Rocchi E, et al., J Transl Sci 2020, 3: 009
DOI: 10.24966/TSR-6899/100009

HSOA Journal of Translational Science and Research

Editorial

Lessons from Covid-19 Epidemic

Rocchi E[1], Peluso S[1], Sisti D[1], Rocchi M[1]*, Carletti M[2]

[1]*Department of Biomolecular Sciences, University of Urbino, Italy*

[2]*Department of Pure and Applied Sciences, University of Urbino, Italy*

Editorial

Although the current COVID-19 epidemic crisis is far from a resolution, the time has come to highlight some epidemiological and public health issues.

In particular, some remarks can be made on the quality of the data and their dissemination. In this commentary, we will try to provide some points of the reflection, based mainly on the Italian experience, and, in particular, in Marche region (the main epidemic outbreak in central Italy).

1. The positive counting, at least in some Italian regions, is done on the basis of swabs, and not of people. It has sometimes happened that five swabs have been made to the same person in the course of the disease; if, for example, three of them were positive and two negative, the data reported by the region was three positive cases.
2. There is a huge number of false negative swabs, highlighted by a clinical profile of the patient certainly referable to COVID-19 (therefore hospitalized in dedicated facilities) and only later positive results. Moreover, infected are counted on the date of their first positive swab. There are documented cases of positivity only to the third swab (i.e. after two negative swabs) in patients who experienced symptoms for more than 15 days and who were counted as new infected on day 16 after the onset of the disease. Therefore, infected subjects are counted in statistical reports from their first positive swab, regardless of previous display of symptoms.
3. At least in certain phases of the epidemic, the number of the healed patients was calculated referring exclusively to the patients discharged from the hospital.
4. At least in Italy, the official data presented daily as "new positive cases" have often been mistaken for the balance between the positive cases, the healed ones and the deceased ones; they must therefore be correctly interpreted as the addition to the subpopulation of the infected, net of those who died or recovered.
5. There is a big problem of data discontinuity from the temporal point of view. We observed cases in which the two-day data were all counted together on the second day (e.g. in Piemonte Region, Italy) [1]. We recall in particular the case of the Chinese statistical reports, which declared 14108 new cases on February 12, because of the change in the criteria employed to declare the positivity of subjects [2]. There is also the problem of data corrections: in the Finland cases history, one day the reported deaths were -1, since one case of death, which was previously attributed to Covid-19, resulted negative to a post-mortem check. Rather than correcting the data of the previous day, they prefer to later assume a negative value of the deceased patients.
6. Another problem is related to the difficulty of estimating asymptomatic and paucisymptomatic subjects. This problem is amplified by different health policies, even within the same country. In Italy, for instance, in two of the main epidemic outbreaks, there was a totally different use of swabs: in some municipalities of Veneto region there was a swab-based screening of the entire population; in Marche region, instead, the employment of the swabs was limited, at least for the first period, exclusively to those who simultaneously presented two symptoms (cough and fever), and could at the same time report a past contact with a confirmed positive [3,4].
7. Different countries are using different criteria for the causes of death. Some countries, such as Italy, have classified all positive patients' deaths as "COVID-19 deaths". Other countries have classified "COVID-19 deaths" as exclusively those involving patients without other serious pathological conditions. This makes the Case Fatality Rate (CFR) and Mortality Rate (MR) recorded in the various countries difficult to compare [5].
8. Another factor that strongly influences the comparability of epidemiological data is the lack of transparency by some governments (for instance, China, at least at the beginning of the epidemic, and Iran) [5].
9. Finally, we underline the current underestimation of the possibility that immunity to SARS-CoV-2 is not permanent.

Therefore, this current experience also offers us the opportunity to learn something about managing an epidemic.

1. The epidemic has made clear the need to coordinate common guidelines, both nationally and internationally, and the need to agree upon the correct criteria to collect statistical data, establishing for this purpose a control task force, coordinated by the World Health Organization.

***Corresponding author:** Rocchi M, Department of Biomolecular Sciences, University of Urbino, Italy, Tel: +39 0722303304; E-mail: marco.rocchi@uniurb.it

Citation: Rocchi E, Peluso S, Sisti D, Rocchi M, Carletti M (2020) Lessons form Covid-19 Epidemic. J Transl Sci Res 3: 009.

Received: April 13, 2020; **Accepted:** April 25, 2020; **Published:** May 01, 2020

Copyright: © 2020 Rocchi E, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

2. The estimate of the number of positive subjects, for example using the "mark and recapture method", is necessary. It might appear a waste of resources, but in the long run, it will prove to be a fundamental tool to control the epidemic.
3. In choosing the serological tests, it will be necessary to take into account the cost (in both social and economic terms) of the false negative cases (risks to other people) and the false positive ones (risks to themselves).
4. It is also important to systematically collect also symptoms, which, after being reported anecdotally, have become pathognomonic (e.g. ageusia, anosmia).
5. Another key aspect is to systematically collect data on therapies, often experimented on the basis of personal intuitions (e.g. Tocilizumab, Hydroxichloroquine).
6. The statistical analysis also has to take into account the social interaction models, different among countries, which necessarily influence the spread of the virus.
7. Telemedicine tools should be implemented to remote monitor subjects with initial symptoms.
8. Another tool that should be implemented is informatics, designed to monitor movements and contacts of subjects, regardless of their clinical and epidemiological condition.
9. In estimating the Mortality Rate due to this pandemic, we will also have to deal with health care deficits for both routine and emergency pathologies. In particular, this phenomenon was pointed out during periods of intense outbreak.

This epidemic has offered to the entire community, in particular to politicians who govern in such difficult times, another great lesson (that we would be mad not to learn), that is the need to separate competences: clinicians treat patients, virologists study the virus, pharmacologists offer therapies, epidemiologists study the progress of the epidemic, and so on. Any overlapping of competences and any intrusion into the competences of other professionals creates confusion.

References

1. Coronavirus in Italia, i dati e la mappa.
2. COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU), 2020.
3. Presidenza del Consiglio dei Ministri – Dipartimento Protezione Civile - Covid19.
4. Coronavirus Marche: SISCOVI19 - Piattaforma sanitaria integrata per l'emergenza Covid-19.
5. Covid-19 Coronavirus pandemic, 2020.

HERALD

Advances In Industrial Biotechnology | ISSN: 2639-5665

Advances In Microbiology Research | ISSN: 2689-694X

Archives Of Surgery And Surgical Education | ISSN: 2689-3126

Archives Of Urology

Archives Of Zoological Studies | ISSN: 2640-7779

Current Trends Medical And Biological Engineering

International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X

Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276

Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292

Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370

Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594

Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X

Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562

Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608

Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879

Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397

Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751

Journal Of Aquaculture & Fisheries | ISSN: 2576-5523

Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780

Journal Of Biotech Research & Biochemistry

Journal Of Brain & Neuroscience Research

Journal Of Cancer Biology & Treatment | ISSN: 2470-7546

Journal Of Cardiology Study & Research | ISSN: 2640-768X

Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943

Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771

Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844

Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801

Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978

Journal Of Cytology & Tissue Biology | ISSN: 2378-9107

Journal Of Dairy Research & Technology | ISSN: 2688-9315

Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783

Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X

Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798

Journal Of Environmental Science Current Research | ISSN: 2643-5020

Journal Of Food Science & Nutrition | ISSN: 2470-1076

Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X

Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566

Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485

Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662

Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999

Journal Of Hospice & Palliative Medical Care

Journal Of Human Endocrinology | ISSN: 2572-9640

Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654

Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493

Journal Of Light & Laser Current Trends

Journal Of Medicine Study & Research | ISSN: 2639-5657

Journal Of Modern Chemical Sciences

Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044

Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X

Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313

Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400

Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419

Journal Of Obesity & Weight Loss | ISSN: 2473-7372

Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887

Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052

Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X

Journal Of Pathology Clinical & Medical Research

Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649

Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670

Journal Of Plant Science Current Research | ISSN: 2639-3743

Journal Of Practical & Professional Nursing | ISSN: 2639-5681

Journal Of Protein Research & Bioinformatics

Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150

Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177

Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574

Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060

Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284

Journal Of Toxicology Current Research | ISSN: 2639-3735

Journal Of Translational Science And Research

Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193

Journal Of Virology & Antivirals

Sports Medicine And Injury Care Journal | ISSN: 2689-8829

Trends In Anatomy & Physiology | ISSN: 2640-7752

Submit Your Manuscript: https://www.heraldopenaccess.us/submit-manuscript