Cardiovascular risk factors in patients with coronary artery disease who are re-hospitalized in the Service of Cardiology

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Introduction:

Coronary artery disease is one of the main causes of cardiovascular disease. Secondary prevention based on pharmacological treatment and lifestyle changes maintained along time are fundamental to diminish the risk factors and to guarantee success of the treatment.
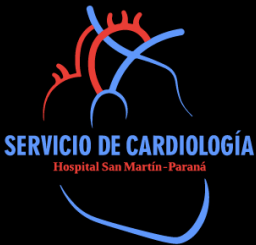
Purpose:

To analyze cardiovascular risk factor in patients with coronary artery disease who are re-admitted at hospital.

Methods:

- **Descriptive prevalence study carried out from September 2018 to August 2019.**
- **Number of patients:** 537 patients hospitalized at the Service of Cardiology.
- **Sample:** 77 patients with antecedents of ischemic heart disease who were re-admitted.
- **Variables:** age, sex, risk factors: diabetes, hypertension, dyslipidemia, smoking, overweight, or obesity (Body Mass index (BMI)(weight/height2) ≥ 25 Kg/m2), sedentary lifestyle was not evaluated. Laboratory values: HDL Cholesterol (< 60: low), LDL Cholesterol (≥130: h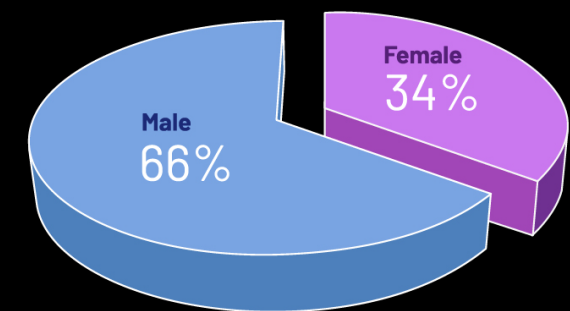igh), triglycerides (≥ 150: high), fasting blood glucose (> 110: impaired); reason for hospitalization (discharge diagnoses classified according to ICD - 10 coding). BMI was obtained from 39 patients. Lipid values were taken from 47 patients and fasting blood glucose values from 75 patients. Relative frequencies and percentages were calculated. For data processing Microsoft Excel 2013 and R Studio 4.0.3 were used.
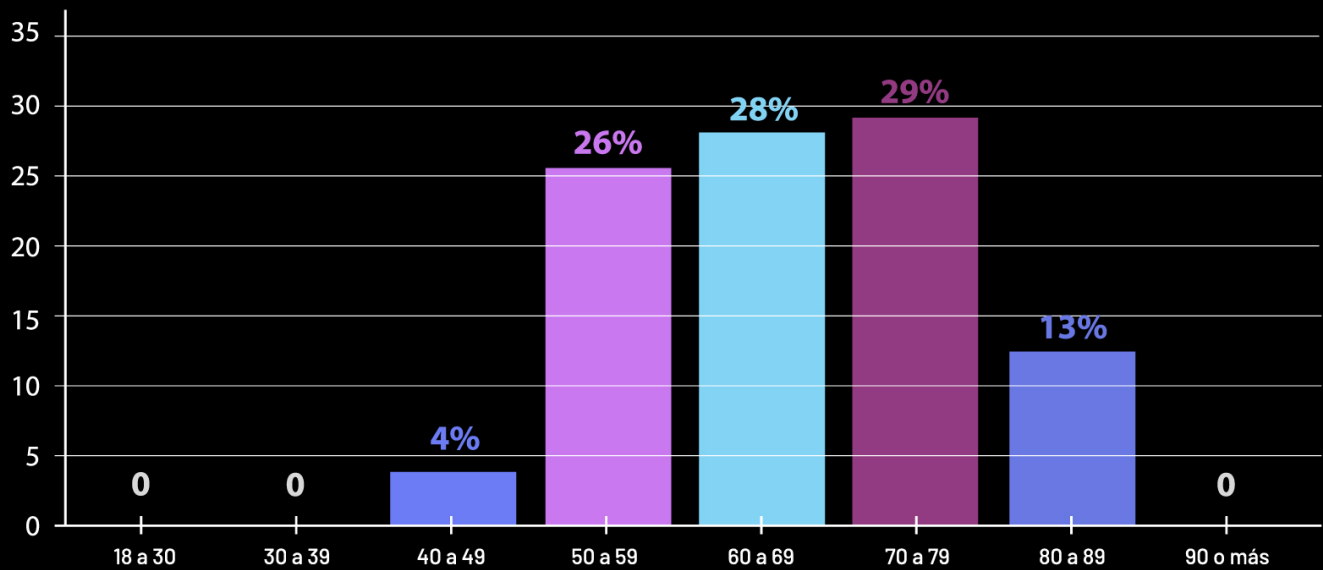
Results:

Characterization of the universe and prevalence of re-hospitalization of patients with ischemic heart disease
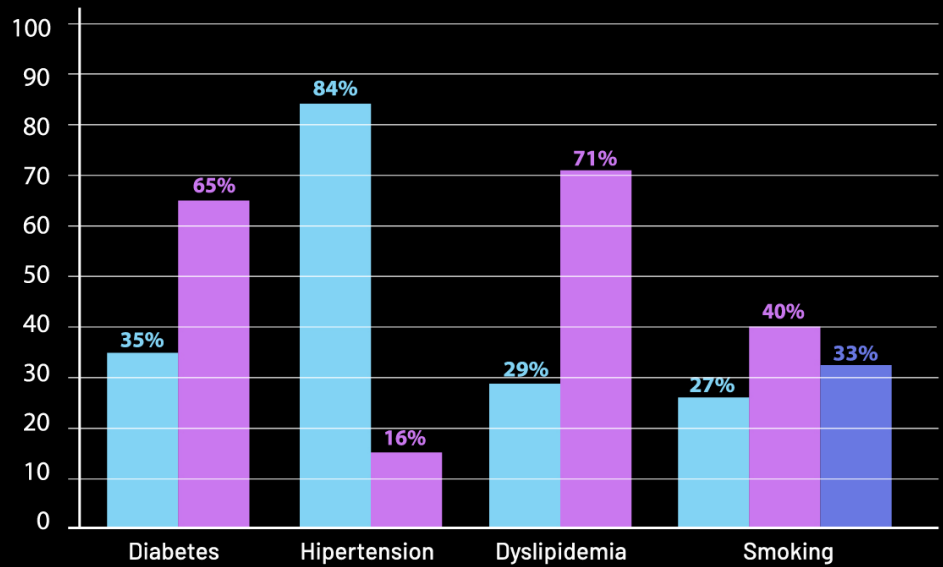
Distribution according to sex.

Re-admission percentage was 14.3% of which, 66% (51/77) were males.

Distribution according to age.

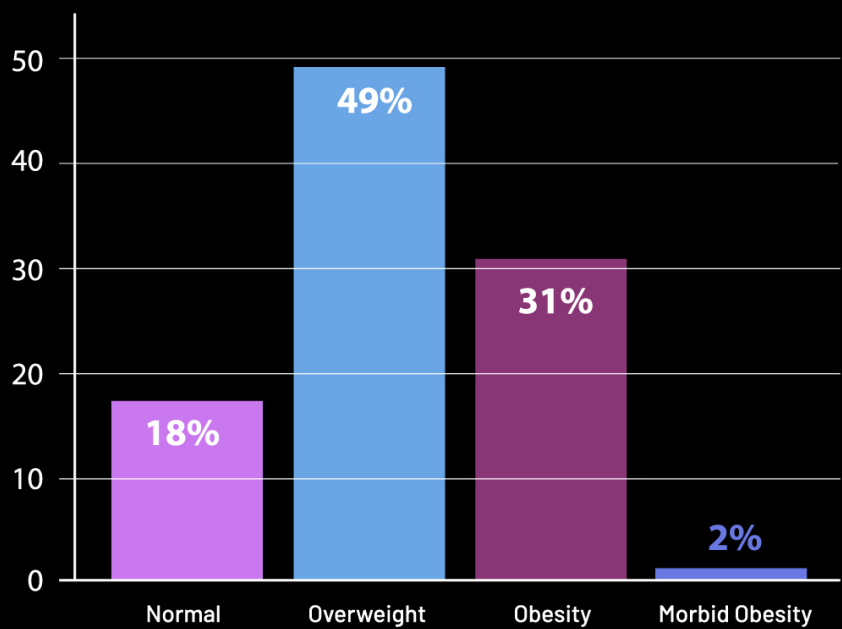
A 96% (74/77) were over 50 years old

Distribution according cardiovascular risk factors

Yes   No   Ex

Based on the calculated ODDS ratio there is a higher chance of presenting an ischemic heart disease event in patients having arterial hypertension, even in patients who have been exposed to smoking habit.

A 35% of the patients were affected by diabetes mellitus, 84% suffered hypertension, 29% dyslipidemia, 27% were smokers at the moment of re-admission and 33% had stopped smoking.
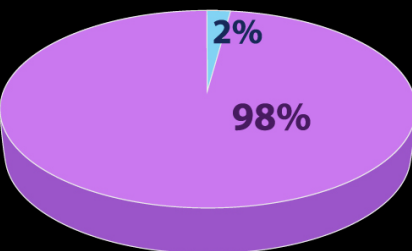
Classification according to BMI

An 82% suffered overweight or obesity.
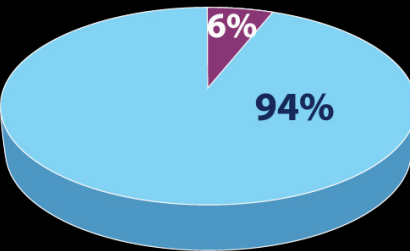
Distribution according to Laboratory Results

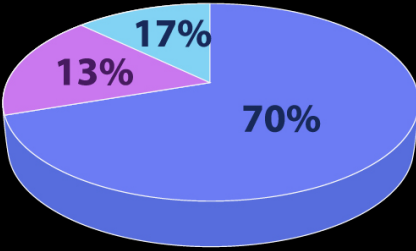HDL-Cholesterol levels (mg/dl)
< 60   60 - 100

LDL-Cholesterol levels (mg/dl)
< 130   130 - 200
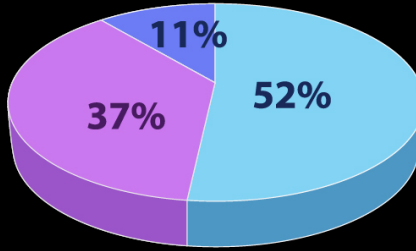
Triglycerides levels (mg/dl)
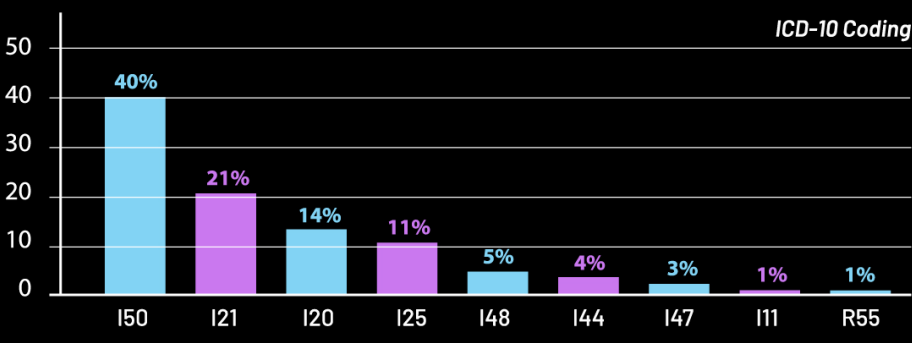< 150   > 200   150 - 200

Fasting Blood Glucose levels (mg/dl)
70-110   111-200   > 200

It was found that 98% of the patients displayed a low value HDL Cholesterol; a 6% showed high LDL Cholesterol; and a 30% had a high level triglycerides. A 48% presented impaired fasting blood glucose.

Distribution according to discharge diagnoses

ICD-10 Coding

I50 Heart failure
I20 Angina pectoris
I21 Acute myocardial infarction
I25 Chronic ischaemic heart disease
I48 Atrial fibrillation and flutter
I47 Paroxysmal tachycardia
I44 Atrioventricular and left bundle–branch block
I11 Hypertensive heart disease
R55 Syncope and collapse

40% was for heart failure, 21% for acute myocardial infarction, 14% for angina pectoris and an 11% for chronic ischemic heart disease.

Conclusion

Those patients re-admitted having coronary artery disease showed hypertension, overweight and obesity as main risk factors. Lipid values LDL Cholesterol and triglycerides were optimal in most cases in respect of the mandatory use of statins; however, most patients had low values of HDL Cholesterol. Almost half of them exhibited fasting hyperglycemia.

The main discharge diagnosis was heart failure, follow by the new coronary events showing the progression of the atherosclerotic pathology before the insufficient check up of cardiovascular risk factors.