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REVIEW

Prevention and control of coronavirus epidemic: role of clinical awareness and flow of accurate information

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Dear Editor,

The outbreak of novel coronavirus was originated in Wuhan city of China during December 2019 and was declared as a public health emergency of international concern by World Health Organization (WHO) [1]. As of October 15, 2020, over 38 million laboratory confirmed cases including 1 million deaths reported across the globe [2].

Countries are devising every possible effort to control the rising toll, however, the preventive measures currently in place have not found as effective as desired. The awareness on mode of transmission and risks in local settings must be reinforced among general public especially among those engaged in health care systems [3].

Control and prevention of coronavirus outbreak require scientific evidence based multiple approaches. First of all, it is important to reduced person to person transmission, reducing the infection among the close contacts and frontline health care workers to minimize the spread of virus in the community and within hospitals. Without appropriate protection, the frontline health care workers get infected and become a source of nosocomial and community transmission. Front line health workers should be able to know the clinical signs and symptoms. Several reports indicate that the majority of infected patients with life-threatened symptoms are those with underlying diseases such as diabetes, blood pressure, cardiovascular disease, pulmonary disorder, chronic liver disease, asthma and obesity [4]. Along with the clinical awareness every country must response at initial stages to track contact, self-isolation, quarantine, public health measures such as handwashing, cough etiquette, social distancing, proper use of face mask and other personal protection equipment whenever needed [5].

The health care workers for the first time in their lives are going to use the PPE, if they don't know how to used PPE properly such type of incidence will surely be happen. There is no any communication amongst the epidemiologist, virologist and front line health care physicians' worldwide to get benefit from the experience of each other.

Varieties of deficiencies have been reported in the preparedness program against coronavirus outbreak prevention, especially in South East Asian countries including Pakistan, India, Bangladesh and Afghanistan [6]. Due to the miss behavior of health authorities with the patients, creating panic and fear on media, many confirmed patients escaped from various hospitals in India and Pakistan [7, 8]. Many coronavirus

positive cases committed suicide after jumping off the hospitals in Pakistan [9], India, Saudi Arabia, France, Britain, Germany, and Italy due to panic, stress, confusion created by media, insufficient medical facility and misbehaves [10]. Such types of issues require urgent solution otherwise it will become worrisome in coming days. This is the time to win the trust of public with meaningful approach. Without awareness and financial help of the people it would become difficult if the virus gets hold in the rural areas of the region where more than 10 family members lived in single room.

On the other hand flow of misinformation is another major problem in containing the coronavirus outbreak worldwide. Fear based messaging on social media can make a patient feel that he/she is responsible for coronavirus infection. The messaging must be positive every time and convey the message that more than 98% patients recovered from the infection [11]. Misinformation and conspiracy theories floating on the social media have generated panic and confusion among the general public and create hurdle in the outbreak response activities [12]. Fake information regarding the origin of virus to be a synthetic or mutated strain engineered in a laboratory further complicates the control efforts [13]. Through scientific evidence, it has been proven that the SARS-CoV-2 originated in nature and transmitted to humans through a zoonotic event in the recent past [14]. It is already confirmed that at present there is no any treatment in the form of antiviral or vaccine available for coronavirus. In such situation the used home remedies such as garlic, beetroots, lemon juice, Onion, sodium chloride with citric acid, alcohol and many other type of treatment options circulating on social media. However, many of these products are harmless but some are even proved to be very dangerous. Such type of misinformation results in the further public confusion and leading to greater transmission of deadly virus such as reports from Africa on home treatment of HIV infected patients resulted in exacerbated the transmission of HIV and costing more than 300,000 lives [15]. More than 728 individuals have died in Iran after ingesting alcohol, as fake remedies for the new coronavirus spread across social media in Iran [16]. Likewise in India, fake information circulating on social media claimed that drinking of cow urine and applying cow dung on the body can kill coronavirus [17]. In India more than eleven people hospitalized by using poisonous fruit of Datura plant as a treatment of coronavirus [18]. In Thailand, a fake

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news circulating on social media that Vitamin D pills are an effective for the prevention of coronavirus [19]. In England the Director of National Health Services (NHS) described the linking of 5G mobile networks [20] transmitting coronavirus as the worst kind of fake news circulating on social media. In Australia similar fake news circulating on social media that the coronavirus is transmitted from the petrol pumps [21]. Some social media news claiming that coronavirus can be transmitted through Mosquitoes [22]. Supreme leader of Iran said the united states of America created a special version of coronavirus for Iran [23, 24].

Worldwide, it is reported that coronavirus was created by human without any scientific evidence. The medical scientists are still struggling to understand the virus, the social, electronic and print media has already reporting the various dangerous effects of the virus along with variety of treatment options without any scientific evidence which in turn create panic and confusion amongst the public [25]. Government and media must utilize the opinions of the experts such as epidemiologist, Virologist and public health professional to deliver the authentic and accurate information which will be surely helpful in reducing the panic amongst the general public. If medical authorities sensibly educate and resolve the public issues, the containment of the virus would become much easier. Government official, media and health authorities across the globe must inform the general public about the reality regarding the coronavirus epidemic and educate them how to stay away from the coronavirus infection [26]. Coronavirus pandemic is a global health crisis, so collective efforts are needed to deal with such crisis. Information for the control and treatment of coronavirus at local, national and, international forums must be provided using authentic source like CDC, WHO or FDA. Accurate clinical, epidemiological and laboratory

findings can result in better planning and implementations of awareness, control and prevention strategies.

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Conflict of interest statement

The authors declare no conflict of interest.

Authors' contributions

All authors equally contributed to this paper.

References

[1] Novel Coronavirus (2019-nCoV): situation report - 11 (31 January 2020). Available at: https://reliefweb.int/report/china/novel-

coronavirus-2019-ncov-situation-report-11-31-january-2020 (accessed on: October 2020).

- [2] COVID-19 coronavirus pandemic. Available at: https://www. worldometers.info/coronavirus (accessed on: 12 October 2020).
- [3] Xiao Y, Torok ME. Taking the right measures to control COVID-19. Lancet Infect Dis 2020;20:523-4. https://doi. org/10.1016/S1473-3099(20)30152-3
- Fasina FO. Novel coronavirus (2019-nCoV) update: what we know and what is unknown. Asian Pac J Trop Med 2020;13:97-8. https://doi.org/10.4103/1995-7645.277795
- [5] Coronavirus disease (COVID-19) advice for the public. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public (accessed on: 13 October 2020).
- [6] Sarkar A, Liu G, Jin Y, Xie Z, Zhengb Z-J. Public health preparedness and responses to the coronavirus disease 2019 (COV-ID-19) pandemic in South Asia: a situation and policy analysis. Glob Health J 2020;4:121-32. https://doi.org/10.1016/j. glohj.2020.11.003
- [7] 16 corona patients escape from quarantine centre. Available at: https://www.thenews.com.pk/print/644700-16-corona-patientsescape-from-quarantine-centre (accessed on: 13 October 2020).
- [8] Jamaati corona patient escapes from UP hospital. Available at: https://www.outlookindia.com/newsscroll/jamaati-corona-patient-escapes-from-up-hospital/1794066 (accessed on: 13 October 2020).
- [9] Suspected coronavirus patient commits suicide in Karachi.Available at: https://nayadaur.tv/2020/04/suspected-coronavirus-patientcommits-suicide-in-karachi (accessed on: 14 October 2020).
- [10] Thakur V, Jain A. COVID 2019-suicides: a global psychological pandemic. Brain Behav Immun 2020;88:952-3. https://doi. org/10.1016/j.bbi.2020.04.062
- [11] Chetterje P. Gaps in India's preparedness for COVID-19 control. Lancet Infect Dis 2020;20:544. https://doi.org/10.1016/ S1473-3099(20)30300-5
- [12] Coronavirus outbreak fuels conspiracy theories on social media. Available at: https://www.thenews.com.pk/print/637705-coronavirus-outbreak-fuels-conspiracy-theories-on-social-media (accessed on: 14 October 2020).
- [13] Why misinformation about COVID-19's origins keeps going viral. Available at: https://www.nationalgeographic.com/science/ article/coronavirus-origins-misinformation-yan-report-factcheck-cvd (accessed on: 14 October 2020).
- [14] Bedford J, Enria D, Giesecke J, Heymann DL, Ihekweazu C, Kobinger G, Lane HC, Memish Z, Oh M-D, Sall AA, Schuchat A, Ungchusak K, Wieler LH; WHO Strategic and Technical Advisory Group for Infectious Hazards. COVID-19: towards controlling of a pandemic. Lancet 2020;395:1015-8. https://doi. org/10.1016/S0140-6736(20)30673-5
- [15] Mian A, Khan S. Coronavirus: the spread of misinformation. BMC Med 2020;18:89. https://doi.org/10.1186/s12916-020-01556-3.
- [16] Iran: over 700 dead after drinking alcohol to cure coronavirus. Available at: https://www.aljazeera.com/news/2020/04/iran-700-deaddrinking-alcohol-cure-coronavirus-200427163529629.html (accessed on: 16 October 2020).
- [17] Coronavirus: can cow dung and urine help cure the novel coronavirus? Available at: https://timesofindia.indiatimes.com/ life-style/health-fitness/health-news/coronavirus-in-india-cancow-dung-and-urine-help-cure-the-novel-coronavirus/articleshow/73952691.cms (accessed on: 14 October 2020).
- [18] 11 in AP hospitalised after following TikTok poisonous 'remedy' for COVID-19. Available at: https://www.thenewsminute. com/article/11-ap-hospitalised-after-following-tiktok-poisonous-remedy-covid-19-122136 (accessed on: 16 October 2020).
- [19] Health experts say there is no evidence vitamin D is effective in preventing novel coronavirus infection. Available at: https:// factcheck.afp.com/health-experts-say-there-no-evidence-vitamin-d-effective-preventing-novel-coronavirus-infection (accessed on: 16 October 2020).

- [20] Coronavirus: fake news is spreading fast. Available at: https:// www.bbc.com/news/technology-51646309 (accessed on: 13 October 2020).
- [21] Australia's Department of Health did not issue a warning that 'using petrol pumps can spread COVID-19'. Available at: https://factcheck.afp.com/australias-department-health-did-notissue-warning-using-petrol-pumps-can-spread-covid-19 (accessed on: 17 October 2020).
- [22] Myth busters World Health Organization. Available at: https:// www.who.int/emergencies/diseases/novel-coronavirus-2019/ advice-for-public/myth-busters (accessed on: 17 October 2020).
- [23] Misinformation related to the COVID-19 pandemic. Available at: https://en.wikipedia.org/wiki/Misinformation_related_to_ the_COVID-19_pandemic (accessed on: 13 October 2020).
- [24] "Coronavirus: Iran's leader suggests US cooked up 'special version' of virus to target country". Available at: https://www. independent.co.uk/news/world/middle-east/iran-coronavirusus-target-country-special-version-covid19-a9417206.html (accessed on: 15 October 2020).
- [25] Araz RA, Hersh RM. The impact of social media on panic during the COVID-19 pandemic in Iraqi Kurdistan: online questionnaire study. J Med Internet Res 2020;22:e19556. https://doi. org/10.2196/19556
- [26] Interim guidance on management of coronavirus disease 2019 (COVID-19) in correctional and detention facilities. Available at: https://www.cdc.gov/coronavirus/2019-ncov/community/ correction-detention/guidance-correctional-detention.html (accessed on: 19 October 2020).

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