Original

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Psychiatric Admissions in a Large Hospital in Madrid during COVID-19 Lockdown: Was There a Change in Patient Profile?

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ABSTRACT

Introduction. COVID-19 led to a reorganization of health care in Madrid. The objective of this study is to describe the sociodemographic and clinical profile of psychiatric patients admitted to Gregorio Marañón Hospital during lockdown.

Methods. A retrospective cross-sectional study was conducted and data were collected from all admissions to our psychiatric unit from March 15 to May 30, 2019 and 2020. A protocol was developed including clinical and sociodemographic variables and a series of variables referring to the year prior to admission. In addition to descriptive statistics, we used Student's t test to compare quantitative variables and χ^2 for qualitative variables.

Results. In 2020, the attended population increased by 312.5%, while admissions increased only 2.5%.

Socioeconomic status was significantly lower in 2020 (χ^2=18.041; p=0.001). The number of previous hospitalizations was significantly higher in 2019 patients (t=2,147; p=0.032), but the variables that measured only the previous year reflected more time of psychopathology (χ^2=7.407; p=0.025) and hospitalization (χ^2=16,765; p = 0.000) in 2020, as well as more dysfunctional family relationships (χ^2=33.819; p=0.000) and less autonomy (χ^2=6.387; p=0.041). The index admission was significantly shorter in 2020 (t=2.977; p=0.003). There were also significant differences in the reason for admission, diagnosis, and substance use.

Conclusions. There was a decrease in attendance to emergency services and the need for hospital admissions and an increase in the proportion of admissions in people with an unfavorable social and family background and with psychotic and bipolar disorders.

Key words. Psychiatric Admissions; Inpatient Treatment; Socioeconomic Profile; Clinical Profile; COVID-19; Lockdown

INGRESOS PSIQUIÁTRICOS EN UN GRAN HOSPITAL DE MADRID DURANTE EL CONFINAMIENTO POR COVID-19: ¿EXISTIÓ UN CAMBIO EN EL PERFIL DE PACIENTES?

INTRODUCCIÓN

Introducción. El COVID-19 supuso en Madrid la reorganización de la asistencia sanitaria. El objetivo de este estudio es describir el perfil sociodemográfico y clínico en los pacientes psiquiátricos que ingresaron en el Hospital Gregorio Marañón durante el confinamiento.

Material y métodos. Se realizó un estudio trasversal retrospectivo en el que se recogieron datos de todos los ingresos en nuestra unidad de hospitalización psiquiatría del 15 de marzo al 30 de mayo de los años 2019 y 2020. Se elaboró un protocolo que incluía variables clínicas y sociodemográficas, junto a una serie de variables referidas al año previo al ingreso. Además de estadísticos descriptivos, utilizamos la t de Student para comparar variables cuantitativas y χ^2 para las cualitativas.

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Resultados. En 2020 la población atendida aumento un 312,5%, mientras los ingresos subieron únicamente un 2,5%.

El nivel socioeconómico fue significativamente más bajo en 2020 (χ^2=18,041; p=0,001). El número de hospitalizaciones previas era significativamente mayor en los pacientes de 2019 (t=2.147; p=0.032), pero las variables que medían únicamente el año previo registraban más tiempo de psicopatología (χ^2=7,407; p=0,025) y de hospitalización (χ^2=16,765; p=0,000) en 2020, así como relaciones familiares más disfuncionales (χ^2=33,819; p=0,000) y menor autonomía (χ^2=6,387; p=0,041). La duración del ingreso índice fue significativamente menor en 2020 (t=2.977; p=0.003). Existían también diferencias significativas en el motivo del ingreso, el diagnóstico y el consumo de sustancias.

Conclusiones. Observamos una disminución de la asistencia a los servicios de urgencia y de la necesidad de ingreso hospitalario y un aumento en la proporción de ingresos en personas con contexto socio-familiar desfavorable y con trastornos psicóticos y bipolares.

Palabras clave. Ingresos Psiquiátricos; Tratamiento Hospitalario; Perfil Socioeconómico; Perfil Clínico; COVID-19; Confinamiento

INTRODUCTION

On 31st December 2019, the first cluster of cases caused by what was later identified as a new type of virus from the Coronaviridae family, named SARS-CoV-2, was reported in China. COVID-19 has since spread around the world, until it was recognized by the World Health Organization (WHO) as a global pandemic on 11th March 2020[1]. On 14th March, the state of alarm was declared in Spain to manage the health crisis[2].

In Madrid, this fact meant the reorganization of a large part of health care and, especially, hospital care. Regarding psychiatric admissions, various acute care units were closed to provide beds for other specialties, while psychiatric units in Hospital General Universitario Gregorio Marañón, Hospital de la Defensa, Hospital Puerta de Hierro and Hospital Rodríguez Lafora remained in operation. Therefore, Hospital General Universitario Gregorio Marañón increased its area of influence for psychiatric admissions to its own reference area, Hospital Infanta Leonor's and Hospital Clínico San Carlos'. That is, from 320,956 to 1,003,066 inhabitants.

The consequences on mental health have yet to be determined, although it is foreseeable that they will occur both in the general population and in people with pre-existing conditions, as well as in health professionals themselves[3]. A recent systematic review detects the presence of an increase in depressive, anxious and post-traumatic stress symptoms, as well as a worsening of subjective well-being in the general population; symptomatic worsening in people with a pre-existing condition; and anxious/depressive symptoms, worsening of sleep quality and psychological discomfort in professionals[4]. However, research articles on assistance both in emergency services[5-10] and in hospitalization units[11-15] during the pandemic suggest a decrease in the number of patients treated in these facilities.

The objective of this study is to describe the sociodemographic and clinical profile of the patients admitted to our psychiatric hospitalization unit during the initial lockdown period of the pandemic.

METHODS

A retrospective cross-sectional study was carried out using data collected from all admissions to the acute psychiatry hospitalization unit of H.G.U. Gregorio Marañón from 15th March to 30th May, 2019 and 2020.

A specific protocol was developed including sociodemographic and clinical variables. In addition to them, the following variables were included:

- Clinical Global Impression – Improvement scale (CGI-I)[16] relative to admission and inferred from the clinical history. It is a 7-point Likert scale that rates from 1 (very much improved) to 7 (very much worse) the clinical change experienced during admission.

- Six variables that indicate the patient's condition during the year prior to admission and are scored as a Likert scale from 1 to 3, already used in other investigations[17]. These are duration of psychopathology and hospitalizations (1 = more than one month; 2 = less than one month; 3 = absent); family and social relationships (1 = absent; 2 = not very stable and conflictive; 3 = stable and long-lasting); autonomy and motivation (1 = poor; 2 = medium; 3 = high).

In addition to descriptive statistics, Student's t-test was used to compare quantitative variables (age, age at illness onset, number of previous hospitalizations, and time since last hospitalization) in independent samples, corresponding to the years 2019 and 2020.

In the case of categorical variables, contingency tables were used, comparing the year of assessment (2019 and 2020) with the specific variable using the χ^2 statistic. If significant differences were found in ordinal variables (social class, substance use, previous follow-up, CGI at admission

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and improvement, variables referring to the previous year: duration of psychopathology and hospitalization, family and social relationships, degree of autonomy and motivation) Kendall's tau-b correlation coefficient was used to determine if the correlation was linear. In the event that there was no linear correlation or in those categorical variables that were nominal, an attempt was made, whenever possible, to transform them into a dichotomous variable to obtain a 2x2 table.

The statistical analysis of the sample was performed with the statistical package IBM SPSS 26.

RESULTS

Between the dates indicated, there were 194 admissions in our unit in 2019 and 204 in 2020. The sociodemographic characteristics of the sample appear in Table 1. We did not find significant differences in gender, age, marital status, educational level, employment status, cohabitation or problems with the law. The only significant difference was found in socioeconomic status (χ^2=18.041; p=0.001), with a significant linear correlation between the fact of having been admitted in 2020 and lower social class (T=-0.145; p=0.002).

The quantitative clinical variables referring to the history of illness appear in Table 2. There are no significant differences in age of illness onset, years since onset and time since the last hospitalization. However, significant difference is found in the number of previous hospitalizations, which was lower in 2020 (t=2.147; p=0.032).

Regarding the variables assessing evolution during the year prior to index admission (Table 3), there are significant differences in the duration of psychopathology (χ^2=7.407; p=0.025) and hospitalization (χ^2=16.765; p=0.000), family relationships (χ^2= 33.819; p=0.000) and degree of autonomy (χ^2=6.387; p=0.041). When the correlation between the year and these four variables is analyzed, there is no linear correlation in the case of psychopathology, nor hospitalizations, so we transform them into dichotomous variables: duration of psychopathology (less vs more than one month) and previous hospitalizations (absence vs presence), as represented in Table 3. There is a trend towards longer duration of psychopathology in admissions in 2020 (χ^2=-3.037; p=0.081) and significant difference concerning having been hospitalized or not (χ^2 =6.179, p=0.013). There is a significant correlation between less stable family relationships (T=0.207; p=0.000) and a lower degree of autonomy (T=-0.095; p=0.047) in 2020. We do not find significant differences in either social relationships or motivation for life.

Table 1		Sociodemographic data		
		2019		**2020**
SEX		Percentage (%)		Percentage (%)
Male		56,7		48,3
Female		43,3		51,7
AGE		**Mean** **SD**		**Mean** **SD**
		43,55 14,762		41,65 15,486
MARITAL STATUS		Percentage (%)		Percentage (%)
Single		56,2		61,7
Separated/divorced		22,2		18,9
Married/couple		18,0		14,4
Widowed		3,6		5,0
EDUCATIONAL LEVEL		Percentage (%)		Percentage (%)
Illiterate		0,5		2,0
Literate		14,4		28,9
School graduate		38,7		33,3
College/vocational training		31,4		17,4
University graduate		14,4		18,4
EMPLOYMENT SITUATION		Percentage (%)		Percentage (%)
Active/student		23,7		17,9
Unemployed with subsidy		14,9		9,0
Unemployed without subsidy		28,9		33,8
Temporary incapacity		5,2		6,0
Permanent incapacity		27,3		33,3
SOCIOECONOMIC STATUS*		Percentage (%)		Percentage (%)
I		–		0,5
II		7,2		9,5
III		46,4		61,7
IV		34,0		16,4
V		12,4		11,9
TYPE OF COHABITATION		Percentage (%)		Percentage (%)
Familiy of origin		36,6		39,8
Own family		24,7		20,4
Alone		22,7		26,9
Homeless		11,3		7,5
Institution		4,6		5,5
PROBLEMS WITH THE LAW		Percentage (%)		Percentage (%)
None		83,5		91,5
Complaints		8,2		2,5
Arrests		3,6		2,5
Imprisonment		4,6		3,5

* Significant differences (X2=18.041; p=0.001); significant linear correlation (T=-0.145; p=0.002).

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Table 2	Clinical data on the history of illness			
	2019		2020	
	Mean	SD	Mean	SD
Age of illness onset	28.8	13.345	29.22	14.552
Years since illness onset	14.49	11.926	12.67	10.717
Number of previous hospitalizations*	7.03	12.765	4.84	6.746
Months since last hospitalization	30.18	53.056	22.74	40.882

*(t=2.147; p=0.032)

There are significant differences regarding mental health follow-up during the previous year (χ²=7.963; p=0.047), not finding a linear correlation or significance when we analyze it with two categories (adequate follow-up vs irregular/abandonment). The percentage of patients undergoing regular follow-up was higher in 2019 (54.6%) than in 2020 (48.8%).

We also found significant differences in substance use (χ²=6.850; p=0.033), not finding a linear correlation, nor significance when analyzing this item with two categories (use vs. no use) but finding a lower percentage of non-users in 2020. There are no differences in terms of the type of substance used, with alcohol and cannabis being the most frequently used in both years.

Regarding index admission (Table 4), its duration was significantly shorter in 2020 (t=2.977; p=0.003). There are also significant differences in the reason for admission (χ²=18.097; p=0.003), diagnosis (χ²=24.867; p=0.024) and substance use (χ²=6.850; p=0.033), with a higher percentage of non-user patients in 2020.

As to reason for admission, behavioural disturbance is more frequent in 2020, whereas behavioural disturbance and suicide ideation/attempts appear equally in 2019. Regarding diagnoses, they present a similar distribution, with schizophrenia and bipolar disorder being the most frequent, followed by depressive and obsessive disorders. However, stress, dissociative and somatic disorders become less frequent in 2020. The dispersion in these two variables and the scarce representation of some of the categories make their transformation into 2x2 tables unrepresentative.

There are also no significant differences in the type of admission, improvement according to CGI, origin of the demand, use of coercive measures (involuntary admissions, mechanical or chemical restraints) or long-acting treatments.

Table 3	Clinical data from the year prior to index admission		
	2019	2020	Estadístico; sig
DURATION OF PSYCHOPATHOLOGY	Percentage (%)	Percentage (%)	
More than a month	60,7	69,1	X²=-3.037; p=0,081
Less than a month	39,3	30,9	
PREVIOUS HOSPITALIZATIONS*	Percentage (%)	Percentage (%)	
Absence	58,8	46,3	X²=6,179; p=0,013
Presence	41,2	53,7	
FAMILY RELATIONSHIPS*	Percentage (%)	Percentage (%)	
Absent	13,9	13,4	X²=33,819; p=0,000
Unstable and conflictive	23,9	51	T=0,207; p=0,000
Stable and long-lasting	62,2	35,6	
SOCIAL RELATIONSHIPS	Percentage (%)	Percentage (%)	
Absent	38,1	48,8	
Unstable and conflictive	45,9	36,8	N.S.
Stable and long-lasting	16	14,4	
AUTONOMY*	Percentage (%)	Percentage (%)	
Low	13,9	23,9	X²=6,387; p=0,041
Medium	55,7	49,8	T= -0,095; p=0,047
High	30,4	26,4	
MOTIVATION FOR LIFE	Percentage (%)	Percentage (%)	
Low	18	10,9	
Medium	58,8	66,7	N.S.
High	23,2	22,4	
MENTAL HEALTH FOLLOW-UP*	Percentage (%)	Percentage (%)	
Not needed	11,9	16,4	
Abandoned	22,7	16,4	X²=7,963; p=0,047
Irregular	10,8	18,4	
Regular	54,6	48,8	
SUBSTANCE USE*	Percentage (%)	Percentage (%)	
No substance use	61,7	66,2	X²=6,850; p=0,033
Abuse	18,1	22,9	
Dependence	20,2	10,9	
MAIN SUBSTANCE USED	Percentage (%)	Percentage (%)	
Alcohol	24,3	27,9	
Cannabis	35,1	41,2	
Cocaine	6,8	8,8	
Heroin or other opioids	1,4	4,4	N.S.
Stimulants	1,4	0	
Sedatives	12,2	4,4	
Polysubstance	18,9	13,2	

N.S. = not significant

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Table 4	Data of index admission				

	2019		**2020**		**Statistic; sig**
DURATION OF ADMISSION (DAYS)*	Mean	SD	Mean	SD	
	16,72;	19,496	11,99	11,054	t=2.977; p=0.003
REASON FOR ADMISSION*	Percentage (%)		Percentage (%)		
Behavioural disturbance	28		38,8		
Suicide ideation/attempt	28		26,4		
Clinical worsening of psychopathology	24,4		24,4		X^2=18,097; p=0,003
Aggressiveness	6,7		7,0		
Assessment	12,9		3,5		
PRIMARY DIAGNOSIS*	Percentage (%)		Percentage (%)		
Schizophrenia and other psychotic disorders	46,9		46,8		
Bipolar disorder	9,9		17,4		
Developmental disorder, Cognitive impairment	2,6		5		
Impulse control and conduct disorders	1		1,5		
Depressive disorder	8,3		8		
Substance use disorder	6,3		0		X^2=24,867; p=0,024
Personality disorder	16,1		14,9		
Eating Disorder	0,5		1,5		
Anxiety disorder, Obsessive-compulsive disorder, Acute stress disorder, Post-traumatic stress disorder, Dissociative disorder, Somatic symptom disorder	8,4		4,9		
ORIGIN OF THE DEMAND	Percentage (%)		Percentage (%)		
Own patient	26,4		33,8		
Family	31,1		36,8		
Outpatient psychiatrist/therapist	23,8		14,4		
Social services	3,1		3,5		N.S.
Public order services	9,3		8,5		
Other specialists	6,2		3		
TYPE OF ADMISSION	Percentage (%)		Percentage (%)		
Voluntary	48,7		40,3		N.S.
Involuntary	51,3		59,7		
MECHANICAL RESTRAINT	Percentage (%)		Percentage (%)		
No	89,1		87,1		N.S.
YES	10,9		12,9		
CHEMICAL RESTRAINT	Percentage (%)		Percentage (%)		
No	84,5		83,6		N.S
Yes	15,5		16,4		
CLINICAL GLOBAL IMPRESSION – IMPROVEMENT	Percentage (%)		Percentage (%)		
Very much improved	8,3		9		
Much improved	50,8		53,7		N.S.
Minimally improved	29		31,8		
No change	11,9		5,5		
USE OF LONG-ACTING INJECTABLE ANTIPSYCHOTIC DRUGS	Percentage (%)		Percentage (%)		
No	67,4		67,4		N.S.
Yes	32,6		32,6		

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DISCUSSION

As far as we know at the time of writing this work, this is the first article to study the profile of psychiatric admissions during the lockdown that followed the declaration of the pandemic in our environment.

Its weakness also lies in fact that it is a single-site study, with a limited sample and where it is also possible that admissions may be altered by socioeconomic, cultural and assistance-related circumstances, so it is difficult to obtain conclusions that can be extrapolated to other environments. In addition, it is a cross-sectional study that does not allow changes to be observed over time and there may be bias in the collection and interpretation of the information, as it is done retrospectively.

The first noteworthy fact is the reduction in the number of admissions compared to the previous year, which is not quantifiable, given that we started to provide care to a population that increased by 312.5%, while admissions only increased by 2.5%. The decrease in attendance to emergency services[4-10,12] and in the need for hospital admissions[12-15] are a constant in the reviewed studies.

Therefore, previous prospects that assumed that anxiety, sadness and stress in times of uncertainty would increase this demand, at least initially, are not fulfilled[3,9,18]. The reasons why this happens are multiple and may involve: fear of contamination and going to the hospital, changes in hospitalization thresholds, patients' social awareness and prioritization of physical care over psychiatric care, isolation and lack of spontaneous request for assistance or our patients' resilience and coping mechanisms[9,12,15], sometimes undervalued.

Based on the previously exposed results, a differential profile of patients who received a psychiatric admission in the first wave of the pandemic compared to those admitted in the previous year can be drawn up: patients with serious mental illness, although generally without comorbidity with substance use, with a poor clinical evolution in the previous year, worse autonomy and little social and family support. Patients who were admitted in 2020 attended more frequently due to behavioural disturbance, with fewer consultations due to suicidal ideation, yet their admissions were significantly shorter than in 2019.

Among the sociodemographic variables, the only significant difference is found in socioeconomic status, with more admissions in lower classes in 2020. Even though this fact could be explained by the incorporation of districts with a lower socioeconomic level, a stressful situation and an unfavorable environment can also play a role in the eventual need to resort to a psychiatric admission[19].

Larger differences exist at the clinical level. Patients admitted during lockdown, although with significantly fewer admissions throughout their lives, presented greater severity in the previous year: longer duration of symptoms and hospitalization, worse family relationships and less autonomy. The combination of their poor clinical evolution in the previous year, precarious family situation and greater dependency would make their outpatient treatment and home care more difficult, which would explain why they consulted and were admitted despite the risk of contagion. Even though the distribution by diagnoses is similar in both years, psychotic, bipolar and behavioural disturbance grow in 2020, while anxiety, stress, dissociative and somatoform disorders decrease.

Our results are similar to other recent studies, which show an increase in the proportion of admissions in psychotic and bipolar disorders, with a decrease in admissions due to depression, anxiety and personality disorders[14,15]. Spain is a country where there is a long tradition of informal care, especially by family members,[19] which may also have contributed to this decrease in admissions. Therefore, mainly patients with poorer clinical evolution and support network ended up being hospitalized.

Although the percentage of substance use disorder as the main diagnosis is small, there is a significant decrease in substance use on admission in 2020 in our sample, possibly caused by a lack of access during lockdown.

Regarding the type of admission, involuntary admissions increased, as well as in similar studies[14,15], without reaching significance levels. Another element to highlight is the reason for admission. While suicide ideation/attempts were equally frequent as behavioural disturbance in 2019, the latter represented the main reason for admission in 2020. This fact is described in most studies, which indicates against an increase in suicidal ideation/attempts in the adult population during first wave of the pandemic[11,13]. Nevertheless, recent studies suggest that it might increase over time[10,21]. It is easily understandable that clinical conditions that could be considered milder and whose attention requires a voluntary consultation, took a back seat in the first months of the pandemic due to fear of infection, thus increasing the proportion of patients diagnosed with serious mental illness and behavioural disturbance, which most frequently involve an involuntary consultation.

Despite the greater severity and behavioral disturbance at admission, the evolution in hospitalizations in 2020 was similar to that of the previous year, with no differences in Clinical Global Impression – Improvement (CGI-I) or in the use of restraint measures. In fact, the mean stay was signif-

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icantly shorter. This was probably influenced by transfers to other hospitals when they reopened their psychiatry units, transfers of patients with symptomatic COVID to internal medicine units, and the need for hospital beds. It is not ruled out that greater collaboration by patients and their families could also contribute, influenced both by the desire to have as little contact as possible with the hospital and by the awareness of healthcare pressure in hospitals. Greater collaboration could also influence that there was no increase in the use of measures that can be considered as coercive, even if the conditions in which healthcare was provided were probably more precarious.

We can conclude that during the initial phases of the pandemic there was a change in the profile of patients admitted to acute care psychiatry units, which must be taken into account for decision-making both now and in the future.

As a final reflection, we think that it is possible to reduce hospital admissions, which are expensive and stigmatizing, if we are able to seek alternatives based on home care and support for families in crisis situations, promoting integration of patients in their communities[22].

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