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Reduction of the emergency activity, during the Covid 19 Italian lockdown, what's the lesson to learn?

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ABSTRACT

The COVID 19 pandemic was declared on the 9th of March 2020. The health crisis affected the whole world with a very high and unexpected number of infected people. The situation forced the declaration of lockdown and a worldwide health system reorganization. Surprisingly, the social distancing laws caused a reduction of urgent hospital activities not COVID 19 related. The aim of this manuscript is to analyze the reasons why fewer emergencies were described during the 2020 Italian lockdown. The Data reporting urgent Emergency Room (ER) activity, during the first three weeks of the Italian lockdown (Group 1), were analyzed and compared with the same period in 2019 (Group 2). During the study period in 2020, there was a 46,5% reduction in ER activity compared to that in 2019. Nevertheless, the hospitalization rate was higher in the 2020 then in 2019 ($p < 0.05$). The present data showed that almost half of the basic ER activity arose from mild health problems that could be followed by territorial health services. The strengthening of territorial medical services would allow hospitals to handle critical situations more easily and to focus activity by reducing the waiting list.

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1. Introduction

2020 will be remembered as the worst period of the modern era because of the international health crisis due to the Corona Virus Disease 19 (COVID19). This new virus was first isolated in China in December 2019, and after an initial local spread in the area of the city of Wuhan [1], it developed as a pandemic in Europe and in the USA. The World Health Organization (WHO) declared the pandemic of COVID 19 on the 11th of March 2020 [2]. Currently the health crisis is affecting countries all over the world with hotspots in Europe, Brazil, India and the USA. The Virus has shown a high virulence, mostly in the elderly with comorbidities such as diabetes, obesity and cardiac disease. The real mortality rate is still under discussion [3]. It probably depends on several factors [4]: number of tests performed, health system organization, median population age, American Society of Anesthesiologist (ASA) score and environmental aspects. Only retrospectively the international scientific and medical community was able to highlight how clinical signs like fever, shortness of breath and the increase of a few laboratory exams, such as d-dimer, can predict the progression of COVID-19 [5].

COVID19 reached Italy in February 2020. Despite initial constrictions laws, in a few weeks the numbers of infected people exceeded those of China with a high mortality rate. The Italian Government and the Istituto Superiore di Sanità (ISS), the Italian health authority for medical crisis, declared a lockdown for the entire country [6] on the 9th of March. The decision was based on the Chinese experience and following the International Health Regulation (IHR) [7]. Italy was the first country in Europe to apply a lockdown in response to the very fast outbreak. The epidemiological curve showed an improvement only after 3 weeks of lockdown with a corresponding contagion index (R_t) lower than 1. Very quickly, International authorities understood the devastating health and economic impact on global economy caused by the new severe acute respiratory syndrome (SARS COV 2) due to the new virus.

During the entire lockdown, the Emergency Departments (ER) and the Intensive Care Units (ICU) in all Italian hospitals were dedicated to COVID patients. All elective surgical procedures were cancelled and only oncological operations with a negative COVID19 test and emergencies were guaranteed. Regional and local authorities moved the surgical healthcare staff to internal medicine, ER and ICU reducing the number of surgical beds in favor of COVID patients. The National Health System's overload and its capacity to respond to the crisis were evaluated checking the number of

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Table 1
Type, number and rate of hospitalization of ER access in Group 1 and Group 2.

Specialties	Group 1 - 2020		Group 2 - 2019		p
	Total, n (100%)	Hospitalization, n (%)	Total, n (100%)	Hospitalization, n (%)	
Cardiology	92	23 (25)	174	33 (18,96)	0,443
Internal Medicine	80	39 (48,75)	150	59 (39,33)	0,46
Neurology	105	39 (37,14)	152	42 (27,63)	0,304
Pneumology	84	36 (42,86)	20	6 (30)	0,64
General Surgery	74	33 (44,6)	125	35 (28)	0,132
Urology	71	5 (7,04)	146	13 (8,9)	0,866
Gynecology	14	6 (42,86)	15	1 (6,66)	0,172
Hand surgery	72	2 (2,77)	190	7 (3,68)	0,974
Orthopedics	110	11 (10)	297	13 (4,37)	0,079
Dermatology	4	1 (25)	12	0	0,294
Ophthalmology	30	0	80	0	0,694
Otolaryngology	25	0	60	3 (5)	0,646
ITU services	3	0	6	1 (16,66)	1
Total	764	195 (25,52)	1427	213 (14,93)	< 0,05

Table 2
Demographics in the different specialties.

Specialties	Group 1 - 2020			Group 2 -2019			p*
	Sex	Age (years)		Sex	Age (years)		
	M, n (%)	F, n (%)	mean (SD)*	M, n (%)	F, n (%)	mean (SD)*	(test T)
Cardiology	55 (59,78)	37 (40,22)	69,99 (17,59)	95 (54,6)	79 (45,4)	68,91 (16,28)	0,627
Internal Medicine	45 (56,25)	35 (43,75)	72,12 (18,17)	75 (50)	75 (50)	69,42 (18,18)	0,274
Neurology	37 (35,24)	68 (64,76)	65,45 (20,93)	72 (47,37)	80 (52,63)	59,18 (20,1)	0,017
Pneumology	38 (45,24)	46 (54,76)	58,6 (16,5)	5 (25)	15 (75)	64,9 (18,3)	0,17
General Surgery	52 (70,27)	22 (29,73)	60,07 (20,9)	79 (63,2)	46 (36,8)	56,24 (22,61)	0,228
Urology	58 (81,7)	13 (18,3)	57,04 (19,79)	115 (78,77)	31 (21,23)	57,72 (19,56)	0,813
Gynecology	0	14 (100)	36,14 (7,24)	0	15 (100)	28,93 (9,64)	0,031
Hand surgery	40 (55,56)	32 (44,44)	47,25 (22,57)	131 (68,95)	59 (31,05)	43,48 (22,84)	0,232
Orthopedics	62 (56,36)	48 (43,64)	55,21 (21,67)	160 (53,87)	137 (46,13)	51,96 (22,11)	0,22
Dermatology	2 (50)	2 (50)	51,25 (12,58)	6 (50)	6 (50)	47 (20,52)	0,635
Ophthalmology	20 (66,67)	10 (33,33)	54,6 (18,6)	49 (61,25)	31 (38,75)	52,61 (18,33)	0,618
Otolaryngology	16 (64)	9 (36)	57,52 (21,86)	30 (50)	30 (50)	57,02 (22,62)	0,924
ITU services	2 (66,67)	1 (33,33)	60,33 (7,5)	2 (33,33)	4 (66,67)	64,60(5,86)	0,572
Total	427 (55,89)	337 (44,11)	60,13 (21,11)	819 (57,39)	608 (42,61)	56,68 (22,16)	< 0,05

*p value between mean age of Group 1 and Group 2

Table 3
Triage code in Group 1 and Group 2.

Specialties	Group 1 - 2020 (n=764)		Group 2 - 2019 (n=1427)		p
	Total, n (100%)	Red & Yellow code/ White & Green code n (%)	Total, n (100%)	Red & Yellow code/ White & Green code n (%)	
Cardiology	92	76/16 (82,6/17,4)	174	145/29 (83,33/16,67)	0,982
Internal Medicine	80	38/42 (47,5/52,5)	150	88/62 (58,67/41,33)	0,138
Neurology	105	62/43 (59,04/40,96)	152	99/53 (65,13/34,87)	0,39
Pneumology	84	31/53 (36,9/63,1)	20	14/6 (70/30)	0,015
General Surgery	74	11/63 (14,86/85,14)	125	25/100 (20/80)	0,472
Urology	71	13/58 (18,3/81,7)	146	8/138 (5,48/94,52)	0,006
Gynecology	14	1/13 (7,14/92,86)	15	5/10 (33,33/66,67)	0,169
Hand surgery	72	29/43 (40,28/59,72)	190	86/104 (45,26/54,74)	0,558
Orthopedics	110	30/80 (27,27/72,73)	297	139/158 (46,8/53,2)	< 0,05
Dermatology	4	2/2 (50/50)	12	0/12 (0/100)	0,05
Ophthalmology	30	8/22 (26,67/73,33)	80	16/64 (20/80)	0,621
Otolaryngology	25	0/25 (0/100)	60	25/35 (41,67/58,33)	< 0,05
ITU services	3	0/3 (0/100)	6	2/4 (33,33/66,67)	0,5
Total	764	301/463 (39,4/60,6)	1427	652/775 (45,7/54,3)	0,005

ICU and Internal medicine beds available in the entire country [8]: the peak of ICU stress was reached on the 3rd of April with 4068 COVID patients in all ICUs [9], around 20 days after the lock-down declaration.

Contradictory behaviors emerged during the lockdown because there was a lack of coordination between the different sections of the health system. Curiously, a reduction of ER access was observed and a consequent reduction of the hospitalizations for surgical and medical emergencies. At the same time, primary care services and general practitioners (GP) were overloaded because they were the first contact with COVID 19 patients, leaving other acute medical problems to the hospitals and their ER units. Furthermore,

in the early lockdown phase, most of the elective hospital activity was suspended or postponed because full attention was dedicated to in avoiding the virus spread.

The aim of this paper was to analyze the data concerning the emergency activity during the lockdown in an Italian district hospital, trying to obtain new evidence useful for future health crises and for a better organization of the national health system.

2. Materials and methods

We have retrospectively analyzed data belonging to a prospectively collected database of all patients who were admitted to

Table 4
General Surgery (GS) evaluations in Group 1 and Group 2.

	Group 1 - 2020 n (%)	Group 2 - 2019 n (%)	p
Total ER evaluations	764 (100)	1427 (100)	
Total GS evaluations	74 (9,69)	125 (8,76)	0,563
GS Hospitalizations			
Yes	33 (44,6)	35 (28)	
No	41 (55,4)	90 (72)	0,026
Sex of GS			
M	52 (70,27)	79 (63,2)	
F	22 (29,73)	46 (36,8)	0,389
Age years (mean, SD)	60,07 (20,9)	56,24 (22,61)	0,228
Type of GS evaluations			
red & yellow	11 (14,86)	25 (20)	
white & green	63 (85,14)	100 (80)	0,472
Diagnostic Imaging in GS			
US	22 (45,8)	52 (71,3)	
CT scan	26 (54,2)	21 (28,7)	0,009

Table 5
Type and number of General Surgery (GS) pathologies evaluated.

Type of GS pathologies hospitalized	Group 1 - 2020 n (%)	Group 2 - 2019 n (%)
Appendicitis	6 (18,18)	8 (22,86)
Inguinal/umbilical hernia	3 (9,1)	3 (8,58)
Anal abscess/fistula/anal bleeding	6 (18,18)	8 (22,86)
Bowel occlusion, perforation, bowel ischemia	9 (27,27)	8 (22,86)
Abdominal trauma	2 (6,06)	2 (5,7)
Diverticulitis, cholecystitis	7 (21,21)	6 (17,14)
Total	33 (100)	35 (100)

the ER department and underwent urgent procedures during the 3 weeks of the Italian lockdown in March 2020 (Group 1) (i.e. 03/11/2020-03/31/2020) at the Pederzoli Hospital, Peschiera del Garda, Italy. Data belonging to the same period of 2019 (Group 2) (i.e. 03/11/2019-03/31/2019) were analyzed and compared with Group 1. Authors decided to evaluate the urgent procedures in each group considering two different disciplines: general surgery (GS) to represent the surgical field and cardiology (CR) to represent the internal medicine field.

Standard demographic variables, including age and sex were collected for all specialties. The number and type of surgical and cardiological pathologies evaluated in the ER and type of outpatient treatments performed in the two groups were collected and compared. Postoperative complications were recorded until postoperative day 7 and graded according to the Clavien-Dindo classification [10]. Perioperative mortality was calculated on the basis of the number of patients who died within 7 days after surgery. The classification of the ER triage was based on the scale proposed by the Italian Ministry of Health: red and yellow codes represent acute pathologies with high priority, while white and green codes represent acute pathologies with low priority [11]. The Pederzoli Hospital was a district COVID Hospital in the Veneto region with ER, ICU and Internal Medicine dedicated to COVID19 patients. The Hospital Institutional Review Board approved the study.

2.1. Statistical analysis

Continuous variables were described as mean and standard deviation (SD) if normally distributed and compared using T-test. Categorical variables were reported as numbers and percentages. Chi-squared test or Fisher's exact test, when appropriate, were used at univariate analysis for the comparison of categorical variables. All analyses were carried out with STATA version 13.0 (StataCorp, College Station, TX), and a *p*-value < 0.05 (two-tailed) was considered statistically significant.

3. Results

During the study period 764 patients of Group 1 and 1427 patients of Group 2 were admitted to the ER department. Table 1 reports all ER evaluations in the two study periods, considering all specialties and the corresponding rate of hospitalizations (n of hospitalizations vs n of evaluations) (Table 1). In 2020 there were overall 46,5% fewer ER evaluations compared with the same period in 2019, with a higher rate of hospitalization ($p < 0.05$). The main differences between Group 1 and 2 emerged in Orthopedics, Urology and services like Dermatology and Otolaryngology that had a significant reduction of activity in 2020, while Pneumology had a significant higher number of ER visits in 2020 (Table 1). There was no statistically significant difference between the two groups regarding sex, while patients belonging to Group 2 were younger than Group 1 (Table 2). While taking into consideration the triage code, Urology and Pneumology had a higher rate of severe ER accesses in 2020 (p 0.006 and 0.015), Orthopedics had a lower rate of severe ER accesses in 2020 (< 0.05) (Table 3).

Table 4, 5 and 6 report data regarding GS. 74 and 125 surgical evaluations were performed respectively in Group 1 and Group 2. In Group 1, 33 out of 74 patients were hospitalized and 12 out of 33 patients underwent an urgent surgical treatment. In Group 2, 35 out of 125 patients were hospitalized and 22 out of 35 patients underwent an urgent operation. Age and sex showed no differences between the two Groups (p 0.288 and 0.389), while the rate of GS hospitalization was higher in Group 1 than in Group 2 (44.6% vs 28%, [33 vs 35] p 0.026) (Table 4). According to the number of ER visits performed during the two periods, no differences emerged regarding the rate of surgical urgencies evaluated (9.69% vs 8.76% [74 vs 125] p 0.563) and rate of high priority triage code between Group 1 and Group 2 (14.86% vs 20%, [11 vs 25] p 0.472). In 2020, GS patients performed more abdominal and chest CT scans than in 2019 (54.2% vs 28.7%, p 0.009) (Table 4). Table 5 reports the type of GS pathologies evaluated during the two study periods. Table 6 reports the type of surgical treatments followed in the two groups:

Table 6
Treatments performed in General Surgery hospitalization.

Type of treatments	Group 1 - 2020, n (%)	Group 2 - 2019, n (%)	p
Appendicitis			
Appendectomy	4 (66,67)	7 (87,5)	
Antibiotic therapy	2 (33,33)	1 (12,5)	0,538
Inguinal/umbilical hernia			
Hernia repair	1 (33,33)	3 (100)	
Conservative management	2 (66,67)	0	0,4
Anal abscess, fistula, anal bleeding			
Anal abscess drainage/fistulectomy	4 (66,67)	7 (87,5)	
Conservative management	2 (33,33)	1 (12,5)	0,538
Bowel occlusion, perforation, ischemia			
Bowel resection, colonostomy, viscerolysis	1 (11,11)	3 (37,5)	
Conservative management	8 (88,89)	5 (62,5)	0,294
Abdominal trauma			
Liver resection or Splenectomy	1 (50)	0	
Conservative management	1 (50)	2 (100)	1
Diverticulitis, cholecystitis			
Colonostomy, Cholecystectomy, Hartman procedure	1 (14,28)	2 (33,33)	
Antibiotic therapy	6 (85,72)	4 (66,67)	0,559

Table 7
Cardiological (CR) evaluations in Group 1 and Group 2.

Cardio	Group 1 - 2020, n (%)	Group 2 - 2019, n (%)	p
Total ER evaluations	764	1427	
Total CR evaluations	92 (12,04)	174 (12,19)	0,981
CR Hospitalizations			
yes	23 (25)	33 (18,96)	
no	69 (75)	141 (81,04)	0,322
Sex of CR			
M	55 (59,78)	95 (54,59)	
F	37 (40,22)	79 (45,41)	0,496
Age years (mean, SD)	69,99 (17,59)	68,91 (16,28)	0,627
Type CR ER evaluations			
red & yellow code	76 (82,60)	145 (83,33)	
white & green code	16 (17,40)	29 (16,67)	0,982

Table 8
Type and number of Cardiological (CR) pathologies evaluated.

Type of CR pathologies hospitalization	Group 1 - 2020, n (%)	Group 2 - 2019, n (%)
Myocardial infarction	8 (34,78)	15 (45,46)
Heart failure	6 (26,08)	9 (27,27)
Atrial Fibrillation, Flutter	4 (17,4)	4 (12,12)
Others arrhythmia	4 (17,4)	5 (15,15)
Myocarditis	0	0
Others	1 (4,34)	0
Total	23 (100)	33 (100)

laparoscopic appendectomy and proctological procedures were the most frequent operations performed in both groups, followed by abdominal operations for bowel occlusion. No statistically significant differences emerged comparing all the procedures performed in the two periods (operation vs conservative management). No difference emerged between Group 1 and 2 regarding postoperative morbidity (3/12 vs 4/22 [25% vs 18.18%] p 0.693) and no case of postoperative mortality occurred.

Tables 7, 8 and 9 report data regarding CR. 92 and 174 cardiological evaluations were performed respectively in Group 1 and Group 2. In Group 1, 23 out of 92 patients were hospitalized and 15 out of 23 patients underwent an urgent cardiological procedure. In Group 2, 33 out of 174 patients were hospitalized and 23 out of 33 patients underwent an urgent cardiological procedure (Tables 7 and 8). Age, sex and rate of hospitalization showed no differences between the two Groups (p 0.627; 0.496; 0.322). According to the number of ER visits performed during the two periods, no differences emerged regarding the rate of CR urgencies evaluated (12.04% vs 12.19% [92 vs 174] p 0.981) and rate of high priority code (82.60% vs 83.33% [76 vs 145] p 0.982) between Group 1 and

Group 2 (Table 7). Table 8 reports type of CR pathologies evaluated during the two study periods. No statistically significant differences emerged comparing all the procedures performed in the two periods (procedure vs conservative management) (Table 9). No difference emerged between Group 1 and 2 regarding postoperative morbidity (2/15 vs 4/23 [13.3% vs 17.4%] p 1) and no case of postoperative mortality occurred.

4. Discussion

This paper reports the analysis of emergency activity performed at the Pederzoli Hospital, Peschiera del Garda, Italy during the first 3 weeks of the 2020 Italian lockdown (Group 1) compared with the same period of 2019 (Group 2). The Hospital involved in the analysis was a COVID facility with ICU and sub-intensive care for COVID patients. During the lockdown there was a reduction of ER admissions and there was a higher rate of hospitalization than the same period of 2019 (p < 0.05). A higher rate of high priority triage codes emerged in Pneumology and Urology in Group 1, while Orthopedics reported a higher rate of low priority triage codes (p

Table 9
Treatments performed in Cardiological hospitalization.

	Group 1 - 2020, n (%)	Group 2 - 2019, n (%)	p
Angioplasty and/or Stenting for Myocardial Infarction			
Yes	7 (87,5)	12 (80)	
No	1 (12,5)	3 (20)	1
Heart failure - Defibrillator positioning			
Yes	2 (33,33)	5 (55,56)	
No	4 (66,67)	4 (44,44)	0,608
Atrial Fibrillation - Electrical Cardioversion			
Yes	4 (100)	3 (75)	
No	0	1 (25)	1
Arrhythmia - Pacemaker positioning			
Yes	2 (50)	3 (60)	
No	2 (50)	2 (40)	1
Others	1	0	

0.002; 0.006; 0.001) in 2020. The GS section reported a higher rate of hospitalization (p 0.026) and a higher number of CT scans performed during lockdown (0.009) than in 2019. No differences emerged in GS and CR between the two groups in terms of rate of operated patients (Tables 6, 8).

One of the main problems reported by the ER healthcare staff is the unnecessary hospital access for mild health problems and the progressive increase of patients seeking ER services in the last decades [12]. Moreover, part of these patients leaves the ER before the physician's visit: typically, this range of patients are young males with a low priority triage code [13]. This type of behavior causes long waiting times, a counterproductive work overload for the hospitals and low grade of satisfaction for the patients and for the medical staff [14]. The precise reasons of this phenomenon are unknown and still under discussion, but available literature data shows longer waiting times and higher ER leave in countries like Italy, Spain and other Western countries [13]. During the Italian lockdown, despite the Italian Government allowed not to respect the social distancing in case of health reasons, a reduction of the ER access non COVID 19 related was observed with less radiological and laboratory activities and less hospitalizations. In this context, the healthcare staff was wondering why fewer urgencies were observed, considering the reduction of trauma related to less sport activity and less motorcycle and car traffic. Authors have analyzed data belonging to the first 3 weeks of the 2020 Italian lockdown and to the same period of 2019. An unusual reduction of the ER access was observed: 46.5% fewer ER visits in Group 1 than in Group 2 but with a higher rate of hospitalization during 2020 (25.5% in Group 1 vs 14.9% in Group 2). Even if there was a statistically significant difference in terms of triage code between the two groups with more red and yellow codes in 2020 (p 0.005), not all the specialties had the same result. The analysis of the triage code in the different specialties (Table 3) showed how Pneumology had an obvious higher priority triage codes in Group 1 (10.3% vs 2.15; p 0.002), while Orthopedics had fewer high priority codes in 2020 (9.97% vs 21.32; $p < 0.05$). The interpretations of these findings might be different and difficult, but COVID 19 related fear can explain the reduction of the ER activity for unnecessary health problems with a consequent increase of access for severe reasons.

The operation theatre (OT) management and the patient's treatment during the COVID 19 pandemic were other important topics discussed during the lockdown. Medical staff were very afraid of potential COVID 19 infection and the related complications that could occur in hospitalized patients who underwent invasive procedures. Only later, a few cohort studies recommended to postpone elective surgery in patients with perioperative SARS COV 2 [15]. In the surgical field, the internal OT pressure, dedicated pathway for COVID 19 patients, type of technology and surgical techniques were the main points analyzed by the surgical scientific societies.

The SAGES and EAES ([16] [17]) proposed new guidelines with the aim to minimize perioperative risks for patients and healthcare staff. Mild acute abdominal pathologies, i.e. appendicitis, diverticulitis and cholecystitis, should be managed at home using phone follow-up whenever possible. In case of emergency surgery all patients should be tested for COVID 19 or have a chest CT scan in the 24 h prior to surgery, laparoscopic techniques should generally not be used and minimum staffing with proper PPE should be planned. To better understand if the pandemic caused a change in behavior regarding the indication for invasive procedures, Authors decided to analyze data belonging to GS patients as representative of the surgical field and CR patients as representative of the internal medicine field. The data reported in the present paper showed no difference in healthcare staff behavior between the two study groups regarding out-patient management of acute surgical and cardiological pathologies or indication for invasive procedures or for surgery. The rate of hospitalized patients in GS was higher in 2020 than in 2019 (44.59% vs 28%, p 0.026), while in CR no differences emerged between the two groups (Tables 4 and 7). Both GS and CR had a similar incidence and types of emergency procedures between Group 1 and 2 (Table 3). Moreover, the rise of CT scans performed in GS (Table 4) was probably due to the higher rate of GS hospitalization and to the need of a chest evaluation before hospitalization in the COVID 19 era.

The incorrect use of human and technical resources is crucial during a crisis. Any levels of the productive chain, even in the healthcare field, has to be used carefully. The COVID 19 outbreak had a great impact that showed the weak points of the Italian National health system: territorial health service with low financial possibilities, no clear and precise information flow [18], no staff for out-patient follow-up, low numbers of ICU beds, excessive workload for GP, late hospitalizations. Moreover, during the lockdown, the reduction of emergencies may highlight a potential improper use of the ER Units and the improper destination of financial resources. Social reasons, low costs for hospital access and low degree of faith in GP activity convinced people in the last few decades to overuse ER services. During the last year, the use of web-based platforms helped oncological patients. This experience, for example, might help primary care reducing inappropriate ER admissions giving the opportunity to GPs or district nurses to contact ER units and to do a first line triage.

After SARS in 2003, International health authorities and national governments understood the potential negative impact of a health outbreak in terms of economic, social and sanitary consequences ([19] [20]). A great number of studies analyzed these aspects proposing solutions for further health crises: the IHR was one of the main results obtained from this experience. The IHR aims to regulate a health crisis proposing rules for the management in terms of who has to do what and when. Nevertheless, the

SARS COV 2 outbreak showed the weak points of the IHR and of the collaboration between different authorities and governments. New studies coming from the new SARS and others health crises are proposing the same conclusions of the previous outbreak of 2003 [21], emphasizing the need to strengthen the international collaboration for a global response to the health crisis [22]. Probably, in the next few years we will see the publication of a lot of new and revised clinical guidelines based on data belonging to “pre and during” COVID 19 pandemic. The analysis of this data regarding clinical course and type of treatments of different pathologies during the last year could be the base of new guidelines that will regulate and standardize the treatment of mild pathologies avoiding ER overuse.

We performed the present analysis to identify the reasons of ER activity reduction during the 2020 lockdown. Some limitations should be considered when interpreting the findings of this paper: this is a retrospective analysis with a low number of cases and only part of the lockdown has been analyzed. Despite these limitations, our analysis showed how the usual ER activity in a tertiary hospital is overloaded by health problems that should follow home-management on an out-patient basis. The Italian government, with the help of the ISS and other international health authorities, should strengthen the Health Systems allocating more financial resources to territorial activity that translates into greater financial savings and a reduction of hospital waiting lists and waiting time.

5. Conclusion

The present analysis showed that almost half of ER services are overloaded by mild health problems that should be evaluated and managed by the territory medical services with safe results. To obtain a reduction of the ER Unit overload, the national governments should develop new organization models that could move staff and financial resources to overloaded health sectors. Finally, Authors believe that there is a need to rediscuss new guidelines for the management of mild pathologies in order to be ready for future health crises. This point should be added to the IHR.

Disclosures

Drs. Inama M, Casaril A, Alberti A, Capellari T F, Impellizzeri H G, Bacchion M, Creciun M and Moretto G. have no conflicts of interest or financial ties to disclose.

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