Statistical Analysis of COVID19 for Asian Countries: A Cross-sectional Study

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Abstract:

COVID19 also known as corona virus is one the deadly virus that has significantly affected the life of the individual across the world. There is a chaotic and stressed environment for the most infected Asian countries viz. Pakistan, Turkey, Qatar and Iraq. Additionally, there is a great fear of mass destruction and causality. The cases have been increasing at a very high speed. In India, the number of deaths is also significantly increasing. To date, more than twenty thousand people have been died due to this deadly novel coronavirus. As per the stats, to date, the number of total infected cases, deaths and recoveries are 2,844,439, 67,715, and 1,959,868 respectively. Different work related to the forecasting, diagnosis, impacts have been carried out. However, still a united solution that can assist in diagnosis, prevention, monitoring is required.

Keywords: COVID19, Corona Virus, Asian Countries.

Introduction

Corona virus is one the most prevalent and deadly kind of virus that has momentously affected the whole world. People are following the advisories of the government. The virus was originated in China and have now spreaded over the complete world[1-4]. Some of the main advisories states that one should wear mask, use sanitization, and follow the social distancing. As of July, 2020, 49 different countries viz. India, Paskistan, Iran, Saudi Arabia, Turkey, Bangladesh, China, Indonesia, UAE, Japan, Nepal, Macao, Laos, and Bhutan etc. have been infected with COVID19. There is a chaotic and stressed environment for the most infected Asian countries viz. Pakistan, Turkey, Qatar and Iraq[5]. Additionally, there is a great fear of mass destruction and causality. The corona virus is affecting the mental and physical health of the individuals [6-7]. In spite of health, different sectors like education, business, economy, healthcare, stock, have also been affected with this deadly virus since January 2020[8-15].

Related Works

Several authors have published their work on prevalence, diagnosis, treatment of COVID. Surprisingly, as per Google scholar, more than thirty eight thousand articles related to COVID19 have been published in 2020. Some of the details of the publications are presented in Table 1.

Table 1: COVID19 related Publication Details

Keyword	# of Publication indexed in Google Scholar
"COVID19" + "Machine Learning"	3580
"COVID19" + "Artificial Intelligence"	1110
"COVID19" + "Diagnosis"	5810
"COVID19" + "Forecasting"	1390
"COVID19" + "impacts"	3530
"COVID19" + "vaccination"	4110
"COVID19" + "monitoring"	4850
"COVID19" + "economy"	4030
"COVID19" + "healthcare"	7610
"COVID19" + "education"	7840
"COVID19" + "treatment"	10300

Some of the works have been highlighted in Table 2.

Table 2: COVID19 related works

Title	Journal	Authors
Emerging 2019 Novel Coronavirus (2019-nCoV) Pneumonia [16]	Radiology	Fengxiang Song*, Nannan Shi*, Fei Shan, Zhiyong Zhang, Jie Shen, Hongzhou Lu, Yun Ling, Yebin Jiang, Yuxin Shi
AI-driven tools for coronavirus outbreak: need of active learning and cross-population train/test models on	Journal of Medical Systems	K. C. Santosh

multitudinal/multimodal data [17]		
Artificial intelligence and machine learning to fight COVID-19 [18]	Physiological Genomics	Ahmad Alimadadi, Sachin Aryal, Ishan Manandhar, Patricia B. Munroe, Bina Joe, and Xi Cheng
Deep learning system to screen coronavirus disease 2019 pneumonia [19]	Applied Intelligence	C Butt, J Gill, D Chun, BA Babu
Machine learning using intrinsic genomic signatures for rapid classification of novel pathogens: COVID-19 case study [20]	Plos One	Gurjit S. Randhawa , Maximillian P. M. Soltysiak , Hadi El Roz, Camila P. E. de Souza, Kathleen A. Hill, Lila Kari
Remote Monitoring of Physical and Mental State of 2019-nCoV Victims Using Social Internet of Things, Fog and Soft Computing Techniques [21]	Computer Methods and Programs in Biomedicine	Manik Sharma , Samriti Sharm , Gurvinder Singh
Coronavirus infections—more than just the common cold [22]	Jama	CI Paules, HD Marston, AS Fauc

Results and Discussions

One of the major aspects of this cross-sectional study is to present the statistical analysis of COVID19 for the Asian countries. The emphasis has been given on quantitative techniques. From Figure 1, it has been observed that in Asia, India is the most infected country followed by followed by Pakistan, Turkey, Qatar and Iraq. Whereas, Mongolia, Cambodia, Macao and Laos are on the safer side.

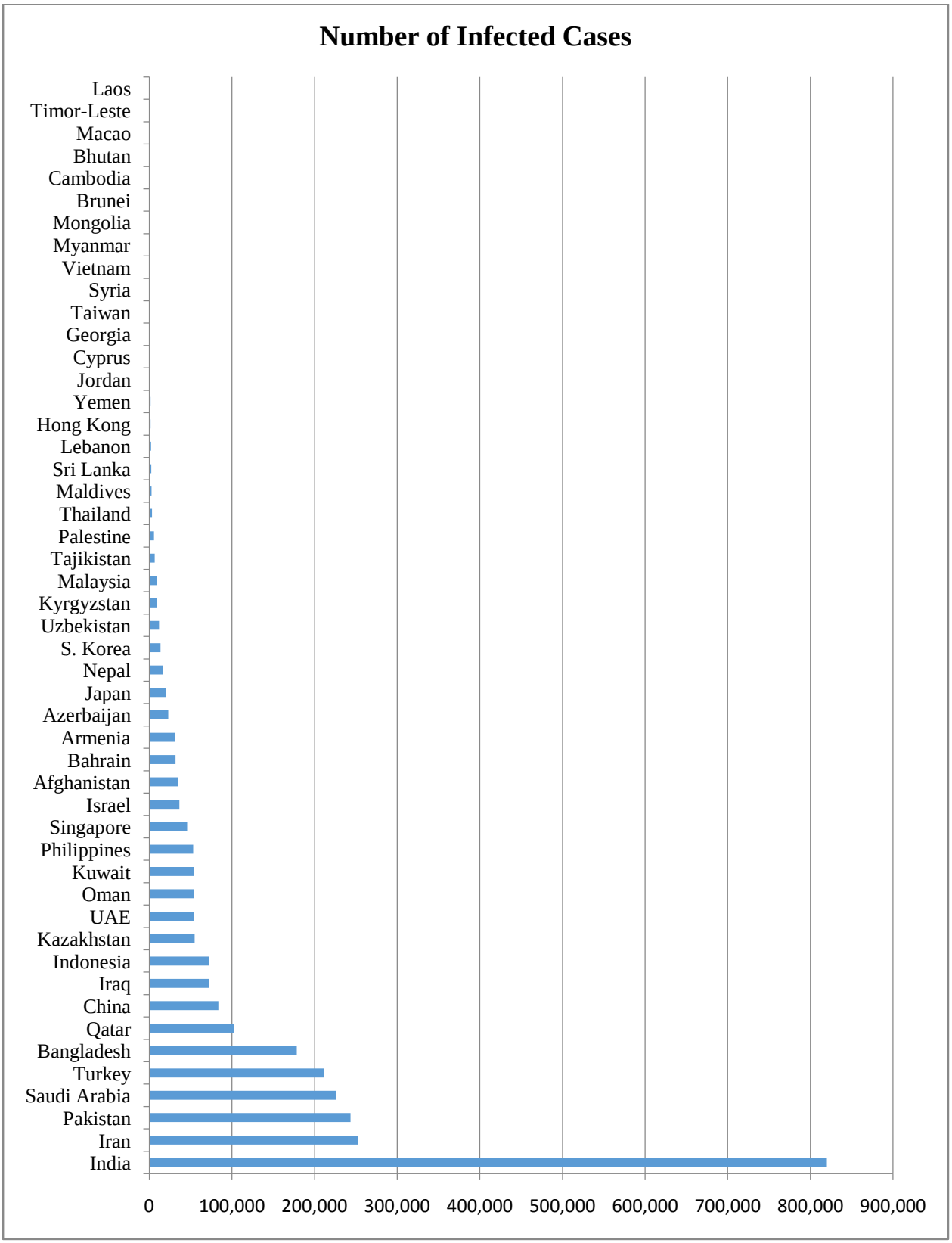

Figure 1 : Number of Infected Cases in Asian Countries

From figure 2, it has been found that like, number of infections, the number of casualties is also on top in India. One of the authors has already published an article (Asian Journal of

Psychiatry) that states that there is fear of mass destruction and causality in India [6]. The facts of today seem to validate the statement of the authors.

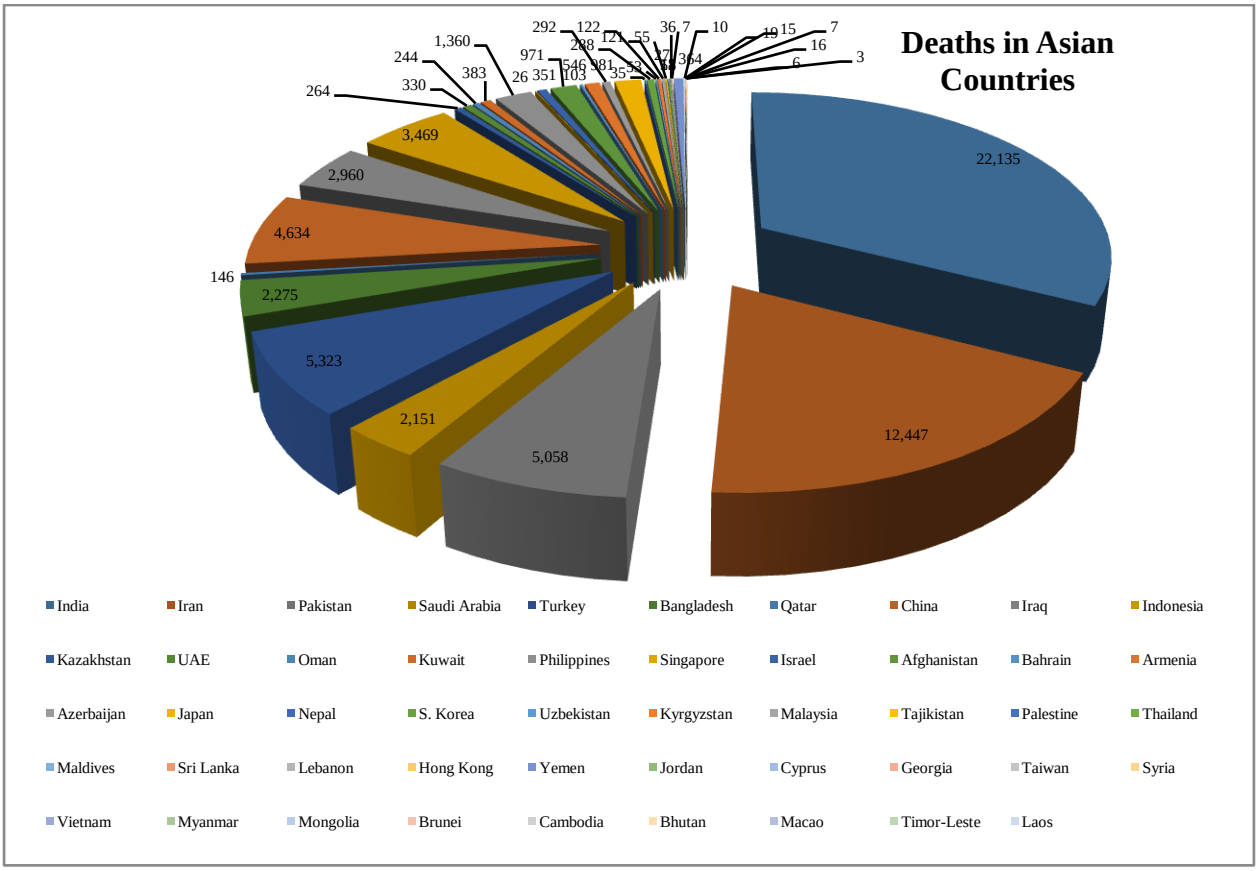

Figure 2 : Number of Deaths in Asian Countries

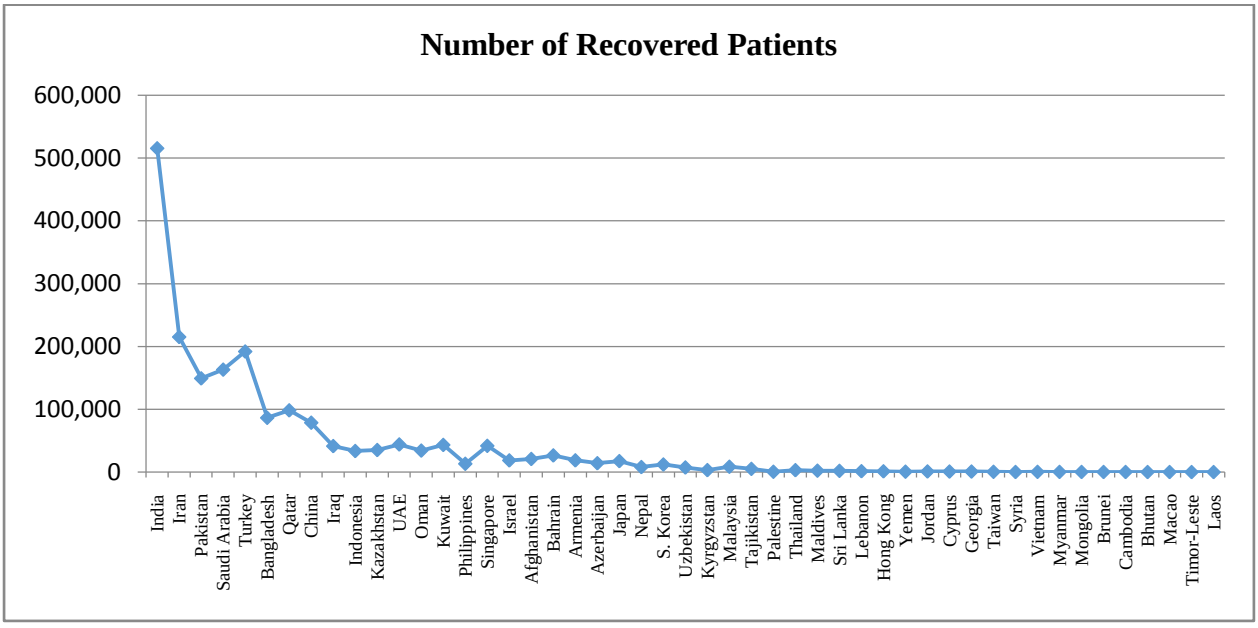

Figure 3 : Number of Patients Recovered in different countries.

Furthermore, several diagnostic and monitoring frameworks have been designed for different human diseases [23-28]. Likewise, an integrated and novel healthcare system is required that can assist in diagnosis, monitoring, and in treatment of COVID infected and afflicted people. For this one can explore the performance of the hybrid system designed using different computing techniques like machine learning, transfer learning, sentiment analysis, big data analytics, deep learning, swarm intelligence, feature selection, human computer interaction, sensors, body area network, energy-efficient networks etc [29-38].

Conclusion and Future Directions

As of July, 2020, 49 different countries viz. India, Paskistan, Iran, Saudi Arabia, Turkey, Bangladesh, China, Indonesia, UAE, Japan, Nepal, Macao, Laos, and Bhutan etc. have been infected with COVID19. India, Pakistan, Turkey are three top most infected Asian countries. In Asia, Laos, Macao, Cambodia are on safer side as far as the number of infections is considered. Likewise, the number of deaths is also highest in India. In spite of health, different sectors like education, businsess, economy, healthcare, stock, have also been affected with this deadly virus since January 2020. There is a hard need to design a hybrid system using different computing techniques like machine learning, transfer learning, sentiment analysis, big data analytics, deep learning, swarm intelligence, feature selection, human computer interaction, sensors, body area network, energy-efficient networks.

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