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USE OF GADGETS DURING COVID-19 - A REVIEW

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ABSTRACT:

Coronavirus is typically a SARS CoV-2 virus that causes coronavirus disease which has major symptoms like fever, Sore throat, the common cold. (Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention, 2020) The severity of the disease leads to bronchitis, pneumonia, severe acute respiratory syndrome (SARS). (Chaw *et al.*, 2020) Coronavirus disease fights with the body's immune system and leads to pneumonia and other lung-related disorders and eventually to multiorgan failure and causes death. Signs and symptoms of coronavirus disease may appear only two to 14 days after exposure. (Chang *et al.*, 2020) For some patients, it may take a long time. This time after exposure and before having any kind of symptoms is called the incubation period. (Brundha, Pathmashri. and Sundari, 2019) During this pandemic, the government has announced total country lockdown which will cause major effects on their daily life, especially for daily wages people (Timothy, Samyuktha. and Brundha, 2019) The only way of communication for the people during lockdown is through communicable devices and other modalities which is updating them about the outside world during this lockdown. (Gagneur *et al.*, 2002) Technology has become a very essential part of our lives nowadays. No one in this world is untouched to technology. Each and every person has some connections to gadgets that revolve around him/her. Gadgets play an important role in our daily life. With the help of gadgets, time-consuming activities can be finished in seconds. During this pandemic, many gadgets were useful to create awareness and treat the people.

INTRODUCTION

In 2019, the centers for Disease Control and Prevention started monitoring the outbreak of a new coronavirus (SARS CoV-2), which causes Covid-19. (van

der Hoek *et al.*, 2004) Authorities first identified the virus in Wuhan, China (Brundha, 2015). Since then, the virus has spread to just about every country, leading the WHO to declare a pandemic outbreak. Coronaviruses are a family of viruses that can cause illness in animals or humans. In humans, several coronaviruses can cause respiratory infections starting from the cold to more severe diseases like Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (Ferdioz and Brundha, 2016). The recently discovered coronavirus is known for the cause of coronavirus disease (Covid-19). This new coronavirus has been liable for many infections globally, causing hundreds and thousands of deaths (Holmes *et al.*, 2003). The United States has seen the highest number of deaths until now. (Priyanka Shenoy and Brundha, 2016) The rapid spread of coronavirus leads to the lockdown of the whole country. (Balaji and Brundha, 2016) Many useful gadgets paved its way to help the pandemic and lower the cases and recover from it. (Brian and Baric, 2005) At the same time gadgets like smartphones also have some negative effects on the spread of the disease. Smartphones are one of the foremost used gadgets for everybody. (Ravichandran and Brundha, 2016) Given what percentage surfaces and body parts a smartphone touches within each day, it also makes a smartphone the foremost exposed gadget to germs and viruses. (Zhu *et al.*, 2020) Given the spread of the novel coronavirus or the Covid-19 disease, there are concerns about smartphones being exposed to the virus also. (Kalaiselvi and Brundha, 2016) Some of the main concerns are – how likely is it for an individual to catch the virus from their smartphone, or how long does coronavirus stay a smartphone. To calculate the danger factor, we'll see how long the novel coronavirus can stay on a smartphone surface. (Ksiazek *et al.*, 2003). The aim of the study is to analyze the uses of gadgets during this pandemic COVID 19.

MATERIALS AND METHODS

Methods used for this study are retrieving information from the highly-rated, high cited websites, research articles, news magazines which studied a long way about this coronavirus pandemic.

Most of the data is collected through Google Scholar, Microsoft academic., BASE, CORE, science.gov, Pubmed, Elsevier. Inclusion criteria: articles related to COVID- 19 pandemic , Gadgets used during a pandemic, uses of gadgets during the pandemic. Exclusion criteria: articles related to Precautions taken for other pandemic diseases, Difference between pandemic and epidemic. Articles collected should be written between 2019 and 2020, because of the updated news about coronavirus. Articles collected and separated according to the study and analyzed (Quality analysis). Quality analysis for each article is done through the latest model of analysis and segregated as strong, moderate, and weak articles. Points noted from the articles segregated as articles with known concepts, articles with recent advances, and comparative articles are analyzed and noted.

DISCUSSION

Coronavirus disease (COVID 19) pandemic

A novel strain coronavirus was detected in December 2019 in China, Wuhan province. Coronaviruses are known to infect humans and the spread of animals (including birds and mammals). Most of the people who fall sick with

COVID 19 will experience mild to moderate symptoms and recover with special treatment.(Hannah *et al.*, 2019) Some cases lead to severe problems and may cause death. It spreads through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hold within the air and quickly fall on floors or surfaces. Individuals are often infected by inhaling the virus if they are available close contact towards the patient already affected.(Prashaanthi and Brundha, 2018) It spreads also by touching a contaminated surface.

Signs and Symptoms of the Coronavirus disease

The most common symptoms of coronavirus disease are fever, dry cough, and tiredness. Other symptoms like aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell, or a rash on skin or discoloration of fingers or toes are less common but affect some patients.(Preethikaa and Brundha, 2018) These symptoms are usually mild and begin gradually. Some people become infected but only have very moderate symptoms. On average, it takes 5-6 days for the virus symptoms to show, sometimes it may take up to 14 days. So, if they aren't aware of their health condition(Malay, Duraisamy and Brundha, 2018). It is better to take a test if they doubt. Most people (about 80%) get over the disease without having hospital treatment. Around 1 out of every 5 folks that get COVID -19 becomes seriously ill and develops difficulty breathing. Older people, and people with underlying medical problems like high vital signs, heart and lung problems, diabetes, or cancer, are at higher risk of developing a serious illness.(Shenoy and Brundha, 2016) If People experience fever or cough associated with shortness of breath or chest pain, increasing blood pressure, or loss of speech should seek medical attention immediately.(Weiss and Navas-Martin, 2005) If possible, it's recommended to call the health care provider or facility first, thereby the patients are often directed to the proper clinic.

Gadgets used during the COVID pandemic

During the COVID -19 Pandemic, People are said not to come out of their houses to decrease the spread of the disease. It has a major impact on many industries, production units, factories from producing their output.(Sarvesh Kumar and Brundha, 2018) Due to lockdown of the whole country, people are unable to know the condition outside their home. Eventually, many researchers and Scientists invented many gadgets and other inventions which can help us to get rid of this Pandemic.

**** Hands-free door openers.***

Several varieties of hygiene friendly door hooks are intended to help us navigate that tricky moment when we need to Open doors with sanitized hands. Epidemiologists say that the coronavirus can live on surfaces like stainless steel for three days.(de Groot *et al.*, 2013) So these devices could be a game-changer in an environment like a hospital ward, health care units, etc..

**** Anti- Coronavirus coating:***

Researchers of JNCASR claimed to have developed, a spray or anti-microbial coating which when applied to surfaces like plastic or textile would likely kill several kinds of virus (Possibly this Coronavirus also) (*Israel develops anti-coronavirus surface coating*, 2020)

*** *Communicable devices:***

Mobile phones, walkie-talkie, Internet, are the major ways a Person can Communicate with one another during this quarantine. It also keeps the people updated about this pandemic.(Brundha and Nallaswamy, 2019) Due to lockdown, many companies announced their candidates can work from home. So many people are working from home with the help of the internet and broadband connections. Many schools and colleges are taking online classes through many softwares like Zoom, google meet and make this pandemic useful for the students.

*** *Immutouch wristBand:***

In Seattle, Washington, a group of techies invented a wrist Band called Immutouch that alerts you by vibrating when your hand gets close to your face. so, the chances of being infected by the Coronavirus will be lowered. So, if you try to touch your face accidentally by your affected or unhygienic hand you will be alerted.(Constine, 2020)

*** *COVID-19 evacuation pods:***

The Indian navy has also developed an air evacuation pod for Coronavirus patients that keeps pilots and other passengers safe from infection.(Sharma *et al.*, 2020)

*** *Other innovations:***

According to a Reuters report, a Romanian robotics Company has found a solution to help nurses in the hospital to save time logging data of COVID -19 test results and make the whole process AI-based and less time-consuming. (PTI, 2020)

A gun detection thermometer, Digital thermometer are also used to suspect the patients and make sure the disease doesn't spread.

Disadvantages of the gadgets

Gadgets are good in a way , to have virtual classes, to keep up the stock markets alive etc., but in the same way causes eye irritations, back pain, etc. Excess use of gadgets may create health problems. Watching TV or a smartphone, tablet, laptop or other sort of electronic devices late night in the dark may interfere with a student's sleep patterns. The artificial blue light emitted by electronic devices suppresses the discharge of the sleep-inducing hormone melatonin, which delays the body's internal clock and makes falling asleep harder(Yee, Seok and Hashmi, 2016) . Also many students who cannot afford a laptop or any sort of digital devices are not able to attend their online classes and fall into depression.

Precautions to be taken for this Pandemic

- * Washing hands regularly with Soap and water or clean them with sanitizer
- * Social distancing should be there to Reduce the spread.
- * Cover nose and mouth in public
- * Don't touch your face, because your hands may touch the infected area or Part.
- * Always keep the surroundings clean and hygienic.(Datta,2020)

Government measures during this Pandemic

The Government of India confirmed the first case in India due to Coronavirus disease 30 January 2020 in the state of Kerala, when a university student from Wuhan travelled back to India. As the number of confirmed cases increased in the country, The Government of India has announced the lockdown for the whole country from March 25, 2020. So that the people should stay in their houses to decrease the spread of the virus. Lockdown in the country was first announced for 21 days. But due to the increasing spread of the disease, the government extended the lockdown till June 30 in 5 phases, as follows

Phase 1 (25 March -14 April)

Almost all kinds of services and factories were closed across the country. Arrests across many parts of the state were made due to violation of the rules. All the meetings and many functions held online. Relief funds for the poor people were provided by the government. In March, 29 Indian railways announced that it would start special parcel services via trains to transport goods across the country.

Phase 2 (15 April - 3 May)

Due to increasing spread of the disease, the lockdown was extended till 3 May as Phase 2. On April 16, lockdown areas were classified according to the spread of the disease. They are classified as 'Red Zone' (highly infected), 'Orange Zone' (Moderately affected), and 'Green Zone' (With no infections). On April 25, Small retail shops in the respective areas were allowed to open for the people with social distancing norms.

Phase 3 (4 May -17 May)

Government further extended the period of lockdown for 2 weeks after 4th May. Zones that were separated earlier were revised and reviewed once again and segregated.

Phase 4 (18 May- 31 May)

On May 17, Lockdown was extended again with additional relaxations. Unlike previous extensions, Red zones were further segregated as containment zones and buffer zones.

Phase 5 (1 June - 30 June)

In the month of June the lockdown was extended and with new relaxations called 'Unlock 1' Government stated that this reopening would have an economic focus. Inter-state travel was permitted with the respective E-pass. This Unlock 1 permits hotels, restaurants, and shopping malls to reopen from June 8. But large gatherings were still banned. Night curfews were imposed from 9 pm- 5 am across the country. (Wikipedia contributors, 2020)

Due to the increased number of patients many new health Care facilities were opened. Many medical college hostels are evacuated and used as isolation wards. The number of doctors and nurses increased and their working hours also doubled. (Phua *et al.*, 2020) People are very carefully monitored directly in their homes and at every entry and exit of the country by the use of digital thermometers for the symptoms.

CONCLUSION

Many innovations, New gadgets are updated daily and used all over the world. People should be aware about this pandemic and should take this as a serious issue. Almost many people have awareness due to Communicable devices, televisions, and the internet. Scientists from many parts of the world are working so hard to control this disease. Many researchers discovered so many useful gadgets to control the spread and cure the disease. People should follow self-hygiene practices to protect themselves from the disease and lead a healthy life.

AUTHOR CONTRIBUTIONS

Mohammed Thameemul Ansari has contributed for the execution of the work, data collection and drafting of manuscript. Dr A.K.Anjali has contributed for concept and design of the study, validation of the data collection, revision and proof-reading of the review, validation of the data collection, revision and proof-reading of the review.

CONFLICT OF INTEREST

Authors declare no potential of conflict of interest

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