Effects after the lockdown on emergency room admissions for psychiatric evaluation: An observational study from the province of Forlì-Cesena, Italy

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Abstract

The aim was to study the number of accesses to the Emergency Room (ER) requiring psychiatric evaluation in the four months following the lockdown period for the COVID-19 outbreak (May 4th, 2020-August 31th, 2020). The study is a retrospective longitudinal observational study of the ER admissions of the Hospitals of Cesena and Forlì (Emilia Romagna region) leading to psychiatric assessment. Sociodemographic variables, history for medical comorbidities or psychiatric disorders, reason for ER admission, psychiatric diagnosis at discharge and measures taken by the psychiatrist were collected. An increase of 9.4% of psychiatric assessments was observed. The difference was more pronounced in the first two months after lockdown, with a 21.7% increase of number of ER accesses, while after two months numbers were the same as those of the year before. Admission with anxiety symptoms and history of psychiatric disorder decreased significantly. Moreover, there is an age trend with an increasing age of admission.

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Introduction

Between March 9th and May 3rd 2020, the Italian Government imposed a national lockdown, restricting the movements of the population except for certified needs such as work and health circumstances, the temporary closure of non-essential services, productive activities and businesses, in response to the growing pandemic of COVID-19 in the country. After this phase, the Italian Government decided to ease the lockdown restricting measures, and people who had been at home during the lockdown returned to their workplaces and were also allowed to visit relatives and other loved ones.

The WHO declared the novel COVID-19 disease a pandemic, with severe consequences for health and global economic activity and Italy is one of the hardest hit countries.[1] A recent systematic review of the literature[2] has underlined the negative psychological effects of quarantine, such as the development of Post-Traumatic Stress Disorder (PTSD) symptoms, like confusion and anger. Stressful factors during quarantine were identified, including quarantine length >10 days, fear to contract the infection, boredom and frustration for not doing daily-life activities, lack of basic elements of food, water, clothes, that could be extended to the following months.[2]

After lockdown, the financial loss as a result of lockdown created serious socioeconomic distress and was found to be the main risk factor for symptoms of psychological disorders and both anger and anxiety several months after lockdown.[2]

Access to the Emergency Room (ER) is considered an index of severe psychiatric distress, since it underlines a compelling request due to patient's discomfort. Recent reports from Italy, France, Germany, and Portugal, found a decrease of psychiatric ER visits[3-6] during the lockdown.

However, data on psychiatric distress after the lockdown are still scarce. Data from the United Kingdom[7] show a longer-term urgent or emergency mental health referrals acceleration after an instantaneous drop at the beginning of the lockdown.

The aim of our study was to compare the number of accesses to the ER requiring psychiatric evaluation in the province of Forlì-Cesena in the region Emilia-Romagna, North-Eastern Italy, in the four months following the "phase one" of the restrictions for the COVID-19 outbreak (from May 4th, 2020 to August 31th, 2020) with those of the same period of the year 2019, and also to investigate the socio-demographic and clinical characteristics of patients admitted.

Materials and Methods

The study is a retrospective longitudinal observational study of the ER admissions of the Hospitals of Cesena and Forlì leading to psychiatric assessment. The catchment area included 333,112 adult inhabitants, distributed as follows: Cesena, 176,232; Forlì, 156,884.

Measures

The electronic databases were searched for of following data: sociodemographic variables (age, gender, ethnicity, marital status, housing status), positive history for medical comorbidities or psychiatric disorders, reason for ER admission, psychiatric diagnosis at discharge and measures taken by the caring psychiatrist (hospitalization in psychiatric ward, other).

The study was approved by the local ethics committee on March 19th, 2021. A consent form was not required, since all the data were collected anonymously to allow statistical elaboration and were managed in aggregate form to avoid patients' identification.

Statistical Analysis

All relevant variables were included in a general database and analyzed by using the SPSS 16.0 software. Basic descriptive statistics were performed, with continuous variables presented as absolute Numbers (N), mean, Standard Deviation (SD) and categorical variables as frequencies and percentages.

The sample was divided into two groups: variables related to post lockdown period (May 4th, 2020-August 31th, 2020) and variables related to the control period (May 4th, 2020-August 31th, 2019).

The association between each variable and the period was tested using the chi-square. All variables found to be statistically significant in univariate analyses and with a missing rate <20% were included in a multivariable binary logistic regression model. Results are reported as Odds Ratios (OR) with 95% confidence intervals (95% CI). The significance level was set at 5%.

Results

Considering the whole period, an increase of 9.4% of psychiatric assessments was observed (p=0.16). The difference was thus significant in the first two months after lockdown (p=0.04), with a 21.7% increase of number of ER accesses (Table 1), while after two months numbers were the same as those of the year before.

Comparison between post-quarantine period and corresponding antecedent period

Table 1 displays the comparison of variables referring to the two time periods, outlining some statistically significant changes. In the multivariate logistic regression model, only admission with anxiety symptoms (OR:0.53 CI: 0.36-0.80) and history of psychiatric disorder (OR:0.52 CI:0.32-0.85) decreased significantly. Moreover, there is an age trend with an increasing age of admission and a significant reduction in people aged <30 years (OR: 0.64 CI:0.42-0.98).

Discussion

In the light of our results there has been a slight increase in number of ER admissions, after the lockdown, compared to those of the previous year, especially in people who had not a positive psychiatric history. Our results, even if lower than expected considering findings of the systematic review[2] and than previous data,[7] point out the psychological discomfort due to the pandemic, the social restrictions during and following lockdown, and the subsequent economic burden, especially in males. The discrepancy with the current literature could be explained in part by the decree approved by the Italian Government in support to workers and their families blocked the collective terminations; this could have postponed the consequences of the economic burden of the pandemic and lowered the psychological discomfort, since the loss of a job is a predictor of social distress. A study carried out in Lombardy during the economic crisis[8] found that the subjects who lost their permanent employment were 17% more likely to receive psychotropic drug prescriptions than the controls, but the difference was significant only for males. This discomfort is in line with the current literature[9,10] and could be justified by the higher number of admissions for suicide ideation/self-harm/suicide attempt, even if our findings did not attain statistically significance due to the small numbers.

This increase was significant only in the first two months after quarantine, while after that period the numbers aligned to those of the previous year. In our opinion, there has been a sort of rebound effect just after the lockdown, when fragmentation symptoms, that found their place in the 'outside world' during lockdown, come back in the inside world, resulting in discomfort with a consequent worsening of psychotic and mood symptoms.[11] By contrast, there was a significant decrease in people referring to the ER for anxiety symptoms, in line with data during lockdown from the same area[3] and with those of previous reports, that reported a gradual decrease in anxiety symptoms.[9,10,12-14] These data are in contrast with a survey from a large Italian sample that found a 17.6% of patients experiencing anxiety symptoms and 41.6% (N = 8,619) reporting to feel at least moderately stressed by the situation.[15] The fear of COVID-19 contagion could influence people with anxiety symptoms, since hospitals were by far places at highest risk of contact. They tried to avoid an admission using different strategies as at-need therapies and contacts with the outpatient clinics. The increasing age of people referring to the ER is in line with previous data, but only among younger individuals.[7]

Our data are not surprising: it is known that the consequences of the pandemic are more severe in people aged 65+ years both in terms of death (about 8/10 deaths) and intensive care admissions.[16] The fear for the pandemic could thus induce or worsen a psychiatric disorder. Moreover, old people have a reduced perception of their life and physical health, and they usually suffer also from comorbid conditions requiring follow-up visits and on-going assistance: the loss of social networks may create a situation in which mental health and psychosocial support needs of many older people are no longer met. For the millions of older people who live in care facilities, physical distancing measures (that restrict visitors and group activities) persisting after the lockdown, can negatively affect their well-being and, consequently, their mental health.

Table 1. General characteristics of the sample during lockdown and, for comparison, during a corresponding period in 2019.

Variable	post- lockdown		2019 control period		Significance (p)
	N	%	N	%	
Age range (years)					p=0.003
<31	115	23.1	148	32.5	
31-45	133	26.7	112	24.6	
46-65	152	30.5	136	29.8	
>65	98	19.7	60	13.2	
Gender					p=0.363
Male	262	50.7	226	49.6	
Female	237	47.5	230	50.4	
Marital status					p=0.048
Single	230	52	233	59.6	
Married/cohabitant	125	28.3	105	26.9	
Divorced	63	14.3	34	8.7	
Widowed	24	5.4	19	4.9	
Ethnicity					p=0.192
Italian	422	84.7	372	81.6	
Foreign	76	15.3	84	18.4	
Occupation					p=0.003
Current worker	125	29.6	113	31.8	
Retired	99	23.4	46	13	
Socially inactive (student, housewife, disabled)	70	16.5	66	18.6	
Unemployed	129	30.5	130	36.6	
Housing status					p=0.776
Alone	79	17.1	62	14.5	
Family of origin	158	34.3	146	34.1	
Acquired family	140	30.4	131	30.6	
Therapeutic center	66	14.3	65	15.2	
Homeless	5	1.1	6	1.4	
Other	13	2.8	18	4.2	
Comorbidity					p=0.033
No	280	64.8	284	71.7	
Yes	152	35.2	112	28.3	
History of psychiatric disorders					p=0.019
No	91	18.2	58	12.7	
Yes	408	81.8	398	87.3	
In psychiatric care					0=0.350
Current	295	59.1	289	63.3	
Past	86	17.2	75	16.4	
Never	118	23.6	92	20.2	
Reason for ER admission					p=0.007
Suicide ideation/self-harm/ suicide attempt	65	13.0	44	9.6	
Psychomotor agitation/intoxication/confusion	181	36.3	148	32.5	
Psychotic episode	64	12.8	43	9.4	
Mood symptoms	79	15.8	77	16.9	
Anxiety symptoms	110	22.0	144	31.6	
Psychiatric diagnosis					p=0.362
Psycho-organic disorder	24	5.3	37	7.4	
Psychotic disorder	65	14.3	79	15.9	
Mood disorder	84	18.5	110	22.1	
Anxiety disorder	38	8.4	38	7.6	
Personality disorder	48	10.5	31	6.2	
Intellectual disability	18	4	26	5.2	
Addiction disorder	31	6.4	37	5.8	
Adjustment disorder	51	11.2	51	10.3	
Axis I/Axis II diagnosis	14	3.1	13	2.6	
Dual diagnosis	82	18	81	16.3	
Measure taken by the psychiatrist					p=0.030
No measure, drug prescription	112	24.6	125	25.1	
Send to the outpatient	212	46.6	203	40.7	
Psychiatric ward admission	95	20.9	142	28.5	
Other measure (*e.g.* other ward admission)	36	7.9	29	5.8	

ER: Emergency Room.

Lastly, older people have always suffered from the lack of structural training and work policies, the precariousness or the protections necessary for carrying out the same. The data on employment, in fact, emphasize how accesses of people socially/working inactive, are high in both periods, defining the work as a determinant of health.

Limitations

Our study has several limitations. First, the retrospective design could have led to biases in the collection of some variables. Second, we focused on psychiatric visits: in some cases, the same patient may have more than one admission and this could lead to an overestimation of some demographic variables. Third, due to the fact that ER database does not provide diagnoses following international classifications, such as ICD, we used descriptive psychiatric diagnoses formulated by the clinician, following clinical evaluation and using natural language. Finally, the study was performed in a local setting and, hence, generalizability of our findings may be limited.

Conclusions

There has been a mild increase in number of ER admissions, after the lockdown, compared to those of the previous year, especially in people who had not a positive psychiatric history. Further studies in larger populations are needed to confirm data from our sample. Moreover, studies carried when collective terminations will be unblocked could give us the real economic burden of the pandemic and the psychiatric consequences.

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