

SARS, PRESCHOOL ROUTINES AND CHILDREN'S BEHAVIOUR: OBSERVATIONS FROM PRESCHOOLS IN HONG KONG

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SUMMARY

All schools in Hong Kong were closed in April 2003 to prevent the spread of SARS. This paper considers the influence of the SARS epidemic on children's routines and behaviour when preschools re-opened, after a six-week closure. Observations were made in 20 kindergartens and principals of another 10 kindergartens completed questionnaires. The influence of SARS was evident in all preschools, be it through teachers and students wearing masks, notices on hand washing or the provision of alcohol dispensers for hand disinfection. The outbreak impacted noticeably upon children's routines and social exchanges. In all schools, physical contact among children and sharing of food were not allowed. Children were also prohibited from talking to their peers when they had removed their masks. The SARS outbreak provided us a "natural experiment" to consider the influence of epidemics on preschools.

RÉSUMÉ

En avril 2003, toutes les écoles de Hong Kong ont été fermés pour empêcher la propagation du SRAS. Cet article considère l'influence de l'épidémie de SRAS sur les routines et le comportement des enfants une fois que les établissements préscolaires ont été réouverts, après une fermeture de six semaines. On a fait des observations dans 20 jardins d'enfants et les directeurs d'autres 10 jardins d'enfants ont rempli des questionnaires. L'influence du SRAS était évidente dans tous les établissements où les éducateurs et les élèves portaient des masques, il y avait des indications sur le lavage des mains ou bien on a placé des dispenseurs d'alcool pour la désinfection des mains. L'éruption a affecté de manière perceptible les routines et les échanges sociaux des enfants. Dans toutes les écoles, on n'a pas permis le contact physique parmi des petits même que le partage de la nourriture. Des enfants ont été également interdits de parler à leurs pairs quand ils avaient enlevé leurs masques. L'éruption du SRAS nous a fourni "une expérience naturelle" pour considérer l'influence des épidémies chez les établissements préscolaires.

RESUMEN

El SARS - rutinas y comportamiento de los niños pequeños: El estudio da cuenta de observaciones realizadas en establecimientos preescolares en Hong-Kong. Todo ello nace ya que en abril de 2003, todas las escuelas de Hong-Kong cerraron para evitar la propagación del SARS. Este artículo analiza la influencia de esta alerta de epidemia, en la rutina y el comportamiento de los niños / as. Cuando se reabrieron los establecimientos preescolares, que debieron permanecer cerrados durante 6 semanas, se realizaron observaciones en 20 jardines infantiles y los directores de otros 10 jardines respondieron cuestionarios. El SARS y las medidas que se tomaban para evitar posibles contagios, influyeron en forma evidente en todos los establecimientos preescolares, ya que educadores y estudiantes usaban máscaras, se colocaron avisos que advertían la importancia de lavarse

las manos o se instaló una gran cantidad de dispensadores con alcohol para desinfectarse las manos. El brote y las medidas de prevención, afectaron en forma perceptible la rutina y el intercambio social de los niños. En todas las escuelas, se prohibió el contacto físico entre los pequeños, los que tampoco podían compartir alimentos. Además, a los niños no les estaba permitido hablar con sus pares si se habían quitado la máscara. El brote de SARS nos proporcionó un "experimento natural" para analizar la influencia de las epidemias en los establecimientos preescolares.

KEYWORDS: SARS, Preschools, Early childhood education

During the past 100 years, there have been five killer viruses, including the Spanish flu (1918), the Asian Flu (1957), the Hong Kong flu (1968), Severe Acute Respiratory Syndrome (SARS) (2003) and the Avian Flu (2004) (Dunne, 2005). Flu pandemics have led to the closure of schools as it is assumed that infectious diseases can be rapidly transmitted in school premises. Previous research indicates that school closure reduces the incidence of viral respiratory diseases among children during an influenza outbreak (Heymann, Chodick, Reichman, Kokia & Laufer, 2004). It has been suggested that one of the reasons that Hong Kong flu (1968) was less deadly than the Spanish and Asian influenzas is that it peaked during the school holidays and children did not spread the virus in school. Research also indicates that Upper Respiratory Infections (URIs) are much more common in preschool children in centre-based care than those who are looked after at home (NICHD ECCRN, 2005). Hence, medical research indicates that preschool closure prevents the spread of viral respiratory diseases and that children in centre-based care are more susceptible to URIs. On the other hand, because of the nature of transmission mechanisms, there is an extremely small likelihood that viruses like HIV/AIDS will be spread in preschools.

Schools were closed in Britain and the United States during the Spanish flu (Billings, 1997). More recently, in 2003, schools were closed in Canada, Mainland China, Singapore and Hong Kong to prevent the spread of SARS. Five schools were closed in Ontario, Canada (Health Canada, 2003). On the other hand, there were mass school closures in Asia. In Singapore, all schools were closed on March 27 and re-opened in phases after April 14 (Singapore Government, 2003), and in Hong Kong, schools were closed for at least 6 weeks and also re-opened in phases with secondary schools re-opening before primary schools. Preschools in Hong Kong were officially closed between March 29 and May 18, 2003.

Appendix 1 provides the WHO report on the course of the SARS outbreak in Hong Kong. There were a total of 1,755 SARS cases in Hong Kong and 399 deaths occurred because of SARS (Government of Hong Kong, 2003). It should be noted that there were many unknowns about the transmission of SARS at the height of the outbreak. The high population density of Hong Kong puts her at risk for the rapid spread of infectious diseases. Further, since Hong Kong is used

as a gateway between Mainland China and the rest of the world, control of the epidemic was a top priority for the Hong Kong government.

In Hong Kong, preschool institutions are in the private sector. They include child-care centres which serve children from 6 weeks to 6 years and kindergartens which enrol children ranging in age from 2 years 8 months to 6 years. Most kindergartens offer bi-sessional classes of around three hours each, while most child care centres offer whole-day programs. About 95% of children over 3 years of age in Hong Kong attend preschool programmes. The extent of coverage reflects both government policy and the value that Chinese parents traditionally attach to early childhood education.

The government determines, monitors, and enforces standards for preschools. Adult-child ratios are currently about 1:10 in kindergartens and curriculum guidelines are issued by the government. The 1996 Guide to Pre-primary Curriculum advocates a child-centred approach and stresses all-round development (Government of Hong Kong, 1996). It espouses contemporary views on effective early teaching and learning, and provides suggestions for facilitating intellectual, communicative, personal, physical and aesthetic development.

The Hong Kong government was concerned that some kindergartens went too far in presenting formal academic curricula, using inappropriate teaching methods for children below the age of six. Hence, in 1999, a list of 'Dos and Don'ts' for kindergartens was published (Government of Hong Kong, 1999). The list of 'Dos' includes having a curriculum that covers moral, cognitive, physical, social, and aesthetic aspects of development by organizing activities that promote all-round development; organizing various child-centred learning activities; using the mother tongue as the language of instruction, and respecting individual differences. Good programs in any country achieve all these goals, but some are especially pertinent to Hong Kong idiosyncrasies. For example, Chinese culture emphasizes moral development, and it is recommended that the curriculum attends to this perspective.

As in other societies, pedagogical practices in Hong Kong preschools are influenced by cultural beliefs about early learning. In the past, the Chinese teacher was characterised as a fountain of knowledge who force-fed Peking ducks. However, children spend more time in play-based learning now than in the past and there has been a corresponding decrease in expository teaching. It appears that traditional Chinese cultural beliefs about early learning have taken a back seat to what is considered as good educational practice. Cultural beliefs about childhood and education also influence pedagogy. For example, kindergartens tend to have highly structured days. This is partly due to children's age, but also a reflection of Chinese cultural beliefs about the early years being a time for training young children to be disciplined and behave properly (Rao, McHale & Pearson, 2003).

During visits to preschools when they re-opened after the mandatory closure, the author was struck by the marked changes in preschool routines.

Hence this study was undertaken to provide an objective documentation of these changes.

The main objectives of the study were to (i) consider the influence of the SARS epidemic on children's routines and behaviour when preschools re-opened after a six-week closure; and (ii) consider principals' perspectives on the lessons that had been learned about promoting children's learning and managing preschools during an epidemic.

METHOD

SAMPLE

A retrospective study was conducted. The sample, although not randomly selected, was representative of Hong Kong preschools in terms of location, sponsor, status, size, and tuition fees. Surveys were completed by observers in 20 preschools (18 kindergartens and 2 child care centres), and principals in another 10 preschools completed questionnaires.

Survey completed by observers. Items on the survey fell into 6 categories including: Information about the preschool and children (21 questions); Routines before the SARS outbreak (4 questions); Learning during School Closure (2 questions); Preparing the kindergarten for re-opening (2 questions); Students return to kindergartens (18 questions); Lessons from SARS (4 questions); and Demographic information about the observers. The 18 items on Students' return to kindergartens included questions on Daily routines (3 questions); Health issues (2 questions); Social Interaction among children (6 questions); Preschool Management (3 questions); and School Holidays (4 questions). The majority of questions required responses in a fixed choice format. Examples of items are presented in the Appendix.

Questionnaires completed by principals

Questionnaires were completed by principals of 10 kindergartens. These addressed similar categories as those in the survey given to the observers but reflected their different perspectives and access to information. The questions to principals included ones on: Learning during school closure (18 questions); Preparing the kindergarten for re-opening (5 questions); Students return to kindergartens (25 questions); and Lessons from SARS (5 questions). We were particularly interested in gathering information from principals about learning during preschool closure. This is because schools in Hong Kong and Mainland China took particular advantage of the information and communication technology available to ensure that learning could take place even though schools were closed. The questions on "Learning during school closure" included those related to: Decisions about when to close and re-open the school (4 questions); Teaching and Learning (5 questions); Contacting students (2 questions); Homework (3 questions); and Computer-supported Learning (4 questions).

Documentary analyses

Government guidelines and regulations for preschools issued between March and May 2003 were perused.

PROCEDURE

The survey for observers and the questionnaire for principals were developed in English and the observers, all of whom were completely bi-lingual (English-Chinese), completed the English version of the survey. The questionnaire for principals was translated into Chinese and a back-translation procedure was used to ensure accuracy of the translation. Principals completed Chinese versions of the questionnaire.

Surveys of 20 preschools (18 kindergartens and 2 child-care centres) were conducted by 3 experienced lecturers, who were responsible for the practicum supervision of students in early childhood teacher education programmes. They were given training in the use of the survey, in which to record their observations and they consulted with the student-teacher they were supervising in completing the survey. Surveys were conducted within a month of preschools' re-opening. Questionnaires were distributed to principals in July and returned by late August.

RESULTS

The aim of this study was to document the influence of the SARS epidemic on children's routines and behaviour, and consider principals' perspectives on promoting children's learning and managing preschools during an epidemic. In the following section, information garnered from the survey is presented under the following headings: School closure; Learning during school closure; School re-opening; Changes in routines; Change in curriculum/pedagogy; and Changes in social interactions. Principals' perspectives are presented in the last section.

SCHOOL CLOSURE

As noted earlier, preschools were officially closed between March 29 and May 18, 2003. However, 15 % of the preschools closed before that date. The majority of preschools re-opened on May 19, 2003. Teachers in all schools contacted students at least once per week during school closure and 15% of teachers contacted children twice a week or more often. The mode of contact varied from telephone calls (4 preschools), circulars (4 preschools) and e-mail (3 preschools).

LEARNING DURING SCHOOL CLOSURE

In the preschools which were observed, a variety of assignments were distributed for home-based learning. These included worksheets (18 preschools); Exercise books (12 schools); Reading assignments (8 schools); suggested

parent-child activities (5 schools); CD ROMs for demonstrated teaching (3 preschools); and suggested websites for home learning (8 preschools).

SCHOOL RE-OPENING

According to the observers, many changes were apparent in the school environment when children returned to preschool. All schools had visual displays about hygiene and the preschool environment was much cleaner. Disinfection kits were located in most rooms. Further, in many schools, teachers wore aprons to hold alcohol spray and extra masks.

CHANGES IN ROUTINES

Observers reported that 85% of the preschools instituted a moderate change in routine. In keeping with government guidelines, children's temperature was measured when they came to preschools and they washed their hands several times a day. In 15% of the preschools, there was a drastic change in routines, including a shortening of the length of school day. Free play was curtailed and snack time was cancelled in some schools. In schools where it was continued, children had to face the wall while eating their snack. Physical Education (P.E.) and music lessons were cancelled and group size decreased in all schools.

A specific example of a change in routine comes from the requirements for children when they entered preschool. In several preschools, children stepped on the disinfection mat outside the main door of the preschool and had their temperature and hands checked. They then had to remove their shoes and wash their hands. In fact, in some schools children had to wash hands up to 5 times within a 3-hour period.

CHANGE IN CURRICULUM/ PEDAGOGY

During the SARS outbreak, the Education and Manpower Bureau of the Hong Kong Government issued a curriculum for children ranging in age from 3-6 years. This included the following 7 independent lessons: Learning about SARS; Personal hygiene (1); Personal hygiene (2); Concern and respect for a SARS patient; SARS symptoms, wearing masks and washing hands; Learning to prevent SARS. In all preschools, the curriculum was modified to include SARS education. All preschools talked about protection from SARS, proper washing of hands, not touching face, and not sharing food.

There was a decrease in instructional time in all preschools. Some preschools introduced new themes and did not address previously planned themes. Activities and games to raise awareness about the prevention of SARS and the importance of personal hygiene were included in some schools. Observations indicated that some schools accelerated teaching in order to "finish" all themes. Teachers typically did not initiate activities such as circle-time or story-telling with the whole class. Instead more activities were conducted with small groups of children and there was more small group

teaching. The latter is considered more developmentally and pedagogically appropriate in the early years (Bredekamp & Copple, 1997).

CHANGES IN SOCIAL INTERACTION

The SARS outbreak influenced interactions between the teacher and children and those among children. Children and teachers could not see each others' facial expressions because of masks and both children and teachers experienced discomfort when talking while wearing masks.

There was also a reduction in social interaction among peers. Sharing of toys was prohibited. Children were given individual toy packs in some schools and toys/equipment were sterilized every time they were used. It should be noted that physical contact among children was prohibited. This was a function of the government guidelines which specified that physical contact among children should be discouraged. Observations revealed that in 30% of the preschools, desks were moved into rows and children had to face the wall during snack time.

There were fewer opportunities to interact in large groups as group sizes were reduced. For example, there was less interactive teaching and opportunities for learning in groups. School activities were affected by SARS. Field trips were cancelled and outdoor play was suspended or restricted to small groups.

Observers brought back photographs from the preschools which they visited. All children were wearing masks, and children had individual "stationery" and "toy" kits as sharing was prohibited. In some preschools, teachers wore aprons with pockets which contained alcohol spray, tissues and gloves.

DOCUMENTARY ANALYSIS

As mentioned earlier the Education and Manpower Bureau of the Hong Kong Government developed a programme for preschool children on SARS. This was disseminated to all preschools. Reports indicate that about 20 per cent of parents refused to pay preschool fees during the school closure. This, coupled with the decrease in demand for preschool education in Hong Kong because of the falling birth rate, caused financial hardship to many kindergartens. The Permanent Secretary of Education and Manpower urged property owners to reduce rents for kindergartens and child care centres, and in an open letter to parents of preschool children, pleaded with them to pay the school fees. The letters to parents were sent out on April 30 and May 7, 2004.

PRINCIPALS' VIEWS

Some principals felt that that the government's response to the SARS outbreak was too slow. They believed that the decision about mandatory school closure came too late and some preschools had closed before that date. Interactions among adults were affected and this possibly indirectly affected children. Principals reported that there was more staff teambuilding and better

communication between the school and parents. One principal reported that since many social activities were cancelled, preschool children had the opportunity to spend more time at home with their families. They also felt that children developed an awareness of news and community events.

By September 2003, preschools appeared to revert to their previous routines. However, the government continued to issue circulars on preventing the resurgence of SARS.

DISCUSSION

The aim of this study was to objectively document changes in preschool routines as a result of the SARS outbreak in Hong Kong. Some of the changes are similar to those made in Singapore when it was confronted with a potential epidemic. For example, the Singapore Government (2003) issued the following guidelines to keep kindergartens SARS free: Clean and disinfect kindergarten premises; Educate children, teachers and parents on precautionary measures against SARS; Daily temperature screening procedures for all children; and Children who had travelled to SARS-infected areas had to stay away from kindergartens for 10 days after their return to Singapore. Others changes in routines in Hong Kong preschools are a reflection of their specific circumstances and broader Chinese beliefs of learning.

All schools were closed during the mandatory period while some closed even before this. The latter reflects the autonomy given to preschools. Preschool education in Hong Kong is not part of the main compulsory education system although over 90 per cent of children ranging in age from 3 to 5 years are enrolled in some form of preschool education (Wong & Rao, 2004). The government does, however, ensure and monitor standards of service and through a fee remission scheme, the government seeks to ensure that no child is deprived of early childhood education because of its financial reasons (Rao, Koong, Kwong & Wong, 2003).

Preschools prepared a variety of assignments for children during school closure. Eighteen out of 20 preschools which were observed distributed worksheets while others sent exercises and reading assignments home. Some preschools burnt CDs so children could watch their teacher's instruction. Summer holidays were also curtailed so children could "make-up" for missed classes. The provision of assignments and the longer school year reflect the relatively high academic focus prevalent in kindergartens in Hong Kong and the emphasis placed on completing the syllabus prescribed by the preschool.

There were fairly marked changes in children's routines. While all would agree that children's temperature should have been taken before they came to school and they should wash their hands soon after they get there, the drastic changes in some of the routines may be considered excessive. Was it necessary for children to wash hands 5 times within 3 hours? Did preschool teachers really need to wear aprons with carry alcohol spray, tissues and gloves? Did children

really need to face the wall while eating their snack? However, these behaviours must be considered in the light of the general context. At the time of the SARS outbreak, there were many unknowns about the transmission of SARS, and there was panic in the general population. Hong Kong's typically crowded streets were less so, and about 30% of the population was wearing surgical masks. A 14-year-old boy played a prank on the internet and indicated that the territory was going to be quarantined. This led to panic buying and supermarkets ran out of basic supplies. It is also important to re-iterate that Hong Kong is a very densely populated city and this can lead to fairly rapid transmission of viruses.

All preschools modified their curriculum to include education about SARS and the government should be credited for the speed at which it prepared curriculum guides and materials for preschools. However, the emphasis on early pre-academic skills evident in some preschools in Hong Kong is reflected in the fact that some preschools accelerated their teaching in order to finish their syllabus/themes. Further all local schools delayed the summer holidays by at least two weeks to make up for the school closure. On the other hand, nearly all international schools in Hong Kong closed on schedule for the summer holidays.

One of the most dramatic changes noticeable was the decrease in social interaction among children. Children experienced discomfort when talking while wearing a mask and teachers and students could not read each others' facial expressions because of the masks. Children's desks were moved into rows and they were not allowed to change seats during the day. Group size was decreased and there was less interactive teaching. There was an increase in solitary play and children were not allowed to share toys and physical contact among children was prohibited. All the changes in social interaction reflected government guidelines.

In conclusion, the Hong Kong government acted efficiently and effectively during the period of school closure. Guidelines on the preschool environment were issued, and curriculum materials relevant to SARS were available to schools before they re-opened. However, some principals felt that the decision to close schools was made too late. There were moderate to drastic changes in children's routines when preschools re-opened after the closure. SARS led to modifications in school activities, and all extra-curricular activities such as school trips were cancelled. There was, not surprisingly, an increased awareness about SARS and how to prevent it as a result of visual displays and curriculum changes. There was more small-group teaching and less social interaction among children. In hindsight, we can consider whether some of the changes which resulted in decreased social interaction among children were really necessary. However, it is clear that preschool educators were very resourceful and tried to ensure that the suspension of school did not mean the suspension of learning.

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Appendix 1

COURSE OF THE SARS OUTBREAK IN HONG KONG

...“SARS was first carried out of southern China into Hong Kong, and then on to Hanoi, Toronto, and Singapore in late February. Some 16 visitors and guests to the ninth floor of a Hong Kong hotel became infected through contact, in ways that remain mysterious, with a symptomatic medical doctor from Guangdong Province, who stayed in the hotel’s room 911. The index case for Hong Kong’s first outbreak, in the Prince of Wales Hospital, visited an acquaintance staying on the same floor during the critical days in February. Additional clusters were also subsequently linked to the hotel.

SARS had not yet been identified as a dangerous new disease when the outbreak hit Hong Kong’s hospitals. Doctors and nurses, unaware of the need to isolate patients and protect themselves, became the first victims as they struggled to save lives. In a particularly unfortunate incident, the index patient at Prince of Wales, admitted on 4 March, was treated four times daily with a jet nebulizer, which probably aerosolized the virus and greatly increased opportunities for spread.

In late March, Hong Kong suffered a major setback when a large cluster, eventually numbering more than 300, of almost simultaneous new cases was traced to a single building in the Amoy Gardens housing state. That event, which raised the possibility of an environmental source of infection or even airborne spread of the virus, was investigated by teams of local specialists. The outbreak was attributed to an “unlucky” convergence of environmental conditions that allowed the contamination of vertically-linked apartments. This conclusion, subsequently confirmed by additional studies, calmed fears that the SARS virus might be airborne.

From the day when the first cluster of cases was recognized, Hong Kong officials have provided open, honest, and abundant information about SARS to both the public and the media. Hong Kong also benefited from the contribution of its outstanding scientists, epidemiologists, and clinicians, who were at the forefront of efforts to track down source cases in the various clusters, identify the causative agent, develop diagnostic tests, and work out treatment protocols.

Faced with the largest outbreak outside mainland China, Hong Kong also pioneered many of the control measures used to successfully contain smaller outbreaks elsewhere. It is gratifying that these measures have now brought Hong Kong to the point of victory over the virus, although continued vigilance remains vital.

On 2 April, WHO advised the public to consider postponing all but essential travel to Hong Kong. That recommendation was removed more than 7 weeks later, on 23 May”.

Source: World Health Organization (June 23, 2003)

Update 86 - Hong Kong removed from list of areas with local transmission

http://www.who.int/csr/don/2003_06_23/en/

Appendix 2

*EXAMPLES OF ITEMS FROM THE QUESTIONNAIRES*Section A: Background Information

10. Were there any SARS cases in the preschool district? If so, about how many?

Section B: Before the SARS Outbreak

2. Were all toys disinfected at least once a week?

Section C: School Closure

Kindergartens were officially closed between March 29, and May 18, 2003

1. When did the kindergarten actually close?

Section D: Preparing the Kindergarten for Re-Opening

1. When you went to the school, what changes had the kindergarten made to prepare for the children's return to school? (Please tick)

- Thoroughly cleaned and disinfected preschools
- Disinfected all toys
- Installed alcohol spray dispensers How many? _____
- Placed disinfectant mats
- Provided liquid soap in all bathrooms
- Provided paper towels in bathrooms
- Installed extra taps for washing hands How many? _____
- Provided aprons with pockets for teachers

If yes what did teachers have in the pockets e.g., disinfectant, gloves, tissues, alcohol spray? _____

Section E: Students Return to KindergartensHealth issues

4. In the few days after children returned, were there sessions to teach children about (please select):

- the SARS virus; Protecting themselves
- Proper washing of hands
- Avoiding touching their faces, noses and eyes
- Avoiding playing with friends
- Not sharing food and drink with friends
- Proper wearing of masks

5. Comment on the children's use of face masks

Social Interaction among children

3. What rules were developed to curtail physical interaction among children?

7. Was there a snack time when the kindergarten reopened after SARS?

Preschool Management

5. About how many children in the preschool did not return to school by June 23, 2003?

8. When was the kindergarten scheduled to re-open for the summer holidays?

9. When will it re-open now?

Section F: Lessons from SARS

2. What were the main changes in preschool routines because of SARS?

3. Were there any benefits for preschool education from the SARS outbreak?