

Achievements of Dengue Fever Prevention in Wan Village, Sanmin District, Kaohsiung City, Taiwan, 2014

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Abstract

Dengue fever is a mosquito-borne disease that caused considerable increase in number of cases in Kaohsiung City in recent years. In Sanmin district, a highly populated area, dengue fever becomes a very important epidemic disease in every summer. In 2014, a severe dengue fever outbreak occurred in Wan Village, Sanmin District, Kaohsiung City, and the public health agencies controlled the disease with block prevention. In contrast with Wan Village, the public health agencies performed a small area prevention in Bao Village. The dengue fever outbreak in Bao Village continued for a long time. The purpose of this article is to review the epidemic of dengue fever of 2014 in Wan Village, Sanmin District, Kaohsiung City and the control operations to provide suggestions for the future.

Keywords: dengue fever, Sanmin district, Wan village, block prevention

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Investigation of an Indigenous Outbreak of Dengue Fever, Yingge District, New Taipei City, 2017

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Abstract

In 2017, an indigenous outbreak of dengue fever broke out in the Yingge District of New Taipei City. Between September 27 and October 17, 2017, epidemic screening and hospital reporting confirmed seven dengue fever cases, who were all related to the same mountainous area of Yingge District.

The public health officials were immediately mobilized to implement preventive measures, including public announcements via multi-channel access. Healthcare providers from neighboring counties and cities were invited to enhance public awareness and residents were asked to assist in the removal of breeding sources. The outbreak was under control on November 6.

The effort to eliminate common mosquito breeding sources was difficult because the mountainous area was full of natural mosquito breeding sources and residents living inside the mountains were also hard to reach. Based on the experience of this outbreak investigation, we suggest that, in case a dengue fever outbreak occurs in a mountainous area, health authorities should identify a key person who is familiar with the local terrain and residents first, so that high risk areas could be located and people who are most at risk could be identified timely, in order to curb the spread of the disease.

Keywords: indigenous, dengue fever, outbreak, New Taipei City, mountain

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Weekly Data of Notifiable Infectious Diseases (by week of diagnosis)

Case diagnosis year		Week 20★		Week 1-20			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	3	1	39	0	15	0
	Acute Viral Hepatitis type A	4	9	37	16	245	25
	Amoebiasis	7	7	122	45	134	78
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	1	1	5	5
	Cholera	0	0	0	0	0	0
	Dengue Fever	6	7	50	50	90	90
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	1	0	1	0
	Malaria	0	0	0	0	1	1
	Measles	0	0	25	7	5	5
	Meningococcal Meningitis	0	0	5	1	6	0
	Paratyphoid Fever	0	0	1	1	2	2
	Poliomyelitis	0	0	0	0	0	0
	Rubella	1	0	4	3	0	0
	Shigellosis	1	1	56	14	83	32
Typhoid fever	0	0	7	5	8	7	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	2	1	52	3	61	3
	Acute Viral Hepatitis type C	13	2	180	2	84	1
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	1	0	4	0	7	2
	Acute Viral Hepatitis untype	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	0	1	9	0	2	0
	Haemophilus Influenza type b Infection	0	0	2	0	2	0
	Japanese Encephalitis	0	0	0	0	0	0
	Legionellosis	2	2	58	1	51	7
	Mumps	17	18	228	3	259	2
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	9	0	11	0
	Tetanus	0	0	4	0	3	0
	Category IV	Botulism	0	0	0	0	0
Brucellosis		0	0	0	0	0	0
Complicated Influenza		2	3	20	0	9	1
Complicated Varicella		0	0	5	0	10	1
Endemic Typhus Fever		0	0	0	0	0	0
Herpesvirus B Infection		4	8	230	0	224	2
Invasive Pneumococcal Disease		1	0	15	0	24	0
Leptospirosis		0	0	52	0	0	0
Lyme Disease		0	0	0	0	0	0
Melioidosis		0	1	6	0	8	0
Q Fever		1	0	3	0	4	0
Scrub Typhus		7	6	105	0	111	0
Toxoplasmosis		4	24	657	4	250	4
Tularremia	0	0	6	0	6	0	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	1	1
	Yellow Fever	0	0	0	0	0	0
	Zika Virus Infection	0	0	0	0	0	0

- ★ The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- The following chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
- Numbers of mumps, neonatal tetanus and tetanus cases are summed up by the week of report.
- Since 2016/1/22, "Zika Virus Infection" was listed as a Notifiable Infectious Disease.
- Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Twenty-one clusters were reported, including 7 tuberculosis clusters, 9 diarrhea clusters, 1 upper respiratory tract infection cluster, 1 influenza-like illness cluster, 1 fever of unknown origin cluster, and 2 varicella clusters.

Imported Infectious Diseases

Country \ Disease	Indonesia	China	Cambodia	Vietnam	Malaysia	Nigeria	Thailand	Total
DF	1			2	1	1	1	6
Amoebiasis	3							3
Acute Hepatitis A	1	1						2
Paratyphoid Fever			1					1
Acute Hepatitis B		1						1
Typhoid fever	1							1
Total	6	2	1	2	1	1	1	14

Note: The table summarized the number of imported cases that were either **confirmed** or **updated** in the given week.

- There were 14 confirmed imported cases from 7 countries during week 20 of 2018.
- There are 153 confirmed imported cases from 19 different countries in 2018. The top 3 countries are Indonesia (51), Philippines (18), and Malaysia (15).
- Top 3 imported diseases are Dengue Fever (50), Amoebiasis (45), and Acute Hepatitis A (16).

Summary of Epidemic

- **Enterovirus** : Coxsackie A virus is currently the dominant strain circulating in the community. Most reported enterovirus cases experienced mild symptoms. However, cases of enterovirus infection with severe complications are likely to occur sporadically.

Weekly Data of Notifiable Infectious Diseases (by week of diagnosis)

Case diagnosis year		Week 21★		Week 1-21			
Classification	Disease Diagnosed	2018	2017	2018		2017	
				Total cases★	Imported cases	Total cases★	Imported cases
Category I	Plague	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0
	SARS	0	0	0	0	0	0
	Smallpox	0	0	0	0	0	0
Category II	Acute Flaccid Paralysis	2	0	41	0	15	0
	Acute Viral Hepatitis type A	2	9	39	17	254	25
	Amoebiasis	4	10	126	48	144	83
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	0	1	1	5	5
	Cholera	0	0	0	0	0	0
	Dengue Fever	9	1	59	59	91	91
	Diphtheria	0	0	0	0	0	0
	Enterohemorrhagic E. coli Infection	0	0	0	0	0	0
	Epidemic Typhus Fever	0	0	0	0	0	0
	Hantavirus Pulmonary Syndrome	0	0	0	0	0	0
	Hemorrhagic Fever with Renal Syndrome	0	0	1	0	1	0
	Malaria	0	0	0	0	1	1
	Measles	2	0	27	9	5	5
	Meningococcal Meningitis	0	0	5	1	6	0
	Paratyphoid Fever	0	1	1	1	3	3
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	4	3	0	0
	Shigellosis	5	2	61	17	85	33
	Typhoid fever	0	2	7	5	10	9
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	1	3	53	3	64	3
	Acute Viral Hepatitis type C	10	10	190	2	94	1
	Acute Viral Hepatitis type D	0	0	0	0	1	0
	Acute Viral Hepatitis type E	0	0	4	0	7	2
	Acute Viral Hepatitis untype	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	0	0	0	0
	Enteroviruses Infection with Severe Complications	4	0	13	0	2	0
	Haemophilus Influenza type b Infection	0	0	2	0	2	0
	Japanese Encephalitis	2	1	2	0	1	0
	Legionellosis	3	4	61	1	55	8
	Mumps	9	20	237	3	279	3
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	1	0	10	0	11	0
	Tetanus	0	0	4	0	3	0
Category IV	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Influenza	1	0	21	0	9	1
	Complicated Varicella	1	0	6	0	10	1
	Endemic Typhus Fever	0	0	0	0	0	0
	Herpesvirus B Infection	6	1	236	0	225	2
	Invasive Pneumococcal Disease	2	2	17	0	26	0
	Leptospirosis	3	0	55	0	0	0
	Lyme Disease	0	0	0	0	0	0
	Melioidosis	0	0	6	0	8	0
	Q Fever	1	0	4	0	4	0
	Scrub Typhus	6	7	111	0	118	0
	Toxoplasmosis	10	35	667	4	285	4
	Tularremia	1	0	7	0	6	0
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Novel Influenza A Virus Infections	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus	0	0	0	0	1	1
	Yellow Fever	0	0	0	0	0	0
Zika Virus Infection	0	0	0	0	0	0	

1. ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
2. The following chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
3. Numbers of mumps, neonatal tetanus and tetanus cases are summed up by the week of report.
4. Since 2016/1/22, "Zika Virus Infection" was listed as a Notifiable Infectious Disease.
5. Since 2018/1/1, "Listeriosis" was listed as a Notifiable Infectious Disease.

Suspected Clusters

- Thirty-two clusters were reported, including 9 tuberculosis clusters, 8 diarrhea clusters, 3 upper respiratory tract infection clusters, 5 influenza-like illness clusters, 1 enterovirus cluster, and 6 varicella clusters.

Imported Infectious Diseases

Country Disease	Indonesia	Thailand	Vietnam	Philippines	Maldives	Malaysia	Madagascar	Cambodia	Total
DF	1	3	1	1	2			1	9
Amoebiasis	2			1					3
Shigellosis	2					1			3
Measles		1	1						2
Acute Hepatitis A							1		1
Total	5	4	2	2	2	1	1	1	18

Note: The table summarized the number of imported cases that were either **confirmed** or **updated** in the given week.

- There were 18 confirmed imported cases from 8 countries during week 21 of 2018.
- There are 171 confirmed imported cases from 20 different countries in 2018. The top 3 countries are Indonesia (57), Philippines (20), and Malaysia (16).
- Top 3 imported diseases are Dengue Fever (59), Amoebiasis (48), and Acute Hepatitis A (17).

Summary of Epidemic

- **Japanese Encephalitis:** The Japanese encephalitis epidemic season has begun, therefore, the number of confirmed cases are expected to increase.
- **Enterovirus:** Mild enterovirus activity continuous to increase. In addition, the enterovirus epidemic season is coming, cases of enterovirus infection with severe complications are likely to occur. As of now, EV71 is still circulating in the community.

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