



Characteristics of COVID-19 patients dying in Italy Report based on available data on March 26th, 2020

1. Sample

The present report describes characteristics of 6801 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 26th, 2020.

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

REGIONS	N	%
Lombardia	4484	65.9
Emilia-Romagna	1068	15.7
Veneto	301	4.4
Piemonte	194	2.9
Liguria	180	2.6
Marche	97	1.4
Lazio	88	1.3
Friuli-Venezia Giulia	66	1.0
Puglia	61	0.9
Toscana	59	0.9
Bolzano	46	0.7
Trento	46	0.7
Campania	40	0.6
Sicilia	15	0.2
Sardegna	13	0.2
Abruzzo	12	0.2
Umbria	11	0.2
Molise	8	0.1
Calabria	6	0.1
Valle d'Aosta	6	0.1
Total	6801	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.

2. Demographics

Mean age of patients dying for COVID-2019 infection was 78 (median 79, range 30-100, IQR 73 -85). Women were 2,012 (29.6%). *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

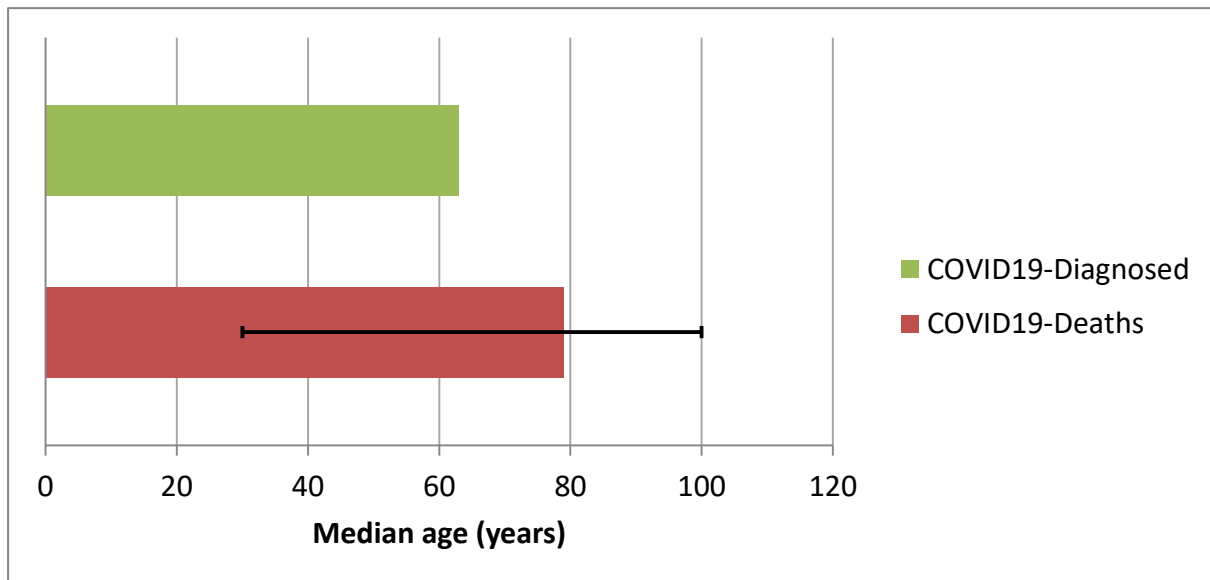
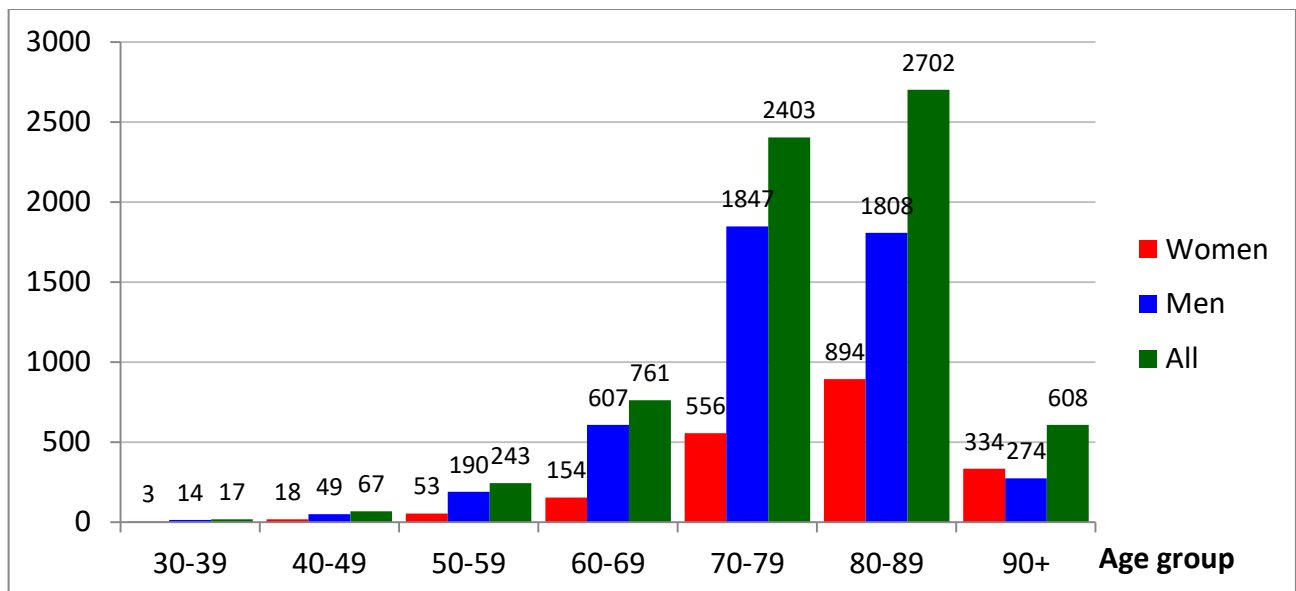


Figure 2. Absolute number of deaths by age group



3. 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 710 patients dying in-hospital for whom it was possible to analyse clinic charts. Mean number of diseases was 2.7 (median 3, SD 1.6). Overall, 2.1% of the sample presented with a no comorbidities, 21.3% with a single comorbidity, 25.9% with 2, and 50.7% with 3 or more.

Before hospitalization, 30% of COVID-19 positive deceased patients followed ACE-inhibitor therapy and 17% angiotensin receptor blockers-ARBs therapy. This information can be underestimated because data on drug treatment before admission were not always described in the chart.

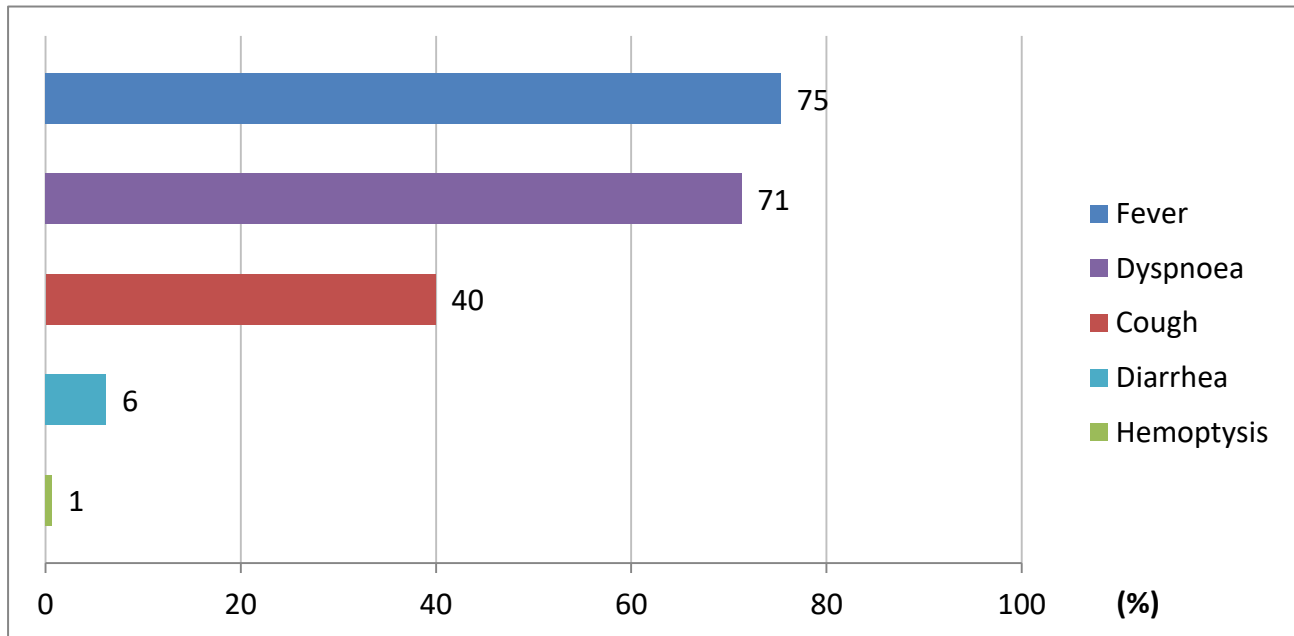
Table 1. Most common comorbidities observed in COVID-19 positive deceased patients

Diseases	N	%
<i>Ischemic heart disease</i>	249	27.8
<i>Atrial Fibrillation</i>	213	23.7
<i>Heart failure</i>	153	17.1
<i>Stroke</i>	101	11.3
<i>Hypertension</i>	655	73.0
<i>Diabetes</i>	281	31.3
<i>Dementia</i>	130	14.5
<i>COPD</i>	150	16.7
<i>Active cancer in the past 5 years</i>	155	17.3
<i>Chronic liver disease</i>	37	4.1
<i>Chronic renal failure</i>	199	22.2
Number of comorbidities		
<i>0 comorbidities</i>	15	2.1
<i>1 comorbidity</i>	151	21.3
<i>2 comorbidities</i>	184	25.9
<i>3 comorbidities and over</i>	360	50.7

4. Symptoms

Figure 3 shows symptoms most commonly observed at hospital admission. Fever, dyspnoea and cough were the most commonly observed symptoms, while diarrhoea and haemoptysis were less commonly observed. Overall, 6.4% of patients did not present any symptoms at hospital admission.

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



5. Acute conditions

Acute Respiratory Distress syndrome was observed in the majority of patients (96.4% of cases), followed by acute renal failure (24.7%). Superinfection was observed in 10.4% and acute cardiac injury in 10.1% of cases.

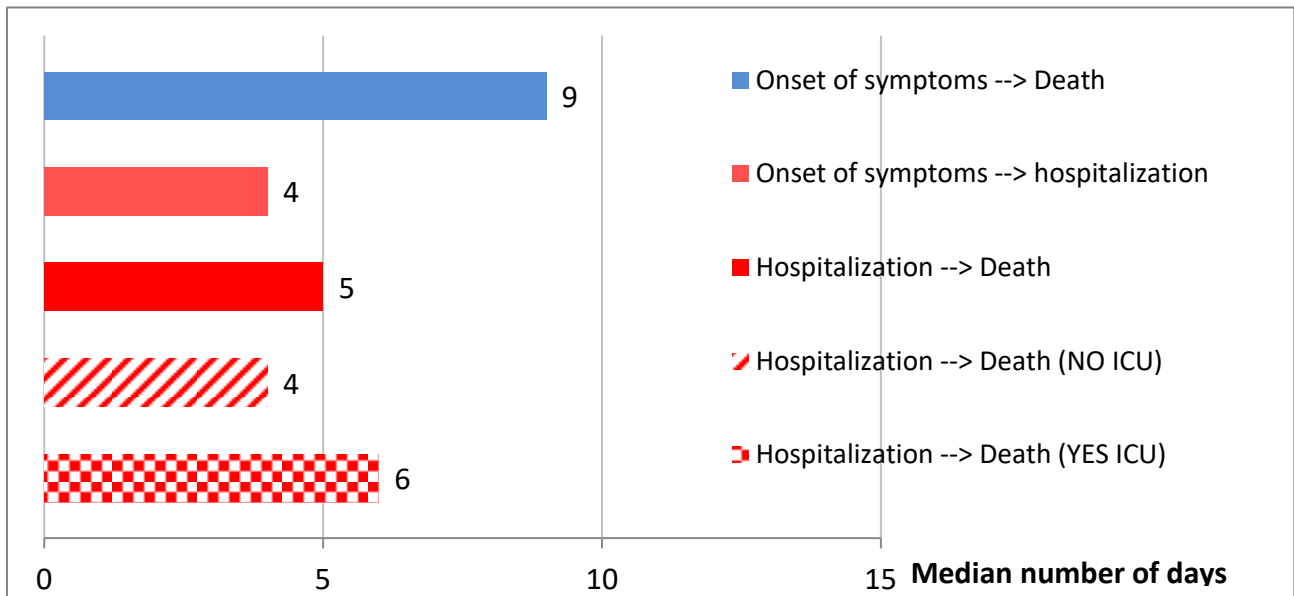
6. Treatments

Antibiotics were used by 86% of patients during hospital stay, while less used were antivirals (54%) and corticosteroids (35%). Concomitant use of these 3 treatments was observed in 8.1% of cases.

7. 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 2 days longer in those who were transferred to intensive care than those who were not transferred (6 days vs. 4 days).

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



8. Deaths under the age of 50 years

As of March 26th, 84 out of the 6801 (1.2%) positive COVID-19 patients under the age of 50 died. In particular, 17 of these were less than 40 years, 14 men and 3 women (age range between 30 and 39 years). For 5 patients under the age of 40 years no clinical information is available; the remaining 8 had serious pre-existing pathologies (cardiovascular, renal, psychiatric pathologies, diabetes, obesity) and 1 had no major pathologies.

This report was produced by COVID-19 Surveillance Group

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