CHANGES IN THE BEHAVIOR OF THE RISK FACTORS FOR ATHEROSCLEROTIC CORONARY DISEASE AT THE END OF A CARDIOVASCULAR REHABILITATION PROGRAM PHASE II

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INTRODUCTION

Cardiovascular diseases are the leading cause of disability and premature death in the world. This study determined the changes in the behavior of risk factors in subjects with a history of coronary atherosclerotic disease who completed at least 30 sessions in phase II of the cardiovascular rehabilitation program from January 2015 to March 2018 taking into account gender and age groups.

The purpose was to determine the prevalence of risk factors and be able to identify significant changes in cardiovascular risk factors, which can reach impact in promotion of health and prevention of disease.

OBJECTIVES

Main objective

To determine the changes in the behavior of risk factors taking into account gender and age groups in subjects with a history of coronary atherosclerotic disease who completed at least 30 sessions of phase II of the cardiovascular rehabilitation program in the period covered between January 2015 to March 2018.

Specific objectives

1. Characterize in clinical variables patients with a history of atherosclerotic coronary artery disease taking into account gender and age groups.

2. Determine the prevalence of cardiovascular risk factors: diabetes mellitus, dyslipidemia, hypertension, obesity, sedentary lifestyle and smoking in the study population taking into account gender and age groups.

3. Identify significant changes in the cardiovascular risk factors of the study population with respect to the beginning and end of the program taking into account gender and age groups.

METHODS

Quasi-experimental analytical study with the participation of 707 subjects selected from the database of a Cardiovascular Prevention Center. Statistical software Stata® was used. The statistical tests used were analyzed under a significance of 5%. Quantitative variables were described by median and interquartile ranges, after checking for normality in their distribution with Shapiro - Wilk test. Qualitative variables were measured by absolute frequencies and percentages. To determine if there were changes in the measurement of pre- and post-intervention variables, Wilcoxon rank test was used in quantitative variables. In qualitative variables, X^2 test was used when the expected values in each cell were ≥5 otherwise an exact Fisher test was used.

RESULTS

A prevalence of dyslipidemia was found in 59.83%, smoking history was 55.46%, diabetes mellitus 47.81%, sedentary lifestyle 47.31%, hypertension 33.66% and obesity 15.84%. It was evidenced that women had a higher prevalence in most of the risk factors. There were significant changes in variables except for glycemia, HbA1c, systolic and diastolic blood pressure.
The age group with the highest prevalence and where the greatest significant changes were found was from 61 to 74 years.

Table 1. *Physical activity level in the subjects participating in the study before and after the cardiovascular rehabilitation program phase II*

Physical activity	before-n (%)	after-n (%)	*P-value*
Sedentary	325 (47.31)	33 (4.66)	*‹0.001*
Not very active	113 (16.45)	102 (14.42)	*‹0.001*
Active	236 (34.35)	547 (77.36)	*‹0.001*
Very active	13 (1.89)	25 (3.53)	*‹0.001*

Table 2. *Cardiovascular risk factors according to gender*

Cardiovascular risk factor	Male	Female	*P-Value*
	n= 499	n= 208	
History of smoking			
n (%)	325 (65.13)	67 (32.21)	*‹0.001*
Diabetes mellitus			
n (%)	238 (47.70)	100 (48.08)	*0.926*
Hypertension			
n (%)	151 (30.26)	87 (41.83)	*0.003*
Dyslipidemia			
n (%)	130 (62.50)	120 (58.72)	*0.350*
Obesity			
n (%)	50 (10.02)	62 (29.81)	*‹0.001*
Active smoking			
n (%)	22 (4.41)	6 (2.88)	*0.344*
Physical activity – n (%)			
Sedentary	217 (43.49)	119 (57.21)	*‹0.001*
Active	190 (38.08)	54 (25.96)	
Not very active	79 (15.83)	35 (16.83)	
Very active	13 (2.61)	0 (0.0)	

Abbreviations: *Me, median; RI, interquartile range. Differences calculated by χ^2 test. Differences calculated by Fisher's exact test in Physical activity variable.*

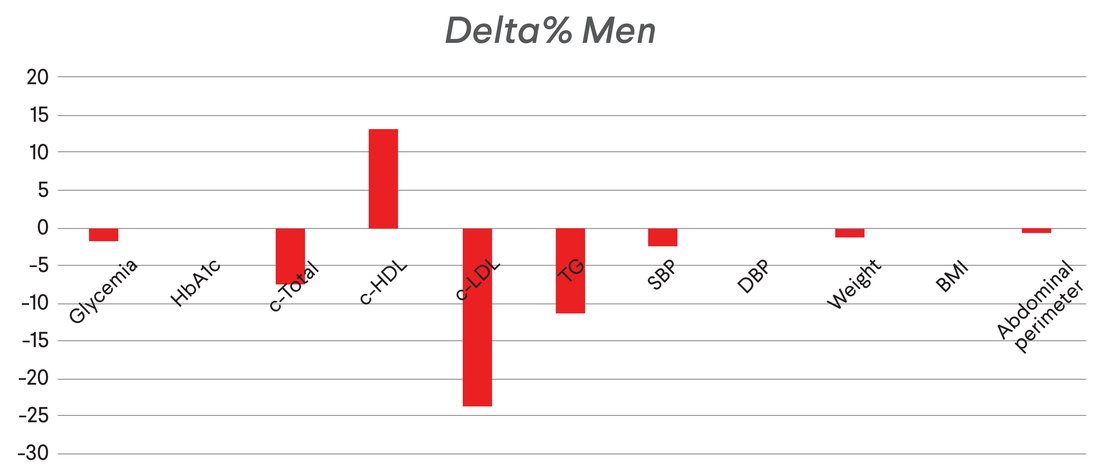

Figure 1. Delta in percentage of change in the behavior of the variables observed in the subjects before and after the cardiovascular rehabilitation program phase II in men

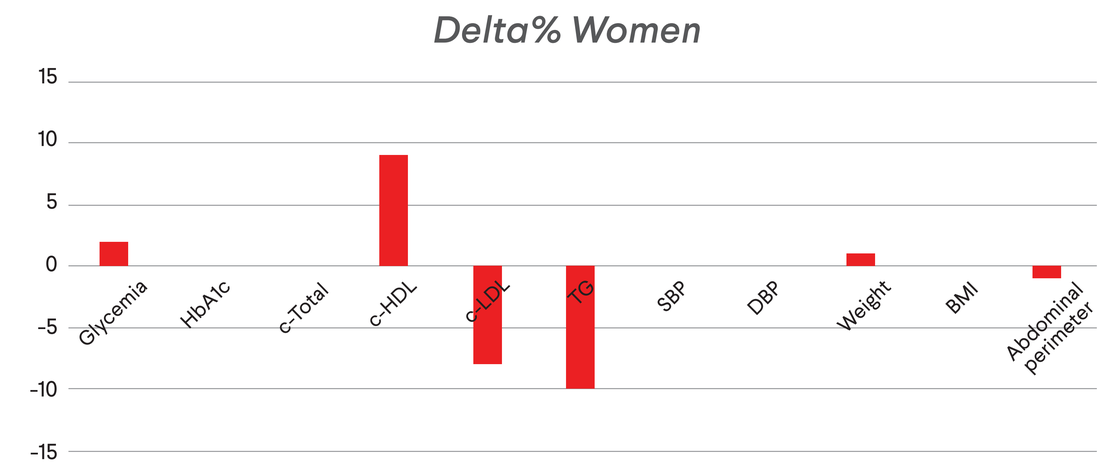

Figure 2. Delta in percentage of change in the behavior of the variables observed in the subjects before and after the phase II cardiovascular rehabilitation program in women

CONCLUSIONS

Significant changes were identified in cardiovascular risk factors in subjects with an atherosclerotic coronary disease. The most prevalent cardiovascular risk factors were dyslipidemia for both men and women, smoking history for men while sedentary lifestyle, hypertension and obesity for women. Regarding the prevalence of age, the group of 61 to 74 years in all the risk factors was the most representative except for active smoking that was 41 to 60 years old.

Clinical implications (or significance):
The results of this study are a tool of action for health professionals involved in the formulation of public policies as well as in the cardiovascular disease intervention programs, since it allows obtaining accurate data taking into account the gender and the age groups in terms of cardiovascular risk factors related to subjects with a history of coronary atherosclerotic disease in relation to before and after their participation in a phase II cardiovascular rehabilitation program.