

WWJMRD 2021; 7(8): 1-5
www.wwjmr.com
International Journal
Peer Reviewed Journal
Refereed Journal
Indexed Journal
Impact Factor SJIF 2017:
5.182 2018: 5.51, (ISI) 2020-
2021: 1.361
E-ISSN: 2454-6615
DOI: 10.17605/OSF.IO/XU5P4

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Clinical presentations and drugs used for management of COVID-19 hospitalized patients - A retrospective study

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Abstract

The novel Corona virus disease 2019 is a new pandemic experienced worldwide recently in the year 2020 affecting millions regardless of age, gender, race and religion. This devastating disease has almost crippled the world physically, mentally, socially and also financially. This retrospective study determined the clinical presentations and commonly used drugs in hospitalised Covid-19 patients. Fifty cases of COVID-19 patients discharged from Sarkari Karmachari Hospital, Bangladesh, aged ≥ 25 years who were admitted from May to June 2021 were included. Data was collected by a structured questionnaire with informed consent from the patients. Fifty patients met inclusion criteria through convenient sampling from hospital register records. Statistical analysis was done by Statistical Package for Social Science (SPSS) version 22.0. Mean age was 57.3 ± 10.1 years with male predominance (60%). Highest participants (40%) belonged to age group 55-64 years. They lived mostly in urban areas (78%) and majority (66%) had contact with Covid-19 patients in last 14 days. Fever (96%), sore throat (92%), cough (88%), shortness of breath (82%), fatigue (80%), diarrhea (56%), anosmia (54%), bodyache (50%), loss of appetite (50%) were the most common symptoms. During hospitalisation, Paracetamol (96%), Low Molecular Weight Heparin (LMWH) (86%), antiviral drug (Remdesivir) (72%), Dexamethasone (64%), Montelukast (52%) and Doxophylline (36%) were given. Among the anti-microbials, Ceftriaxone (58%), Moxifloxacin (28%) and Meropenem (22%) were used. Zinc (28%) and Vitamin D₃ (32%) supplements were added for patient management. Majority (52%) were hospitalised for 11-20 days and mean \pm SD was 12.6 ± 5.3 days. Almost (98%) patients were discharged with recovery. This highly infectious disease has become a life-threatening health issue. It presents with some common manifestations but may worsen the patient's condition upon presence of comorbidity. Patients can be managed with some common drugs, and intensive care must be practised according to severity and investigative findings. Early diagnosis, isolation and management of all COVID-19 patients is required to reduce transmission and mortality.

Keywords: Clinical presentation, Common drugs, COVID-19 hospitalised patients, Bangladesh..

Introduction

The appearance of a pandemic novel Corona virus disease 2019; COVID-19 has changed the whole world in 2020. It has extended over 213 countries affecting about 80 million people (1). Bangladesh is facing enormous trouble to manage the current situation of worldwide corona virus pandemic from March 2020 after first diagnosis of COVID-19 in the Wuhan city of China in December 2019 (2). The first three cases were reported on March 8, 2020 by the country's epidemiology institute IEDCR (3). On 18th March, Bangladesh reported its first death case due to Corona virus of patient above 70 years with no co-morbidity (4).

The pathogen was identified as novel enveloped RNA beta corona virus. It was initially designated as novel corona virus- 2019-n CoV, but after global agreement, it was renamed as Corona Virus Disease 2019; COVID-19 (5,6). The World Health Organization (WHO) has declared corona virus disease 2019 (COVID-19) a public health emergency or pandemic on March 11, 2020 (7).

Recently cases are increasing rapidly nationwide. Fever, moderate to severe shortness of breath with cough, sore throat, body ache, loss of smell, loss of appetite, fatigue, diarrhea

were the main clinical presentations. But atypical presentations are also rising worldwide (8, 9). A number of studies elaborating local epidemiological and clinical presentations have been published (10-13). Understanding the regional disease manifestations and pattern of drug use is important for Covid-19 infected patients. Thus, a national guideline was recommended by the government for better management.

This study was conducted with an aim to present the clinical presentations and commonly used drugs in a hospital setting for Covid-19 patients.

Materials and Methods

This retrospective observational study was approved by the Ethical review committee of Sarkari Karmachari Hospital, Dhaka, Bangladesh. Fifty hospitalised patients (confirmed COVID-19 cases), aged ≥25 years who were admitted in Sarkari Karmachari Hospital from May to June 2021 (31 days) were included in the study. After taking appropriate informed consent from the patients, data collection were done by face to face interview using a structured questionnaire, through telephone interview and from hospital register records. Patients’ information were kept confidential. Demographic data, contact history, vital signs and relevant clinical data were collected from the hospital records. Statistical analysis was done by using Statistical Package for Social Sciences (SPSS version 22.0). Data were expressed as frequency, percentage and mean±standard deviation.

Results

In this study, a total of fifty confirmed COVID-19 cases (by real time Reverse transcription Polymerase Chain Reaction test; rRT-PCR) of both sexes were enrolled. Mean age of study participants was 57.3±10.1 years ranging from 30-77 years, with highest participants 20(40%) belonging to 55-64 years age group. Most of the patients 39(78%) came from urban area and 11(22%) patients from rural area. Majority 33(66%) patients had contact with COVID patients and 17(34%) patients had travelled and attended social gatherings (Table 1). Male predominance 30(60%) was present among the participants compared to females 20(40%) (Figure 1).

Table 1: Distribution of patients by socio-demographic variables (n=50).

Age (years)	Frequency (%)
25-34	1(2)
35-44	6(12)
45-54	11(22)
55-64	20(40)
65 and above	12(24)
Mean age±SD	57.3 ± 10.1
Sex	
Male	30(60)
Female	20(40)
Area of residence	
Urban	39(78)
Rural	11(22)
Exposure history (last 14 days)	
Contact with COVID-19 patients	33(66)
History of travelling and attending social gathering	17(34)

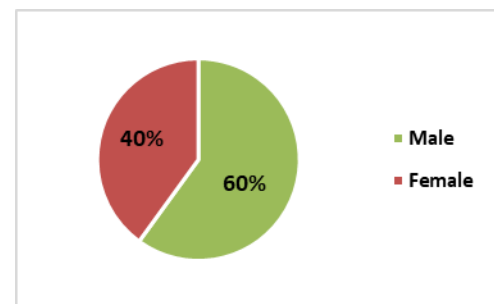


Fig. 1: Gender distribution among participants

Among the various clinical manifestations with which the patients were admitted included fever 48(96%), sore throat 46(92%), cough 44(88%), shortness of breath 41(82%) and fatigue 40(80%) most frequently, also associated with diarrhea 28(56%), anosmia 27(54%), bodyache 25(50%), loss of appetite 25(50%) and less commonly followed by nausea/vomiting 8(16%), chest pain 6(12%), skin rash 1(2%) and conjunctivitis 1(2%) (Figure 2).

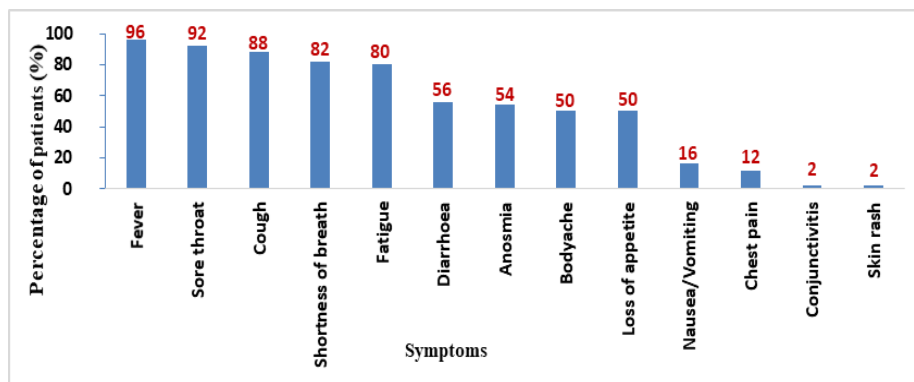


Fig. 2: Common clinical presentations of patients.

The most common comorbidities among the patients with Hypertension 18(36%), Diabetes 15(30%) and Bronchial

asthma 11(22%) being the most predominant (Figure 3).

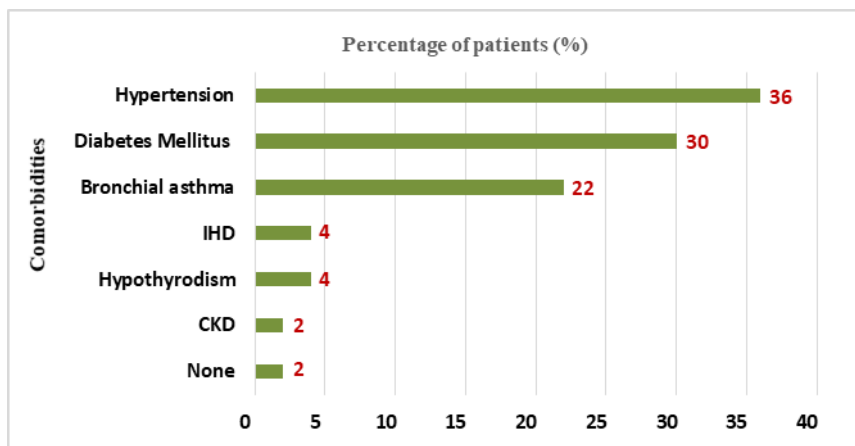


Fig. 3: Comorbidities of the patients.

Regarding the drugs administered during hospitalization of patients, majority were prescribed with Paracetamol 48(96%), Low Molecular Weight Heparin (LMWH) 43(86%), antiviral drug (Remdesivir) 36(72%), Dexamethasone 32(64%), Montelukast 26(52%) and Doxophylline 18(36%). Among the anti-microbials namely

Ceftriaxone 29(58%) was given, followed by Moxifloxacin 14(28%) and Meropenem 11(22%). Additional supplements like Zinc 14(28%) and Vitamin D₃ 16(32%) were also given. The least prescribed drugs were Azithromycin 1(2%), Tocilizumab 1(2%) and Levofloxacin 1(2%) (Figure 4).

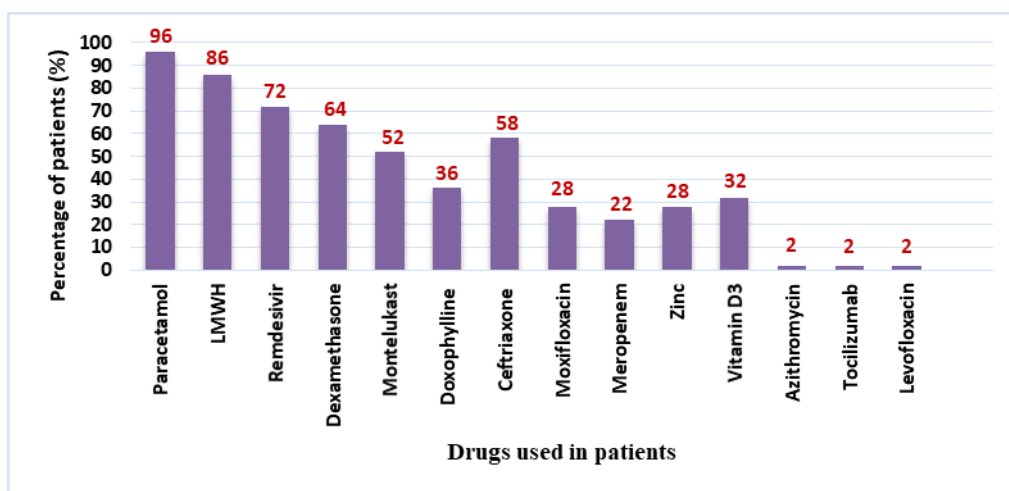


Fig 4: Common drugs administered in hospitalized patients for Covid-19 management.

The duration of hospital stay ranged from 0 to 31 days, mean±SD was 12.6±5.3 days. Majority 26(52%) of patients were hospitalised for 11-20 days. Almost 49(98%) of

COVID-19 patients were discharged with recovery and only 1(2%) patient was transferred to ICU and died due to acute respiratory failure (Figure 5).

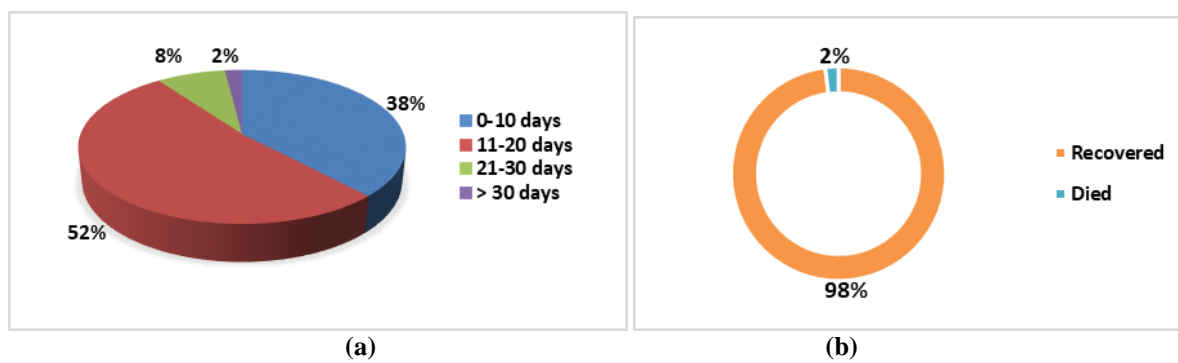


Fig. 5: a) duration of hospital stay.

b) consequence of hospitalized patients.

Discussion

Coronavirus was a large RNA virus, including SARS-CoV, MERS-CoV, HCoV-OC43, HCoV-229E, HCoV-NL63 and HCoV-HKU1. Sars-CoV and MERS-CoV induce severe respiratory distress but the others may cause mild upper

respiratory tract infections. 2019-n CoV was a new subtype, with high incidence of rapid infection. This virus spreaded all over the world (14-17). First COVID-19 cases were declared by Bangladesh in Dhaka City on 8th march 2020³, highest number of cases had detected in Dhaka (18).

Now a days, this disease is transmitted nationwide, thus Dhaka is considered as the core of disease transmission. Hossain I et al.(19) had showed that among most of the confirmed cases, about 48.9% of Bangladesh reported that they lived in or came to Dhaka or had contact with covid-19 patients within 14 days before the onset of illness.

In this study, fifty rt-PCR positive COVID-19 hospital admitted patients were included. Mean age was 57.3 ± 10.1 years, mostly of 55-64 years age group which is similar with the findings of other studies where it was 55.5 years, 51 years and 41.7 ± 16.3 years respectively (20-22). Male (60%) were more than female (40%) in our study, as revealed in multiple studies (23-25). MERS-CoV and SARS-CoV had a similar pattern of sex distribution. It was found that more males were infected by SARS-CoV (26, 27). The reason for male predominance was maybe due to their high mobilisation and prone to exposure than females. Males are more likely to be involved in outdoor activities like attending office, doing grocery shopping, which is quite common in perspective of Bangladesh. It is important to note that 58% of patients had positive contact history in this study, highlighting the significance of preventive measures and lockdown process of pandemic situation, including social distancing, 20 seconds hand washing and appropriate usage of face mask.

The shortly reports from China described fever, cough, shortness of breath, headache, loss of appetite were the typical clinical presentations of COVID-19 (8, 10). Similarly, patients in this study also got admitted predominantly with fever (96%), sore throat (92%), cough (88%), shortness of breath (82%), fatigue (80%), diarrhea (56%), anosmia (54%), bodyache (50%), loss of appetite (50%) followed by less common presentations like nausea/vomiting (16%), chest pain (12%), skin rash (2%) and conjunctivitis (2%).

Hypertension (36%), diabetes (30%), bronchial asthma (22%) and ischemic heart disease (4%) remains the most common co-morbidities in our patients, as analogous with other global research works (28, 29). Although our national guideline for clinical management of COVID-19 promoted supportive and symptomatic treatment protocols along with judicious use of different modalities of drug regimen found to be effective by different trials (30). During hospitalization most of the patients were treated with Paracetamol (96%), inj. LMWH (86%), antiviral drug (Remdesivir 72%), Dexamethasone (64%), Montelukast (52%), Doxophylline (36%), Ceftriaxone (58%), Moxifloxacin (28%), Meropenem (22%), zinc (28%), vitamin D₃ (32%), Azithromycin (2%), Tocilizumab (2%), Levofloxacin (2%) respectively.

All physicians should pay special attention to identifying the treatable etiologies of shortness of breath including exacerbations of underlying cardio-pulmonary diseases and treat it prior to the pandemic. It is also important to control comorbidities with continuation of ongoing treatment, as some investigators find that co-morbidities are associated with high mortality rates (30, 31).

In our study the duration of hospital stay was from 0 to 31 days, mean \pm SD was 12.6 ± 5.3 days. Majority 98% patients discharged with recovery from COVID-19 and only 2% expired due to acute respiratory failure. Another retrospective study showed the case fatality rate (CFR) was about 11% (23).

Our study is limited with small sample size and included

only hospitalised patients. Asymptomatic and severe cases were not included. We could not collect all laboratory findings in our study. Thus disease severity of patients could not be assessed. Further studies are needed with larger samples, all baseline investigations, in addition to multi-centered studies with extended follow up.

Conclusion

COVID-19 is a highly infectious disease and has become a life-threatening public health issue. It presents with some common manifestations but may worsen the patient's condition upon presence of comorbidity. Patients can be managed with some common drugs, but intensive care must be practised according to severity and investigative findings. So far, prevention is better than cure would be a perfect intervention for Covid-19. Moreover, priority should be given to early diagnosis, isolation and management of all COVID-19 patients to reduce transmission and mortality, to save the mankind from this invisible enemy.

References

1. Lu H, Stratton CW, Tang YW. Outbreak of pneumonia of unknown etiology in Wuhan, China; the mystery and the miracle. *J Med Virol.* 2020; 92(4): 40-42.
2. Wu P, Hao X, Lau EHY, Wong JY, Leung KSM, Wu JT, et al. Real-time tentative assessment of the epidemiological characteristics of novel corona virus infection in Wuhan, China, 22 January 2020. *Eurosurveillance*, 2020 Jan 23; 25(3): 2000044.
3. Bangladesh confirms its first three cases of corona virus. Reutes [Internet] 2020 March 8 Available from <https://www.reuters.com/article/us-health-coronavirus-bangladesh-idUSKBN20V0FS> [Accessed on 11 May 2021].
4. Bangladesh reports first corona virus death- Reuters. Reuters [Internet]: Available from <https://www.reuters.com/article/health-coronavirus-bangladesh-idUSL4N2BB384>. [Accessed on 11 May 2021].
5. Lu R, Zhao X, Li J et al. Genomic characterization and epidemiology of 2019 novel coronavirus: implications for virus origin and receptor binding. *Lancet*, 2020; 395: 565-574.
6. Siordia Jr.JA. Epidemiology and Clinical Features of COVID-19: A Review of Current Literature. *J Clin Virol* 2020, Apr10;127: 104357.
7. World Health Organization. Corona virus disease (COVID-19) outbreak. Available from <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov>. [Accessed on 11 May 2021]
8. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Clinical Characteristics of Corona virus Disease 2019 in China. *N Engl J Med.* 2020; 382(18): 1708-1720.
9. Pauline V, Diem LV, Arnaud G, J.Manuel S, Laurent K, Frederique J. Clinical features of covid-19. The wide array of symptoms has implications for the testing strategy. *BMJ* 2020;369.ml1470.10.1136/bmj.M11470.
10. Haung C ,Wang Y, Li X, Ren L, Zhao J, Hu Y et al. Clinical features of patients infected with 2019 novel

- corona virus in Wuhan, China. *Lancet*, 2020; 395(10223); 497-506.doi:10.1016/S0140-736(20)30183-5.
11. Gupta N, Agrawal S, Ish P, Mishra S, Gaiind R, Usha G, et al. Clinical and epidemiologic profile of the initial COVID-19 patients at a tertiary care center in India. *Monaldi Arch Chest Disease*, 2020; 90 (1): 193-6.
 12. Richardson S, Hirsch JS, Narasimhan M, Crawford JM, Mc Ginn T, Davidson KW. The Northwell Covid-19 Research Consortium. Presenting Characteristics Co morbidities and outcome among 5700 Patients Hospitalized with COVID -19 in the New York City Area. *JAMA*, 2020; 323(20): 2052-2059.
 13. Colaneri M, Sacchi P, Zuccaro V, Biscarini S, Saches M, Roda S, et al. Clinical characteristics of corona virus disease (COVID-19) early findings from a teaching hospital in Pavia, North Italy, 21 to 28 February 2020. *Euro Surveill* 2020; 25(16): 20000460.
 14. Rothe C, Schunk M, Sothmann P et al. Transmission of 2019-n CoV infection from an asymptomatic contact in Germany [J]. *New England Journal of Medicine*, 2020. Available from <https://doi.org/110.1056/NEJMc2001468>.
 15. Ki M. Epidemiological characteristics of early cases with 2019-n CoV disease in Republic of Korea [J]. *Epidemiology and health*, 2020: e2020007. Available from <https://doi.org/10.4178/epih.e2020007>.
 16. Wu Z, Mc Googan J M. Characteristics of and important lessons from the corona virus disease 2019 (COVID-19) outbreak in China: symmetry of a report of 72314 cases from Chinese Center for Disease Control and Prevention, *Jama* 2020. Available from <https://doi.org/110.1001/jama.2020.2648>.
 17. Zumla A, Chan J F W, Azhar E I, et al. Coronavirus - drug discovery and therapeutic options [J], *Nature reviews Drug discovery*, 2016; 15(5): 327-347. Available from <https://doi.org/110/1038/mrd.2015.37>.
 18. WHO, Bangladesh, Situation report coronavirus (COVID-19)-134.10:00 CEST, 02 June 2020. Available from <https://who.int/emergencies/disease/novel-coronavirus-2019/Bangladesh-situation-reports>.
 19. Hossain I, Khan MH, Rahman MS, Mullick AR, Aktaruzzaman MM et al. The Epidemiological Characteristics of an Outbreak of 2019 Novel Corona virus Disease (COVID-19) In Bangladesh: A Descriptive Study. *JMSCR*.2020; 08(04): 544-551.
 20. Nanshan C, Min. Z, Xuan D, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel corona virus pneumonia in Wuhan, China: a descriptive study. *The lancet*, Volume 395, Issue 10223, 15- 21 February 2020, pages 5070513.
 21. M. Chung, A. Bernheim, X. Mei, N. Zhang. M Huang, X. Zeng, et al. CT imaging features of 2019 novel Corona virus (2019-n CoV) *Radiology* (2020), p.200230.
 22. SGM Mowla, KAK Azad, A Kabir et al. Clinical and Epidemiological profile of 100 Confirmed COVID-19 Patients Admitted in Dhaka Medical College Hospital, Dhaka Bangladesh, *Journal of BCPS* June 2020. DOI:10.3329/jbcps.v38i0.47445.
 23. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel corona virus pneumonia in Wuhan, China: a descriptive study. *Lancet*. 2020; 395(1022); 507-13.
 24. Hasan JM. , Khan MAS., Rahman M., Islam. Debnath S., Fardous J., Amin MR., Socio-demographic profile clinical characteristics, anxiety and depression of 74 patients infected with COVID-19: first report from Bangladesh. Preprint. May 2020 DOI:1021203/rs.3.rs-32517/v1.
 25. Garg S, Kim L, Whitaker M, O'Halloron A, Cummings C, Holstein R, et al. Hospitalization Rates and Characteristics of Patients Hospitalized with. *Morb Mortal Wkly Rep*. 2020; 69(15): 458-64.
 26. Channappanavar R, Fett C, Mack M , Ten Eyck PP, Meyerholz DK, Perlman S, et al. Sex Based Differences in Suceptibility to severe Acute Respiratory Syndrome Corona virus Infection. *J. Immunil*.2017 May; 198(10): 4046-53.
 27. Badawi A, Ryoo SG, Prevalance of comorbidities in the Middle East respiratory syndrome corona virus (MERS-CoV): Asystemic review and meta-analysis. *Int J Infect Dis*, 2016; 49: 129-33.
 28. Guan WJ, Liang WH, Zhao Y, Liang HR, Chen ZS, Li YM, et al. Comorbidity and its impact on 1590 patients with COVID-19 in China: a nationwide analysis. *Eur Respir J*. 2020;55(5):20000547. Doi:10.1183/13993003.00547-2020.
 29. Yang J, Zheng Y Gou X, Pu K, Chen Z, Guo Q, et al. Prevalance of co morbidities and its effects in patients infected with SARS-CoV-2; a systemic review and meta-analysis. *Int J Infect Dis*.2020; 94:91-95. Doi:10.1016/j.ijid.2020.03.017.
 30. Zheng Z, Peng F, Xu B, Zhao J, Liu H, Peng J, et al. Risk factors of critical and mortal COVID-19 cases: A systemic interview review and meta-analysis. *J Inf Infect*. 2020; SO163-4453(20)302346. doi:10.1016/j.jinf.2020.04.021.
 31. COVID-10 status in INDIA. Available from <https://www.hindustantimes.com/india-news/covid-19-latest-govt-highlights-58-recovery-and-3-mortality-rate-as-India-lists-highest-s-daily-spike/story-SuwefQuJliA2mCCBoLUP.html>.