

## **Lethality of COVID-19 in the World and 20 Selected Countries (April-25-2020)**

Valdir Monteiro dos Santos Godoi  
([valdir.msgodoi@gmail.com](mailto:valdir.msgodoi@gmail.com))

The objective of this paper is to initiate a study relative a mathematical modeling of coronavirus contamination, knowing firstly some current numbers, given by COVID-19 pandemic.

Initiating with data of 20 countries and total values relate to the world, is possible to note that the United State of America is the worse country with relation to the current coronavirus contamination (COVID-19). Probably United Kingdom is not providing your data on recovered patients correctly, with regularity, because your lethality coefficient of type 1 is abnormally high: 96.42 %.

For table 1 we are defining

Resolved Cases = Death + Recovered Cases,

Lethality % 1 =  $100 \times \text{Death} / \text{Resolved Cases}$ ,

Lethality % 2 =  $100 \times \text{Death} / \text{Confirmed Cases}$ .

Considering Lethality % type 1, Korea South (2.70 %), Israel (3.11 %), Germany (4.99 %), China (5.60 %), Iraq (6.67 %), Iran (7.72 %) and Russia (9.95 %) have the lowest lethality rates in Table 1, less than 10 %.

Considering Lethality % type 2, Russia has the lowest lethality rate (0.90 %) and France the worst (13.91 %).

Portugal is bad about the type 1 percentage (41.02 %), but moderately well with respect to the type 2 percentage (3.75 %).

All primary data was extracted from the Johns Hopkins University website.

Type	Confirmed Cases	Death	Recovered	Resolved Cases	Lethality % 1	Lethality % 2
Time	6:31:168 AM	6:31:16 AM	6:31:16 AM	6:31:16 AM	6:31:16 AM	6:31:16 AM
Date	April 25-2020	April 25-2020	April 25-2020	April 25-2020	April 25-2020	April 25-2020
Country						
World	2,815,347	197,506	795,329	992,835	19.89	7.02
US	905,333	51,949	99,079	151,028	34.40	5.74
Spain	219,764	22,524	92,355	114,879	19.61	10.25
Italy	192,994	25,969	60,498	86,467	30.03	13.46
France	159,952	22,245	44,271	66,516	33.44	13.91
Gemany	155,054	5,767	109,800	115,567	4.99	3.72
United Kingdom	144,640	19,506	724	20,230	96.42	13.49
Turkey	104,912	2,600	21,737	24,337	10.68	2.48
Iran	88,194	5,574	66,599	72,173	7.72	6.32
China	83,899	4,636	78,109	82,745	5.60	5.53
Russia	68,622	615	5,568	6,183	9.95	0.90
Brazil	54,043	3,704	27,655	31,359	11.81	6.85
India	24,530	780	5,498	6,278	12.42	3.18
Portugal	22,797	854	1,228	2,082	41.02	3.75
Israel	15,148	198	6,159	6,357	3.11	1.31
Japan	12,829	345	1,530	1,875	18.40	2.69
Korea South	10,718	240	8,635	8,875	2.70	2.24
Egypt	4,092	294	1,075	1,369	21.48	7.18
Greece	2,490	130	577	707	18.39	5.22
Iraq	1,708	86	1,204	1,290	6.67	5.04
Cuba	1,285	49	416	465	10.54	3.81

Table 1 – Percentage of Lethality of COVID-19