

Epidemiology of Syphilis and Gonorrhea in Taiwan, 2005–2016

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Abstract

World Health Organization (WHO) set a goal of reducing the incidence of syphilis and gonorrhea by 90% and less than 50 cases of congenital syphilis per 100,000 live births in 2030 by adopting the United Nations 17 sustainable development goals. In order to understand the long-term trends of sexually transmitted diseases in Taiwan to formulate the prevention and control policies to achieve the WHO 2030 target, we analyzed the cases of syphilis and gonorrhea in Taiwan from 2005 to 2016. The results show: (1) Both incidence rates per 100,000 population were increasing year by year, and the ascending trend was most obvious after 2013; (2) The sex ratio of syphilis increased year by year, but gonorrhea decreased between 2015 and 2016; (3) The main infection age group of syphilis and gonorrhea was 20–39 years of age, but number of cases of 10–19 years of age rose between 2015 and 2016; whereas the congenital syphilis is declining year by year; (4) The incidence rates of syphilis were highest in Taipei region, Eastern region, Northern region and Kaohsiung-Pingtung region, while the highest rates of gonorrhea were in Taipei region, Northern region and Eastern region. We suggested: (1) to maintain current achievement on the prevention and control of congenital syphilis and towards the goal of eradication; (2) put more emphasis on sex education to adolescent, and provide more private counseling; and (3) to investigate the prevalence of sexually transmitted diseases in high-risk groups, in order to understand the trends and disease burden.

Keywords: Syphilis, Gonorrhea, Sexually transmitted diseases, Congenital syphilis

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A Foodborne Outbreak Associated with School Lunch Program in a School – New Taipei City, Taiwan, November 2016

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Abstract

On November 4, 2016, Taiwan CDC was notified of a foodborne outbreak in two schools whose lunch served by the same caterer and 361 of 1,686 students who consumed school lunch were ill. We conducted a case-control study among 9th grade students and teachers in School A and defined cases as people who ate lunch on November 1, 2, or 3 and developed diarrhea or abdominal pain within 72 hours after consuming. We performed univariate analysis to identify associated food items. Stools from ill students, food handlers, and food samples were collected to test for common foodborne pathogens. Food distribution process was reviewed. Fifty-four cases consumed lunch on November 3 were sick and median incubation period was 10 hours. Compared with 125 controls, consuming pork slices with mashed garlic (OR 17.58, 95% CI 1.04–297.80) and grapes (OR 2.13, 95% CI 1.06–4.31) were associated with illness, but only the former was served to both schools. Specimens of leftovers and stool from one food handler were tested positive for *Bacillus cereus*, but specimens from ill students were culture-negative. It took at least 2 hours from foods cooked before to be served. We recommend school caterer should review food distribution process to ensure food safety.

Keywords: *Bacillus cereus*, Diarrhea, Foodborne outbreak, Case-control study

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

Case diagnosis year		Week 48★		Week 1-48			
Classification	Disease Diagnosed	2017	2016	2017		2016	
				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	4	1	41	0	37	0
	Acute Viral Hepatitis type A	5	16	368	48	1046	75
	Amoebiasis	18	8	334	175	294	151
	Anthrax	0	0	0	0	0	0
	Chikungunya Fever	0	1	11	11	10	10
	Cholera	0	0	2	1	9	0
	Dengue Fever	5	6	322	312	781	338
	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	3	0
	Malaria	0	0	7	7	14	14
	Measles	0	0	5	5	13	7
	Meningococcal Meningitis	0	1	11	0	8	0
	Paratyphoid Fever	0	0	5	4	5	2
	Poliomyelitis	0	0	0	0	0	0
	Rubella	0	0	3	2	4	3
	Shigellosis	2	4	156	54	206	103
Typhoid fever	0	1	17	14	8	4	
West Nile Fever	0	0	0	0	0	0	
Category III	Acute Viral Hepatitis type B	4	2	144	9	102	5
	Acute Viral Hepatitis type C	6	5	285	2	185	3
	Acute Viral Hepatitis type D	0	0	1	0	1	0
	Acute Viral Hepatitis type E	0	0	15	3	15	5
	Acute Viral Hepatitis untype	0	0	0	0	0	0
	Congenital Rubella Syndrome	0	0	1	1	0	0
	Enteroviruses Infection with Severe Complications	0	0	11	0	30	0
	Haemophilus Influenza type b Infection	0	0	5	0	14	0
	Japanese Encephalitis	0	0	25	0	23	0
	Legionellosis	11	2	164	13	107	3
	Mumps	9	8	604	9	570	7
	Neonatal Tetanus	0	0	0	0	0	0
	Pertussis	0	0	34	0	18	0
	Tetanus	0	1	10	0	11	0
	Category IV	Botulism	0	0	0	0	5
Brucellosis		0	0	0	0	0	0
Complicated Influenza		8	22	1301	6	2022	2
Complicated Varicella		0	5	28	1	42	0
Endemic Typhus Fever		0	0	35	1	14	0
Herpesvirus B Infection		0	0	0	0	0	0
Invasive Pneumococcal Disease		3	9	419	3	538	0
Leptospirosis		2	2	98	1	117	2
Lyme Disease		0	0	1	1	2	2
Melioidosis		1	1	25	1	46	1
Q Fever		0	0	18	0	43	3
Scrub Typhus		7	10	398	0	462	4
Toxoplasmosis		0	0	19	0	10	0
Tularremia		0	0	0	0	0	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	1	1	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	0	0
	Yellow Fever	0	0	0	0	0	0
Zika Virus Infection	0	0	4	4	13	13	

1. ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
2. The following 8 chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
3. Numbers of mumps 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.

Suspected Clusters

- Twelve clusters were reported, including 2 tuberculosis clusters, 5 diarrhea clusters, 2 upper respiratory tract infection clusters, 2 influenza-like illness clusters and 1 varicella cluster.

Imported Infectious Diseases

- 7 confirmed cases were imported from 4 countries during Week 48 of 2017.

Disease \ Country	Vietnam	Singapore	Indonesia	China	Total
DF	2	2	1		5
Melioidosis				1	1
Hepatitis B	1				1
Total	3	2	1	1	7

Note: The statistics listed in this table include imported cases that were either **confirmed** or **updated** in the previous week.

- A total of 680 confirmed cases were imported from 36 countries in 2017, the top 3 countries are : Indonesia (223), Vietnam (114), Philippines (84).
- Top 3 imported diseases : Dengue fever (312), Amoebiasis (175), Shigellosis (54).

Summary of Epidemic

- **Enterovirus** : The epidemic activity has continued to slow down and the epidemic season might be over soon. EV71 virus is still circulating in the community.
- **Influenza** : The epidemic activity has increased slightly, but overall, the activity has remained low.

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

Case diagnosis year		Week 49★		Week 1-49				
Classification	Disease Diagnosed	2017	2016	2017		2016		
				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	4	0	45	0	37	0	
	Acute Viral Hepatitis type A	3	32	371	48	1078	76	
	Amoebiasis	12	4	346	179	298	154	
	Anthrax	0	0	0	0	0	0	
	Chikungunya Fever	0	0	11	11	10	10	
	Cholera	0	0	2	1	9	0	
	Dengue Fever	6	7	328	318	788	345	
	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	3	0	
	Malaria	0	0	7	7	14	14	
	Measles	0	0	5	5	13	7	
	Meningococcal Meningitis	0	0	11	0	8	0	
	Paratyphoid Fever	0	0	5	4	5	2	
	Poliomyelitis	0	0	0	0	0	0	
	Rubella	0	0	3	2	4	3	
	Shigellosis	4	2	160	54	208	104	
	Typhoid fever	0	1	17	14	9	4	
West Nile Fever	0	0	0	0	0	0		
Category III	Acute Viral Hepatitis type B	4	4	148	9	106	5	
	Acute Viral Hepatitis type C	8	4	293	2	189	3	
	Acute Viral Hepatitis type D	0	0	1	0	1	0	
	Acute Viral Hepatitis type E	0	1	15	3	16	5	
	Acute Viral Hepatitis untype	0	0	0	0	0	0	
	Congenital Rubella Syndrome	0	0	1	1	0	0	
	Enteroviruses Infection with Severe Complications	0	0	11	0	30	0	
	Haemophilus Influenza type b Infection	0	0	5	0	14	0	
	Japanese Encephalitis	0	0	25	0	23	0	
	Legionellosis	7	6	171	13	113	3	
	Mumps	10	6	614	9	576	7	
	Neonatal Tetanus	0	0	0	0	0	0	
	Pertussis	0	0	34	0	18	0	
	Tetanus	0	2	10	0	13	0	
	Category IV	Botulism	0	0	0	0	5	0
		Brucellosis	0	0	0	0	0	0
Complicated Influenza		10	23	1311	6	2045	2	
Complicated Varicella		0	0	28	1	42	0	
Endemic Typhus Fever		0	0	35	1	14	0	
Herpesvirus B Infection		0	0	0	0	0	0	
Invasive Pneumococcal Disease		8	10	427	3	548	1	
Leptospirosis		1	0	99	1	117	2	
Lyme Disease		0	0	1	1	2	2	
Melioidosis		0	3	25	1	49	1	
Q Fever		0	0	18	0	43	3	
Scrub Typhus		4	20	402	0	482	4	
Toxoplasmosis		1	0	20	0	10	0	
Tularremia		0	0	0	0	0	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	1	1	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	0	0	
	Yellow Fever	0	0	0	0	0	0	
	Zika Virus Infection	0	0	4	4	13	13	

- ★The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
- The following 8 chronic diseases are excluded from the table: MDR-TB, Tuberculosis, Syphilis, Gonorrhoea, HIV Infection, AIDS, Hansen Disease and Creutzfeldt-Jakob Disease.
- Numbers of mumps 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.

Suspected Clusters

- Seventeen clusters were reported, including 8 tuberculosis clusters, 2 diarrhea clusters, 1 upper respiratory tract infection clusters, 3 influenza-like illness clusters, 1 fever of unknown origin cluster, 1 enterovirus cluster and 1 varicella cluster.

Imported Infectious Diseases

- 10 confirmed cases were imported from 6 countries during Week 49 of 2017.

Country Disease	Indonesia	Vietnam	Thailand	India	Mexico	Malaysia	Total
DF		2	1	1	1	1	6
Amoebiasis	4						4
Total	4	2	1	1	1	1	10

Note: The statistics listed in this table include imported cases that were either **confirmed** or **updated** in the previous week.

- A total of 690 confirmed cases were imported from 37 countries in 2017, the top 3 countries are : Indonesia (227), Vietnam (116), Philippines (84).
- Top 3 imported diseases : Dengue fever (318), Amoebiasis (179), Shigellosis (54).

Summary of Epidemic

- **Enterovirus** : Sporadic cases of enterovirus D68 infection have continued to occur in the community.
- **Influenza** : The epidemic activity increased slightly. The most frequently isolated influenza virus was influenza B in the community.

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