INTRODUCTION

The government of China reported nCOV-19 as a causative agent of the infection in lower respiratory tract for the first time which was named as novel coronavirus pneumonia (NCP). The WHO recommended...
it as COVID-19 however after a successful trial by the International Committee on Taxonomy of Viruses, it was renamed as SARS-CoV-2 (Yuen et al., 2020).

This virus is highly contagious and causes the disease with symptoms like fever, dry cough, fatigue, myalgia, and dyspnea (Chen et al., 2020). The COVID-19 pandemic spread very rapidly and by October 1st, 2020, the virus had spread all over the world, resulting 33.9 million cases and 1.01 million deaths (Lau et al., 2021). Due to the high rate of transmission, on January 30, 2020 the WHO declared it a public health emergency in global concern and communicated to all the countries to come out for the battle against the disease (WHO, 2020).

Person to person transmission of SARS-CoV-2 was first evidenced by scientists from Hong Kong University and was comprised in the following stages: this disease can spread up to 83% of the population; the clinical manifestations was from mild to moderate; asymptomatic virus shedding raises the possibility for transmission from asymptomatic carriers to others and the presentation of diarrhea suggests the possibility for gastrointestinal involvement and fecal–oral transmission. This study is more helpful for the control and management of COVID-19 (Chan et al., 2020).

Karachi, a capital city in Sindh Province Pakistan hit by the COVID-19 epidemic in 26th February, 2020 for the first time. Some protective measures were adopted to control the COVID-19 transmission in Sindh and other provinces of Pakistan, including the suspension of public transportation, the closing of public places, families’ management at home, isolation, care for infected people and monitoring suspected cases. Until the Mid of March, government of Pakistan locked down the whole country and imposed to stay at home to avoid contacting with others. The battle against COVID-19 is now at its end in Pakistan and the rest of the world while China has overcome.

Studies on nCoV-19 (SARS-CoV-2) have been published in the past few weeks to report on clinical characteristics (Wang et al., 2020), genome sequencing (Lu et al., 2020), possible intermediate host (Lam et al., 2020), the evolutionary reservoir (Zhou et al., 2020). It is the time to educate the people on transmission pattern, risk factors and management of COVID-19. To facilitate outbreak management of COVID-19 in Pakistan, there is an urgent need to understand the public awareness of COVID-19 at this critical moment. Current study addresses the ongoing situation of COVID-19 during the rapid rise period outbreak in Pakistan.

2. Study Design

The most interesting articles have been published on different aspects of nCOVID-19 in various reputed journals internationally. Present study was mapped in the helpline of the related review of literature. For the collection of the information, most of the data was collected via published articles. The Wikipedia, the free encyclopedia was searched for 2020 COVID-19 pandemic in Pakistan on regular intervals. Excel graphs were designed for the presentation of the data. In calculating the percent prevalence of the cases, the number of cases reported, number of deaths, number of recovered cases and the number of active cases were multiplied by 100 and divided by total number of laboratory confirmed cases.

3. Results

Table 1 demonstrates the pattern of infection caused by COVID-19 outbreak pandemic in Pakistan since 26th February to 20th September. A total of 301481 cases were reported including 131880 Sindh, 97679 Punjab, 36942 KPK, 15901 Islamabad, 3196 G.Khistan, 13483 Baluchistan and 2400 Azad Kashmir respectively. In terms of actives cases 1.88% (n=5673) were reported overall including 10.4%(n=333) G.Khistan followed by 7.43%(n=1002) Baluchistan, 5.12%(n=123) Azad Kashmir, 2.49%(n=396) Islamabad, 2.14%(n=791) KPK, 1.53%(n=2019) Sindh, 1.03%(n=1009) respectively. in current study 96%(n=289429) lives have been recovered including 96.9%(n=94453) in Punjab, 96.6%(n=127418) Sindh, 96.3%(n=15327) Islamabad, 94.4%(n=34894) KPK, 92.1%(n=2212) Azad Kashmir,91.4%(n=12336) Baluchistan, 87.2%(n=2789) G.Khistan. Regarding deaths 2.11%(n=6379) including 3.40%(1257) KPK, 2.70%(65) Azad Kashmir, 2.31%(n=74) G.Khistan, 2.26%(n=2217) Punjab, 1.85%(n=2443) Sindh, 1.11%(n=178) Islamabad and 1.07%(145) Baluchistan were reported.

Iran is the only country In Asia having the highest number of deaths (5.73%) followed by Indonesia (3.77%) while Saudi Arabia showed the lowest number of deaths 1.39% (Table 2).

### Table 1. Pattern of infection caused by COVID-19 outbreak pandemic in Pakistan (26th February to 20th September, 2020).

| Pattern of cases | Provinces/Territories |
|------------------|-----------------------|
|                  | AJK                  | Baluchistan | Gilgit Bhalistan | Islamabad | KPK | Punjab | Sindh | Total |
| Total cases      | 2400                 | 13483       | 3196             | 15901      | 36942| 97679  | 131880 | 301481|
| Active cases     | 123(5.12)            | 1002(7.43)  | 333(10.4)        | 396(2.49)  | 791(2.14)| 1009(1.03) | 2019(1.53) | 5673(1.88) |
| Recoveries       | 2212(92.1)           | 12336(91.4) | 2789(87.2)       | 15327(96.3)| 34894(94.4)| 94453(96.9)| 127418(96.6)| 289429(96.0)|
| Deaths           | 65(2.70)             | 145(1.07)   | 74(2.31)         | 178(1.11)  | 1257(3.40)| 2217(2.26) | 2443(1.85) | 6379(2.11) |
4. Discussion

The outbreak of the novel coronavirus disease (nCOVID-19) formally designated as severe acute respiratory syndrome-related coronavirus SARS-CoV-2. This disease represents a pandemic threat to global public health (Gorbalenya et al., 2020; Kupferschmidt and Cohen, 2020). The outbreak initiated from Wuhan, China and spreaded to all over the world resulting 33.9 million laboratory confirmed cases and 1.01 million deaths (Coronavirus Update (Lau et al., 2021) as of September, 20, 2020. In the month of September the highest cases 133947 were reported in Sindh followed by Punjab 98428, KPK, 37357, Islamabad 15649, Baluchistan 12879, G.Biltistan 2903, Azad Kashmir 2299.

At present, a total of 306,304 cases were reported in Pakistan including Sindh province of Pakistan is on the top to record 133947 laboratory confirmed cases and Punjab with 98428 on second number while the least number of cases were recorded in Azad Kashmir 2299. Furthermore, millions of people's lives have been affected as a result of mandatory isolations/quarantines. The current effect of the COVID-19 outbreak could potentially bring major challenges to health system of the world and may affect the global economy if the spread was not effectively controlled (Gorbalenya et al., 2020; Kupferschmidt and Cohen, 2020).

The outbreak of COVID-19 has drawn major global attention. Scientists and physicians in the world are attempting to understand this new emergent disease, its epidemiology, making the efforts to expose possible treatment, discover effective therapeutic agents, and to develop vaccines. According to Rothan and Byrareddy (2020), the recovery period of COVID-19 infection is 6-14 days. In China, about 80% of deaths were in over 60 years in age, and 75% comorbidities including cardiovascular diseases and diabetes (WHO, 2020).

It is important to note that the real number of people infected due to mild or asymptomatic condition are still unknown. A recent modelling estimated the population attack rate to be between 0.75 per 100,000 to 15.8 per 100,000 analysing rates down to prefecture level in China (Yang et al., 2020). Any determination of incidence may likely to be an underestimate, since it will not include mild and asymptomatic cases. Accuracy of such estimates may depend on the development of sensitive and specific serologic tests.

Disease controlling professionals, practicing physicians and scientists are disconnected in the fight against SARS-CoV-2 and COVID-19. In addition, important decisions were not made by experts in the field. Hopefully, these issues may be dealt with swiftly and decisively during and after the outbreak. There are two possibilities that this outbreak may unfold, If SARS-CoV-2 is not eliminated from humans through quarantine and other measures, it can still be eradicated by vaccination. If it attenuates to become another community-acquired human coronavirus causing mild respiratory tract disease resembling the other four human coronaviruses associated with common cold, it will not be a disaster either. Before SARS-CoV-2 attenuates further to a much less virulent form, early diagnosis and improved treatment of severe cases hold the key to reduce mortality. We should remain on one page against this. Redoubling our research efforts on SARS-CoV-2 and COVID-19 will solidify the scientific basis on which important decisions are made.

Crucially, doctors and researchers around the world are tackling the problem with urgency, Henao Restrepo says. “This is a crisis like no other and we will have to work together,” she says. “That is the only way perhaps we are going to find a solution (Kupferschmidt and Cohen, 2020). This is a time that we would have to follow advice from the government, the WHO and the scientific community. Ensuring the health safety and wellbeing are important steps for the society and this is only possible to ensure the call “stay home and save the nation” should reached to each individual in the globe.

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References

CHAN, J.W., YUAN, S., KOK, K.H., TO, K.K.W., CHU, H., YANG, J., XING, F., LIU, J., YIP, C.C.Y., POON, R.W.S., TSOI, H.W., LO, S.K., CHAN, K.H., POON, V.K., CHAN, W.M., IP, J.D., CAI, J.P., CHENG, V.C., CHEN, H., HUI, C.K. and YUEN, K.Y., 2020. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet, vol. 395, no. 10223, pp. 514-518. http://dx.doi.org/10.1016/S0140-6736(20)30154-9. PMid:31986261.

CHEN, N., ZHOU, M., DONG, X., QU, J., GONG, F., HAN, Y., QIU, Y., WANG, J., LIU, Y., WEI, Y., XIA, J., YU, T., ZHANG, X. and ZHANG, L., 2020. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet, vol. 395, no. 10223, pp. 507-513. http://dx.doi.org/10.1016/S0140-6736(20)30211-7. PMid:32070143.

GORBALENYA, A.E., BAKER, S.C., BARIC, R., GROOT, R.J.D., DROSTEN, C., GULYAEVA, A.A. and PENZAR, D., 2020. The species Severe acute respiratory syndrome-related coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2. Nature Microbiology, vol. 5, no. 4, pp. 536-544. http://dx.doi.org/10.1038/s41556-020-0695-z.

KUPFERSCHMIDT, K. and COHEN, J., 2020. Race to find COVID-19 treatments accelerates WHO launches megatrial to test repurposed drugs and experimental drug candidates. Science.367.6485.1412.

LAM, T.T., JIA, N., ZHANG, Y.W., SHUM, M.H., JIANG, J.F., ZHU, H.C., TONG, Y.C., SHI, Y.X., NI, X.B., LIAO, Y.S., LI, W.J., JIANG, B.G., WEI, W., YUAN, TT, ZHENG, K., CUI, X.M., LI, J.J., PEI, G.Q., QIANG, X., CHEUNG, W.Y., LI, LF, SUN, E.F., QIN, S., HUANG, J.C., LEUNG, G.M., HOLMES, E.C., HU, Y.L., GUAN, Y. and CAO, W.C., 2020. Identification of 2019-nCoV related coronaviruses in Malayan pangolins in southern China. Nature, vol. 583, pp. 282-285. http://dx.doi.org/10.1038/s41586-020-2169-0. PMid:32218527.

LAU, H., KHOSSAWIPOUR, T., KOCBACH, P., ICHII, H., BANIA, J. and KHOSSAWIPOUR, V., 2021. Evaluating the massive underreporting and underestimation of COVID-19 cases in multiple global epicenters. Pulmonology, vol. 27, no. 2, pp. 110-115. http://dx.doi.org/10.1016/j.pulmoe.2020.05.015. PMid:32540223.

LIU, R., ZHAO, X., LI, J., NIU, P., YANG, B., WU, H., WANG, W., SONG, H., HUANG, B., ZHU, N., BI, Y., MA, X., ZHAN, F., WANG, L., HU, T., ZHOU, H., HU, Z., ZHOU, W., ZHAO, L., CHEN, J., MENG, Y., WANG, J., LIN, Y., YUAN, J., XIE, Z., MA, J., LIU, W.J., WANG, D., XU, W., HOLMES, E.C., GAO, G.F., WU, G., CHEN, W., SHI, W. and TAN, W., 2020. Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding. Lancet, vol. 395, no. 10224, pp. 565-574. http://dx.doi.org/10.1016/S0140-6736(20)30251-8. PMid:32007145.

ROTHAN, H.A. and BYVARREDY, S.N., 2020. The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. Journal of Autoimmunity, vol. 109, pp. 102433. http://dx.doi.org/10.1016/j.jaut.2020.102433. PMid:32113704.

WANG, D., HU, B., HU, C., ZHU, F., LIU, X., ZHANG, J., WANG, B., XIANG, H., CHENG, Z., XIONG, Y., ZHAO, Y., LI, Y., WANG, X. and PENG, Z., 2020. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. Journal of the American Medical Association, vol. 323, no. 11, pp. 1061-1069. http://dx.doi.org/10.1001/jama.2020.1585. PMid:32031570.

WORLD HEALTH ORGANIZATION – WHO, 2020 [viewed 16 February 2020]. 2019-nCoV outbreak is an emergency of international concern [online]. Available from: http://www.euro.who.int/en/health-topics/emergencies/pages/news/news/2020/01/2019-ncov-outbreak-is-an-emergency-of-international-concern.

YANG, Y., LIU, Q.-B., LIU, M.-J., WANG, Y.-X., ZHANG, A.-R., JALALI, N., DEAN, N.E., LONGINI, I., HALLORAN, M.E., LIU, B., ZHANG, X.-A., WANG, L.-P., LIU, W. and FANG, L.-Q., 2020. Epidemiological and clinical features of the 2019 novel coronavirus outbreak in China. medRxiv. In press. http://dx.doi.org/10.1101/2020.02.10.200021675.

YUEN, K.S., YE, Z.W., FUNG, S.Y., CHAN, C.P. and JIN, D.Y., 2020. SARS-CoV-2 and COVID-19: the most important research questions. Cell & Bioscience, vol. 10, no. 1, pp. 40. http://dx.doi.org/10.1186/s13578-020-00404-4. PMid:32190290.

ZHOU, P., YANG, X.-L., WANG, X.-G., HU, B., ZHANG, L., ZHANG, W., SI, H.-R., ZHU, Y., LI, B., HUANG, C.-L., CHEN, H.-D., CHEN, J., LIU, Y., GUO, H., JIANG, R.-D., LIU, M.-Q., CHEN, Y., SHEN, X.-R., WANG, X., ZHENG, X.-S., ZHAO, K., CHEN, Q.-J., DENG, F., LIU, L.-L., YAN, B., ZHAN, F.-X., WANG, Y.-Y., XIAO, G.-F. and SHI, Z.-L., 2020. Discovery of a novel coronavirus associated with the recent pneumonia outbreak in humans and its potential bat origin. Nature, vol. 579, no. 7798, pp. 270-273. http://dx.doi.org/10.1038/s41586-020-2012-7.