








Vulnerability to COVID-19 in older adults suffering from cardiovascular disease

Vulnerabilidad ante la COVID-19 en adultos mayores con enfermedad cardiovascular

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Received: August 26, de 2020 | Accepted: September 29, 2020 | Published: October 12, 2020

Cite as: Vázquez-González LA, Miguel-Betancourt M, Machado-Rojas MA, Torres-Velázquez L, Álvarez-Pupo LM, Pantoja-Hernández A. Vulnerabilidad ante la COVID-19 en adultos mayores con enfermedad cardiovascular. Univ Méd Pinareña [Internet]. 2020 [cited: Access date]; 17(1):e601. Available from: www.revgaleno.sld.cu/index.php/ump/article/view/601

ABSTRACT

Introduction: the identification of vulnerable population groups through active surveys is aimed at preventing contagion through different measures or interventions.

Objective: to characterize vulnerable older adults to Covid-19 with a personal pathological history of cardiovascular diseases.

Method: an observational, descriptive and cross-sectional study was conducted at No-3 Family Doctor's Office belonging to Manuel Piti Fajardo Rivero University Polyclinic in Las Tunas province, including the period defined between March and July 2020. The target group included 90 old people from 65 years or older having a personal pathological history of cardiovascular disease, working with all of them.

Results: it was found a predominance of female sex (70 %) and the age group from 65 to 70 (35,6 %). According to personal medical history, 100 % of older adults were hypertensive, and 70 % suffered from cardiovascular diseases other than hypertension; 85,7 % of the patients maintained a standard therapeutic adherence to the treatments for the underlying diseases; 60 % of the patients were compensated during the period studied.

Conclusions: the vulnerable older adults having a history of cardiovascular diseases were mainly female. Hypertension was shown as the main cardiovascular antecedent. Standard therapeutic adherence and stable underlying diseases were common in these patients.

Keywords: Severe Acute Respiratory Syndrome; Aged; Cardiovascular Diseases; Risk Factors.

RESUMEN

Introducción: la identificación de grupos poblacionales vulnerables a través de pesquisa activa tiene como fin prevenir la infección a través de diferentes medidas o intervenciones.

Objetivo: caracterizar a los adultos mayores vulnerable a la COVID-19 con antecedentes personales de enfermedades cardiovasculares.

Método: se realizó un estudio observacional, descriptivo y transversal en el Consultorio Médico de la Familia 3 del Policlínico Universitario “Manuel Piti Fajardo Rivero” de la provincia las Tunas el periodo definido entre marzo a julio de 2020. El universo estuvo constituido por 90 adultos mayores con antecedentes patológicos personales de enfermedad cardiovascular con edad igual o mayor a 65 años, trabajándose con la totalidad.

Resultados: se encontró predominio del sexo femenino (70 %) y el grupo de edades de 65 a 70 (35,6 %). El 100 % de los adultos mayores según antecedentes patológicos personales fueron hipertensos, y el 70 % presentó enfermedades cardiovasculares diferentes a la hipertensión arterial. El 85,7 % de los pacientes

mantuvo una adherencia terapéutica regular a los tratamientos de las enfermedades de base. El 60 % de los pacientes se mostró compensado en el periodo de estudio

Conclusiones: los adultos mayores vulnerables con antecedentes cardiovasculares fueron principalmente féminas. La hipertensión arterial se mostró como principal antecedente cardiovascular. La adherencia terapéutica regular y la compensación de la enfermedad de base fue común en los pacientes.

Palabras clave: Síndrome Respiratorio Agudo Grave; Anciano; Enfermedades Cardiovasculares; Factores de Riesgo.

INTRODUCTION

Since the emergence of COVID-19, caused by SARS-CoV-2 (severe acute respiratory syndrome, English Language acronyms), first reported in Wuhan, Hubei Province, China and declared as a pandemic, humanity has been severely threatened.⁽¹⁾ In September 21st, 2020, 32 968 853 patients have been confirmed positive for the disease by reverse transcription-polymerase chain reaction (RT-PCR) tests, and 995 836 deaths have been reported, affecting 216 countries, territories, or areas according to official data from the World Health Organization.⁽²⁾

Older adults, as well as patients suffering from chronic non-communicable diseases, including high blood pressure (HBP), diabetes mellitus (DM) and chronic renal failure, have been identified as the most vulnerable groups to COVID-19.⁽³⁾ At Frank Pais Garcia Hospital, adults over 60 years old accounted for 30,43 % of the positive cases,⁽⁴⁾ while at Joaquín de Agüero y Agüero Hospital in Camagüey they accounted for 38,4 %⁽⁵⁾ and in Las Tunas province they accounted for 38,8 % of the positive cases⁽⁶⁾.

The literature and the media report a relationship between the renin-angiotensin-aldosterone system, the use of angiotensin-converting enzyme inhibitors (ACE inhibitors), angiotensin-2 receptor antagonists (ARA-2) and the pathophysiology of COVID-19.^(7,8)

Vázquez-González et al.⁽⁹⁾ identified advanced age and comorbidities with cardiovascular diseases as predictors of poor evolution in patients with COVID-19 at No-13 Family Doctor's Office belonging to Manuel Fajardo Rivero Teaching Polyclinic in Las Tunas province.

Establishing connection with this research, it is necessary for primary health care to carry out a survey, personalized care and prevention measures for older adults with a personal history of cardiovascular diseases. Therefore, the present study was aimed at characterizing older adults vulnerable to COVID-19 with a personal history of cardiovascular diseases.

METHODS

An observational, descriptive and cross-sectional study was carried out in adults over 65 years old attending at No-3 Family Doctor's Office, Manuel Fajardo Rivero Teaching Polyclinic in Las Tunas province between March and July 2020. The target group comprised 90 older adults with a personal pathological history of cardiovascular diseases who agreed to participate in the research, working with them all.

For the development of the activity, the variables studied were age, sex, personal pathological history (hypertension, cardiovascular diseases different from hypertension, and other health antecedents), stabilization of the underlying diseases in the study period (decompensated or in stable condition), therapeutic adherence (an adherent or non-adherent behavior), attitude towards the decompensation of the disease (attending health institutions or self-medication).

A data collection form was used to take out information from the medical records. In addition, a semi-structured interview was conducted to collect different data. The data obtained were stored in a database created for this purpose and processed in the SPSS version 21.0 statistical package. Descriptive statistics were used for the statistical analysis of these data, using absolute and relative percentage frequencies.

Informed consent was requested from each patient. Approval was obtained from the Medical Ethics Committee of Manuel Fajardo Rivero Teaching Polyclinic, as well as from the Scientific Council of the Institution. The principles and recommendations for physicians in biomedical research on human beings adopted in the Declaration of Helsinki were met in this research.

RESULTS

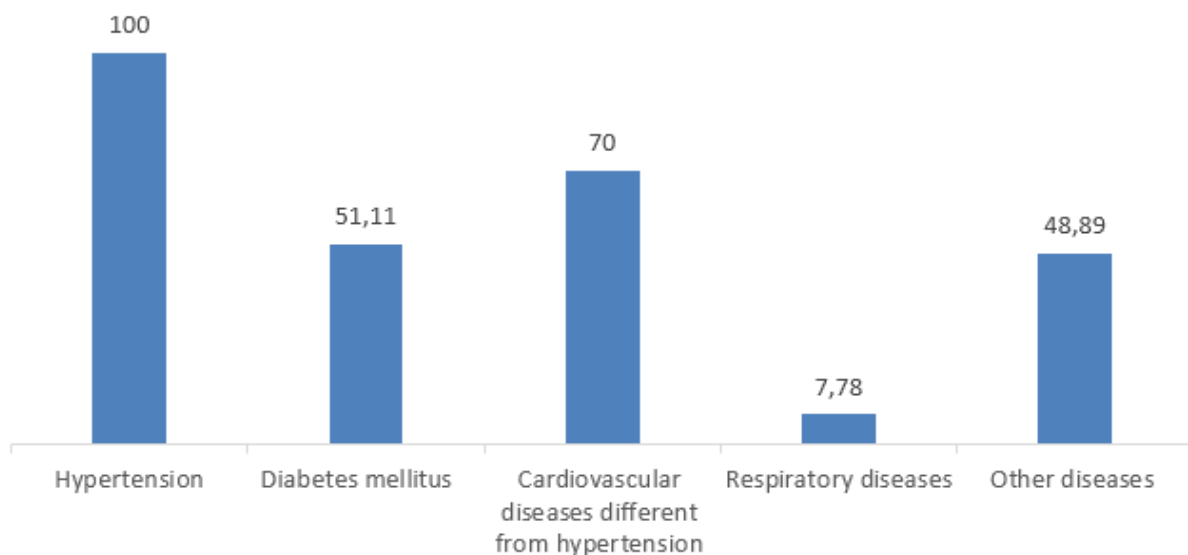
On analyzing the older adults with a history of cardiovascular diseases, it was found a predominance of the female sex (70 %) and ages from 65-70 (35,6 %) (Table 1).

Table 1. Distribution according to age and sex of older adults with a history of cardiovascular diseases belonging to No. 13 Family Doctor’s Office from Manuel Fajardo Rivero Teaching Polyclinic in Las Tunas province during the period from March to July 2020

Age	Sex				Total	
	Female		Male		No	%
	No	%	No	%		
65 a 70	27	30	5	5,6	32	35,6
71 a 75	9	10	9	10	18	20
76 a 80	22	24,4	4	4,4	26	28,8
More than 80	5	5,6	9	10	14	15,6
Total	63	70	27	30	90	100

The 100 % of the older adults according to personal pathological history were hypertensive, and 70 % suffered from cardiovascular diseases different from hypertension (Figure 1).

Figure 1. Distribution of older adults according to personal pathologic histories



The 85,7 % of these patients maintained the expected therapeutic adherence to the treatment of the underlying diseases. Sixty percent of the patients were stable during the period of the study (Table 2).

Table 2. Distribution according to therapeutic adherence of the underlying diseases and stabilization of the underlying diseases from March to July of the current year

In stable conditions	Normal Therapeutic Adherence		Irregular Therapeutic Adherence		Total	
	No	%	No	%	No	%
	Stable patients	46	51,2	8	8,8	54
Decompensated patients attending healthcare institutions	13	14,5	0	0	13	14,5
Decompensated self-medicated patients	18	20	5	5,5	23	25,5
Total	77	85,7	13	14,3	90	100

DISCUSSION

The care of at-risk groups in primary health care is one of the guidelines of the Cuban Healthcare System, which is extended due to the existence of COVID-19. The constant work of the personnel at this primary level, together with students, personnel associated with healthcare services, and members of the different social sectors, make possible to achieve better results in this context.

There are several educational actions that have been added to this task of all the Cuban people, in which it has been identified that, despite the formative actions that are arranged in the different media, active survey and the work of the family doctor's office are the most effective and accepted.⁽¹⁰⁾ Therefore, the development of activities and actions with risk groups is invaluable, and should be carried out in a personalized way and based on the needs of each patient.⁽³⁾

Díaz-Rodríguez et al.⁽¹¹⁾ designed an educational intervention on the level of knowledge of COVID-19 in older adults where they achieved an adequate level of knowledge in 97,62 % of the patients once the intervention was applied. In that study, the age group between 70 and 79 years (38,10 %) and female sex (54,76 %) predominated, this differs from the results of the present study. This may be due to the existing population differences between Havana and Las Tunas provinces.⁽¹²⁾

Urquiza-Yero et al.⁽⁶⁾ found in their study that 11,11 % of patients with severe forms of COVID-19 were hypertensive. If comorbidities such as other cardiovascular diseases or thromboembolic disease are also associated, the risk of death increases.⁽¹³⁾

Therapeutic adherence constitutes a great part of the effectiveness of a medical treatment. Abrupt discontinuation of ACEI/ARB therapy leads to progressive and rapid worsening accompanied by clinical instability.⁽⁸⁾ Medical evidence suggests maintaining current treatments without the drug-treatment-withdrawal.

The perception of risk and responsibility contribute to a rational approach to this pandemic.⁽¹⁴⁾ It is necessary that, in situations of decompensation of diseases, or the onset of non-specific symptoms, the attitude assumed should not be self-medication, but to attend immediately to health institutions. Having a characterization of the groups at risk, is a guide for the basic teams of the family doctor's offices to plan actions to be developed in order to guarantee a better quality of life for the elderly and to strengthen the prevention of the disease.

One of the limitations of the present study was that it did not include an assessment of the cognitive or visual abilities of the older adults that could affect correct adherence and their opinion about the medication based on the circulating information about its effect.

Vulnerable older adults with a history of cardiovascular diseases were mainly women. High blood pressure was shown to be the main cardiovascular history. Regular therapeutic adherence and stabilization of the underlying diseases was found to be common in these patients.

CONFLICT OF INTERESTS

The authors declare that there are no conflicts of interests.

AUTHORSHIP CONTRIBUTION

LAVG: work on the conceptualization, formal analysis, writing of the original draft, writing, revision and edition, in the management of the project as well.

MMB, MAMR: research, supervision, resources, and writing of the initial draft.

LTV, LMAP, APH: research, writing of the initial draft, writing, revision and edition.

FINANCING

The authors did not receive funding for the development of this research.

MATERIAL ADICIONAL

Additional information is available from: <http://www.revgaleno.sld.cu/index.php/ump/rt/suppFiles/601>

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