Covid-20 – Interim Report

Even now some of the fundamentals of virology are still not recognized:

- Coronaviruses travel individually suspended in the air like smoke particles (the same dimensions of 150nm) and like pollens (which seem like their bigger brothers). They are carried by air currents, forced to accumulate in closed environments, so causing harm. The Coronavirus is not a killer virus, but we make it dangerous. In these closed environments they are inhaled and arrive in large quantities at their only point of entry, the peripheral respiratory tract.
- The necessary viral load for a more serious infection only happens in badly ventilated (through negligence?) environments like care homes, public transport, hospitals, hotels, conference rooms, law courts.
- The interpretation of the means of transmission of the Coronavirus through droplets and surfaces (as also for the Influenza virus) represents a relic from history, when virology was only a theory, but not a science.
- The specific death rate from Coronavirus can partly be attributed to the handling of patients with Coronavirus through “autointoxication” (masks, oxygen masks and helmets, one way intubation) and through “external intoxication”: the antiviral drugs.

It is obvious that all this takes the vast majority of government interventions to the point of absurdity, they infringe the most elementary constitutional rights, especially of children.

It is enough to ventilate as required by law (windows open for 10 minutes every hour), and masks, distancing, yellow, orange, red zones, experts and vaccines would become unnecessary.

See the article:

“The aerosol as the only significant mode of transmission of the coronavirus: epidemiological evidence”,

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Introduction: There are currently many different opinions, partly contrasting with regard to the transmission of coronavirus and the measures to be taken to deal with it. At present the main mode of transmission is considered to be through droplets or contact. The aim of this article is to examine the importance of transmission through contact and droplets against transmission by aerosols using an epidemiological approach. To this end three regions of Italy have been compared as cohorts.

Material and Methods: The three regions included in this study are Lombardy, Emilia Romagna and Sicily. A clinical analytical study has been carried out on these three cohorts. The relative homogeneity at the beginning of the epidemic (general risk of exposure, demographic conditions) and eventual interaction during the observation period have been assessed. 24/04/2020 was considered the final date of the survey in relation to fatal cases.

The results were assessed with regard to transmission through contact/droplets or by aerosols.

Results:

Lombardy, Emilia Romagna and Sicily are fairly similar as regards territorial extent (Lombardy: 23,865 $km^{2,}$, Emilia Romagna 22,453 and Sicily 25,832 km^2) As for population/population density per km^2, Emilia Romagna and Sicily are comparable (Emilia Romagna 4,459,477/198.6 per km^2, Sicilia 4,999,891/193.6 per km^2). Lombardy has an approximately double population/population density (10,060,574/421.6 per km^2).

The homogeneity of the two cohorts in the north as regards risk of exposure is comparable due to the similar geographical,

demographic and climatic conditions. Sicily, 1000 kilometers further south, until the end of March was exposed to a similar if not much higher exposure:

1. Catania airport (metropolis with over a million inhabitants) took 6th place in Italy last year for passenger transport, in Germany it would be little after Stuttgart, Cologne and Berlin Tegel at 9th place. Compared to the previous year, air traffic in Catania in January increased by 4.94% to 609,750 and in February by 1.36% to 547,210: Lombardy is in third place overall for presences in Sicily (1,069,293) after France (1,584,410) and Germany (1,185,041)
2. From 3 to 5 February the Festival of St Agatha took place, one of the largest religious festivals in the world with a turnout of over a million people, obviously with no social distancing.
3. After the closure of universities, bars, restaurants etc. there was a justified return of students and workers from the north: around 40,000 people who registered spontaneously (Note from the Ministry 24/03/20), even if the actual figures will be considerably higher.
4. Until International Women's Day (8 March) as regards the winter season, Catania was the city in Italy and Europe with the highest quota of social personal contacts due to the very intense daily and night life. This was caused by the extensive presence of people both from outside and inside the territory. In this period Catania pulsated from early morning until long after midnight.

As for the homogeneity of the cohorts regarding healthcare and political interference, no differences were found. (The various government decrees applied to the whole of Italy).

26 April 2020 was taken as the final point of the study. According to government statistics the following data were recorded for the number of deaths:

Lombardy: 13,325, Emilia Romagna: 3,386, Sicily: 228)

Discussion: three Italian regions were included in this study, two from the north: Lombardy and Emilia Romagna and Sicily 1000 km further south. The structure of the population is similar with the exception of Lombardy which has double the density of the other two regions. The starting point of the epidemic (end of January, beginning of February) is comparable as regards risk of exposure (possibly higher in Sicily). The lockdown ordered by the government meant that the course of the epidemic was not altered by regional interaction. This allows a homogeneity of the cohorts virtually unique in medicine.

The evaluation of the results regarding the two factors considered responsible for transmission (droplets/aerosols) leads to the following conclusions:

The importance of transmission through contact, droplets etc. in relation to the course of the epidemic goes towards zero. This is evident from the fact that the necessary interpersonal contact is similar in the three cohorts (certainly much higher in Sicily, especially in big cities), but the death toll in Sicily is very low. (Sanitary conditions, often considered to be the cause of this mode of transmission, are similar in North and South Italy).

The importance of transmission by aerosols remains the only determining factor. The explanation lies in the analysis of the differing living conditions in the home-work environment between the north and the south. Staying in the open air and in insufficiently ventilated environments are identified as determining factors.

The habitat of the Sicilian population, due to the climatic and industrial conditions, is fundamentally different to that in the North.

1. Buildings are not insulated to guarantee energy efficiency (the concentration of CO_2 is an indicator for

risk of infection: Rudnick and Milton 2003), they have high ceilings to provide coolness in the summer.

2. Heating is only used to a limited extent (both in private and public spaces) and there is also sufficient ventilation (see the indications for a healthy climate in buildings) in winter facilitated by the relative difference between the external and internal temperature.
3. Life in Sicily takes place outside to a great extent also in winter thanks to the mild climate.
4. Industrial plants with a high concentration of people are far less common than in the North.
5. There is adequate ventilation in means of transport (cars, buses, trains).

As transmission by aerosols finds an ideal situation in the closed environments in northern Italy (the concentration of CO2 will be caused by the high level of insufficient ventilation) we are faced with, in the broad sense, the already well known Sick building Syndrome (Finnegan et al. 1984). .

The theory of transmission by aerosols is also confirmed in the virological literature. Particles the size of the coronavirus settle at the level of the lower respiratory tract (Bottarelli 2020). The involvement of the oropharyngeal cavity and the upper respiratory tract are to be considered secondary, occurring following exhaled air, not significant for transmission.

Conclusions: As transmission, as explained above, occurs by aerosols (influenza too, showing the same epidemiological features as the coronavirus, probably follows the same mode of transmission) the measures currently being taken (quarantine/lockdown, masks, gloves, measures against gatherings) should be corrected immediately.

It is vitally and urgently important to undertake measures to rectify the human habitat regarding both internal and external pollution.

Bibliography (in limited edition due to the coronavirus)

1. Finnegan MJ, Pickering CA, Burge PS: The sick building Syndrome: Prevalence Studies. Br Med J. 1984; 289:1573-5
2. Rudnick and Milton 2003
3. Bottarelli 2020