



Characteristics of COVID-19 patients dying in Italy Report based on available data on March 24th, 2020

1. Sample

The present report describes characteristics of 5542 COVID-19 patients dying in Italy.* Geographic distribution across the 19 regions and 2 autonomous provinces of Trento and Bozen is presented in the table below. Data are update to March 24th, 2020.

Table 1. Geographic distribution of deceased patients COVID-2019 positive

REGIONS	N	%
Lombardia	3795	68.5
Emilia-Romagna	884	16.0
Veneto	223	4.0
Liguria	148	2.7
Piemonte	104	1.9
Marche	57	1.0
Friuli-Venezia Giulia	50	0.9
Lazio	50	0.9
Puglia	44	0.8
Trento	39	0.7
Bolzano	37	0.7
Toscana	37	0.7
Campania	29	0.5
Sardegna	11	0.2
Abruzzo	10	0.2
Molise	8	0.1
Sicilia	6	0.1
Calabria	4	0.1
Umbria	4	0.1
Valle d'Aosta	2	0.0
Total	5542	100.0

* COVID-19 related deaths presented in this report are those occurring in patients who test positive for SARSCoV-2 RT by PCR, independently from pre-existing diseases.

Demographics

Mean age of patients dying for COVID-2019 infection was 78 (median 78, range 30-103, IQR 73 -85). Women were 1,615 (29.1%). *Figure 1* shows that median age of patients dying for COVID-2019 infection was more than 15 years higher as compared with the national sample diagnosed with COVID-2019 infection (median age 63 years). *Figure 2* shows the absolute number of deaths by age group. Women dying for COVID-2019 infection had an older age than men (median age women 82 - median age men 78).

Figure 1. Median age of patients with COVID-2019 infection and COVID-19 positive deceased patients

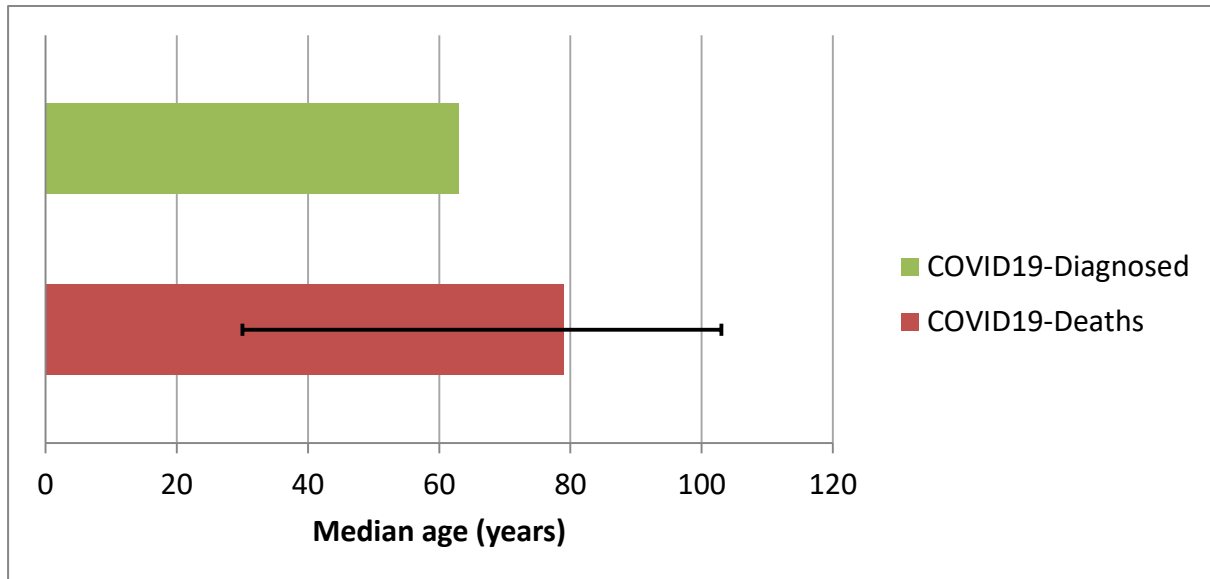
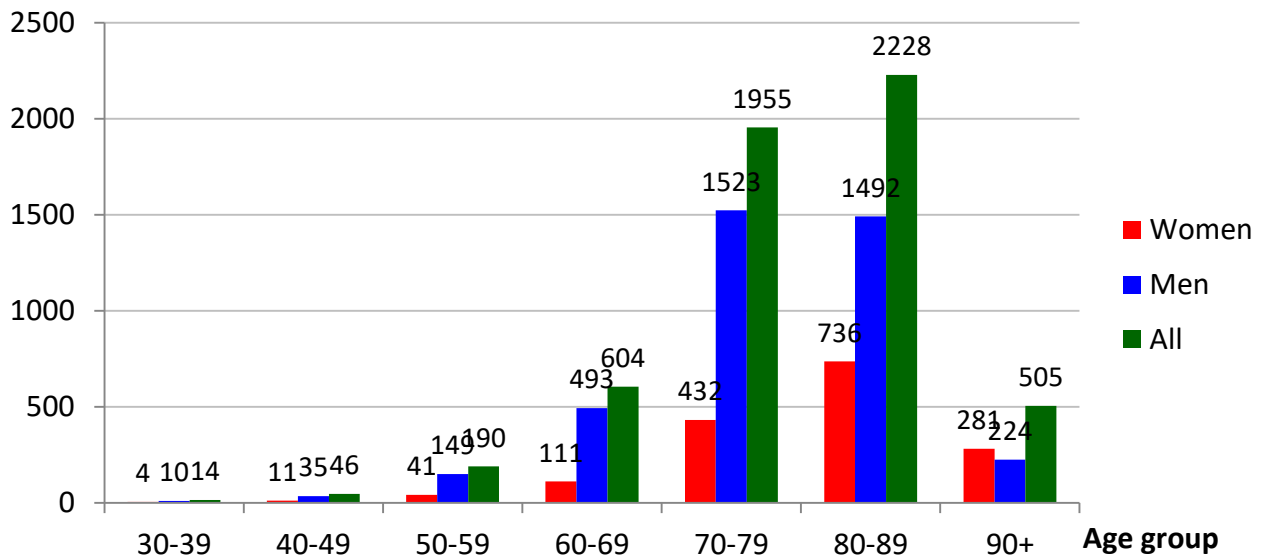


Figure 2. Absolute number of deaths by age group



2. Pre-existing conditions

Table 1 presents most common comorbidities diagnosed before COVID-2019 infection. Data on diseases were based on chart review and was available on 514 patients dying in-hospital for whom it was possible to analyse clinic charts (15.0% of the sample). Mean number of diseases was 2.7 (median 3, SD 1.6). Overall, 1.4% of the sample presented with a no comorbidities, 21.4% with a single comorbidity, 26.1% with 2, and 51.2% with 3 or more.

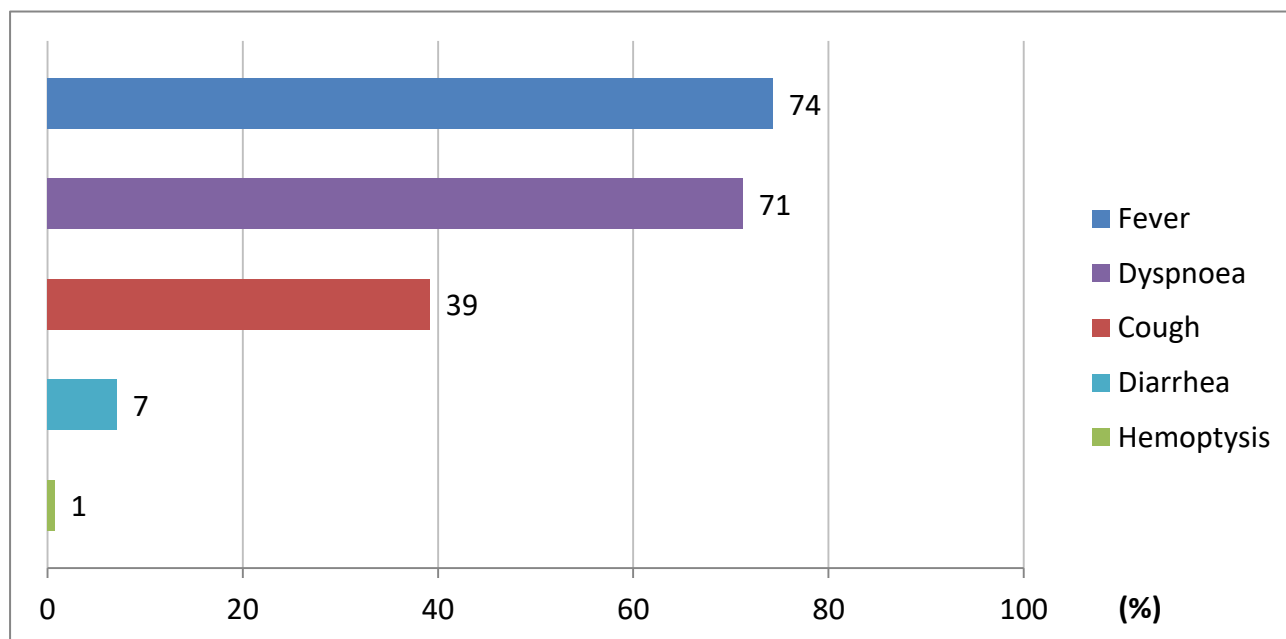
Table 1. Most common comorbidities observed in COVID-19 positive deceased patients

Diseases	N	%
<i>Ischemic heart disease</i>	126	24.5
<i>Atrial Fibrillation</i>	121	23.5
<i>Stroke</i>	64	12.5
<i>Hypertension</i>	384	74.7
<i>Diabetes</i>	157	30.5
<i>Dementia</i>	90	17.5
<i>COPD</i>	98	19.1
<i>Active cancer in the past 5 years</i>	92	17.9
<i>Chronic liver disease</i>	25	4.9
<i>Chronic renal failure</i>	119	23.2
Number of comorbidities		
<i>0 comorbidities</i>	7	1.4
<i>1 comorbidity</i>	110	21.4
<i>2 comorbidities</i>	134	26.1
<i>3 comorbidities and over</i>	263	51.2

3. Symptoms

Figure 3 shows symptoms most commonly observed at hospital admission. Fever and dyspnoea were the most commonly observed symptoms, while cough, diarrhoea and haemoptysis were less commonly observed. Overall, 6.5% of patients did not present any symptoms at hospital admission.

Figure 3. Most common symptoms observed in COVID-19 positive deceased patients



4. Acute conditions

Acute Respiratory Distress syndrome was observed in the majority of patients (97.5% of cases), followed by acute renal failure (28.9%). Acute cardiac injury was observed in 11.2% of cases and superinfection in 10.2%.

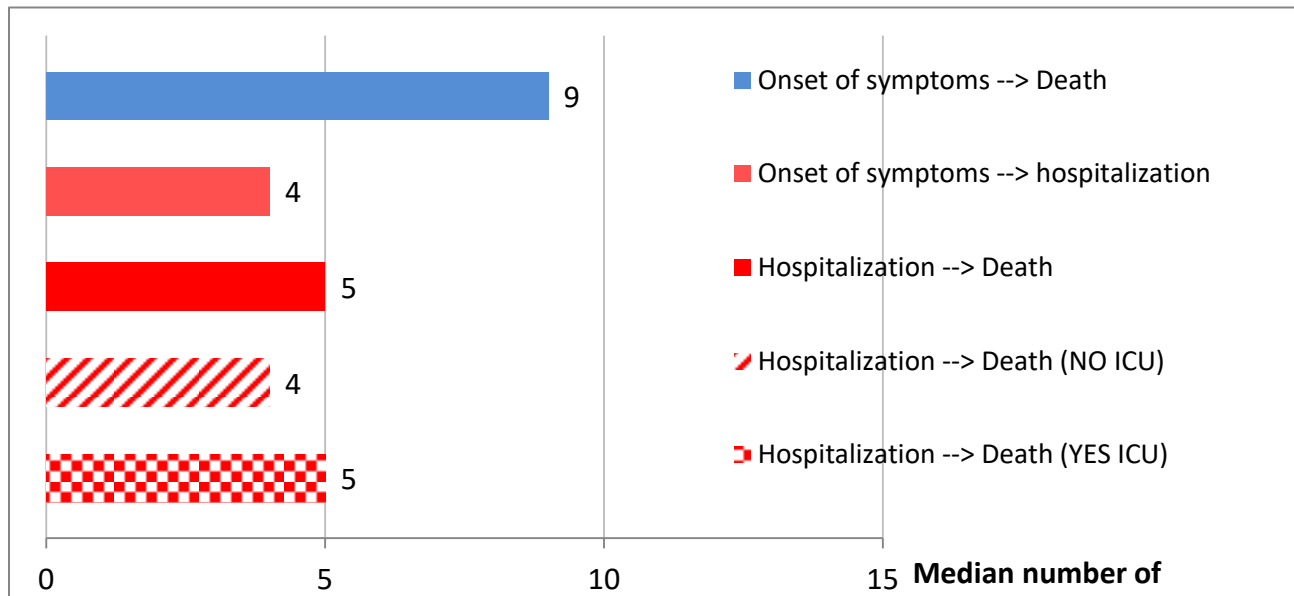
5. Treatments

Antibiotics were used by 86% of patients during hospital stay, while less used were antivirals (53%) and corticosteroids (33%). Concomitant use of these 3 treatments was observed in 8.1% of cases.

6. Time-line

Figure 4 shows, for COVID-19 positive deceased patients, the median times, in days, from the onset of symptoms to death (9 days), from the onset of symptoms to hospitalization (4 days) and from hospitalization to death (5 days). The time from hospitalization to death was 1 day longer in those who were transferred to intensive care than those who were not transferred (5 days vs. 4 days).

Figure 5. Median hospitalization times (in days) in COVID-19 positive deceased patients



This report was produced by COVID-19 Surveillance Group

Members of the COVID-19 Surveillance Group

Luigi Palmieri, Xanthi Andrianou, Antonino Bella, Stefania Bellino, Luigi Bertinato, Stefano Boros, Gianfranco Brambilla, Giovanni Calcagnini, Marco Canevelli, Maria Rita Castrucci, Federica Censi, Alessandra Ciervo, Elisa Colaizzo, Fortunato D'Ancona, Martina Del Manso, Chiara Donfrancesco, Massimo Fabiani, Antonietta Filia, Martin Langer, Ilaria Lega, Cinzia Lo Noce, Valerio Manno, Alberto Mateo Urdiales, Eugenio Mattei, Giada Minelli, Manuela Nebuloni, Lorenza Nisticò, Marino Nonis, Graziano Onder, Nicola Petrosillo, Patrizio Pezzotti, Ornella Punzo, Valeria Raparelli, Giovanni Rezza, Flavia Riccardo, Maria Cristina Rota, Andrea Siddu, Paola Stefanelli, Dorina Tiple, Brigid Unim, Luana Vaianella, Nicola Vanacore, Monica Vichi, Silvio Brusaferrò.