

Characterization of pluripathological patients in the Internal Medicine Service of the Carlos Juan Finlay Military Hospital

Caracterización de pacientes pluripatológicos en el servicio de Medicina Interna del Hospital Militar Carlos Juan Finlay

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ABSTRACT

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Introduction: the increase in life expectancy leads to an increase in the number of multipathological patients and with it a greater expenditure of resources on medical care, as their hospital stay and the number of readmissions increase.

Objective: to determine the prevalence of multipathology patients admitted to the Internal Medicine wards of the Carlos J. Finlay Military Hospital.

Methods: an observational, cross-sectional study was conducted. Developed at the Central Military Medicine Service "Dr. Carlos J. Finlay" in the period from June 2018 to June 2019. The categories proposed by the Junta de Salud de Andalucía were used for the diagnosis of multipathological patients.

Results: 66.7% of the total number of admitted patients were pluripathological and 55.4% were over 70 years old. The average stay was between 10 and 21 days for 78.4 % of the sample. Re-admission was 37.6%. 97.6% belonged to category C.

Conclusions: most of the patients admitted were multipathological and over 70 years old, with prolonged stay and readmissions in the first month. Chronic respiratory diseases, diabetes mellitus and cardiovascular diseases were the predominant categories.

RESUMEN

Introducción: el aumento de la esperanza de vida conlleva a un incremento de los pacientes pluripatológicos y con ello mayor gasto de recursos en lo que a asistencia médica se refiere, pues su estadía hospitalaria y el número de reingresos se elevan.

Objetivo: caracterizar la pluripatología como problema sanitario en las salas de Medicinas Interna del Hospital Militar Carlos Juan Finlay.

Método: se realizó un estudio observacional, de corte transversal. Desarrollado en el servicio de Medicina en el Hospital Militar Central “Dr. Carlos Juan Finlay” en el periodo de junio de 2022 a junio de 2023. Para el diagnóstico del paciente pluripatológico se utilizaron las categorías propuestas por la Junta de Salud de Andalucía.

Resultados: el 66,7 % del total de pacientes ingresados eran pluripatológicos y el 55,4 % mayor de 70 años. El promedio de estadía fue de entre 10 y 21 días para el 78,4 % de la muestra. Reingresó el 37,6 %. El 97,6 % pertenecían a la categoría C.

Conclusiones: la mayoría de los pacientes ingresados eran pluripatológicos y mayores de 70 años, con estadía prolongada y reingresos en el primer mes. Las enfermedades respiratorias crónicas, la diabetes mellitus y las enfermedades cardiovasculares fueron las categorías predominantes.

INTRODUCTION

In hospital institutions on a global scale, an increase in admissions of older adults with more than one illness is reported.¹⁻⁶

Pluripathological patients (PP) are not defined only by the presence of two or more diseases, but also by a special clinical fragility.⁷ The prevalence of PP in the general population ranges between 1-1.5%, and its mortality at year between 6-10%, while in the hospital environment it is between 25% and 50% depending on the areas, with an annual mortality around 37%.⁷⁻⁹

PP patients demand greater attention from health systems, as well as prolonged and frequent admissions. In the care process, different variables converge that include not only the quality and efficiency of the health systems, but also the characteristics of the patients within which we can mention age, the primary cause that motivated admission, its severity, comorbidities, among others that have a direct influence on medical care costs.¹⁰

When considering the increase in life expectancy in the Cuban population and with it pluripathology, it was decided: to characterize pluripathology as a health problem in the Internal Medicine wards of the Carlos Juan Finlay Military Hospital in the period of time between June 2022 to June 2023.

METHOD

An observational, cross-sectional study was carried out in the internal medicine service of the Central Military Hospital "Dr. Carlos Juan Finlay", in the period of time between June 2022 and June 2023. The universe was made up of 2,036 patients who were admitted to the internal medicine wards at the Military Hospital: Dr. "Carlos Juan Finlay" during that period of time. The sample consisted of 1358 patients who correspond to those who presented multiple pathologies.

Exclusion criteria: patients who refused to participate and patients with terminality criteria.

The medical records were reviewed. The following variables were analyzed: age, sex, hospital stay, readmission, chronic non-communicable disease and pluripathological category.

The categories of pluripathology are:

CATEGORY A

1. Heart failure that, in a situation of clinical stability, has been in NYHA grade II a (symptoms

with usual physical activity).

2. Ischemic heart disease.

CATEGORY B

1. Vasculitis and systemic autoimmune diseases.
2. Chronic kidney disease defined by elevated Creatinine (> 1.4 mg/dl in men or > 1.3 mg/dl in women) or proteinuria b, maintained for three months.

CATEGORY C

1. Chronic respiratory disease that, in a situation of clinical stability, has been with grade 2 dyspnea of the MRC c (dyspnea at habitual walking on the flat) or FEV1 < 65%, or SaO2 ≤ 90%.

CATEGORY D

1. Chronic inflammatory bowel disease.
2. Chronic liver disease with portal hypertension ^d.

CATEGORY E

1. Stroke.
2. Neurological disease with permanent motor deficit that causes a limitation in basic activities of daily living (Barthel index < 60).
3. Neurological disease with permanent, at least moderate cognitive impairment (Pfeiffer with five or more errors).

CATEGORY F

1. Symptomatic peripheral arterial disease.
2. Diabetes mellitus with proliferative retinopathy or symptomatic neuropathy.

CATEGORY G

1. Chronic anemia due to digestive losses or acquired hemopathy not amenable to curative treatment that presents hemoglobin < 10 mg/dl in two measurements separated by more than three months.
2. Active solid or hematological neoplasia not amenable to treatment with curative intent.

CATEGORY H

1. Chronic osteoarticular disease that itself causes a limitation in basic activities of daily living

(Barthel index < 60).

^a Slight limitation of physical activity. Regular physical activity causes dyspnea, angina, fatigue or palpitations.

^b Albumin/creatinine index > 300 mg/g, microalbuminuria > 3 mg/dl in urine sample or albumin > 300 mg/day in 24-hour urine or > 200 µg/min.

^c Inability to keep up with another person of the same age, walking on level ground, due to respiratory difficulty, or having to stop to rest when walking on level ground at one's own pace.

^d Defined by the presence of clinical, analytical, ultrasound or endoscopic data.

Within the statistical analysis, absolute and relative frequencies were used as summary measures.

Analyzes were performed using IBM SPSS Statistics version 23.

The principle of confidentiality of the information in the reviewed database and clinical records was respected. The research was approved by the research ethics committee.

RESULTS

Table 1 shows that 55.4% of the multi-pathological patients were over 70 years of age.

Table 1. Multipathological patients according to age and sex. Internal Medicine Service; Central Military Hospital “Dr. Carlos Juan Finlay”, June 2022 to June 2023.

	< 30 Years	31-50 Years	51-70 Years	> 70 Years	Total
Female	4,2	13,1	28,4	54,2	48,8
Male	9	6,7	27,8	56,4	51,5
Total	6,7	9,8	28,1	55,4	100

Source: Database

The average hospital stay was between 16-21 days in 49.7% of patients. 78.4% of them were hospitalized between 10 and 21 days (Table 2).

Table 2. Multipathological patients according to hospital stay.

Stay	Multipathological patients					
	Female		Male		Total	
	No.	%	No.	%	No.	%
< 9 days	75	11,3	81	11,5	156	11,4
10-15 days	189	19,6	192	27,4	381	28,0
16-21 days	318	48,3	343	49,0	661	49,7
21-30 days	64	9,7	68	9,7	132	9,7
>30 days	12	1,8	16	2,3	28	2,1
Total	658	48,4	700	51,5	1358	100

The distribution of multi-pathological patients according to readmissions is shown in Table 3. 37.6% were readmitted, 34.2% of them between 21 and 30 days after hospital discharge and 24.8% within the first 7 days.

Table 3. Multipathological patients according to readmissions.

Readmissions	Multipathological patients					
	Female		Male		Total	
	No.	%	No.	%	No.	%
< 7 days	58	26,9	69	2,3	127	24,8
8-15 days	31	14,4	34	11,4	65	12,7
16-21 days	19	8,8	25	8,4	44	8,6
21-30 days	82	38,1	93	31,4	175	34,2
>30 days	25	11,6	75	25,3	100	19,6
Total	215	42,0	296	57,9	511	37,6

For categories A, F, G, H the average length of stay was between 16 and 21, categories C, D, and E, between 10 and 15 days and for category B between 21 and 30 days. Less than 6% of patients were hospitalized for less than 9 days, except for those in category C with 11.2%. More than 30 days they

were less than 5%, except category D with 9.4% and G with 11%.

In this study, the majority of readmissions occurred for categories D, E, F, G, between 21 and 30 days, for categories A and H, between 16 and 21 days, and for B and C less than 7 days.

DISCUSSION

The socio-health changes of recent decades and medical advances have allowed an increase in people's life expectancy. This, together with the decrease in the birth rate, causes a change in the demographic pyramid, with a predominance of the aged population, to which the suffering of one or several diseases (pluripathology) is frequently associated.^{11,12,13} In this study, of the total admissions, 66.7% were multipathological. This chronic situation makes the elderly population the group with the greatest health problems and therefore those that use hospital facilities the most.

This is demonstrated in Table 1 where 55.4% of multi-pathological patients were over 70 years of age, which is related to the simultaneous concurrence of chronic diseases in those over 65 years of age, as also shown in the literature consulted.^(14,15) The proportion in terms of sex was similar in the sample studied (51.5% male and 48.4% female).

The average length of stay in the internal medicine service of our hospital is 9 days, similar to that found when reviewing the literature; however, in multi-pathological patients this average is prolonged, which is related to age, functional status, and cognitive status of the patient, their nutritional status and mainly comorbidities and their severity.^{16, 17, 18}

On the other hand, the identification of groups of patients with a prolonged hospital stay can lead to adequate planning of the care that we must administer, as well as reducing morbidity and mortality, functional deterioration and institutionalization derived from these stays.^{19, 20, 21}

Both hospital stays and readmissions are related to the clinical categories to which the patients belong. In this study, 97.6% of the multipathological patients belonged to category C, 97.4% to F and

95.3% to category A, therefore the diseases predominate in the multipathological patients in our study. chronic respiratory diseases, diabetes mellitus, and cardiovascular diseases.

In addition to prolonged hospital stay, readmissions are linked to multi-pathological patients; these may be related to decompensation of the disease that caused the previous admission or decompensation of other associated diseases.

Chronic respiratory disease, category C, had a stay between 10-15 days, with the patient being readmitted in less than 7 days, so we can think that the patient acquired a germ from the hospital environment itself or the treatment had to be prolonged for days more. It was not studied whether or not the patients were discharged with antibiotics, which would provide us with other hypotheses to justify readmission, which constitutes a weakness of the study.

In the same way, patients in categories B, despite having a prolonged stay, between 21 and 30 days, were readmitted in less than 7 days, which is to be expected, since they are diseases that intensive treatment (intravenous or dialytic), it improves them, but upon discharge, oral treatment does not cover these possibilities. However, the progression of the disease and its associated conditions condition its readmission. We can also propose that during their prolonged stay, the patient may acquire an in-hospital germ that is the cause of their readmission. New studies related to this topic will answer our diagnostic questions.

It is reported in the literature that, paradoxically, what seems to be expected, the effect of the average stay on previous admissions either has no influence or the longer the stay, the higher the readmission rate.²²⁻²⁶ However, in this study, the patients who had a higher hospital stay, their readmissions were later, but with figures greater than 55%. This study, as mentioned, did not specify whether the causes of the readmissions were related to the same disease or to decompensation of the associated ones, which together with the previous constitute weaknesses of the study that could be specified in subsequent studies on this topic.

CONCLUSIONS

It is concluded that the majority of admitted patients were multi-pathological and over 70 years of age, with prolonged stay and readmissions in the first month. Chronic respiratory diseases, diabetes mellitus and cardiovascular diseases were the predominant categories.

DECLARATION OF CONFLICT OF INTEREST

The authors declare that they have no conflict of interest in the preparation of the research.

DECLARATION OF FINANCING

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