

Social Transmission of Corona Virus: An Overview

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ABSTRACT

Corona virus (COVID-19) causes an infectious disease of the upper respiratory tract, with terminating illness of failure of lungs. Being a viral disease, no ensconced drug for control is known and it is picked up by a new host the man as droplets in air released by a patient. The virus has been detected in 215 countries and World Health Organization (WHO) declared as an epidemic and pandemic. The common structures of social contact critically determine the spread of the infection from a patient; in the dearth of vaccines, the control of the virus has been its prevention of spread through systematic 'social distancing measures'. Furthermore, the use of cotton facemask in public places and while dealing with one has been the robust method of prevention of spread of the virus from sneezing or talking with anyone. It was seen from January to April 2020 counties followed social distancing procedures without touching; hand-shaking or hugging with any one had least number of COVID-19 affected persons. Hand washing with soap-water frequently to ward off any viral contamination obtained from touches of fomite or furniture etc., is rigorously followed, city disinfection with bleaching water has been additional practice in societies to abate infection from spits from patients in the common spaces. Moreover, the described types of social distancing framework adopted by some countries without additional measures prevented super-infection of the virus in societies. Finally, the findings have important implications for the policy making to be adopted globally as well as, individual-scale preventive methods.

Keywords: COVID-19; social distancing; social transmission; pandemic (Siriraj Med J 2020; 72: 508-511)

INTRODUCTION

The present situation with human corona virus COVID-19 all over, as an emerging infectious virus, causes a major staggering respiratory morbidity for 8-10 days with eventual mortality, worldwide.¹ The virus constantly demonstrates a rising patterns of society-transmission at several Indian cities, despite an effective social isolation (lockdown) through the country. WHO has not recommended any particular drug against COVID-19; in the absence of any emulative drug, social distancing and

self-isolation in homes have the most effective steps for the control of the COVID-19 pandemic.² Prevention of social contacts in schools/colleges, workplaces and public spheres are the means of control measures. Droplets from nose and mouth serve as the vehicles of transmission of the virus from an infected individual to one and all nearby, within proximity of one to two meters; social interactions within a set of empirical variables including the most basic human behaviour patterns, as, coughing, sneezing, hand-haking, touching and sharing of objects

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with some individual any object and fomite.³⁻⁶ Other previous fatal viral infections of upper respiratory tract leading to the fatal lungs infections were due to Severe Acute Respiratory Syndrome (SARS) virus and Middle East Respiratory Syndrome (MERS) virus. These two human viral pathogens had not been seen in India. However, COVID-19 is another fatal virus belonging to “Corona” group of viruses, identified in China in 2019 causing respiratory infections ranging from the common cold to severe disease of lungs, contaminated through air.^{7,8} The most common symptoms of COVID-19 are fever, tiredness, shivering, headache, muscle pains, dry cough and gastrointestinal disorders.⁸ Sometimes, infection remains cryptic without any kind of visible symptoms, which would be manifested in immune-compromised individuals. Any individual with chronic comorbidities stemming from inherent diabetes or problems of some innards such as, heart, brain liver or kidney, blood pressure, coronary artery disease and a few more other serious illness under some active medication with any mainstream drug(s) develop expression of the fatal lungs infection. Those individuals need hospitalization of uninterrupted supply of oxygen in ICUs even. Thus COVID-19 affects much the elderly senior citizens much more affect older people, who suffer from medical comorbidities like diabetes, chronic kidney disease or inflammatory lung disease, etc.

Theoretical Framework

The COVID-19 wave influences all sections of the community and is especially harmful to the elderly people who are in the most vulnerable section for virus spread; people of any age group with comorbidities, such as, hearth diseases diabetes, hypercholesterolemia, blood pressure problems, renal of liver problems, and a few more are too vulnerable to infection. Thus, interpersonal or social distance is to be maintained everywhere; consequently. Social gathering for ceremonies, market places, railway stations and bus-stands, etc. to cite for example, are prohibited by government. Maintenance of social distance at workplaces, industries, construction-sites being prevented adversely influence the individual and national economy⁷, with concomitant community preservations from viral infections at work place, help men serving as automated moderators. Social distancing is obligatory to minimize the spread of the disease; if not executed accurately, spread would be fast. The expanded social isolation leads to lack of communication with senior citizens who may need support.⁸ Government have called on the youth to cuddle the attempt to preserve themselves and overall citizens. By the by, youths help those, who are

most vulnerable and enhance social awareness on health in societies. Therefore, youths are critical to limiting the virus spread; consequently, youths influence public health, society and the economy at large.

The first point of precaution is the spreading of virus controlling information in local languages, thus ensuring that services and facilities are appropriate to the specific situation of local people. The large number of local peoples disobeying the specific standard procedure of social precautionary system remains vulnerable, especially if they are dependent on the income from the broader economy-produces, tourism, handicrafts and similar employments in urban areas. Social and physical distancing helps low down of virus spread by causing moratorium in infection chain growths.⁷ Physical distance between people, and hand washes with soap minimize contact with contaminated fomite/ furniture/ surfaces, and help escape from infection.⁷ Maneuvers for the common people comprise initiating easy going work arrangements like, work at home, e-learning, minimizing and preventing crowdedness, shut down of non-essential facilities and services, which safe guard and prevent virus spread. The adopted government procedure of prevention of going out for some trivial purposes and avoiding crowds for obtaining essential home requirements is restricted. The measures are used in with individual protective methods against COVID-19, such as frequent hand-washing and the gentle-manly cough-etiquette or using cotton face mask.

All public health maneuvers to cease the spread of disease can be stabilized with easily moulded plan of actions to inspire endurance by society and social connection, governmental protection of incomes and secured the food supply. Countries should stabilize the possible benefits and help eliminate negative outcomes of each obstruction, and dispose plan of actions to stimulate petty community-engagements, acquire mutual trust and limit social harm in the economic sphere. Many action plans can be implemented for community endurance stimulating mental health, by with physical access to essential and non-essential goods and semi-technical services, and limit the economic damage of stay at home maneuvers, where these are considered inevitable. Work at home and distance learning plan of actions in divergent situations exhibit transformation and the role of technology in supporting business continuity and sustaining social connections within ‘authority and individuals’, ‘teachers and students’, as well as, ‘families and communities’. In a broader sense, enforcement of distancing maneuvers intent to profit from personal and professional community connections by widely accessible means with mobile

phones and computers. E-conferences are and to be conducted across international platforms on medical and technological themes.

In parallel, there were suspected cases of COVID-19 that were to be tested and cases were promptly isolated to newly organised COVID-hospitals; and the particular zones were declared as 'containment zones' with imposed restrictions of movements into or from it. Previous contact tracing is done, and home-quarantification of contact people is seriously advised in containment zones for the duration of the incubation period of 14 to 21 days. This is almost universal in countries where prevention is taken as the main task than treatment of COVID-19 patients. Isolation manoeuvre in a society makes the task of contact-tracing of identified easier since the number of infected people rapidly in ceases, by the by, infection case numbers sharply declines. As social measures would be lifted, case-finding, isolation for COVID-19 cases and quarantine of contacts, to respond categorically to resurgent or imported cases shall be emphasised. Reorganization of health and social services should continue to work in coordination to assess and test patient by rapid tests for sue treatments, to minimise least virus spread. WHO describes four levels of COVID-19 transmission (1) no reported case (2) sporadic cases (3) clusters of cases, and (4) community transmission.

COVID-19 spreads through droplets and mucus from a patient, who might not have been hospitalised; thus, droplets and mucus are released. Droplets are very small and remain suspended in air for a while. With a deep breath A typical cough begins during which, lungs eject air in a compressed form with thrust with crackles. A person blows out around one-and-a-half-litre of air in one cough. Moreover, when one coughs or sneezes, saliva contaminated with viruses comes out. Around 3,000 droplets of saliva come out in a single cough; droplets of saliva travel at the speed of up to 80 kmph. At such a speed, one should not be in the range when COVID-19 is pandemic everywhere. Each droplet of saliva contains around 20lakh virus particles. Even if a few of those reach a healthy person's respiratory tract, the particles colonise the person's body and multiply to billions in 6-7 days. The infected individual would start showing symptoms of Covid-19 at end of a week after infection.

Preventive Measures

Some protective advice followed by the local public health agency for protect oneself and others around, knowing the facts and taking proper precautions to avoid the infections of COVID-19:

1. If one is going outside home use of mask is mandatory.
2. Reaching home hands must be cleaned using soap/ hand wash liquid or alcohol-based hand rub.
3. Maintain a safe distance of one to 1.5 m as interpersonal distance mandatory and coughing or sneezing must be done with etiquette.
4. Don't touch your Eyes, nose or mouth need be was he often beforehand.
5. Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
6. Stay home if you feel unwell.
7. Medical attention if showing any kind symptoms such as fever, a cough and difficulty in breathing,
8. Follow the directions of your local health authority.

Avoiding unneeded visits to medical facilities allows healthcare systems to operate more effectively, therefore protecting you and others.

CONCLUSION

In this study, COVID-19 preventive measures were theoretically and empirically taken into account. It is evident that the reproductive patterns of the virus are tightly linked with human social behaviour. Therefore, preventive policies, measures and individual behaviour need be suiting to virus spread. Social isolation and availability of COVID-19 confirmation test facility are mandatory for any country, since those are the most reliable and convergent forms of obtaining solutions to reduce community transmission of virus. Concerning transmission check observed in China and South Korea the other super-spreading patterns observed were the full convergence of nonlinear variables with the adoption of social isolation, COVID-19 confirmation tests availability and the social distancing methods of 1 to 2 meters physical distance with the additional use of masks use and sanitization (city disinfection). Other important points for use of masks were religiously followed; social distancing measures with the use of masks and city disinfection helped preventing dissemination. The isolation of the undetected infected hosts (asymptomatic cases) and prevention of airborne transmission were done. Thus, policy actions are needed to include strategic measures to minimise the natural community transmission to achieve efficiency are, social distancing measures, the use of masks and disinfection measures at public spaces. Dearth of masks and financial costs for disinfection of vulnerable areas, might be limiting factors. The individual dimension of prevention (citizen collaboration and

support) is mandatory for governmental actions to result in community prevention stability. Global efforts from all countries are necessary to help control community infections everywhere by disallowing air travels.

Conflict of interest

Each of the authors has contributed to read and approved this manuscript. None of the authors has any conflict of interest, financial or otherwise.

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