

## **MANAGING THE PUBLIC DURING THE NIPAH VIRUS OUTBREAK IN NEGERI SEMBILAN**

Ramlee R.\*

### **INTRODUCTION**

The first Nipah virus outbreak was detected in Negeri Sembilan on 4th January 1999. It all started in Kampung Dato' Wong Seng Chow, Sikamat, in the district of Seremban. The outbreak was then identified as Japanese Encephalitis (JE).

The machinery for control of JE was mobilised as soon as the outbreak in Perak was reported. That was done as early as 20th October 1998 with the collection of baseline data of all pig farms in the state. The state was put on alert and health education materials were produced and distributed.

Among the communication challenges faced in controlling the outbreak were issues related to the handling of the pig farmers, workers, general public, the mass media, the encephalitis cases and their family members, non governmental organisations (NGO), health-care workers and other personels involved.

### **THE FARMERS AND WORKERS**

The pig farms in Bukit Pelanduk area, coded BP I for Bukit Pelanduk I (Bukit Pelanduk II (BP II), coded for Sepang), Port Dickson, were different that those found in Perak and Seremban District. The farms in Perak were located in fruit orchards and the farmers and their workers did not stay in the farms. The farms in Seremban were well organised, fenced with living quarters for the workers within the farms with the farmers or owners staying elsewhere. The farms have proper drainage system for waste water from the pigsty to oxidation ponds before being discharged into the river

Unlike the farms in Perak and Seremban, the farms in BP I were scattered within oil palm estates, with no proper fences and no proper drainage system. Waste water from the pigsty drain straight into small drains that flow finally into the river. The rearing of pigs in BP I is likened to the rearing of chicken in coops at the back of houses, but in this case, pig farms. The farmers and their family literally stayed in the pig farms. The workers came from the village or neighbouring villages. The nearest house of a neighbour - not a pig farmer - could be a few metres away. The exceptions were some huge farms which rear pigs for export and were well organised therefore did not have living quarters within the farms. Otherwise pig farming was a family business where all family members were involved. Even the children assist occasionally during the school holiday.

During the initial stage of the outbreak, vaccination for JE was promoted. Other measures such as dialogues, lectures, talks on radio, public announcements

---

\* *Jabatan Kesihatan Negeri, Negeri Sembilan Darul Khusus*

through putting up posters and distribution of pamphlets were well on the way. Pertaining to the JE vaccination, the response was overwhelming, especially in Seremban. At the initial stage, the supply of vaccine was somewhat limited. We had to limit the number of recipients to be able to carry on with the subsequent doses. However, as the outbreak progresses, the number that turned out for the 3rd dose was much less. During home visits to trace the 3<sup>rd</sup> dose defaulters, it was found that there were no such persons in the addresses given and could not be traced. There was a possibility that others took the opportunity of the free vaccination.

In BP I, there was a huge demand for JE vaccination. So much so that dialogue sessions were boycotted by the farmers unless vaccination was given. Such an incident happened on 3rd December 1998 where a dialogue session for farmers were organised in Bukit Pelanduk. Only 15 turned up for the dialogue.

Besides BP I and BP II, terms like Priority I and Priority II, were also used. Priority I, were pig farmers and those staying inside the farms. Priority II were those staying outside the farms but within 2 kilometres from the farm. Vaccination policies for the 2 priority areas were different. People in Priority I were given 4 doses at day 0, day 7, day 30 and 1 year. Whereas those in Priority II were given 3 doses - day 0, day 7 and 1 year.

But the residents in BP I, were unhappy about double standard. The reason being that the houses in BP I, were very near to the pig farms and not much different to the farmers staying inside the farms. Other than that, the residents were given explanation on the effectiveness of the vaccine at different doses, the delay in response of the immune system and protection were not 100%. A decision was made to give everyone 4 doses irrespective whether they were in Priority I or Priority II areas. It was meant to defuse the residents unhappiness on the double standard for the vaccination doses and these residents can be considered as staying in Priority I area.

But it did not stop there. The real problem cropped when the deaths kept on climbing despite the vaccination to the farmers. Among those who died, have received 1, 2 and even 3 doses. This led to distrust on the vaccine by the farmers and workers, and they even questioned the actions taken by the government. The farmers began to believe that the outbreak was not JE, but something else. They daringly wandered in the town watching fogging activities in their shorts and short sleeve shirts or singlets in contrast to the fully protected foggers. This led to the refusal of vaccination by the farmers, workers and the residents. They strongly believed that the vaccine reduced the body's resistance and those who received the 2nd or 3rd dose can die from the vaccine. Therefore efforts were made to encourage the farmers to complete their vaccination.

During the registration of farmers organised by the MCA in Lukut, a clinic was set up beside the registration counter. Announcements were made over and over again to get the farmers to complete their vaccination. Talks was given to the crowd to explain the purpose of the vaccine but to all vain. Of the hundreds that came for registration, only 6 people came forward to enquire on the vaccination and only 3 agreed for vaccination.

With the increase in deaths, the farmers started to abandon their farms. One of the main reasons that, the feed millers refused to continue credit to the farmers. Therefore the pigs started to die of hunger. The pigs themselves cannot be sold either live or as meat. The sale of pork dropped tremendously. The only option left was to kill the pigs. Out of desperation, some farmers surrendered their pigs voluntarily to the Veterinary Department for destruction. The Veterinary Department also made an effort to get the farmers to voluntarily surrender their pigs for destruction. Some of the farmers fled, leaving their pigs behind. As a result, the pigs escaped from the farms and started roaming the town, villages and oil palm estates looking for food. It was reported that pig carcasses were found in houses and bedrooms of the area.

The government agreed to give financial assistance of RM 50.00 for each pig killed irrespective of age and size. For each pig killed and buried voluntarily, an additional RM 3.00 were offered. These were incentives to persuade farmers to kill their own pigs. So the NGO organised the culling operations. These workers were advised to put on protective clothing every time they handle the pigs. Posters were posted on the farms on proper personal protection such as overalls, mask, goggles, gloves and boots. Unfortunately a few of the workers did not comply. They gave reasons that it is uncomfortable, too hot, too slippery to handle the pigs, protective clothing not supplied and some refused to wear even though they were threatened with legal action.

### **THE RESIDENTS**

The residents were those categorised staying in Priority II areas. Frankly, these people were staying just outside the pig farms. The boundary for Priority I and Priority II was too vague for BP I.

They were advised to take precaution against being bitten by the *Culex* mosquitoes such as wearing long sleeve shirt, long pants, applying mosquito repellents, using wire mesh on windows, mosquito repellents in the house, staying indoors after dusk and cleaning up mosquito breeding areas around their houses. They were also advised for vaccination. Health education activities continued.

School attendance started to decline, especially when the farmers started to leave their farms and homes. Talks were given to teachers and students in the schools. In addition to talks, fogging was also carried out in the schools. Still the attendance declined and have to be closed temporarily. The students were sent to other schools in Lukut. Businesses started to decline and shops were closed. Most were closed, but due to the stench of decaying carcasses from the abandoned farms, not out of fear of the disease.

With respect to JE vaccine, the residents in Priority II areas too refused vaccination. The Malays staying next door to the farms questioned on the religious fatwa' of the vaccine. Although a fatwa' was released by the Negeri Sembilan Mufti' on the religious stand of the vaccination, the Malays were not convinced. A Friday sermon was held by the Mufti' at the mosque in BP 1 area touched on the issue of vaccination and its fatwa. However the Malays still refused vaccination.

Efforts to encourage the Malays to complete their vaccination were carried out with the assistance of a group of 40 officers from the Department of Information. The team combined with the health teams and visited from house to house to convince the Malays to complete their vaccination but with little success. However the Malays in the other distant villages within 2 kilometre radius responded well to the vaccination campaign.

### **THE CASES AND THEIR FAMILIES**

As the encephalitis cases started to increase, Hospital Seremban swung into full action. During the initial outbreak, the cases were treated as JE. There were no presumed risk transmission to the hospital staff. The cases were treated in the general medical wards. As nipah virus came into the picture, universal precaution were taken. Two wards were converted to specially cater for the Nipah virus encephalitis. Family members and relatives were satisfied with the management of the cases in the hospital. They were kept informed on the status of the cases. The operations room was opened which also catered for requests on status of patients. Close family members were allowed to wait outside the wards with hospital volunteers also assisting in keeping the family members comfortable besides consoling them.

### **THE MASS MEDIA**

The State Health Department had a good relationship with the mass media. The Department kept them up to date on health matters pertaining to the state. During this crisis, the Department was required to refer to the headquarters first before making statement to the press. But most of the time, the press called by telephone and expected immediate response, which was not possible since the state need to get clearance from the headquarters. It was suggested that the State Health Department be permitted to release statements on activities done at state level, leaving statements related to national policies to the headquarters.

During the initial outbreak, the State Health Department was releasing information on the activities carried to the press. The 'Gag Order' stopped State Health Department from releasing information to the media. The media have no other option except to get it from the Ministry of Health headquarters. Because of this, the mass media gave conflicting reports on the number of cases and it created uneasiness among the general public, leading to accusations of government cover-ups. The media did come to the State Health operations room to enquire on the actual figures, but their request were turned down due to the 'Gag Order'. The mass media have other ways of getting the news. They approached family members and their relatives for news.

Besides the local media, the foreign media too tried to get on site where the activities were going on. But they were denied permission. They however still manage to get news but from the farmers and politicians.

The dissemination of statistics of the outbreak through the ministry's homepage(dph.gov.my) was an excellent idea. But that was not enough. The press

wanted more, and they kept calling the State Health Operations room for more information but was turned down every time.

Therefore a regular briefing to the press is suggested at the headquarters level, daily if necessary, to reduce uncalled for accusations and to give the latest update on strategies of activities done.

At one of the culling operations done in a pig farm in Mambau, Seremban, the State Task Force invited the mass media to observe and record the whole operation. Therefore the mass media had a clear picture of how the activity was conducted and that killing was done humely.

## **THE EVACUEES**

The evacuation of BP I residents were done for several reasons. The farmers and their family members abandoned their farms for fear of their lives. The residents also evacuated their houses due to the unbearable stench. Some farmers were advised to evacuate to avoid stray bullets during the culling operations. The majority of the Indian and Malay community in Kg. India, Bukit Pelandok and neighbouring villages did not evacuate their homes. They remained in their home, even though their sense were assaulted by the slench of the carcass. The main reason for not leaving were that they did not have a place to go and they could not afford to rent houses in other place.

The farmers stayed in rented houses in Lukut. The other evacuees, mainly Indians were relocated temporarily in Sekolah Kebangsaan Tanah Merah. The welfare of the evacuees in the school were managed by the Welfare Department. Classrooms were converted into living quarters. Drinking water was supplied by the Waterworks Department and food was catered. Portable toilets were provided by Port Dickson Local Council to supplement the existing toilets. With the reopening of the school, the evacuees were relocated to the Port Dickson old hospital. The wards were partitioned to accommodate the families. Food was prepared by the Red Crescent. The problem with the evacuation centres was that there were no privacy. However, the evacuees were mobilised to keep the place clean and helped the Red Crescent in serving the food. The local Indian community leaders finally relocated the evacuees in rented houses in Taman Timah Jaya, Lukut.

Health education continued at the school and the Port Dickson old hospital, with posters and distribution of pamphlets.

## **NON GOVERNMENT ORGANISATIONS**

The non-government organisation (NGO) assisted in the control of the outbreak. The Pig Farmers Association bought their own fogging machines and formed their own teams. But the areas fogged were determined by themselves, mainly their own premises. The Malay villages also received some fogging machines from the State Government. They too formed teams to fog their villages. Both these groups were given technical advice on fogging procedures and maintenance of the fogging machine.

## **HEALTH PERSONNEL**

The initial control measures were directed towards control of JE. The health personnel on the field were informed on the mode of transmission of JE, and had been briefed on protective measures they have to take during the fogging, larviciding and health education activities. They were also given JE vaccination.

But the problem appeared when Nipah Virus encephalitis came into the picture. Would the JE vaccine be needed since the outbreak was something else? The situation was made worsened when the public started to refused vaccination. There were several reasons why the vaccination was continued. The first reason was to avoid wastage. The first dose gave no protection at all. Without the following doses the first dose already given would be wasted. The second reason was that JE was still being detected together with Nipah Virus encephalitis. Thus the JE vaccine would still protect the residents from getting JE. The personnel giving vaccination was facing a difficult task in explaining to the public on the need of the JE vaccine.

Furthermore, they were well aware they were facing an unknown disease. There was not much that could be told to the health personnel, except to take all safety precautions and not to touch anything in the pig farm during their fogging operations. It was fortunate that they were already wearing full protective gear during the JE control operations which served well for the Nipah Virus outbreak. Additional measures taken were footbaths to disinfect their boots and their protective clothing were laundered.

All personnel involved in the culling operations were briefed daily at their base where they report for duties. They were reminded to protect themselves everyday before embarking on their daily activities.

Another issue that cropped up was on the need for fogging even though the outbreak was not JE. Fogging was however continued since there were no change in policy on fogging. The fogging served as a confidence booster for the pig cullers.

Communication gadget was a problem among the field workers, especially the foggers. Each team would have a policeman equipped with walkie talkie. But due to the intensiveness of the activities, the equipment was inadequate. It is suggested that for the future, walkie talkies be made available in times of crises for effective management of the health resources in the field.

## **CONCLUSION**

The management of the public during such crisis was as important as controlling the outbreak itself. If the public was not managed well, the control activities would have been futile. Lessons learnt from this outbreak should be consolidated to improve on public management in future crises.