

Risks of Cardiovascular Disease Patients in Times of COVID-19. A Survey of the Argentine Foundation of Cardiology

Los riesgos de ser un paciente con enfermedad cardiovascular en época del COVID-19. Encuesta de la Fundación Cardiológica Argentina

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ABSTRACT

Background: The COVID-19 pandemic led to the implementation of massive lockdown measures producing a reduction in consultations, diagnostic tests, treatments and admissions for cardiovascular and cerebrovascular events and cancer.

Objective: The aim of this study was to determine the access to medical care and health care information in patients with cardiovascular diseases during social, preventive, and mandatory confinement in Argentina.

Results: A total of 1,487 surveys were analyzed. Mean age was 56.17 ± 14.0 years; 66.8% of survey respondents were women, 38.9% lived in the Greater Buenos Aires area and 27.1% in the Autonomous City of Buenos Aires. The most commonly reported main cardiovascular disease was hypertension (52.1%); 42% required medical care and 57.9% could not access to consultation due to issues related with the health system in 68.2% of cases. Only 16.4% did not request medical care for fear of becoming infected with COVID-19. Seventy-two percent required prescriptions and 13% did not obtain them. Access to vaccination was normal in 41.4% of respondents. Social mandatory isolation was respected in 92.4% of cases. Finally, 54.6% of the surveyed population felt unprotected by the health system.

Conclusions: We believe that access of the population with chronic cardiovascular diseases to the health system should be warranted in order to adapt monitoring and minimize hospitalization due to decompensation in this high-risk population.

Key words: Cardiovascular Diseases - Pandemics - COVID -19 - Pandemics - Social Isolation - Quarantine - Public Health Surveillance - Argentina

RESUMEN

Introducción: La pandemia por Covid-19 llevó a la necesidad de tomar medidas de contención masivas, pero llevó a una disminución de consultas, estudios diagnósticos y tratamientos y en internaciones por eventos cardiovasculares, encefalovasculares y cáncer.

Objetivo: Conocer el acceso a la atención médica e información sanitaria en pacientes con enfermedades cardiovasculares durante el aislamiento social obligatorio y preventivo en Argentina.

Resultados: Se evaluaron 1487 encuestas. La edad media fue de 56,17 (DE \pm 14,0) y el 66,8% de los encuestados eran de sexo femenino. El 38,9% residían en Gran Buenos Aires; el 27,1%, en la Ciudad Autónoma de Buenos Aires. Las principales enfermedades cardiovasculares reportadas como más frecuentes fueron hipertensión arterial (52,1%); el 42% dijo haber necesitado atención médica; y el 57,9% no pudo acceder, lo que, en el 68,2%, se debió al sistema de salud. Solo el 16,4% no requirió asistencia por miedo al COVID-19. El 72% necesitó recetas, y el 13% no las consiguió. Accedieron con normalidad a vacunación el 41,4%. El aislamiento social obligatorio fue cumplido por el 92,4%. Finalmente, el 54,6% se sintió desprotegidos por el sistema de salud.

Conclusiones: Creemos que es de vital importancia garantizar el acceso de la población con enfermedades cardiovasculares crónicas, al sistema de salud con el fin de adecuar los controles y minimizar las internaciones por descompensación, dado que se trata de una población de riesgo

Palabras clave: Enfermedad Cardiovascular - Infección por Coronavirus - COVID-19 - Pandemia - Aislamiento social - Cuarentena Vigilancia en Salud Pública - Argentina

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Abbreviations

CACI Argentine College of Interventional Cardiologists
CVD Cardiovascular disease

FCA Argentine Foundation of Cardiology

INTRODUCTION

It is never a good time to get sick, but considering the social, preventive and mandatory lockdown implemented in our country to fight against the COVID-19 pandemic, this is a particularly stressful moment to require medical care for another cause. Many patients delay seeking medical care because the attention is focused on COVID-19, and in addition, because of fear of leaving their homes and becoming infected with the coronavirus, even if they have warning symptoms.

People with chronic diseases need care, as strokes and myocardial infarctions still occur. The major chronic diseases affecting the Argentine population are at risk of being neglected in times of pandemic, with the risk of higher mortality due to cardiovascular diseases (CVD), a group of conditions that are the leading cause of mortality in Argentina and worldwide. Therefore, cardiology societies insist on taking preventive measures to ensure that people continue receiving medical care for their diseases. (1-3)

According to data from the Stent-Save a Life initiative, a worldwide survey in which Argentina participates, the Argentine College of Interventional Cardiologists (CACI) reported on May 5 (4) that, since the beginning of the lockdown, the main diagnostic and therapeutic cardiovascular procedures dropped dramatically in our country. There was 75% reduction in the number of percutaneous coronary interventions, and in patients with ST-segment elevation myocardial infarction, a medical emergency with increased risk of mortality, this reduction was 68%. These data appear in numerous reports. (5-7)

This does not only happen in Argentina but is rather a worldwide problem. A study carried out in four provinces of Lombardy (Italy) reported that out-of-hospital cardiac arrests increased 58% and that the incidence of cardiac arrests not treated at hospital was 7.3% higher. (8)

Pre-existing conditions remain without monitoring, which may lead to a health catastrophe. This occurs because people are afraid of becoming infected with the coronavirus in the hospital, are worried about transportation problems, their family doctor is not available, or due to the patient's decision to postpone studies and consultations until the lockdown is over.

For this reason, the Argentine Foundation of Cardiology (FCA) developed a survey to provide valid and reliable information about access to medical care and health information in patients with CVD during the social, preventive and mandatory isolation due to the COVID-19 pandemic in Argentina.

METHODS

A cross-sectional study was carried out using a survey created with Google Forms. The sample consisted of people with CVD living in Argentina. The survey was promoted through social networks and the media and was completed during the lockdown between May 1 and May 6, 2020.

A fifteen-item questionnaire was created with Google Forms. The participants voluntarily answered a self-administered questionnaire, which included the following information: age, sex, place of residence and type of healthcare system [public system, prepaid medical insurance, PAMI (medical retirement plan) or private physician]. Additional information included:

- Main CVD considered by the participant as the reason he/she is receiving medication: hypertension, myocardial infarction, heart failure, angina, pacemaker or other implantable device, congenital heart disease or other.
- The need to seek medical advice due to CVD since the beginning of the mandatory lockdown.
- The possibility of access to the doctor's office in case of needing medical advice.
- The reason for not being able to access the doctor's office: the doctor was not working; the center was closed or far away and the participant had no way to approach it, or it was only operating in case of emergencies, or no solution was provided; or the person was afraid of leaving home or did not have a permission to do so.
- Access to teleconsultation and whether he/she used it.
- The need for prescriptions to buy medicines to treat the CVD and if it was easy or not to obtain them normally or was unable to do so.
- Access to influenza vaccine or pneumococcal vaccine in case of indication and the reason for not being vaccinated.
- Access to qualified and reliable health education about his/her CVD or COVID-19 from the health system.
- How the participant felt about his/her CVD and the protection provided by his/her health system during the mandatory lockdown.
- Whether and to what extent the participant respected the established social, preventive and mandatory confinement, considering the exceptions of essential workers.

The form was shared on the FCA website, on its social networks and promoted on TV programs with 9 rating points in the capital city (one million viewers in CABA) and repeated in the rest of the country.

Statistical analysis

All the statistical calculations were performed using InfoStat 2020 software package. (9) Quantitative variables with normal distribution were expressed as mean \pm standard deviation (SD) and analyzed with Fisher's exact test. Dichotomic variables were expressed as percentages and were compared using the chi square test. The chi-square test of independence for the analysis of 2xN tables was used to establish the relationship between qualitative variables and to compare the frequency of presentation of an effect in two or more study groups. A p value <0.05 was considered statistically significant.

Ethical considerations

The survey was reviewed by the FCA board of directors. The need to obtain informed consent was waived as the survey was voluntary, anonymous, and self-administered.

RESULTS

A total of 1,536 surveys were completed using Google Forms from May 1 to May 6, 2020; 49 were discarded due to absence of CVD, resulting in 1,487 surveys finally included in the analysis.

Mean age of survey respondents was 56.17 ± 14.0 years, and their baseline characteristics are shown in Table 1. The distribution of the most prevalent CVD reported by patients and the medication used is summarized in Table 1. Forty-two percent responded that they needed to seek medical advice due to their CVD during the mandatory lockdown and 58% did not request it.

Among 625 participants who needed to seek medical advice for their CVD, 622 answered the question: 57.9% declared that they could not visit their doctors' office (360 patients) while 42.1% were able to do so (262 patients) (Table 2).

The reasons for not being able to access the doctor's office (360 patients) were that either the doctor was not working: 28.1%, or the center was closed

or was only operating for emergency consultations: 28.1%, or the respondents did not attend the doctors' office for fear of becoming infected with COVID-19: 16.4% (Table 2).

Out of the 1,483 answers to the question about the possibility of access to teleconsultation (via the Internet, e-mail or telephone contact) due to their CVD, 29.8% responded that they had access but did not require it, 19.3% had access and used it, 51% had no access and 0.9% provided other answers (Table 2),

Seventy-two percent of survey respondents (1,070) required prescriptions: 60.6% obtained them without difficulty, 13% were unable to obtain them and 0.7% had to buy the medications without prescriptions (Table 2).

Among 1,137 persons with indication for influenza vaccine or pneumococcal vaccine, 41.4% had access to vaccination and 23.4% could not be vaccinated. Other answers are shown in Table 3.

When asked if the health system provided qualified and reliable health education on their cardiovascular conditions or COVID-19, the answers were: yes, but I didn't use it: 24%; yes and I used it: 14%; no: 45%; personal research: 8.3%; I don't know if my health system provides education by any means: 7.6%; and other (including the media): 0.8%.

Table 1. Demographic characteristics and distribution of cardiovascular diseases reported

Variable	Percentage (n persons)
Sex	
• Female	66.8% (993)
• Male	33.2% (493)
Place of residence	
• CABA	27.1% (403)
• Greater Buenos Aires	38.9% (579)
• Province capital city	7.9% (117)
• Province city/town	26.1% (388)
Health care system	
• Social security coverage	44.3% (659)
• Prepaid medical insurance	29% (431)
• PAMI	11% (164)
• Public system	10.8% (161)
• Private physician	4.8% (71)
Cardiovascular disease	
• HT	52.1% (774)
• Myocardial infarction	10% (148)
• Chronic heart failure	8.1% (121)
• Arrhythmias	6.9% (102)
• Congenital heart disease	5.3% (79)
• Pacemaker/ICD	3.9% (58)
• Heart surgery (revascularization or valve surgery)	3% (45)
• Chronic ischemic heart disease without myocardial infarction	2.8% (41)
• Percutaneous coronary intervention	1.7% (26)
• Heart valve disease	1.6% (24)
• Other	4.6% (69)

CABA: Autonomous City of Buenos Aires. PAMI: Medical retirement plan. HT: Hypertension. ICD: Implantable cardioverter defibrillator

Issue	Percentage (n persons)
Need to seek medical advice	
• No	58% (862)
• Yes	42% (625)
Could access (18% of the total)	42.1% (262)
Could not access (24% of the total)	57.9% (360)
Reason for being unable to access (360)	
• The doctor was not working	28.1% (101)
• The healthcare center was closed or was only opened for emergencies	28.1% (101)
• The healthcare center did not provide any solution/ could not contact the healthcare center	12% (43)
• Not attended the doctors' office for fear of becoming infected with COVID-19	16.4% (59)
• Did not have a permit to move around	9.7% (35)
• Could not reach the center because it was far away	4.7% (17)
• Other	0.8% (3)
Access to teleconsultation (1,483)	
• Yes, but did not require it	29.8% (442)
• Yes and used it	18.3% (271)
• No access	51% (757)
• Other	0.9% (13)
Need for prescriptions	
• No	28% (417)
• Yes	72% (1070)
Normal	60% (644)
Somewhat difficult	19.8% (210)
Extremely difficult	5.9% (63)
Could not obtain them	13% (138)
Purchased medications without prescription	0.7% (7)

* Some questions are presented with their corresponding totals and percentage.

Table 2. Issues explored*

In relation to the protection provided by the health system, 19.2% felt very unprotected, 35.4% felt more or less protected, 37.1% felt protected, and 8.3% felt very protected.

Almost all the respondents (92.4%) indicated that they had fully respected the social and mandatory isolation and that they had only left home to perform essential tasks as stipulated by the National Government (this includes compliance by exempted workers). A small percentage made some unnecessary outings (3.4%), 4% were unable to stay at home because, despite they were not exempted workers, they had to work to meet their basic needs, while 0.1% did not respect the isolation because they were against the lockdown.

The relationship between qualitative variables and the comparison of the frequency of presentation of an effect in different study groups did not show a significant association between the need to seek medical care and CVD ($P = 0.2037$). There was a significant association between the place of residence and the possibility to visit the doctor's office; the number of respondents living in the Greater Buenos Aires area unable to access to consultation was significantly higher compared with the rest

(167/256, $P = 0.016$). There was no correlation between the place of residence and access to vaccination.

DISCUSSION

Based on the survey data, we can conclude that more than half of the respondents presented HT as the predominant CVD. Four out of 10 patients required medical care for their CVD during the lockdown and more than half of them were unable to access it (57.9%).

Lack of access to care was due to issues related with the health system in 68.2% of cases, including doctors who were not working, healthcare centers closed or not providing any solution or absence of communication. Although the feeling was that people did not ask for advice because of fear, this was admitted by only 16.4% of respondents.

Of note, despite CVD is the leading cause of mortality worldwide, 13% of patients could not get a prescription.

Vaccination in patients with CVD is essential to avoid severe types of pneumonia or influenza. Only 41.4% of participants with indication for influenza vaccine or pneumococcal vaccine had normal access to vaccination. Unfortunately, almost 4 out of 10 did not

Table 3. Access to vaccination*

Vaccination	Percentage (n persons)
Normal	41.4% (471)
Somewhat difficult	14.5% (165)
Extremely difficult	3.7% (42)
Could not obtain them	23.4% (266)
Cannot not leave home and could not access home vaccination by the healthcare provider	9.9% (112)
Cannot not leave home and could access to vaccination with certain difficulty	1.4% (16)
Could not access to vaccination due to lack of prescription	1.7% (19)
Could not access to pneumococcal vaccine	1.7% (19)
Had to pay for vaccination, not through their healthcare system	1.5% (17)
Other	0.8% (10)

*1,137 persons confirmed indication for influenza vaccine or pneumococcal vaccine

receive the corresponding vaccine (36.7%).

In addition, 2 out of 10 respondents reported that they felt very unprotected by their health systems.

During the period in which the survey was carried out, many people felt that they had fully respected the social, preventive and mandatory isolation.

It should be emphasized that these data have been obtained from a questionnaire given to the population, and therefore it is necessary to consider the presence of biases associated with surveys before interpreting the results, such as complex or long questions, uncommon words, knowledge, secondary data, forced choice bias (insufficient categories), bias due to case definition, social suitability bias, socio-cultural bias (access to technology), among many others that can be attributed to this type of design. Therefore, the data presented refers to the population that answered the survey and cannot be applied to the entire Argentine population.

CONCLUSIONS

Considering the increasing number of reports about the fall in medical consultations and cardiovascular procedures, we should bear in mind that cardiovascular disease continues to be the leading cause of annual mortality worldwide. We are letting these conditions take their natural course which had been successfully changed over the past few decades.

We believe that access of the population with chronic cardiovascular diseases to the health care system in times of pandemic should be warranted to adapt monitoring and minimize hospitalization due to decompensation in order to prevent complications in this population at risk for COVID-19.

Conflicts of interest

None declared.

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

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