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Containment of Corona Outbreak Through Lockdown and Social Distancing Among the Community During the Corona Outbreak.

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Abstract: The aim of the study was to determine the compliance of lockdown and social distancing among the community during the corona outbreak. The current outbreak of the novel coronavirus also known as COVID-19. Social distancing The social distancing is carried over generations to minimize the spread of coronavirus by limiting its production rate among communities. Coronavirus is severe acute respiratory syndrome. Social distancing is a non - pharmaceutical infection prevention and control intervention implemented to avoid contact between those who are infected with a disease causing pathogen. It helps in slowing down the rate and extent of disease transmission in a community. In lockdown people are stressful, the secondary workers getting less salary and the economical status is low due to lockdown. The poor people have no job,shortage of food and shelter. Our study contributes to better understanding but compliance of lockdown and social distancing among the community.

Keywords: lockdown; social distancing; coronavirus; hand hygiene; face mask.

INTRODUCTION

Corona virus is primarily a respiratory virus that gets transmitted through droplet and salivary contamination. Fomites play a minimum role in transmission in warmer regions. Transmission most probably is occurring through air, to a short distance. The person who is at close proximity has higher risk of acquiring the infection. The virus spreads to all contacts irrespective of their immune status. The person who acquires the infection becomes the source of infection to the next person.The patient should maintain strict personnel hygiene and should wear a face mask to disseminate the virus in the atmosphere. At the peak of the outbreak the circulation of the virus is very high in the environment, because of more number of infected cases in the community. Frequently changing disposable masks and washing your hands after are important steps to avoid contamination from pathogens that cling to the outer surface.

The pathogenic mechanism of novel coronavirus is not yet characterised. It is vital to know the possible sources, mode of transmission, successful route of entry, incubation period, target system or organ, cytopathic effect, immune response induced locally and systemically, convalescence and fate of the illness. The disease outcome varies region to region probably due to ethnic variation in the population and mutations in the virus. Studies have shown an opportunistic nature in this virus targeting the vulnerable patients. Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J *et al.*, 2018; Menon *et al.*, 2018; Prabakar *et al.*, 2018; Rajeshkumar *et al.*, 2018, 2019; Vishnu Prasad *et al.*, 2018; Wahab *et al.*, 2018; Dua *et al.*, 2019; Duraisamy *et al.*, 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu *et al.*, 2019; Mehta *et al.*, 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran *et al.*, 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma *et al.*, 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi *et al.*, 2020; Samuel, Acharya and Rao, 2020)

MATERIALS AND METHODS

The literature review was carried out from Scopus and pubmed databases from 2000 till date. Five step process involved in selection of articles. They are identification of relevant articles, section of articles, data extraction and
collection of knowledge and to get clear about it. Articles collected through Medline-embrace, cochrane library

Number.of. Articles-45

Lockdown is emergency protocol.social distancing is keeping space between yourself and other people outside from home. Effective control of coronavirus outbreak worldwide.Social distancing is not biased against population group.corona virus spread due to close contact. Social distancing is also called physical distancing. Social distances help contact from infected people. Not maintaining the social distance so double every three to four days.(Lewnard and Lo, 2020)(Ashwin and Muralidharan, 2015)(Marickar, Geetha and Neelakantan, 2014). Coronavirus cannot be stopped, but slowed through the implementation of social distancing.

People are stressful due to lockdown. Coronavirus lockdowns leads to more violence against women. lockdown can prevent us from acquiring coronavirus. A disease prevalent over a whole country or the world is called pandemic disease.On March 11- 2020 World health organisation organized coronavirus as pandemic.The coronavirus is one of the pandemic diseases. Coronavirus is a group of viruses that cause disease in mammals and birds. In humans, the virus causes respiratory infections which are typically mild but, in rare cases, can be lethal. There are no vaccines or antiviral drugs that are approved for prevention or treatment. Symptoms of coronavirus disease are coughing, fever, pneumonia, shortness of breath, vomiting and diarrhoea. Coronavirus testing challenges are limited test kits available, the council of scientific and Industrial research- Institute of Microbial technology. (Jemal, 2018) (Girija *et al.*, 2019)(World Health Organization, 2009). High percentage of affected people and no room and slowly spreading highly infectious disease. The coronavirus causes acute respiratory syndrome. The potential effect of such social distancing is interventions on coronavirus burden. Hand hygiene can prevent you from transmission of disease. Pathogenic microorganisms can survive for 2 to 60 minutes on workers' hands. Poor hygiene is a major cause of increasing infectious disease among people world wide. Open hand washing practice is simple and an important method. Regular practice of hand washing requires regular supplies like soap, water, dry clean too well. Several counties have been able to impose travel restriction and work at home measures to reduce the reproduction rate and spread of the coronavirus among communities.(Prem *et al.*, 2020) (Selvakumar and Np, 2017) (Shahana and Muralidharan, 2016). The aim of the study was to determine the compliance of lockdown and social distancing among the community during the corona outbreak.

Basic reproduction number (R0)

The strategy of social distancing and lockdown is adapted universally for coronavirus. As far as the current situation there is no complete protection through drugs or vaccines. All that we have to do is to stay away from the infected patients. The amplitude of the outbreak can be clearly understood by a simple mathematical ratio. R0 indicates how contagious an infection . It is an important maker to study disease control programs. Ro is also known as reproduction number. Ro basically indicates the average number of people who acquire a disease from an infected person. It applies when everyone in a population is completely vulnerable and when people are not vaccinated no one has the exposure.

When there is no way to control the spread of the disease. The transmission rate of a disease can be calculated with R0 value. If R0 is less than (1 <1) each infection will cause less than 1 infection. If R0 is R0=1, each existing infection can cause one new life. R>1 will become epidemic. Ro will be higher with the long infection period, high contact rate results in high R0 value. Mode of transmission also contributes to R0 value, airborne infections have higher R0 value.

Countries use the R0 value as a metric to find out the transmission rate of a virus. It is not a constant number. Depends on how people come in contact with each other and the efforts taken to reduce due virus spread. The R0 value in India during april 13- may 10, 2020 was at 1.29. Beginning of lockdown it was 1.83. 75.3% of deaths were in the age group of 60 yrs or above and 83% of deaths were in people with comorbid conditions. We should not ignore the diseases and illness already prevalent in the people.

Social distancing during coronavirus

Social distancing is an important and effective way to control coronavirus. A safe or appropriate distance or amount of space between two people or between people in a group. People can spread viruses before they know they are sick, it is important to stay away from others . Avoid gatherings of any size outside your household such as friends' houses, food shops or any other places. This advice applies to people of young age or teens, although the risk of severe illness may be different for everyone.(Ethington, 1997) (Pratha, Ashwatha Pratha and Geetha, 2017) (Chowell *et al.*, no date) Anyone Can get and spread COVID-19. Everyone should play a role in slowing the spread and protecting themselves, their family and their community. Social distance maintaining at least six feet or two metre distance between you and another person. Help to stop the spread of coronavirus by keeping safe distance. Don't shake hands or physical greeting social distance rhetoric is expression of race ethnicity. Individual behaviour and different isolation can control the transformation of COVID-19. Unlike the social theory in the community the best way to fight the spread is for everyone to practice social distancing and stay home. Restaurants to ensure hand washing protocol and proper cleanliness of frequently touched surfaces. Ensure physical distancing between tables. Don't go to crowded places like markets, shopping, melas,parties.

Stay at home unless absolutely necessary .(Vaishali and Geetha, 2018) (M, Geetha and Thangavelu, 2019) (Jackson, 2010).

Benefits of handwash

Knowledge on correct use of handwashing and alcohol hand rubs. Wash hands with soap and clean water for at least twenty second. Clean the back of hands between the finger and under the nails clean hands prevent sickness. Alcohol based sanitizers can reduce about 97% of the bacteria on your hands. Hand washing also known as hand hygiene is the act of cleaning hands for the purpose of removing soil, dirt and microorganisms. 80% of infectious disease are transmitted by touch. (Kudavidnange, Gunasekara and Hapuarachchi, 2013) (Girija As and Priyadharsini J, 2019). Personal hygiene begins and ends with our hand washing before eating ,preparing food,treating wounds . Washing hands prevents you from spreading respiratory infections. Germs can spread from other people or surfaces when touching the eye,nose,mouth with unwashed hands. Hand sanitizer may not be as effective when hands are dirty.hand sanitizer does not get rid of the types of gems . Bacteria accumulate on hands constantly, so it's important to keep completely germ- free. Washing hands properly and often limits the transfer of germs and has many great benefits. Keep your workplace healthy because anyone who has ever had a job knows how easy it is for sickness to spread of illness and even helps with not getting infected in the workplace. Antibiotics are often unnecessarily prescribed to combat infections, which are caused by viruses not bacteria. Proper hand washing can prevent stomach related and respiratory illness. Widespread overuse of antibiotics leads to bacteria resistance, making illness more difficult to cure around the globe. Whether we realise it or not, we touch our eyes, nose and mouth up to four times an hour. This adds up to dozen opportunities for bacteria and viruses to happily enter our bodies and cause infection.(Mortel *et al.*, 2012) (Girija, Jayaseelan and Arumugam, 2018) (Gwarzo, 2018).

Benefits of mask

Face masks can prevent a person from COVID-19. Face mask use recommendation by different health authorities. Protection of face masks, the measure to prolong the life of disposable masks and the invention of reusable masks should be encouraged . Face masks prevent the spread from individuals with symptoms of respiratory infection such as coughing,sneezing and sometimes fever. Masks trap moisture close to the skin, disrupting its balance, which can trigger perioral dermatitis. Limiting the time in a mask can reduce the risk, while gentle cleansers and moisturizers can help reduce dryness. For those who must wear a mask for long periods of time, a barrier cream can reduce inflammation and protect the skin. Don't wear the mask below your nose or leave your chin uncovered, don't place a mask on children under age 2,anyone who has trouble breathing, or is unable to remove the mask without assistance.(Feng *et al.*, 2020)(Smiline, Vijayashree and Paramasivam, 2018) (Bowdle and Silvia Munoz-Price, 2020). Face masks fit more loosely and prevent the wearer from spreading large spray and droplets when coughing. Masks are effective only when used in combination with frequent handwashing with alcohol based hand rubs or soap water. Avoid touching the mask while using. Surgical masks are also used in medical settings and protect against larger respiratory droplets. Made of layers of fibre that cover the nose and mouth and prevent the wearers germs from getting on other people. Surgical masks do not protect the wearer from germs in the air. N 95 respirator mask is a disposable mask that filters particles in the air and seals nose and mouth from the outside environment. It protects the wearer from germ in the air. A coronavirus can also be transmitted by touching an object where airborne droplets have settled, The viruses can survive for several hours or days depending on the kind of surface and conditions of humidity and temperature.(Paramasivam, Vijayashree Priyadharsini and Raghunandhakumar, 2020) (Longrich, no date) (Priyadharsini *et al.*, 2018a).

Impact of complains of lockdown

A global social economical stress was observed. The poor are the worst . Work of thousands migrant labour's to force head back to villages. People complain that there are no trains, no bus to reach their native place in lockdown. The labour's reached native places by walking due to less transport. Migrant labour have faced multiple hardships, with factories and workplaces shut down due to lockdown. Stress during a coronavirus outbreak can include fear and worry about health, changes in sleep and eating patterns, worsening of mental health conditions and increased use of alcohol,tobacco or other drugs. The poor people are suffering from food and shelter due no work staying at home . Daily alcohol consuming people are mentaly stressed. Cardiovascular death is the number one cause of death globally. Cardiac patients are also at increased risk of coronavirus complications and they can present as heart attack, myocarditis and heart failure. Stroke is another medical emergency, which treated within a window period of 4 hours will result in near complete resolution of conditions. The delay in seeking treatment in these patients is due to several reasons like fear of coronavirus and lack of transport in the lockdown (Swami and Barron, no date) (Priyadharsini *et al.*, 2018b) (Sheikh, Sheikh and Sheikh, 2020) Domestic violence is more in lock down. People were not able to get vegetables due to lack of vegetables and market timing. Social distancing face masks and hand sanitizer are not practicing

properly. People are struggling to make their payments as a result of being furloughed, having their pay cut or their work has temporarily stopped due to the coronavirus lockdown. A slowed down production, transportation,storage and distribution system will make lower demands on cash. Businesses will work on existing stocks to incur lower costs until demand comes back. Liquidity in the system to support the level of economic activity is critical. (Bodas and Peleg, 2020) (Shahzan *et al.*, 2019) (Bellato, no date)

Various level of mobility

The mobility data shows a large diversity between the different regions. Similar trends in trips to retail, recreation and trips to parks are seen as decreasing among low-income countries. In all regions, the percentage of trips to workplaces decreased by at least 40% by mid-April. The trips to public transport stations have experienced the strongest decline, by mid-April, the global percentage of trips to public transport stations were half of the baseline. LAC has again experienced the strongest decline. Cities around the world are experiencing less public transport usage and lower occupancy rates. Residential mobility What Google describes as "mobility to residential" reflects people staying at home and within their residences.(Lasry *et al.*, 2020) (Bergman and Fishman, no date)

In all regions, the mobility to residences increased by around 12 to 25% compared to the baseline in January. Public transport has seen the largest decline, reaching a 76% reduction in April 2020 at its lowest point. The use of public transport in all regions has been impacted heavily, experiencing a reduction by 60 to 80% below the average.By mid-April 2020 Asia will reach declines similar to the other regions. lockdown reduced mobility to the most essential activities. Similar to driving, the data indicates a minor increase of walking queries since mid-April 2020. All major destinations record a decline with public transport stations showing the largest negative impact, while the trips to residencies increase. (Yilmazkuday, no date)(Jiang and Luo, 2020)

Attempted quarantine

Thousands of health- care workers are fanning out across the country to trace and quarantine people who might have contact with those with COVID 19. There are countries that may not be able to test enough, but they should be operating under the assumption that there is community transmission happening and preparing the country to control or mitigate that spread, while testing is getting ramped up. ('Analysis of Effectiveness of Quarantine Measures in Controlling COVID-19', no date)

India's strategy to trace and quarantine contacts, along with the government decision to order the country's roughly 1.3 billion inhabitants to stay at home for 21 days from late March, have probably helped to slow the spread of the virus in some places, and bought the country time to prepare its ailing health care system. (Mukherjee, no date)

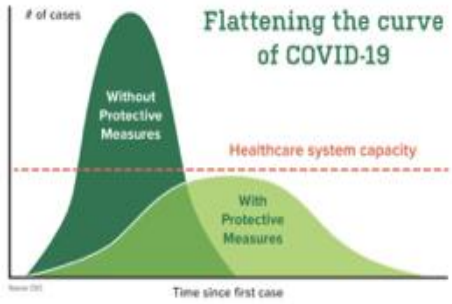
Under the lockdown, people are allowed out for essentials, such as food and medical care, but in most states people under quarantine are closely monitored by social workers and cannot leave their home in some people. The current containment measures fail to slow viral spread, experts say, further restrictions to keep people apart will be needed. The government is considering extending the lockdown beyond its planned. But such a move would be very hard on people who need to work to feed themselves. In areas where workers identify clusters of disease, a containment zone is set up and everyone inside is ordered to stay at home. Social workers then go door to door to find people with suspected infections. If a person has Symptoms, they are tested for the virus, along with members of household and close contacts. The spread can be slowed, public health professionals say, if people practice social distancing by avoiding public spaces and generally limiting their movements. Still, without any measures to slow it down, covid-19 will continue to spread exponentially for months. Attempted quarantine, moderate social distancing and extensive social distancing were random.(Dandekar and Barbastathis, no date)

Awareness of coronavirus

There is no sure way to prevent the spread of disease during epidemic or pandemics . Old people with chronic diseases who are at higher risk for severe illness from coronavirus. The presence of the disease itself will promote humans to change behaviour as awareness of the pandemic disease. Most people infected with the coronavirus experience mild to moderate respiratory illness and recover without requiring special treatment . Older people, and those with underlying medical problems like cardiovascular disease , chronic respiratory disease, and cancer are more likely to develop serious illness.(Abdulamir and Hafidh, 2020) (Guan *et al.*, 2020). The coronavirus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes , so it's important that we also practice respiratory etiquette. Infectious waste refers to hazardous waste capable of causing infection in humans. This includes infection contained in animal waste, human blood and blood product pandemic disease like the justinian, black death ,flu pandemic, cholera pandemic, HIV/AIDS and coronavirus. Without an improved sanitation facility to safely separate waste from human contact. Safe management of drinking water and sanitation services applies to the COVID-19 outbreak. Coronaviruses are a large family of viruses that cause illness ranging from the common cold to more severe

diseases such as middle east respiratory syndrome and Severe acute respiratory . A novel coronavirus is a new strain that has not been previously identified in humans. There is no reason to believe that hot weather can kill the coronavirus or other diseases. The impact on child mortality rates is devastating with more than 297000 children under 5 who die annually from disease.Steps to help to prevent the spread of coronavirus are stay home except to get medical care, separate yourself from other people and animals in your home, avoid sharing personal household items, clean your hands often, wear a facemask if you are sick, cover your coughs and sneeze. Awareness of acute respiratory syndrome in corona virus in 2019 transmission to the body through exhaled air. Awareness of individual knowledge to predict his behaviour in cleaning and preparedness to face the pandemics of highly pathogenic virus.(Team and Eurosurveillance editorial team, 2020) (AL-Rasheedi *et al.*, no date)

Flattening the curve of COVID-19:



During the Corona virus outbreak all the government organisations are taking all possible steps to contain the spread of infection. The graph of the incidence rate is rapidly increasing. Flattening the curve is depending on all the containment measures taken by the government. At the beginning of the coronavirus outbreak, the number of cases were less, in 2 to 3 months of the coronavirus outbreak, the number of cases are more and it reaches the peak. Many cases require hospitalisation at one time, which overwhelms the system. Protective measures such as wearing facemasks, hand sanitizer and social distancing help to flatten the curve of coronavirus incidence , which helps to spread out the number of cases of infection and reduce the load on the health care system. When the curve flattens, that shows the outbreak is subsiding.(Adwibowo, no date) (Jayaratne, 2020).Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel, 2021)

CONCLUSION

Corona virus is primarily a respiratory virus that gets transmitted through droplet and salivary contamination. Fomites play a minimum role in transmission in warmer regions. Only way to prevent it is isolation and social distancing. It literally means preventing physical contact or exchange or transfer of any material. It is not possible at every incidence, but should be made with utmost precaution. Contact can transfer the virus, but it can be prevented by practicing hand hygiene, by frequent washing of hands with soap or using an alcoholic hand rub. The hot spots identified should be cordoned off from the rest of the society till the disease is controlled. The pockets within the hot spots should be kept under strict vigilance to protect the healthy possible contacts. Counselling should be given to the infected person about his responsibilities as a member of the community and the ways he could contribute in containment. There is a need for multifaceted interventions that will facilitate adequate hygiene practices among the population.

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