

SARS (and Us) (Part 3)

By Prof Chee Yam Cheng, Editorial Board Member

Editorial note:

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I have tried to deal with the SARS situation as it affected me and you in the first 2 parts already published. Here I would like to discuss SARS as it has affected us not as doctors, but as members of family, community and the public. We are parents, we have children. We are family with parents, uncles, aunties. We are visitors to those of our relatives and friends sick in hospital. Some of us live in condominiums, take public transport, wear uniforms. Some of us have been designated as contacts and quarantined.

FAMILY AND FRIENDS

We belong to family. It panics us if one of family is warded in a public hospital. If it were a medical emergency, we should be grateful that there still are public hospitals attending to such patients. As of today (19 April 2003), only Tan Tock Seng has been dedicated to the management of SARS cases. All the other hospitals continue to function full steam at the Emergency Departments. However, from the third week of March 2003, SGH and NUH had started to reschedule patients for elective surgery, so as to create capacity in their wards to deal with the normal stream of patients shunted from TTSH, which from Saturday 22 March 2003 became a dedicated SARS hospital.

Therefore, with the "isolate and ring fence" national policy, the assumption is that patients who are suspected of SARS would all be managed at TTSH, leaving the other public institutions free to manage their own load of cases plus part of TTSH load redistributed to them. At this point of time, there is still no diagnostic confirmatory test for SARS and the WHO definition of SARS suspect and probable cases continues to apply.

For those of family warded in CDC or TTSH, the patient was either a SARS probable or suspect case, or warded for observation because of a distinct likelihood of SARS developing. So family members and friends visiting TTSH knew the risks involved in visiting the hospital but at the entry points to TTSH, definite precautions were taken to ensure adequate protection of visitors. A week later, all this was to change. No visitors were allowed for SARS patients at TTSH. However there was a remnant of TTSH inpatients who could not be discharged after 22 March 2003 as they were still ill or had nowhere to go. For them, as they were not SARS-related patients, the only visitors allowed them were family members duly registered at the entry point for a 10-minute visit. The idea was that TTSH did not want many visitors passing through its corridors and using the lifts.

To date, there still are over 100 inpatients of this category at TTSH and visitors duly protected are allowed to visit them.

The question asked has been how then did the disease spread within TTSH before 22 March 2003? Well, in the week before, on 13 March, WHO had issued a global alert to the SARS threat. The affected countries on the WHO list then were just 3 areas – Guangdong, Hanoi and Hong Kong. Singapore only made it onto the list on 20 March. So in early March, patients with fever and pneumonia were not specially nursed nor isolated. SARS was not born yet. Its label was atypical pneumonia and its highly contagious nature not yet documented. Therefore, the isolation policy for inpatient followed the usual rules and unless the patient was in an isolation room, the staff were not fully protected when attending to them. This was how the nurses, attendants, doctors and other healthcare workers came into contact with these patients and subsequently took ill. From one index case, staff became infected, patients in beds in the same ward around the first case also became infected, and when transferred to other wards, infected others. Others infected those who visited them and attended to them in other wards. Others also included family members, church pastors and church friends.

PARENTS

Next, I would like to look at us as parents. Many healthcare workers have young families and in the normal routine of life, have kids in school. That is one concern. One other is safety in the home to where they return after work. Admittedly in early March 2003, no special precautions existed for caring for patients with atypical pneumonia. So staff managing those in isolation rooms followed standard procedure and were safe. The unknown danger was when dealing with inpatients with fever and pneumonia in the general open ward. If a healthcare worker of TTSH took ill, he or she would see their family doctor or polyclinic doctor and be treated, given medical leave, etc. They would stay home and hopefully recover. If they worsened, they would have to come back to hospital and be admitted as patients if their condition warranted it. So while at home, close contact made it possible for the disease to spread. Likewise for patients discharged from TTSH who at that time were not diagnosed as SARS but as whatever medical condition it was. The family was at risk. So father, mother, sister, uncle, grandmother, etc, did become sick with SARS and in one particular family, both father and mother have died from SARS.

Today, with full protection to staff at TTSH, this cycle of transmission has ceased. At work, all staff are fully protected. They change clothes after a bath and go home well. Thrice daily, temperatures are taken by all staff themselves and the moment they are febrile, they go to the staff clinic and are taken off duty. At home, they know how not to be in close contact with family members. After 3 days of medical leave (with daily telephone calls from their TTSH supervisor), they return to the



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staff clinic for medical assessment (if not earlier). That is why staff protection and monitoring are essential – to preserve intact their family and other TTSH staff.

SCHOOLS – OPEN/CLOSE

Parents with school-going children had other concerns about their safety in the school environment. On Saturday 22 March 2003, at a MOH meeting, we were told 2 things – one, TTSH is now a SARS dedicated hospital and two, schools would reopen on Monday, 24 March after one week of school holidays. Come Monday 24 March, and schools duly opened. This was what was reported on Tuesday, 25 March. Some wanted schools to stay closed till the SARS threat cleared (*Pg. 2, Streets*). Several parents felt anxiety and unease about their children contracting SARS at school. Some school principals did send their students home mostly as a precautionary measure, if the students had been in contact with a SARS victim or had holidayed in Hong Kong. Some 600 to 700 students who were feeling feverish were also sent home.

Some others felt the population had taken unnecessary risks by not cancelling their holidays to Hong Kong and Guangdong during the school holidays, and it seemed ripe that sick students if they contracted the disease would incubate, then fall sick while at school. On this logic, some parents wanted schools closed for another 2 weeks. On this, MOH's advice was that parents whose children had been to Hong Kong, Guangdong or Hanoi, should not send them to school if they had fever but to seek immediate medical attention. MOH also said WHO had not recommended school closure, as cases of infection were still those who had been in close contact with SARS victims. So was it better to be safe than sorry?

The New Paper on 25 March, page 13, reported another school shut. Little Skool House at the SGH childcare centre was closed for 7 days. Also closed was the Serangoon Centre of Pat Schoolhouse, for 10 days, so that its 140 pupils could stay home. Another 200 students from Pei Cai Secondary School were also told to stay home for a week. It was much later that a clear policy was laid out – that those schools with student victims be closed for 3 days and the situation reviewed thereafter.

Ms Chitra Rajaram, editor of Tamil Murasu wrote a piece for *Streets* titled "I am keeping my kids at home." It started with, "Call me kiasu, call me crazy. I don't care". She listed her reasons for not sending her 2 children to school the day before when school re-opened. One, the situation was getting worse – more people were in contact with the virus and the increasing number of SARS victims everyday. The number of patients had risen from 3 to 69; 11 were in ICU and maybe 1 or 2 may die. Two, some parents will send their sick children to school; were they ignorant, stubborn or irresponsible? Third, Singaporeans although told not to travel to unsafe Hong Kong, Guangdong and Hanoi, still insisted on going anyway because they had paid for their packages. So she felt another week or 2 of holidays would allow those who had travelled the previous week (school break of one week from 15-22 March 2003) enough time to know if they had avoided the virus. Also

during this period, more public education on SARS could be done. "We haven't done enough, parents like me worry that the steps already taken may not go far enough." So she kept her kids home, away from school on Monday 24 March. "...missing a few days of school is a small price to pay compared with having to deal with them falling seriously ill."

How many of us shared her feelings? Why the hurry to go back to school and mix with those who had taken risks and been exposed in SARS countries abroad? Enough was said, voiced and complained about. On Wednesday 26 March 2003, the decision was taken by the government to close schools with effect from the next day, Thursday 27 March, for one more week. Hurray, said many parents. Yet others felt that this precipitate decision left them in the lurch looking for childcare facilities for their young children. Junior colleges, centralised institutes, secondary and primary schools and kindergartens and childcare centres were closed. Why not the polytechnics, questioned their students. What about the universities?

SCHOOLS RE-OPEN

The following week, the Ministry of Education was busy preparing educational material on SARS and briefing school principals and teachers. Then on Saturday 5 April 2003, at 11am, the government announced the decision to re-open schools in 3 phases. The junior colleges and centralised institutes would open on Wednesday 10 April, followed by the secondary schools on Monday 14 April, and finally the primary schools, kindergartens and childcare centres on Wednesday 16 April. As they opened, definite precautionary measures were implemented at entry points into the school. Health declarations signed by parents, temperature taking, segregation of ill pupils – these and more gave the assurance that the risk of contracting SARS in the school environment was minimal. Parents felt better and schools had 95% or higher attendance on the first day of re-opening.

What had Ms Chitra Rajaram to say this time round? She started her article with "My kids will return to school..." (*Pg. 11, Streets, 14 April 2003*) Further, they were equipped with a surgical mask, each having practised using it at home. This she felt was a sensible thing to do. She felt it was probably very safe to return to school as the chance of contracting SARS in school seemed very remote. She noted several changes already happening – contact tracing and tracking, isolation of patients and suspect cases, reduction of flights to SARS countries – and these were effective and efficient. Yet she felt there were limitations to how far these could go to control the situation.

Those still travelling to China and Hong Kong and keeping quiet about it, were in her opinion irresponsible and reckless. They could spread it to their kids who in turn could pass it on to another kid in school. Others had broken quarantine rules. And yet others sneeze, cough and spit anywhere and everywhere. So to protect her kids, they were to wear their masks if they sat next to anyone with flu or fever, and offer a mask to those who sneeze and cough without covering their face. In the end, there was the need for individual social responsibility – no more a lifestyle choice but a lifestyle must.

PAEDIATRIC CASES

It is natural to be concerned about little children and their propensity, if any, to contract SARS. That is why schools for the youngest kids opened last in the phased re-opening schedule. It was to test that the precautionary measures were working for the older children before the child care centres re-opened. So is this concern justified? In TODAY, 12-13 April 2003, page 2 under the "Best News" column was a write-up that children seemed to be highly resistant to the virus. There were not many world-wide cases. The few who got infected did not become critically ill and no child has died. In Singapore on 12 April, there were 140 SARS cases. Only one was a child below 12 years old who recovered fully.

In the NEJM 7 April 2003 article on "A major outbreak of SARS in Hong Kong," the author reported their experience of 138 cases of suspected SARS, the outbreak starting on 10 March at the Prince of Wales Hospital. The mean age of their patients was 39.3 ± 16.8 years, i.e. all adults. The independent predictors of an adverse outcome were advanced age, a high peak lactate dehydrogenase level and a high absolute neutrophil count on presentation.

In childhood, there are many immunisations given from birth onwards. Perhaps these somehow are protecting the children from the SARS virus as their immune system is at a heightened state of reacting. We know that childhood illnesses like mumps, measles and chicken pox affect adults and the elderly far more severely than children in whom morbidity in the majority is not serious.

EXAM FEVER

Although it is early in the year, in our universities, it is examination time. Some have asked for exams to be postponed thinking that the gathering of many young adults in exam halls is a risk not worth taking. So the National University of Singapore announced its zonal plan to fight SARS should it occur on campus. (Page H2, *Straits Times*, 12 April 2003) There would be no shutdown. The affected area of common facilities would close and be disinfected over 3 days as part of the government's guidelines for schools (as did apply to Ngee Ann Polytechnic when one of its students came down with SARS through his mother). Examinations would be held in more venues so that they are in smaller groups of 20, 30 or 50 rather than in one huge cavernous hall. This should minimise risk and close contact (there was this case of a patient at ED in one of our hospitals waiting 5 hours to be seen, and she spread it to others around her in the wait zone). All students, before they enter the hall, would be screened. Their temperatures would be taken and if febrile above 37.5°C, they would be sent home and told to sit for their exam 3 weeks later. Others though afebrile but looking ill or with minor symptoms, would be allowed to take their papers in a private room seated at least 2 metres away from each other. Who to do this screening at NUS? The 750 medical students who had already completed their examinations earlier this year. So kudos to our doctors-to-be for contributing to their fellow colleagues by ensuring their careers are on track and not derailed by SARS.

QUARANTINE ORDERS

Another area that affects us is when we are told we cannot leave home. So what is quarantine and why? Historically, the old Middleton Hospital, now renamed Communicable Disease Centre, was the quarantine centre for contagious infectious diseases like polio (no treatment). Today it does not function like a prison. Yes, there are gates that can be locked, but access in and out of the CDC is not very restricted. Another quarantine facility that comes to mind is St John's Island; that is really quarantine. Totally cut off by land and only accessible by sea, I remember it being used to house opium addicts (who are not infectious).

Anyway, in the SARS era, and to prevent endemic spread within Singapore, it was felt that quarantine was a necessary instrument to be used on us, the people of Singapore. So for the first time in recent memory, on Monday 24 March 2003, the Ministry of Health invoked the Infectious Diseases Act and quarantined 740 people, including 340 children. Why? They may have been in close contact with victims of SARS, and so they were quarantined at home. CDC would not have been able to house them all for sure. (It has only 200 beds presently.) Anyone who flouts a home quarantine order (HQO) can be fined up to \$5,000 for a first offence and \$10,000 for a second. Those under quarantine must stay indoors for 10 days to minimise their contact with other people. An incubation period of the illness is usually between 3 to 7 days but could stretch to 10. The National Environment Agency (NEA) will monitor those under quarantine and carry out daily checks for symptoms of the illness. MOH agreed to give help to those who may suffer financial difficulties because of the HQO. For example, a daily rated worker.

At the press conference announcing this HQO, the Minister of Health also said, "The message for Singaporeans is: This is going to be quite a long haul." He also said on 24 March 2003, "It is not something for which you can declare victory in a matter of days, or one or 2 weeks". "If you close the schools, it is not one week but 2 weeks. If the situation warrants it, Singaporeans can be assured that we will make the decision." (Page 2, *Straits*, 25 March 2003) Well, Baghdad fell on 10 April 2003 but the war against SARS is far from over. Well again, schools were closed on Thursday 27 March and now all finally re-opened on 16 April.

Is it easy to be quarantined at home? Evidently not. On 12 April 2003, MOH announced that 12 people had broken the rules and left the confines of their home. At that point in time, 558 people were under HQO. This number fluctuates on a daily basis depending on how many new contacts are served HQO and how many already on the list have completed their 10-day "sentence".

ELECTRONIC TAG & EPIC

One relative of a SARS patient was to be electronically tagged after repeatedly flouting a HQO. (Page 24, *Straits Times*, 13 April 2003) The previous week on 10 April, MOH announced that the security firm Cisco was appointed to serve HQO and to install Web cameras in the houses of those served HQOs. Yes, cameras in all 558 houses. So someone is watching. The new rules require those quarantined to stand in front of the

camera when the Cisco officers call them by phone. The camera comes with a built-in modem. They have to plug it into a power source and phone line. Images taken will be sent through phone lines to a secure computer server at Cisco headquarters. Officers will verify the person's identity by comparing the images with photos taken when the cameras were installed. Those on HQO will be called twice a day at least and the photos will be deleted after the quarantine period. And those who still breach the rules will be electronically tagged and given a written warning. These tags are similar to the ankle tags used on prisoners serving home detention. The tag alerts officers if a quarantined person goes out or tries to take it off.

FURTHER QUARANTINE

The above HQO applies to contacts of SARS patients to ensure that they stay home and become alert to the possibility of themselves contracting the illness without spreading it to the community at large. This order is to protect the public from sick SARS patients avoiding hospitalisation at Tan Tock Seng Hospital. If they do fall ill while on home quarantine, a special ambulance will be arranged to take them from home to TTSH. Again, this is to protect the public and prevent community spread.

On 14 April 2003, MOH introduced yet another category of patients for HQO. These are all the SARS patients discharged from TTSH and the quarantine period is not 10 days but 14 days. Before this date, following the WHO criteria for discharge of SARS patients, they were given 2 weeks of medical leave after which they returned to CDC TTSH for medical review. While on this medical leave, they were advised to stay at home. The new measure makes it mandatory that they remain indoors. (Page H1, *Straits Times* 15 April 2003) For those discharged from the other public hospitals (presumably not with a diagnosis of SARS but who nonetheless could be possible SARS patients), and a list of hospitals is given (SGH, NUH, CGH and KKWCH), they will be advised to monitor their temperatures at home and hospital staff will call them daily for 14 days to check on their health. Previously, only TTSH monitored non-SARS patients after their discharge.

These 2 additional steps were explained by MOH as part of a "very cautious approach" to monitor all hospital patients closely so as to pick up those who develop fever early. At this time, 15 April 2003, Singapore's situation was 10 dead out of 158 total cases. 62 were still in hospital with 18 critically ill in ICU. A further 599 were under HQO. Imported cases were 7.

CONCLUSION

As with previous articles, my aims were to inform and educate, and where possible, give reasons for certain actions. You may perceive the same issues differently. I would value your insights from the outside. Please write to the Editor of SMA News with your views, which I hope will help improve and fine-tune the master blueprint for the nation in dealing with such a crisis. As the BMJ article on 29 March 2003 page 669 asked, are we prepared for the onslaught of a new epidemic? Or as was the case in 1918 and 1919, are we in the same situation? Until mankind developed a defence against influenza, it was as terrifying a killer as SARS. In fact, in those 2 years, influenza accounted for between 20 and 40 million lives, which was more than the human cost of the First World War. (Page 1, *TODAY* 12-13, April 2003) As a weak comparison, SARS deaths have claimed less lives than the Iraq war, but it would appear that the Iraq war would draw to a close faster than the war against SARS.

The other point is, is "Faster... Fast enough?" This was asked in an editorial of the NEJM 2 April 2003. The speed of events went something like this. 12 March: WHO issued global alert. 14 March: CDC Atlanta activated its emergency operations centre to support the response of WHO to this global threat (Singapore is fortunate and grateful to have the help of WHO and CDC doctors personally involved at MOH). 24 March: Scientists announce new corona virus isolated from patients with SARS. And mid-April: Some diagnostic kits have started to appear. In Singapore, the Genome Institute of Singapore (GIS) announced a Singapore-made SARS test ready by the weekend of 19 April. (Page 1, *Straits Times* 16 April 2003) The Singapore SARS statistics at this time, 16 April – total 162 cases, 12 dead, with another 2 deaths not confirmed as due to SARS. And in ICU, 18 patients.

So can we prevent a pandemic of SARS? Southern China in Asia is its epicentre. ■