



Letter to Editor

Italy, China and Turkey are the Top Three Countries in Health Research Publications for the Year 2019-2020: Analysis of One Hundred and Forty Countries (140)

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The SARS-CoV-2 virus has significantly affected every aspect of life such as health, economy, and socio-economic fabric, and research activities. This motivated us to explore the research output of more than 145 countries in health sciences research for 2019-2020. It is noteworthy that research outputs are classified in "health sciences", health professions, dentistry, medicine, multidisciplinary, nursing and veterinary. Scopus (Elsevier BV Company, USA) was employed for the purpose. The data were independently screened, sorted, and extracted on 26th Dec, 2020. Based on the number of publications and research growth rate, we designed the publication clubs and provided the ranking details in Table 1. If we keep the number of publications to be ten thousand (10,000), it was found that Italy has the highest growth rate ($n = 29.92$), followed by China ($n = 28.27$) and Turkey ($n = 25.36$). Regardless of the minimum number of publications, Uzbekistan has the highest growth rate ($n = 124.69$), followed by Democratic Republic Congo (DRC) ($n = 93.55$) and Jamaica ($n = 68.93$). The numerical details about the research progress of more than 140 countries are provided in Table 2. It can be concluded that significant progress can be noticed in health sciences during the COVID-19 pandemic.

Table 1

The Research Growth Rate in Health Sciences Category in more than One Hundred and Forty (140) Countries. PC= Publication Club, DRC= Democratic Republic Congo and SAR=Syrian Arab Republic

Abb	NoC	The PC	Country	NoP (2020)	Country	NoP	GR
A	1	200,000	USA	292057	USA	292057	13.94
B	1	100,000	China	140817	China	140817	28.28
C	4	50,000	UK	88295	Italy	57464	29.93
D	4	40,000	Canada	48316	Australia	45477	16.97
E	3	30,000	Spain	39587	Spain	39587	23.95
F	3	20,000	South Korea	27959	Turkey	22416	25.37
G	8	10,000	Iran	19932	Austria	10825	22.69
H	18	5,000	Norway	9052	Saudi Arabia	9473	35.97
I	15	2000-5000	Argentina	4836	Ethiopia	3177	53.40
J	17	1000-2000	Jordan	1964	Morocco	1683	49.07
K	16	500-1000	Georgia	917	Sudan	543	45.58
L	18	300-500	Latvia	499	DRC	300	93.55
M	38	100-300	SAR	293	Uzbekistan	182	124.69

Table 2

The Research Growth Rate in Health Sciences Category in More than One Hundred and Forty (140) Countries

Abb	NoC	The Publication Club	COUNTRY	2019	2020	GR
A	1	200,000	United States	256322	292057	13.941
B	1	100,000	China	109774	140817	28.279
C	4	50,000	United Kingdom	75107	88295	17.559
			Germany	56146	63640	13.347
			Italy	44228	57464	29.927
			Japan	43757	50721	15.915
D	4	40,000	Canada	42299	48316	14.225
			Australia	38880	45477	16.968
			France	36989	42324	14.423
			India	37536	41506	10.577
E	3	30,000	Spain	31937	39587	23.953
			Brazil	27900	32551	16.670
			Netherlands	26719	30974	15.925
F	3	20,000	South Korea	25386	27959	10.136
			Switzerland	19486	23081	18.449
			Turkey	17880	22416	25.369
G	8	10,000	Iran	17212	19932	15.803
			Sweden	16003	18201	13.735
			Belgium	12685	15301	20.623
			Russian Federation	14552	13270	-8.810
			Denmark	11551	13635	18.042
			Poland	11442	12351	7.944
			Taiwan	10519	12126	15.277

			Austria	8823	10825	22.691
H	18	5,000	Norway	8123	9052	11.437
			Israel	7567	9249	22.228
			Saudi Arabia	6967	9473	35.970
			Egypt	7330	9500	29.604
			Mexico	7188	9019	25.473
			Portugal	7278	8993	23.564
			South Africa	7535	8954	18.832
			Greece	7023	8403	19.650
			Ireland	5963	7645	28.207
			Singapore	5752	7634	32.719
			Thailand	5856	7194	22.848
			New Zealand	5900	6881	16.627
			Finland	6046	6851	13.315
			Malaysia	5892	6719	14.036
			Hong Kong	5115	6509	27.253
			Pakistan	5484	6508	18.673
			Indonesia	5805	6127	5.547
I	15	2000-5000	Argentina	4124	4836	17.265
			Chile	4094	4984	21.739
			Colombia	3896	4831	23.999
			Nigeria	3215	4394	36.672
			Hungary	3108	3504	12.741
			Ethiopia	2071	3177	53.404
			Iraq	3040	3065	0.822
			Romania	2897	2922	0.863
			Bangladesh	1791	2626	46.622
			Croatia	2310	2421	4.805
			United Arab Emirates	1818	2349	29.208
			Lebanon	1607	2291	42.564
			Serbia	2267	2261	-0.265
			Viet Nam	1742	2211	26.923
			Kenya	1762	2137	21.283
J	17	1000-2000	Jordan	1363	1964	44.094
			Peru	1521	1960	28.863
			Ukraine	2134	1955	-8.388
			Qatar	1372	1884	37.318
			Slovenia	1535	1845	20.195
			Tunisia	1590	1803	13.396
			Morocco	1129	1683	49.070
			Ghana	1356	1670	23.156
			Philippines	1171	1639	39.966
			Nepal	1104	1601	45.018
			Slovakia	1498	1500	0.134

			Uganda	1277	1494	16.993
			Bulgaria	1417	1420	0.212
			Tanzania	1056	1236	17.045
			Cyprus	928	1190	28.233
			Ecuador	945	1138	20.423
			Lithuania	892	1103	23.655
K	16	500-1000	Georgia	1011	917	-9.298
			Cuba	915	854	-6.667
			Cameroon	712	819	15.028
			Sri Lanka	798	789	-1.128
			Kuwait	646	765	18.421
			Oman	536	740	38.060
			Malawi	592	716	20.946
			Uruguay	568	703	23.768
			Estonia	740	700	-5.405
			Iceland	652	694	6.442
			Algeria	602	645	7.143
			Kazakhstan	603	629	4.312
			Luxembourg	529	615	16.257
			Sudan	373	543	45.576
			Venezuela	481	514	6.861
			Zambia	391	513	31.202
L	18	300-500	Latvia	433	499	15.242
			Zimbabwe	413	493	19.370
			Bosnia and Herzegovina	545	487	-10.642
			Macao	377	483	28.117
			Malta	340	454	33.529
			Puerto Rico	325	417	28.308
			Costa Rica	363	408	12.397
			Bahrain	370	404	9.189
			Senegal	371	397	7.008
			Rwanda	288	386	34.028
			Mozambique	306	373	21.895
			Belarus	395	354	-10.380
			Burkina Faso	369	350	-5.149
			Jamaica	206	348	68.932
			Palestine	242	344	42.149
			Myanmar	246	329	33.740
			North Macedonia	244	324	32.787
			Democratic Republic Congo	155	300	93.548
M	38	100-300	Syrian Arab Republic	210	293	39.524
			Guatemala	189	285	50.794
			Botswana	238	282	18.487
			Cote d'Ivoire	260	268	3.077

	Cambodia	261	264	1.149
	Panama	248	259	4.435
	Benin	205	252	22.927
	Congo	293	251	-14.334
	Yemen	225	233	3.556
	Grenada	195	230	17.949
	Paraguay	173	230	32.948
	Azerbaijan	207	222	7.246
	Armenia	250	221	-11.600
	Albania	179	218	21.788
	Mali	189	202	6.878
	Dominican Republic	133	197	48.120
	Trinidad and Tobago	179	190	6.145
	Gambia	148	189	27.703
	Uzbekistan	81	182	124.691
	Mongolia	158	179	13.291
	Bolivia	155	174	12.258
	Libyan Arab Jamahiriya	112	171	52.679
	Laos	166	170	2.410
	Namibia	114	157	37.719
	Sierra Leone	121	156	28.926
	Kyrgyzstan	110	151	37.273
	Madagascar	134	150	11.940
	Brunei Darussalam	96	130	35.417
	Montenegro	160	129	-19.375
	Gabon	111	128	15.315
	Afghanistan	102	119	16.667
	Monaco	102	117	14.706
	Haiti	97	112	15.464
	Honduras	99	111	12.121
	Fiji	99	109	10.101
	Moldova	134	107	-20.149
	Papua New Guinea	117	106	-9.402
	Guinea	90	101	12.222