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Estado de salud cardiovascular de 3.168 pacientes ambulatorios atendidos por
primera vez en un centro cardiovascular de Guayaquil - Ecuador entre 2012 y 2018
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origin, survival rates in those periods rose to 97.2%, 94.6%, 91.2%, and 89.4%. (3) In patients >80 years, those same authors found that survival at the first year was 98.6%, at three years 87.65%, at 5 years 77.3%, and at 7 years 48.6%. (4) Also in octogenarians, another local study showed survival rates of 88% at one year, 85% at two years, and 69% at six years. In turn, when patients were divided into low and intermediate risk, the 5-year survival rate was 88.5% and 67.8%, respectively. (6) In comparison, our results on cardiovascular deaths were similar to those published by other local centers.

In conclusion, complete electronic records of community hospital affiliates operated on more than 15 years ago allowed for the analysis of overall and event-free long-term survival of aortic valve replacement. These results will serve as evidence for decision making in the surgical management of aortic valve disease, and as a standard when choosing between surgery and percutaneous valve implantation.

Conflicts of interest

None declared.

(See authors' conflicts of interest forms on the website/ Supplementary material).

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Cardiovascular health status in 3,168 outpatients attended for the first time in a Cardiovascular Center of Guayaquil - Ecuador from 2012 to 2018

Cardiovascular diseases are the leading cause of morbidity and mortality worldwide, and particularly in low-income countries it contributes to increase death rates despite the lower risk-factor burden compared with high-income countries. (1) In Latin America, cardiovascular diseases represent billions of dollars in hospitalization and healthcare costs annually. (2)

Because of epidemiological transition, diseases such as Chagas disease or rheumatic valve disease have been replaced by other non-communicable chronic diseases. (3) Cardiovascular risk factors among the general population are highly prevalent, and reducing its burden would result in reduction of cardiovascular events. (4, 5) However, ideal cardiovascular health in Latin America is not as good as desired. (6)

Therefore, we aim to determine the cardiovascular health status in ambulatory patients who consult in a single cardiology center of Guayaquil, Ecuador.

Records of outpatients attended from 2012 to 2018 in a single cardiology center were reviewed. Clinical profile, comorbidities as well as demographics were extracted from medical records. Patients aged 18 or older were included in the analysis, and those with incomplete data were excluded. Redundant files were also excluded.

Categorical data were presented as frequencies and percentages, and compared using the chi square test. Numerical data were expressed in terms of mean with standard deviation, and compared between groups using ANOVA or the Kruskal-Wallis test. All statistical analyses were carried out using SPSS 24 software.

A total of 5,135 patients were attended from 2012 to 2018. Among these, 1,296 were excluded because of incomplete data and 671 for redundant data. After exclusion, 3,168 patients were included for the analysis. Mean age was 54 ± 18 years and 40.6% were male (See Table). The body mass index revealed that 40.2% were overweight and that only 29.2% had normal BMI.

Mean abdominal circumference was 91.6 ± 14.2 cm, and 65.4% had abdominal obesity defined as ≥ 102 cm in men and ≥ 88 cm in women.

Prevalence of cardiovascular risk factors were as follows: hypertension (defined as $\geq 140/90$ mmHg) 38.5%; diabetes 8.9% and dyslipidemia 27.9%. All these risk factors were associated with increasing age.

Heart failure (HF) was present in 2.3% of patients and coronary heart disease (CHD) in 5.1%. Other less common comorbidities were atrial fibrillation (1.7%), stroke/TIA (0.9%) and chronic kidney disease (CKD) (4.5%). As described with cardiovascular risk factors, the prevalence of all these comorbidities increased with aging.

Unhealthy habits such as smoking, alcohol abuse, poor diet and lack of physical activity were found in 7.4%, 2.1%, 7.9%, and 10.7% of patients, respectively.

Table. Cardiovascular risk factors and morbidities of included patients. CHD: coronary heart disease. AF: atrial fibrillation. CKD: chronic kidney disease. TIA: Transient ischemic attack.

Characteristics	Total sample (N = 3,168)	1st Quartile (n=850)	2nd Quartile (n=766)	3rd Quartile (n=754)	4th Quartile (n=798)
Male, n (%)	1287 (40.6)	295 (34.7)	327 (42.7)	345 (45.8)	320 (40.1)
Age (years), mean \pm SD	54 \pm 18	32 \pm 6	48 \pm 4	61 \pm 4	78 \pm 8
Weight (kg), mean \pm SD	74 \pm 17.4	72.5 \pm 19.7	77 \pm 17.8	77 \pm 16.3	69.7 \pm 14.1
Height (cm), mean \pm SD	162.1 \pm 10.1	164.4 \pm 9.5	164.3 \pm 9.8	162.5 \pm 9.7	157.3 \pm 9.7
BMI (Kg/m ²), mean \pm SD	28 \pm 5.4	26.6 \pm 5.8	28.4 \pm 5.2	29.1 \pm 5.2	28.1 \pm 4.9
Abdominal circumference, mean \pm SD	91.6 \pm 14.2	86 \pm 15.1	91.9 \pm 14.2	94.8 \pm 13.4	94.2 \pm 11.9
Abdominal obesity, n (%)	2072 (65.4)	390 (45.9)	499 (65.1)	575 (76.3)	608 (76.2)
Hypertension, n (%)	1221 (38.5)	110 (12.9)	211 (27.5)	354 (46.9)	546 (68.4)
Diabetes, n (%)	283 (8.9)	12 (1.4)	38 (5)	96 (12.7)	137 (17.2)
Dyslipidemia, n (%)	884 (27.9)	93 (10.9)	187 (24.4)	279 (37)	325 (40.7)
Heart failure, n (%)	73 (2.3)	3 (0.4)	3 (0.4)	11 (1.5)	56 (7)
CHD, n (%)	160 (5.1)	7 (0.8)	11 (1.4)	36 (4.8)	106 (13.3)
AF, n (%)	54 (1.7)	3 (0.4)	3 (0.4)	12 (1.6)	36 (4.5)
CKD, n (%)	143 (4.5)	3 (0.4)	11 (1.4)	28 (3.7)	101 (12.7)
Stroke/TIA, n (%)	27 (0.9)	0	0	6 (0.8)	21 (2.6)
Smoking, n (%)	233 (7.4)	40 (4.7)	40 (5.2)	78 (10.3)	75 (9.4)
Alcohol, n (%)	67 (2.1)	23 (2.7)	15 (2)	13 (1.7)	16 (2)
Poor diet, n (%)	250 (7.9)	38 (4.5)	63 (8.2)	74 (9.8)	75 (9.4)
Sedentarism, n (%)	339 (10.7)	60 (7.1)	80 (10.4)	92 (12.2)	107 (13.4)

To our knowledge, this is the first study in ambulatory patients of Guayaquil, Ecuador, that aims to describe cardiovascular health status in adults. The main strength of this research is the long term follow-up and sample size. The main limitations are its retrospective design and selection bias derived for using data from one single center.

In conclusion, cardiovascular health still needs to be improved in adults of Ecuador in order to decrease the cardiovascular disease burden.

Conflicts of interest

None declared.

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Percutaneous Management of Prosthetic Valve Dysfunction in Mitral Position: Transapical Mitral Valve-In-Valve Implantation

Resolution of mitral valve dysfunction has been an important issue in cardiac surgery for many years. The mitral valve complex is altered by several conditions that involve the leaflets, the annulus and the papillary muscles. Medical advances have decreased rheumatic causes and degenerative ones are now predominant, particularly in developed countries.

Since the 1960's, mechanical and biological valve prostheses and various mitral valve repair techniques have been developed. Nowadays, with the significant advances in cardiovascular medicine, indications have extended and widened the universe of treated patients, resulting in considerable life extension, (1) as very few patients with severe MR (mitral regurgitation) survive in the long-term without intervention. (2)