



A Global Medical Concern about COVID-19 Pandemic

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Dear Editor,

In December 2019, the novel coronavirus SARS-CoV-2 spread worldwide, making happen the present COVID-19 pandemic ¹⁻³. Studies strongly reported human-to-human spread through droplets spread. The range incubation period was estimated to be 2–14 days after incidence ⁴⁻⁷.

The characteristically described symptoms include dry cough, pyrexia, productive cough, fatigue, dyspnea, headache, and pharyngitis ⁵. The severe patients showed pneumonia. Prevalent complications consist of acute shock, respiratory distress syndrome, liver dysfunction, and secondary infection. Gastrointestinal symptoms, such as abdominal pain, poor appetite, nausea, vomiting, and diarrhea have also been reported. The mortality rate is estimated at around 2% to 3% ²⁻⁷.

The COVID-19 pandemic causes global medical concerns and changes to health administrations ⁸. Risk factors for hospitalization include male sex, age > 60 years, smokers, obesity. Underlying diseases including cardiovascular diseases, diabetes, hypertension, and chronic respiratory diseases are risk factors for hospitalization ⁹⁻¹⁰. As covid-19 infections are more prevalent in the male gender, there is a presumption about the possible effect of COVID-19 on their fertility and

reproductive organs. The recent studies showed that male gonads may be possibly at risk of Covid-19 infections, recommending cautiousness to pregnant females ¹¹⁻¹⁴. An appropriate registry system could assist in better administration and follow-up of Covid-19 cases and also it could help researchers to better understand and study various aspects of COVID 19 during a long-time follow-up ¹⁵.

Health care workers involved with Covid-19 patients were commonly under high pressure. Keeping the mental health of Health care workers in ED is very essential to managing the Covid-19 crisis. Administrators must have care to the work stress and the related reasons of the Health care workers ¹⁵.

The Covid-19 negatively influenced the standard services presented in the emergency department. COVID-19 conditions raised pressure on the limited resources in emergency department and caused interruptions in preliminary treatment.

The pericardial effusion involvement occurs in Covid-19 patients. Although, there is a significant difference for increased Erythrocyte sedimentation rate (ESR) and hypernatremia in the Covid-19 patients with pericardial effusion ¹⁶⁻¹⁸.

Imaging plays a critical role in the evaluation and diagnosis of diseases. Although, Real-Time Reverse-Transcriptase-Polymerase Chain Reaction (RT-PCR) is the principal diagnosis method. The sensitivity of the initial RT-PCR is about 83.3%, while the initial CT scan sensitivity is 83.3%¹⁹. Research supported chest CT scan as a screening method in COVID-19 patients with clinical features compatible with infection, specifically when RT-PCR testing is negative²⁰⁻²¹.

During the coronavirus pandemic, it is recommended to decrease the capability of hospitalization by 50% so that the number of surgeries decreases and emergency surgeries has priority. Applying personal protective equipment, reducing the number of staff existing in the operation room, and lowering the duration of surgery should also be regarded¹⁵⁻²⁰.

There are enormous psychological influences such as post-traumatic, anxiety, and depression symptoms²². A high incidence of psychiatric symptoms is reported for covid-19 patients in most studies of low, middle, and high-income countries²³. Some mental health complications in the Covid-19 pandemic are stress, anxiety, depression, anger, insomnia, denial, and worldwide fear²⁴⁻²⁵.

Overall, demographic and epidemiological factors, neurological conditions, acute cardiovascular diseases, dietary factors and diabetes, liver damage, and social factors give to the length of hospital stay in Covid-19 patients. The policymakers regarding the factors that impact the length of stay of Covid-19 patients can manage and solve it²⁶.

The field hospitals are recommended for emergency medical and disaster status to increase health service. Some of these field hospitals have formed in several countries in the Covid-19 pandemic. The experiences include functional and non-structural safety, organization, and implementation processes in the various countries for the Covid-19 pandemic can be recorded and analyzed for like pandemic²⁷.

According to the successful clinical efficacy, several vaccines are currently approved or authorized for emergency usage. Although, new variants and mutations in the Covid-19 virus decreased the clinical effectiveness of the authorized vaccines. Vaccines effectively can prevent Covid-19 deaths and severe diseases more than other medical technology²⁸⁻³⁰.

Knowledge about chronic complications of Covid-19 disease is unknown. A long-time follow-up can help researchers to better understand various aspects of COVID 19.

References

1. Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C, Agha M, Agha R. The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International journal of surgery*. 2020 Jun 1; 78:185-93.
2. Sun K, Chen J, Viboud C. Early epidemiological analysis of the coronavirus disease 2019 outbreak based on crowdsourced data: a population-level observational study. *The Lancet Digital Health*. 2020 Apr 1;2(4):e201-8.
3. Tyrrell DA, Bynoe ML. Cultivation of a novel type of common-cold virus in organ cultures. *British medical journal*. 1965 Jun 5;1(5448):1467.
4. Rothan HA, Byrareddy SN. The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. *Journal of autoimmunity*. 2020 May 1; 109:102433.
5. Fu L, Wang B, Yuan T, Chen X, Ao Y, Fitzpatrick T, Li P, Zhou Y, Lin YF, Duan Q, Luo G. Clinical characteristics of coronavirus disease 2019 (COVID-19) in China: a systematic review and meta-analysis. *Journal of Infection*. 2020 Jun 1;80(6):656-65.
6. Szczepanski A, Owczarek K, Bzowska M, Gula K, Drebot I, Ochman M, Maksym B, Rajfur Z, Mitchell JA, Pyrc K. Canine respiratory coronavirus, bovine coronavirus, and human coronavirus OC43: receptors and attachment factors. *Viruses*. 2019 Apr;11(4):328.
7. Khalili MA, Leisegang K, Majzoub A, Finelli R, Selvam MK, Henkel R, Mojgan M, Agarwal A. Male fertility and the COVID-19 pandemic: systematic review of the literature. *The world journal of men's health*. 2020 Oct;38(4):506.
8. Rasouli HR, Khoshmohabat H, Ahmadpour F. Traumatic Injuries Management in Coronavirus Disease-2019 (COVID-19) Crisis. *Trauma Monthly*. 2020;25(3):96-.
9. Ma L, Xie W, Li D, Shi L, Mao Y, Xiong Y, Zhang Y, Zhang M. Effect of SARS-CoV-2 infection upon male gonadal function: a single center-based study. *MedRxiv*. 2020 Jan 1.
10. Rastrelli G, Di Stasi V, Inglese F, Beccaria M, Garuti M, Di Costanzo D, Spreafico F, Greco GF, Cervi G, Pecoriello A, Magini A. Low testosterone levels predict clinical adverse outcomes in SARS-CoV-2 pneumonia patients. *Andrology*. 2021 Jan;9(1):88-98.
11. Helmy YA, Fawzy M, Elswad A, Sobieh A, Kenney SP, Shehata AA. The COVID-19 pandemic: a comprehensive review of taxonomy, genetics, epidemiology, diagnosis, treatment, and control. *Journal of clinical medicine*. 2020 Apr;9(4):1225.

12. Schroeder M, Schaumburg B, Mueller Z, Parplys A, Jarczak D, Nierhaus A, Kloetgen A, Schneider B, Peschka M, Stoll F, Bai T. The majority of male patients with COVID-19 present low testosterone levels on admission to Intensive Care in Hamburg, Germany: a retrospective cohort study.
13. Song C, Wang Y, Li W, Hu B, Chen G, Xia P, Wang W, Li C, Hu Z, Yang X, Yao B. Detection of 2019 novel coronavirus in semen and testicular biopsy specimen of COVID-19 patients. *MedRxiv*. 2020 Jan 1.
14. Fathi M, Vakili K, Aliaghaei A, Nematollahi S, Peirouvi T, Shalazar-Jalali A. Coronavirus disease and male fertility: a systematic review. *Middle East Fertility Society Journal*. 2021 Dec;26(1):1-6.
15. Goodarzi H, Mahmoodi S. Challenging of COVID-19 crisis in the Emergency Department. *Romanian Journal of military medicine*. 2021;124(3):404.
16. Yu CM, Wong RS, Wu EB, Kong SL, Wong J, Yip GW, Soo YO, Chiu ML, Chan YS, Hui D, Lee N. Cardiovascular complications of the severe acute respiratory syndrome. *Postgraduate medical journal*. 2006 Feb 1;82(964):140-4.
17. Dabbagh MF, Aurora L, D'Souza P, Weinmann AJ, Bhargava P, Basir MB. Cardiac tamponade secondary to COVID-19. *JACC: Case Reports*. 2020 Apr 23.
18. Hertzeanu H, Aimog C, Algom M. Cardiac tamponade in Dressler's syndrome. *Cardiology*. 1983;70(1):31-6.
19. Long C, Xu H, Shen Q, et al. Diagnosis of the Coronavirus disease (COVID-19): rRT-PCR or CT? *European Journal of Radiology*. 2020 May; 126:108961.
20. Fang Y, Zhang H, Xie J, et al. Sensitivity of Chest CT for COVID-19: Comparison to RT-PCR. *Radiology*. 2020 Feb 19:200432
21. Ai T, Yang Z, Hou H, et al. Correlation of Chest CT and RT-PCR Testing in Coronavirus Disease 2019 (COVID-19) in China: A Report of 1014 Cases. *Radiology*. 2020 Feb 26:200642
22. Talevi D, Socci V, Carai M, Carnaghi G, Faleri S, Trebbi E, et al. Mental health outcomes of the CoViD-19 pandemic. *Rivista di psichiatria*. 2020;55(3):137-44.
23. Xiong J, Lipsitz O, Nasri F, Lui LM, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of affective disorders*. 2020
24. Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. *International Journal of Social Psychiatry*. 2020;66(4):317-20.
25. Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, et al. Psychosocial impact of COVID-19. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*. 2020;14(5):779-88.
26. Abbaspour Kasgari, H., Moradi, S., Shabani, A. M., Babamahmoodi, F., Davoudi Badabi, A. R., Davoudi,. 2020. Evaluation of the efficacy of sofosbuvir plus daclatasvir in combination with ribavirin for hospitalized COVID-19 patients with moderate disease compared with standard care: a single-centre, randomized controlled trial. *J Antimicrob Chemother*.
27. Zhang M, Wang L, Yu S, Sun G, Lei H, Wu W. Status of occupational protection in the COVID-19 Fangcang Shelter Hospital in Wuhan, China. *Emerging microbes & infections*. 2020;9(1):1835-42.
28. Sadoff J, Gray G, Vandebosch A, C6rdenas V, Shukarev G, Grinsztejn B, et al. Safety and efficacy of single-dose Ad26. COV2. S vaccine against Covid-19. *New England Journal of Medicine*. 2021;384(23):2187-201.
29. Abdool Karim SS, de Oliveira T. New SARS-CoV-2 variants—clinical, public health, and vaccine implications. *New England Journal of Medicine*. 2021;384(19):1866-8.
30. Del Rio C, Malani P. COVID-19 in 2021—Continuing Uncertainty. *JAMA*. 2021;325(14):1389-90.