



## Prevention and Control Measures in Coronavirus Disease-19 Pandemic

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In infectious diseases and outbreaks, prevention is better than cure (1). Several effective measures have been proposed to curb the coronavirus disease-19 pandemic. The World Health Organization and Centers for Disease Control and Prevention have provided recommendations and hygienic preventive and control measures in the formats of reports and guidelines. Table 1 presents some of the practical social controlling measures that led to the control of the severe acute respiratory syndrome (SARS) outbreak in 2003, Beijing, China (2). In the SARS epidemic, local and military health workers had a key role in ending the outbreak (2). Accordingly, similar controlling measures can be implemented to curb other outbreaks including 2019-nCoV.

Although the transmissibility of SARS is lower than 2019-nCoV, the SARS outbreak (2003) involved many countries before ending (3). These outbreaks have some lessons to be learned for further similar outbreaks. The super spread of SARS and 2019-nCoV outbreaks were associated with favourable conditions for transmission. Both outbreaks occurred during the traditional Chinese Spring Festival. This festival was held from January 17 to February 23, as well as January 10 to February 18 in 2003 and 2020 with nearly 1.82 and 3.11 billion travellers countrywide, respectively. Wuhan with 11 million citizens is the center of this traditional spring (4). Some mistakes might be repeated given that countries have made significant progress in scientific and technical aspects compared to the SARS outbreak in 2003. Current responses to the outbreak must be much more decisive and scientific compared to the 2003 outbreak of SARS (5).

According to Yang et al (2), some lessons learned from the SARS outbreak are as follows:

1. The rearing, trading, transportation, and slaughtering of wild animals should be monitored carefully.
2. The long period of virus incubation fastens the spread. Accordingly, an early identification, diagnosis, tracing, and strict isolation inhibits the rapid spread of the disease.
3. The personal and environmental hygiene of health workers should be provided by personal protective equipment, along with their training.
4. Dissemination of information associated with public health emergencies requires clear procedures and schedules, and outbreak reports and guidelines should be received in the shortest time. The information and guidelines can also be disseminated through the internet, television programs, magazines, booklets, online consultation, and on-phone consultancy, and cyberspace should be provided by public health care centers and universities. As reported for Middle East respiratory syndrome coronavirus (MERS-CoV), the majority of information about the disease was received through the internet and short message services (6).

Habit as a psychological construct can be used to predict behavioral changes (7) and is the interchangeably and repeated behavior that is performed automatically (8). In the outbreaks, the implementation of interventions associated with prevention and control issues requires behavioral changes. Further, the modification of social and personal behaviors is accompanied with changing habits and behavioral patterns. To shape personal and social controlling behavioral responses, habits might be a barrier to training measures regarding the spread. The benefits of implementing practices should be well

**Table 1.** Series of Control Measures Conducted for Beijing SARS Outbreak in China

Interventions	Facilities	Results
Deploying thousands of local and military health care workers	Medical apparatus and personal protective equipment	Emergency management of outbreak
Establishing 100 fever clinics	Body temperature and chest radiograph	Screening
Designating new 1000-bed hospital	Concentrated wards of infected cases	Centralized management and reduced transmission
Providing medical training for 60000 health care workers	Inclusion of all personnel	Management of patients
Lunching isolation, tracing, and quarantine	System monitoring	Reduction of person-to-person transmission
Disseminating information	Guidelines and media	People stabilization

Note. SARS: Severe acute respiratory syndrome.  
Source. Yang et al (2).

explained to break the habits (9). The behaviors are usually routinized by repetition. Thereby, changing the behaviors is a long-term process. However, the convenience of application can decrease the longevity of behavioral changes in addition to the dissemination of clear information regarding health consequences and social support (8). In other words, behaviors should look easy, timely, and attractive by education and providing proper facilities (10).

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#### Author's Contribution

VR and ZP wrote the manuscript. AHM, ZP, and SDP collected the data, reviewed the literature, and contributed to the conception and design of the study. All authors contributed to critical revision, edition, and final approval of the manuscript.

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The authors declare that they have no conflict of interests.

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