

Overview of Coronavirus (COVID-19): It's Prevention & intervention

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Abstract

This study was conducted to evaluate the practices & precautionary methods being carried out among different individuals to prevent the spread of the deadly disease due to the current outbreak of COVID-19 that has recently emerged from Wuhan city, China & has affected millions of people around the world and to raise awareness among them. The study was carried from mid-March 2020 till the end of April 2020. A descriptive cross-sectional survey was conducted. A structured questionnaire was made and was filled by 100 people. Participants were asked their age, gender and occupation & was recorded in the questionnaire along with the questions regarding covid-19. This sample filled by 100 individuals included 66% females and 34% males. Questionnaire recorded different strategies employed by the people for the prevention. **Study design:** Descriptive cross-sectional study

Keywords: Coronavirus, novel coronavirus, COVID-19, SARS-CoV2, ARDS

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Introduction

Coronaviruses are single stranded RNA viruses which are transmitted by the respiratory aerosol.¹ In 2002, severe acute respiratory syndrome (SARS), an atypical pneumonia originated in China which had spread widely to other countries, it caused a serious health problem. In 2012, Middle East respiratory syndrome (MERS) was discovered in Saudi Arabia (KSA) which transmitted to humans from camels.² Recently a deadly & contagious virus emerged in China, Wuhan city, Hubei province in 2019 which has affected millions of people globally.³ This virus is known as COVID-19. COVID-19 is the shortened form of "Coronavirus disease 2019". This new virus has been reported to be contagious and has spread globally at a faster rate. Severe Acute Respiratory Syndrome Coronavirus-2 (SARS- CoV-2) is a name given to the novel coronavirus.⁴

According to World Health Organization (WHO) data as reported by national authorities by 10:00 CEST 21 April 2020, globally 2397

216 (83006) cases have been reported and out of which 162,956(5.109%) deaths have been reported. The concern about COVID-19 is that there is no vaccine or specific treatment available. The virus spreads between people but it has been estimated that one infected person will infect two and three or may be more.⁵ The virus is transmitted via respiratory droplets & can also survive for several hours. Virus can cause fever, cough, and shortness of breath, sluggishness & flu like symptoms. COVID-19 can be spread by coughing sneezing, close contact with the infected individual or contact with an object.⁶ People with underlying illness, elderly and immunocompromised are more prone to develop severe symptoms.⁷ At the moment the only strategy to prevent the disease is social distancing, self-isolation, avoid touching the face, washing hands with soap and water frequently, using a facemask and avoiding contact with people having flu like symptoms.

Material and Methods:

The descriptive cross-sectional survey was car-

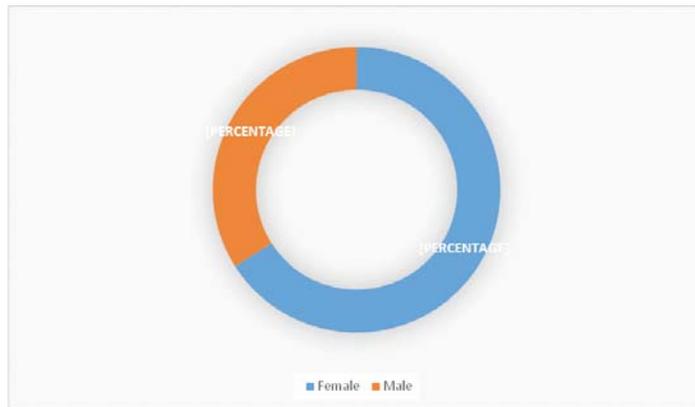


Figure 1: Gender Distribution

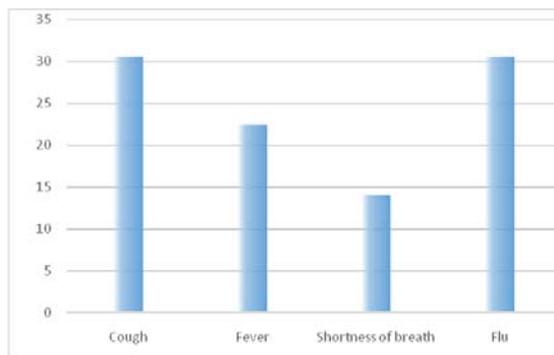


Figure 2: Symptoms related to COVID-19

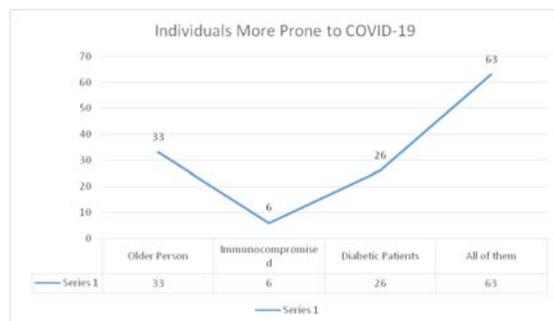


Figure 3: Survey on individuals more prone to COVID-19

ried out from 15th March 2020 to 30th April 2020 for determining the precautionary methods being carried out by different individuals for preventing the spread of the disease cause by Coronavirus-19 (SARS-CoV2) and the knowledge of this disease among the population. Data was collected using a self-administered structured questionnaire and analyzed by using SPSS version 20.

A questionnaire consisting of 9-questions were made & it was divided into two parts. First half consisted of participant's demographic details:

age, gender, occupation & the second half was related to Coronavirus-19, its awareness and preventive measures. The form was filled by 100 individuals belonging to different occupation and gender without any biasness.

Results:

In this study, a total of 100 questionnaires were filled between 17-56 years age group through random sampling, out of which majority of the participants were females (66% females & 34% males). Evaluation was conducted by forming different questions regarding the COVID-19, the practices conducted by the people for the safety and prevention of this contagious disease and the awareness among them. On evaluation it was revealed that majority of the people were keeping themselves safe by taking precautionary methods such as by self-isolation 89(90.8%), by washing hands frequently 71 (72.4%) By using a hand sanitizer 68(69.4%), by maintaining atleast 1 meter distance 49(50%), by following a good respiratory hygiene 33(33.7%). Another question regarding the spread of the disease was asked in which (66.3%) responded that respiratory droplets were the main cause of the spread of this disease, (71.3%) responded that it spreads through contact with the infected individual. Symptoms related to Covid-19 according to the survey was Cough (30.5%), Fever (25.4%), Flu (30.5%) and shortness of breath (14.3%).

Discussion:

Around the world many methods are being used by the people for preventing the spread of SARS-CoV2 which is also known as Novel coronavirus. The spread of the disease has caused many casualties globally. Its spread has caused great freight and fear in people. Currently many efforts are being made by the authorities and the public health sector for combating this threat to the human kind. As Coronavirus continues to spread, healthcare workers, nurses, doctors and paramedics are at great risk of contracting the virus. According to the WHO, signs of infection include respiratory symptoms, fever and cough, shortness of breath and breathing difficulties.

According to the survey and initial reports many

efforts are being made in Pakistan for the intervention & prevention of the disease. Lockdown has been imposed & thermal scanners have also been installed at the airports. Due to the current lockdown daily wagers also have been suffering due to poverty.² There are number of Chinese people working in Pakistan due to which it has been at great risk of contracting the virus & many Pakistani's are also residing in China which carries a great deal of risk while they travel back. According to John Hopkins coronavirus resource centre there has been 9,565 confirmed cases in Pakistan as per data 21st April 2020 out of which 201 deaths have been reported as the toll continues to rise.

Early studies suggest SARS-CoV is a zoonotic infection transmitted to humans from wildlife animals. The main reservoir for COVID-19 is a bat. No treatment or vaccine is available for Covid-19 & the research continues.⁸ Studies have reported there is a human-to-human transmission happening through respiratory droplets or close contact. After H1N1 (2009), polio (2014), Ebola (2014), WHO has declared Covid-19 as the 6th Public health emergency of International concern.⁹

According to European Centre for Disease Prevention & Control, the risk for disease is very high for older adults and with chronic underlying conditions. Hospitalization rates were higher for those aged 60-years and above with higher fatality rates.¹⁰

On 24th March Laboratory cases were been reported to European surveillance System which revealed that most reported symptoms were fever 47%, dry cough 45%, sore throat 16%, weakness 6% & pain 5% & A recent study confirmed an incubation period of 1-14 days.¹¹ Recent publication has revealed the survival of SARS CoV-2 on various objects & surfaces. There is also an emerging evidence from early studies claiming that individuals develop antibodies after the infection and are likely to be immune from reinfection.¹¹ A recent publication also revealed that by maintaining a social distance or by minimizing physical contact between the individuals

reduces the possibility of transmission of the disease.¹²

A recent publication in the UK revealed that self-isolation and social distancing among older individuals might lead to mental health problems as they get disconnected from family & friends that may lead to anxiety & depression. If health ministers take care of this situation, they will be able to alleviate such issues.¹³

Conclusion:

It is important for people to understand the seriousness of this disease and its effects on overall physical and mental health. This has been an emerging topic having a great number of articles written on. Precaution needs to be the utmost priority for the prevention of the disease as the death toll rises with every infected individual with compromised immunity.

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Role and contribution of authors:

Dr. Sarah Javed, conceived the idea, collected the data, references and did the initial writeup.

Dr. Sabeen Masood, helped in collecting the data, references and also helped in introduction writing.

Dr. Erum Khalid, collected the references and helped in discussion writing.

Dr. M Mussadiq Jafri, critically review the article and make useful changes.

Dr. Yousuf A. Lakdawala, critically review the article and make the final changes.

References:

1. Rota P A. Characterization of a Novel Coronavirus Associated with Severe Acute Respiratory Syndrome. *Science*.2003;300(5624):1394–1399.
2. Cascella M, Rajnik M, Cuomo A, et al. Features, Evaluation, and Treatment of Coronavirus (COVID-19) [Updated 2020 Aug 10]. In: StatPearls [Internet].
3. Singhal T. A Review of Coronavirus Disease-2019 (COVID-19). *Indian J Pediatr*. 2020;87(4):281-286.
4. Salmi E F, Karakus M, Nazem M. Assessing the effects of rock mass gradual deterioration on the long-term stability of aban-

- done mine workings and the mechanisms of post-mining subsidence – A case study of Castle Fields mine. *Tunnelling and Underground Space Technology*.2019;88:169–185.
5. Lu, H. Drug treatment options for the 2019-new coronavirus (2019-nCoV). *BioScience Trends*.2020.
 6. Singhal T. A Review of Coronavirus Disease-2019 (COVID-19). *Indian J Pediatr*. 2020;87(4):281-286.
 7. Antonio R, Silvia, M. Immunosuppression drug-related and clinical manifestation of Coronavirus disease 2019: atherapeutic hypothesis. *Am J Transplant*.2020; 20:1947–1948.
 8. Ahmad T, Khan M, KhanF M, Hui J. Are we ready for the new fatal Coronavirus: scenario of Pakistan? *Human Vaccines & Immunotherapeutics*.2020:1–3.
 9. Kandel N, Chungong S, Omaar A, Xing J. Health security capacities in the context of COVID-19 outbreak: an analysis of International Health Regulations annual report data from 182 countries. *The Lancet*.2020:1-7.
 10. Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and corona virus disease-2019 (COVID-19): the epidemic and the challenges. *International Journal of Antimicrobial Agents*.2020:105924.
 11. Coronavirus disease 2019 (COVID-19) pandemic: increased transmission in the EU/EEA and the UK – seventh update, 25 March 2020. Stockholm: ECDC; 2020.
 12. European Centre for Disease Prevention and Control. Considerations relating to social distancing measures in response to COVID-19 – second update. Stockholm: ECDC; 2020.
 13. Armitage, R, Nellums LB. COVID-19 and the consequences of isolating the elderly. *The Lancet Public Health*.2020.