

A Comparative Analysis of Covid-19 Cases and Deaths in Different Continents of the World

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ABSTRACT

The corona virus disease (COVID-19) first originated from Wuhan, China in December 2019 and the outbreak of corona virus disease has been rapidly transmitted globally in January 2020. It is transmitted by respiratory droplets from one person to other. It causes severe clinical manifestations like fever, headache, and lung infection. The data of total population, total cases reported total deaths reported of all the five continents were collected from various websites and prevalence rate was calculated and analysed. The prevalence of positive cases reported was highest in America (1.6469%) while lowest in Oceania (0.0223%). The prevalence of death was highest in Europe (7.834%), while lowest in Oceania (1.396%).

Keywords: COVID-19; Prevalence; World

Introduction

Coronavirus belongs to a family called virus with single stranded RNA as genetic material. Several genetic studies revealed that it was a SARS-like virus. International Committee on Taxonomy of Viruses named it SARS-CoV-2 and World Health Organization named the disease caused by this virus was COVID-19. This virus binds to the angiotensin-converting enzyme 2 (ACE2) receptor by using a densely glycosylated spike protein to enter in the host cells in humans. Due to ACE2 receptor COVID-19 patient show upper and lower respiratory tract infection because ACE2 is typically expressed in type II alveolar cells in the lungs Gorbalenya, et al. [1,2]. The outbreak of novel coronavirus disease (COVID-19) has been rapidly transmitted globally in January 2020. It is originally originated from Wuhan, China in December 2019. It is transmitted via respiratory droplets and it more common in elderly persons. It causes many severe clinical manifestations such as pneumonia, dry cough, fatigue, fever, headache, abdominal pain, diarrhea, lung infection and difficulty in breathing. This novel coronavirus causes pneumonia and affect the lower respiratory tract of infected person. Researchers studied on this virus and identified this virus as severe acute respiratory coronavirus and named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) Sohrabi, et al. [3-8].

Material and Method

This research was carried out on 2nd July 2020. The major objective of this study was to examine and compare COVID-19 cases and death prevalence of different continents of the world.

Data Collection and Analysis

The data of total population, total cases reported , total deaths reported of all the five continents Africa, Asia, America, Europe and Oceania were collected from various websites and prevalence rate was calculated by using the formula given below:

$$\text{Prevalence rate} = \frac{\text{No. of Patient's having malaria}}{\text{Total No. of Patient's diagnose}} \times 100$$

Statistical Analysis

Data analysis was done by using SPSS. Variables were presented in frequencies and percentages, and distributed continuous variables were presented as mean and standard error of mean (SEM).

Results and Discussion

(Table 1) presents the continent wise prevalence rate of corona cases and death rate worldwide. A total of 1,06,65,758

positive cases reported in all the continents of the world, which is 0.1501% of the total population (7,10,30,93,422) of all the continents as at 2nd July 2020. Out of total positive cases a total of 5451474 (1.6469%) people out of 33,10,02,651 total population were positive in America, which was highest in all the continents, while lowest in Oceania around 9522 (0.0223%) people, out of 4,26,77,259 total population were positive to corona. In Africa, Asia and Europe the prevalence rate was 0.0312% (418314), 0.0501% (2328919) and 0.3287% (2457529) respectively. A total of 5,15,973 (4.837%) (p=0303*) deaths reported worldwide out of total 1,06,65,758 positive cases, in which 7.834%(192539) deaths reported in Europe which highest in all the continents, while 1.396%(133) deaths reported in Oceania which is lowest in all the

continents. In Africa, Asia, and America the death rate was 2.486 % (10400), 2.460% (57302), and 4.688% (255599) respectively. Hsu, et al. [9] reported 8565 confirmed positive cases and 132 deaths in 67 territories outside mainland China on 2nd of March 2020. As on 31st March 2020, WHO reported 693,224 total positive cases globally and 33,106 deaths globally in which 103,775 cases and 3649 deaths belongs to Western Pacific Region, 392,757 cases and 29,962 deaths in European Region, 4084 cases and 158 deaths in South East Asia Region, 46,329 cases and 2813 deaths in Eastern Mediterranean Region, 142,081 cases and 2457 deaths In Regions of America and 3486 cases and 60 deaths in Africa Region WHO, [10].

Table 1: Continent wise Prevalence rate of Corona cases and Death rate worldwide as at 2nd July 2020.

Continent	Total Population	Total Cases Reported	Prevalence rate of Reported Cases (%)	Deaths Reported	Prevalence Rate of Death Reported (%)
Africa	1,34,03,77,318	418314	0.0312	10400	2.486
Asia	4,64,14,00,305	2328919	0.0501	57302	2.460
America	33,10,02,651	5451474	1.6469	255599	4.688
Europe	74,76,35,889	2457529	0.3287	192539	7.834
Oceania	4,26,77,259	9522	0.0223	133	1.396
Total	7,10,30,93,422	1,06,65,758	0.1501	5,15,973	4.837
Mean±SEM p		2133151.5±964501.94 0.0914NS	0.415±0.313 0.2547NS	103194.6±51258.95 0.1143NS	3.772±1.148 0.0303*

Source: Total Cases and deaths www.ecdc.europa.eu

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