

and meet minimum standards for food safety and hygiene. School officials who have questions concerning lunch box suppliers should contact the Food Sanitation Section of their local county health bureau.

References

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- 3 Department of Health. Foodborne gastroenteritis in a junior highschool - Nantou County. *Epidemiol Bull (R.O.C.)* 1985;1:54-56
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Rubella in the Taiwan Area

From 1944 to 1957, little rubella transmission occurred in the Taiwan Area. In 1958-1959, a major rubella epidemic resulted in an estimated one million cases. During this epidemic, approximately one in 10 persons, or 10% of the population, became infected with rubella. Attack rates among school children reached 30% in rural areas and 50% in urban areas¹. Although the highest attack rates occurred in children 7-13 years of age, a significant number of cases occurred among teenagers and young adults. In a study of infants born to women infected during their first trimester of pregnancy, 37% developed congenital abnormalities compatible with congenital rubella syndrome (CRS)².

Following this epidemic, there was no further significant rubella transmission until 1968, when another large epidemic occurred³. During this epidemic, clinical attack rates again reached 50% in school children in some urban areas, however, there were fewer cases among teenagers and young adults, probably because of immunity from the 1958-1959 epidemic. In keeping with the pattern of an epidemic every 10 years, another major rubella epidemic occurred in 1977⁴. After this epidemic, however, rubella became endemic in the Taiwan Area.

Data documenting endemic rubella transmission in Taiwan are limited. Physicians at MacKay Memorial Hospital (MMH) in Taipei City have monitored the incidence of serologically confirmed rubella cases among their patients since January 1984 (Table 1). These data indicate rubella transmission occurs throughout the year: the average number of cases per month was 2.5 and 1.9 for 1984 and 1985, respectively. During the first seven months of 1986, however, the average increased to 5.6 cases per month. Although these data confirm endemic rubella transmission, they also suggest the rate of infection may be increasing as we approach another anniversary in the 10-year cycle of rubella outbreak on Taiwan.

Other evidence for endemic rubella transmission is provided by a recent seroprevalence survey of school children in Taiwan⁵. This survey shows rubella antibody levels in rural

Table 1 Numbers of serologically confirmed rubella Jan. 1984-July 1986, MMH

| Month | 1984 | 1985 | 1986 | Total |
|-------|------|------|------|-------|
| Jan. | 2 | 3 | 0 | 5 |
| Feb. | 3 | 1 | 4 | 8 |
| Mar. | 4 | 3 | 7 | 14 |
| Apr. | 0 | 3 | 9 | 12 |
| May | 8 | 1 | 5 | 14 |
| June | 5 | 4 | 11 | 10 |
| July | 1 | 1 | 3 | 5 |
| Aug. | 5 | 2 | 2 | 7 |
| Sep. | 0 | 1 | 2 | 0 |
| Oct. | 0 | 0 | 0 | 3 |
| Nov. | 1 | 2 | 1 | 3 |
| Dec. | 1 | 2 | 1 | 3 |
| Total | 30 | 23 | 39 | 92 |

Mar. - June: 54.3%

areas are presently about 30% in children 4-10 years, and 45% in children 11-16 years. Children in urban areas have higher levels of antibody

Despite endemic transmission, a significant number of women of childbearing age are still susceptible to rubella infection; a recent study of rubella antibody levels in female university freshman in Taipei City showed 37% lacked immunity⁵

To reduce the risk of CRS in Taiwan, the Executive Yuan recently approved a plan to annually immunize all female students 15 years of age with rubella vaccine. The first rubella school immunization campaign was carried out from November 1 - December 31, 1986. During this period, an estimated 180,000 school girls were immunized. Although this program will prevent cases of CRS, it will have only a minor impact on endemic rubella transmission. The Department of Health is presently studying the possibility of adding rubella vaccine to the routine childhood immunization schedule. This strategy, although more costly, would have a significant impact on reducing endemic rubella transmission, and would eventually eliminate the need for immunizing school girls.

One of the main difficulties in monitoring the impact of any rubella immunization program in Taiwan is the present lack of surveillance data for both rubella and CRS. Currently, neither disease is officially reportable, however, both have been included on the revised communicable disease reporting form now being field tested in Taipei City and County⁵. These forms have been in use since November 1986, and the Department of Health is receiving reports of about 4-5 rubella cases per week. If the field test proves successful, rubella and CRS will be added to the official list of reportable diseases, and the new reporting system will be expanded to the rest of the island.

We would like to take this opportunity to thank the staff of health stations, hospitals,

and physicians in the Taipei area for their cooperation in reporting cases of rubella and CRS. We would also like to thank the staff of health stations throughout the island for their help in carrying out the rubella school immunization program. With the cooperation and support of public health officials, pediatricians, and obstetricians, rubella and CRS can be eliminated from Taiwan.

Reported by SC Chyou, Department of Pediatrics, MacKav Memorial Hospital, Bureau of Disease Control, Department of Health, the Executive Yuan

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To strengthen the surveillance system and enrich the content of the *Bulletin*, we welcome accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest. Articles for publication and requests to be placed on the mailing list should be sent to: the Editor, *Epidemiology Bulletin*, Bureau of Disease Control, Department of Health, the Executive Yuan, Republic of China, P. O. Box 91-103 Taipei, Taiwan, R.O.C., TEL: (02) 3962847

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