of implementing a structured follow-up program and offering insights that may contribute to the development of optimized secondary prevention strategies in this very high-risk population.

Conclusions

This study demonstrated that the implementation of a structured coronary-disease follow-up framework after an ACS can lead to significant improvements in LDL-C, HbA1c, and SBP levels at one year follow-up, these being greater than those attained prior to this programs' inception. These findings endorse the importance of implementing multidisciplinary structured programs for post-ACS patients in order to improve CVRF control.

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Online supplementary material:
Supplementary Content 1. Between group analysis.
Supplementary Content 2. Number of patients included in the paired analysis.
Supplementary Content 3. Medication profiles at the end of the follow-up.
Supplementary Content 4. Smoking Status at the end of the follow-up.

Table 1. Baseline patient characteristics.

Variable	**RCC**, N = 284[a]	**SCCC**, N = 237[a]	**p-value**[b]
Gender, women	67 (24%)	56 (24%)	>0.9
Age	65 (55, 73)	64 (55, 75)	0.9
Dyslipidemia	184 (65%)	136 (57%)	0.084
Arterial hypertension	181 (64%)	138 (58%)	0.2
Type 2 diabetes *mellitus*	93 (33%)	75 (32%)	0.8
Overweight/Obesity[c]	113 (40%)	71 (30%)	**0.019**
Chronic kidney disease	20 (7.0%)	13 (5.5%)	0.5
Peripheral arterial disease	17 (6.0%)	10 (4.2%)	0.4
Erectile dysfunction	2 (0.7%)	2 (0.8%)	>0.9
Atrial fibrillation[d]	11 (3.9%)	8 (3.4%)	0.8
Obstructive sleep apnea	10 (3.5%)	14 (5.9%)	0.2
Heart failure	5 (1.8%)	8 (3.4%)	0.2
Stroke history	19 (6.7%)	10 (4.2%)	0.2
Cancer[e]	9 (3.2%)	13 (5.5%)	0.2
Smoking habits			0.7
Active smoker (<6months)	87 (31%)	77 (32%)	
Previous smoker (>6months)	62 (22%)	45 (19%)	
No history of smoking	135 (48%)	115 (49%)	
History of coronary disease	78 (27%)	43 (18%)	**0.012**
Family history of CVD	15 (5.3%)	9 (3.8%)	0.4

[a]n (%); median (IQR); [b]Pearson's Chi-squared test; Wilcoxon rank sum test; Fisher's exact test; [c]overweight – body mass index >25, Obesity – body mass index > 30; [d]atrial fibrillation includes paroxistical, persistent or permanent atrial fibrillation diagnosis; [e]cancer with active treatment or history of cancer in the last 5 years. BMI, body mass index; CVD, cardiovascular disease.

Table 2. Effect of the SCCC program in LDL-C, HbA1c and SBP (ANCOVA analysis)

Cardiovascular risk factor	**Characteristic**	**β [95% CI][a]**	**p-value**
LDL-C change	LDL Baseline	-0.72 [-0.79, -0.64]	**<0.001**
	Woman	1.5 [-5.2, 8.2]	0.7
	Age	-0.07 [-0.32, 0.18]	0.6
	Obesity	-3.6 [-9.6, 2.4]	0.2
	HCAD	9.7 [2.3, 17]	**0.010**
	SCCC[b]	-13 [-19, -6.4]	**<0.001**
HbA1C change (type 2 DM)	HbA1c Baseline	-0.53 [-0.69, -0.36]	**<0.001**
	Woman	0.11 [-0.36, 0.58]	0.6
	Age	-0.01 [-0.03, 0.02]	0.5
	Obesity	-0.01 [-0.43, 0.41]	>0.9

	HCAD	-0.19 [-0.63, 0.26]	0.4
	SCCC[b]	-0.49 [-0.91, -0.06]	**0.026**
SBP change	SBP Baseline	-0.53 [-0.60, -0.46]	**<0.001**
	Woman	-2.3 [-5.8, 1.1]	0.2
	Age	0.07 [-0.05, 0.20]	0.2
	Obesity	0.98 [-2.0, 4.0]	0.5
	HCAD	1.1 [-2.3, 4.6]	0.5
	SCCC[b]	-3.5 [-6.3, -0.59]	**0.018**

[a]CI = Confidence Interval; LDL-C (N = 354), HbA1C (N = 101), and SBP (N = 497); [b] SCCC vs. RCC program. DM, diabetes mellitus; HbA1c, glycated hemoglobin; HCAD, history of previous coronary disease; LDL-C, low-density lipoprotein-cholesterol; SBP, systolic blood pressure; SCCC, structured coronary-disease consultation.

Table 3. Effect of the SCCC program on smoking cessation.

Smoking status	Characteristic	OR[a]	95% CI[b]	p-value
Smoking cessation	Woman	1.07	0.41, 3.05	0.9
	Age	0.99	0.95, 1.03	0.6
	Obesity	1.07	0.49, 2.39	0.9
	HCAD	0.24	0.08, 0.63	**0.005**
	SCCC program[c]	1.01	0.50, 2.04	>0.9

n = 156; [a]OR= Odds Ratio [b]CI = Confidence Interval; [c]SCCC vs. RCC program. HCAD, history of previous coronary disease; RCC, regular cardiology consultation; SCCC, structured coronary-disease consultation.

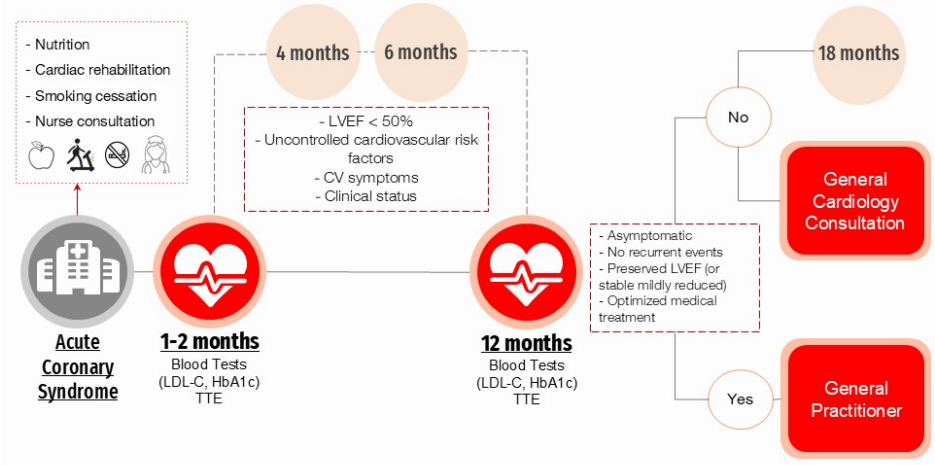

Figure 1. Schematic representation of SCCC program.

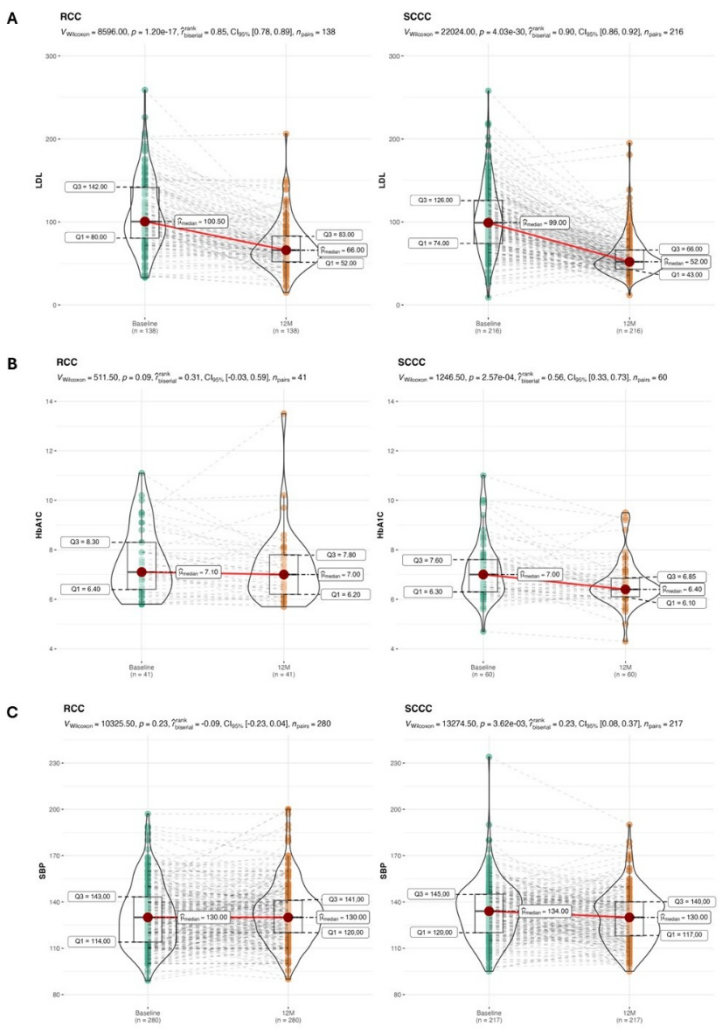

Figure 2. Violin plot representation of the variation of study variables (LDL-C, HbA1c and SBP) at admission and at the end of the follow-up. A. Only patients with baseline and 12-month data for LDL-C were included in this analysis. B. Only patients with type 2 DM and with baseline and 12-month data for HbA1c were included in this analysis. C. Only patients with baseline and 12-month data for SBP were included in this analysis.

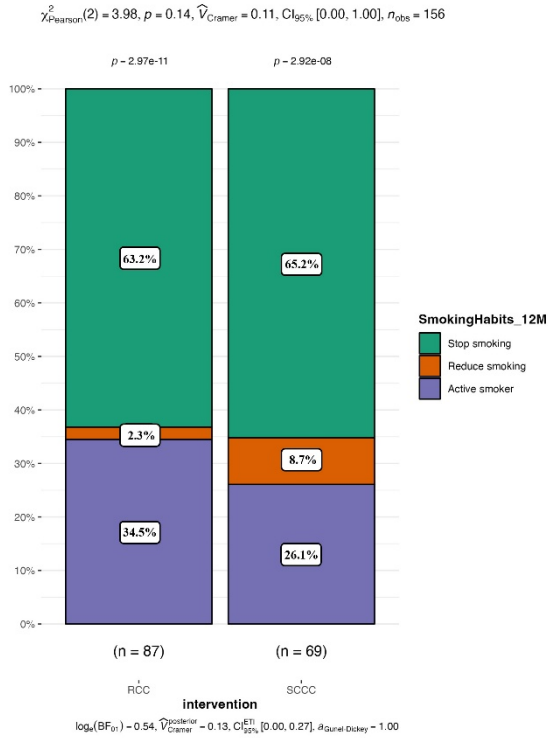

Figure 3. Barplot representation of the percentage of active smokers at baseline and that stopped, reduced, or continued to be active smokers at the end of the follow-up. Only patients with baseline and 12-month data for smoking habits were included in this analysis.