which is now wreaking havoc in Asia, is a modern epidemic. Therefore, it is inappropriate to compare it with “The Plague” of the Middle Ages, because at that time the only cures available were in the form of witchcraft and herbal remedies. The plague outbreak subsequently led to a staggering death toll of 100 million. It is also inappropriate to compare it with the Ebola outbreak, another modern epidemic which only spread within the geographical limits of central Africa. Although this virus had claimed countless lives, it was swiftly contained. SARS could be more similar to the plague that occurred in the regions of Guangdong and Guangxi in China about a hundred years ago. Western medical science was already well established then, and cures were easily available. However, the fear engendered by SARS does not seem to be less than that caused by the recorded plague in the Ming Dynasty, when people would faint upon the sight of a dead rat in the street. Hence, “La Peste” (“The Plague”), a novel written by Nobel Prize winner, Albert Camus, comes easily to mind. In the novel, amidst the frenzy of the malaria outbreak, no one had any guarantee of life and no one knew his or her own fate. They were, however, sure of one thing: they had today. However, “La Peste” is after all, a novel, and therefore cannot be compared with SARS, which we encounter now.

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Firstly, let us understand the definition of SARS. Typical pneumonia is characterized by bacterium infection of the lungs, tissue damage, purulent, pleural effusion, trachea obstruction, collapse of lung lobes and the loss of breathing ability. Apart from the differences in the types of bacteria involved, there are differences in the etiology of a typical pneumonia: the bacterium infects the respiratory tract in most cases and subsequently infect the lungs completely; there are fewer cases in which individual lung lobes are infected whereby the patient’s condition will deteriorate more rapidly. All other types of pneumonia, which are not characterized by lung lobes infection and trachea infection, are in fact atypical pneumonia. As atypical pneumonia is associated with viruses, it is known as viral pneumonia. The commonly seen atypical pneumonia is not especially contagious, and only affects the general body functions. Thus, the present SARS epidemic is certainly very different from what we traditionally know.

Why did the WHO term the disease as “SARS”? This is probably because this epidemic is so different from the known traditional atypical pneumonia. Firstly, patients experience a lack of oxygen easily and therefore require the aid of modern respiratory equipment in order to breathe. Secondly, this syndrome can be contagious enough to infect a substantial number of people under some circumstances.

When the first SARS patient was warded in our department, no one knew the cause of this disease, nor were any precautions taken. As a result, over a hundred people who had been in close contact with this patient fell ill one after another. Among them were many doctors and nursing staff who had cared for this patient—therapists, medical students, medical colleagues, neighbouring patients, patients’ relatives and friends, and other technicians. A visitor who had contracted this disease unknowingly transmitted the virus to other friends in a densely populated building, which eventually caused these friends to fall ill as well. The disease subsequently spread to hundreds of others residing in the building and other buildings nearby. The SARS outbreak has not only shocked the world, but is also an unprecedented epidemic outbreak in WHO’s recorded history.

As the medical staff of infected hospitals are facing imminent danger of death, would they not be reminded of Camus? There is no established cure for the patients who are now undergoing life-and-death struggles, and this is enough to let us believe that this flu outbreak is similar to the plague outbreak.

The mysterious causative disease agent still remains elusive since the outbreak occurred a few weeks ago, the degree of infection and its trend are unpredictable. However, apart from the elderly and other patients who are already suffering from chronic ailments, this disease can be cured easily. It is strongly believed that patients will gain full recovery. Therefore, there is no need to be overly fearful of the disease.

Today, man has developed advanced technologies to solve the mysteries of life and enjoy longevity—hence resulting in a growing confidence in overcoming difficult physiological and pathological issues. It is unthinkable that this mysterious SARS outbreak has stumped many medical professionals who are struggling to contain it as much as they can, and to prevent it from worsening.
An epidemic is categorized as a public health issue, and in dealing with such an issue, we cannot depend solely on modern technology and organizational management. Although technology is an essential tool in improving public health services, substantial professional support, the initiative of the community and the participation of all citizens are required to effectively implement public health policies. This epidemic has different courses of development. If the academic, professional and community elements of public health policies can be appropriately implemented at various stages, citizens will develop an enhanced level of confidence and the spread of the epidemic will be retarded and subsequently contained. In certain parts of the world, there has been no comprehensive assessment of the initial outbreak and there was general level of ignorance on the situation in neighbouring towns and cities. Relevant authorities had complacently assumed that only one hospital was affected and this had led them to make an announcement that they had already found the causative disease agent, when in actual fact they did not have the slightest idea of what they were faced with. Despite the fact that clinical test results were highly non-representative, they chose to publicize new ways of testing, which has caused many members of the public to wait in vain. As a result, no proper preventive measures were taken, there were delays in preparing citizens to curb the spread of the epidemic, and precious time was lost. Louis Pasteur, being the pioneer in bacteriology, was the first to come up with the theory that three conditions are necessary for an epidemic to occur. There must be a causative agent, a medium, and both suitable internal and external environments for infection. Since these three conditions are co-related, the absence of any one of them will not cause an epidemic outbreak. As a lot of people have already contracted SARS in the community, the most urgent task now is to find a cure, curb its spread, ascertain its cause, carry out research, and develop diagnostic tests. We should emphasize the need for a long-term plan, with a aim of finding a medical breakthrough in the near future. We should also bring the entire nation together to promote the prevention of such a disease.

Below is a list of brief suggestions for adopting good policies (from public health viewpoint), which can be implemented during this epidemic period along the lines of public health.

What is the real problem?

Although we have mentioned that this is a disease that can be cured easily, we can only do so if we can diagnose it in time, and administer proper medical care. Before the actual cause can be ascertained, all diagnoses should be based primarily on clinical symptoms and using laboratory test results as a secondary basis. All new ways of testing are mere studies. We now know that high fever, shivering, cough, extreme lethargy, muscle aches, flu symptoms, diarrhea and general malaise are symptoms of SARS. There are already reports published on the situations in Hong Kong and China which are in fact very good references for other parts of the world.

In Hong Kong, the health of a group of patients has deteriorated rapidly which has caused them to develop difficulties in breathing. Others undergo the incubation period of five to seven days before conditions gradually scale to an intolerable level. Yet another quarter has a relatively moderate condition. Specialists can categorize these patients according to the actual situation, so that proper medical care can be administered.
All SARS patients must be treated to the stage of full recovery so that the epidemic can be eradicated. After much hard work by the Chinese and Hong Kong authorities, the administration of specific anti-virals and the flexible use of steroids have proven to be effective cures. Besides the use of drugs, the application of modern technology of oxygen resuscitation and the use of recovered patients’ serum as antibodies has, except for the elderly and patients suffering from other chronic illnesses, raised the recovery percentage to more than 95 percent. With an assured remedy in hand, and with professional diagnostic tests, they can be logically categorized in accordance with their conditions. Those very ill and elderly patients should be warded in a well-equipped hospital. Those who are suffering from mild physical syndromes can be cared for in an ordinary hospital. For patients who fall into neither of the above two categories, they should be dealt with appropriately. During the peak of the epidemic in Hong Kong, all patients, regardless of their conditions, were sent to one particular hospital, which eventually led to a serious shortage of hospital beds. The relevant authority then realized that it was not a wise move after all. Under such circumstances, where no institution can cope with such a sudden outbreak, patient categorization procedures should be seriously considered as part of the measures in dealing with the epidemic. In fact, epidemic hospitals in Bangladesh, which often need to handle large numbers of cholera patients, will immediately segregate their medical facilities into “suspected cases zone”, “confirmed cases zone”, “special care cases zone” and “recovery zone” during an outbreak.

The government should, for example, carry out preventive checks, initiate mandatory quarantine, and conduct arrival and departure health checks. In the community, all citizens should participate in the disease prevention drive. All governmental actions are only effective in the initial outbreak period. Once the disease has spread to the entire community, the participation of all citizens becomes crucial. Once there is cooperative public awareness and participation, the healthy community will not be fearful, and citizens will understand the importance of taking care of themselves as well as others. Time is of utmost importance in curbing the spread of the disease, and before this can be accomplished, a medical remedy is still of paramount importance. Front-line medical staff are not only required to maintain the disease-preventive functions of hospitals, they also need to shoulder the heavy responsibility of controlling the spread of the disease. In summary, we should not neglect the above-mentioned work of diagnosing and patient categorization.
During this time, we can certainly collect a lot of information and data on the possible causative source, medium and how the disease can infect human beings on such a scale. After this, we can bring together the efforts of academicians, professionals, government officials and citizens in order to ascertain the source of this epidemic before developing more effective remedies and preventive measures against another outbreak. If we were to just focus on the source of this disease at the peak period of the outbreak, it will just be an act of deceiving ourselves as well as others. Under normal circumstances, research work on epidemics is difficult and requires long time. Since the outbreak of SARS, there have been three different findings. China has consistently seen the presence of Chlamydia, while Hong Kong and one German laboratory found the Paramyxovirus instead. Another academic institution, on the other hand, cultured the coronavirus and this successful test received the support of American laboratories. With these findings, we now know the complexity involved in this epidemic, which involves extraordinary bacterium and viruses, be they unigeminal, bigeminal or multigeminal. The recent surreptitious and extraordinary hypothesis is that this epidemic is caused by a mutated animal virus. Clinical research has shown that the characteristics of a disease spread can be just as highly unascertainable as its causative source. However, with the advent in the life sciences and through the cooperation of many countries, we should be able to determine its cause very soon. Despite this, some time is still needed for such work to be carried out. China’s Epidemic Prevention Authority has established a three-step procedure in ascertaining the source of the disease. The virus has to be first identified. This is followed by preliminary verification of the virus using antibodies developed from patient’s serum and the re-establishment of test models on animals, so that all information can be proven authentic. This is the most practical way to gradually ascertain the cause. Such work will prevent any inappropriate and over-optimistic assumptions being made during an epidemic.

To reformulate public health policies is not limited to disease prevention in certain areas and hospital management, globalization and other perspectives must be incorporated. Our standard of living and material well-being has improved. This, together with medical advancement, will minimize the threats from traditional epidemics such as cholera and flu. Except for some cities, most regions and counties have already reduced or nearly closed all large epidemic medical facilities. In Hong Kong, such a hospital had been closed for over twenty years. In fact, even if it were still in operation today, it would not have the necessary facilities to cope with this disease. From this particular epidemic outbreak, medical management teams and professionals should thoroughly understand that the most successful, systematic and advanced hospital management norms are very different from those in public health management that should be carried out in times of an epidemic crisis. If corrective actions are not implemented in time, the consequences will be unthinkable. If the epidemic preventive work is not properly...
carried out, medical staff will fall ill alongside other SARS patients, and this will certainly be an ironical and regrettable situation. Besides preparing to cope with large-scale disasters such as fires, air crashes, earthquakes and formulating procedures to handle a substantial number of casualties, all general hospitals should also be prepared to handle an epidemic outbreak, and the resultant infection of medical staff and of crippling hospital operation, and to actively carry out work to curb the spread of the disease. A mistake made today is the best reference for tomorrow. We need to draw up a set of procedures which will involve the participation of all citizens. Just as every household was asked to make vinegar in the province of Guangdong, China, wearing facemasks in Hong Kong has become a symbol of people mobilization. Such an approach can be further improved upon in future.

Today, as air travel becomes more and more common, geographical borders become an ineffective controlling tool from the public health point of view. The spread of SARS through air travel has highlighted this fact. If neighbouring cities such as Guangzhou and Hong Kong do not provide institutional support and show humanitarian care for each other, not only will people of these two regions suffer, but others will also be harmed. We hope to put into practice health and disease-prevention joint management procedures when we are faced with a crisis. SARS has spread from China and Asia to other continents. According to reports, residents of other developed countries have become resentful towards Asians and have criticized the unhygienic lifestyle of the Chinese and Asians that could have possibly caused such an outbreak to spread to the other parts of the world. We must admit that a dense population and an undesirable living environment in China and many parts of Asia are the best breeding grounds for an epidemic. Infectious diseases, which continue to strike less-developed regions, are a rare sight in developed countries. However, is the present outbreak really caused by an unhygienic and dirty living environment?

Many years ago, microbiologists have warned that the excessive use of antibiotics is an illogical remedy. This is because there are far too many types of antibiotics and the choice of antibiotics as well as its dosage is not prescribed with discretion. This has seriously tipped the biological balance of bacteria and microorganisms, and has subsequently led to the emergence of new diseases and diseases which are never known to man. To date, we have yet to ascertain the cause of this mysterious SARS outbreak. Could it be caused by any of the microorganisms? Could this be the specific effect of using antibiotics? Are highly populated and unhygienic developing countries the culprits then? Or are they the victims?

In this era of globalization, a modern epidemic outbreak concerns everyone in the world and it is no longer an issue that is confined to a hospital, a city, a region or a continent. Although it has originated from China today, and has spread to Asia, it may come from America tomorrow. No country or region can be a complacent bystander during a global epidemic outbreak. Only when we have shared information and ascertained its source, researched its cause, and discussed medical cures and other areas jointly, can we then have the opportunity to curb such a disease.
Two years ago, the Ebola virus in mid-Africa afflicted 3000 people, leaving more than 500 dead. Today’s SARS is not as deadly as the Ebola virus, but it continues to infect many parts of the world. There is no sign of it stopping in the near future. Despite being hit most badly, Asians have gained a good amount of wisdom. In China, the attitude towards handling this outbreak has changed from a passive to a pro-active one, which shows that our views and actions in coping with such a modern epidemic are becoming more and more globalized.

The world of Camus fifty years ago was so much different from our world today in terms of politics, economy, macroscopic issues and world views. Medical staff of badly-infected hospitals are seeing colleagues falling ill one after another, and increasingly more new infected patients are being warded. Their feeling of helplessness and fear is similar to that of the doctors described in Camus’ novel. Life is fragile, and there is certainly no guarantee of living through today. Knowledge, technology, personal abilities, and rules and regulations cannot provide us sufficient protection at all. The restraints of such rules and regulations also hinder our fight for survival, which Camus mentioned in his novel. That is the reason why he wrote, “In times of epidemic, there is no hero or saint.” Despite the fact that non-medical members of the public have expressed gratitude and respect towards medical professionals, those who are in the field of medical care know too well the feeling of helplessness under such a precarious environment. Regardless of changes in the environment, the strong belief in fighting for survival, and the will to live on, will not diminish after Camus’ era. What all medical practitioners strive to achieve is to first ensure their survival before trying their best to assist others to live on.

Political leaders should analyze the cause, effect, gains and losses when formulating and implementing policies. Specialists should carry out a substantial amount of research so as to produce valuable academic papers. However, they should never forget what others have gone through, the events that have happened, the factors that rule changes, and those who were hurt or rescued. These memories will linger in our minds for a long time.

Camus had poked fun at the medical profession. He had purposely allowed a hero in his novel to contract the disease and subsequently die just when the outbreak was contained. Another character became insane amidst celebrations. He also prophesized that the containment of the disease did not mean total eradication. It would only represent the hibernation of the disease, which would strike again when the appropriate time comes. Modern diseases cease to hide in some dark corners anymore. They have not, in the process of continuous human destruction of the environment that is fuelled by greed and selfishness, stopped mutating into even more mysterious and deadly diseases and causative agents, and will not cease to attack human beings. The tranquility which we will experience after an epidemic outbreak is never real. When we have obtained much new medical knowledge and skills, we will often forget the epidemic of survival that has already caused irreversible destruction to our long-desired peace and tranquility.