中華民國76年6月15日 June 15, 1987/Vol.3/No.6

Epidemiology Bulletin

REPUBLIC OF CHINA

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Immunization Survey – Taitung County and Kaohsiung City

In April 1987, surveys were carried out in Taitung County and Kaohsiung City to determine immunization rates for BCG, DPT, polio, and measles vaccines among children 12-23 months of age Township and district household registration offices were visited to obtain a list of all households in the survey areas. Pilot surveys were conducted to determine the number of households required to identify seven children in the target age group. Households were then grouped into clusters of this size, and 30 clusters were randomly selected in each of the two survey areas. Interviews were conducted by members of the South and East Mobile Surveillance Teams, assisted by local public health nurses. Interviewers visited all households in each cluster and completed a standardized questionairre. Children were counted as immunized if they could produce a written record of the immunization. Children were counted as completely immunized if they had all of the following vaccinations: BCG, three doses of DPT and polio, and measles. Information was also collected from parents on reasons for incomplete immunization.

The immunization rates by antigen for both surveys are summarized in Table 1. The rates for all antigens were greater than 80% in both Taitung County and Kaohsiung City, however, a substantially higher proportion of Kaohsiung City children were completely immunized (87% versus 75%) In both areas, the rate of immunization with measles vaccine was the lowest of all antigens. The reasons for incomplete immunization are summarized in Table 2; the most common reason given for missed immun-

Table 1 Immunization rates by antigen for children 12-23 month of age in Taitung County and Kaohsiung City, April 1987.

Antigen	Taitung Co. (n=211) No. Immunized (%)	Kaohsiung City (n=220) No. Immunized (%)
BCG	191 (91%)	207 (95%)
DPT-1	193 (92%)	296 (94%)
DPT-2	183 (87%)	202 (92%)
DPT-3	174 (83%)	199 (91%)
Polio-1	193 (92%)	205 (94%)
Polio-2	183 (87%)	203 (93%)
Polio-3	174 (83%)	198 (90%)
Measles	170 (81%)	193 (88%)
Complete	158 (75%)	190 (87%)

Table 2 Reasons parents gave for why their children were not completely immunized, Taitung County and Kaohsiung City, April 1987.

Reason	Taitung Co. (n=47)* No. (%)	Kaohsiung City (n=19)* No. (%)
Inconvenient hours		2 (11%)
Health station too far	0	0
No vaccine available	0	1 (5%)
Child was ill	16 (34%)	8 (42%)
Not notified	6 (13%)	1 (5%)
Afraid of side effect	2 (4%)	4 (21%)

*Number who gave reasons; 6 in Taitung and 11 in Kaohsiung did not specify any reason

izations was a mild childhood illness at the time the immunization was due In both areas, approximately 15% of children were not registered in the township or district where they lived In Kaohsiung City, registered children were more likely to be completely immunized than unregistered children. 161 (89%) of 181 registered children were completely immunized compared to 23 (72%) of 32 unregistered children (chi-square= 5 37; p <0 02)

Reported by Taitung County and Kaohsiung City Health Bureaus, East and South Mobile Surveillance Teams, Bureau of Disease Control Department of Health, Executive Yuan

Editorial note: In addition to Taitung County and Kaohsiung City, immunization surveys have been recently carried out in five other counties[1-3], and two more surveys will be carried out in June. These surveys have provided valuable information, and are an important tool in evaluating the immunization program. From these surveys we have learned that coverage rates for most vaccines are relatively high, however, the drop-out rate between first and third doses of DPT and polio is higher in rural areas In all surveys conducted to date, the immunization rate for measles vaccine has been lower than for any other antigen (73-88%). Such rates are inadequate to prevent measles outbreaks, and must be improved. The most common reason for missed immunizations in all surveys was minor illness at the time the immunization was due Health station staff throughout the Taiwan Area must educate parents that minor illnesses such as fever, colds, or diarrhea, are NOT contraindications for immunization[4]. To improve the rate of completely immunized children, it is essential to use every contact with the health care system to immunize

The two surveys of urban areas conducted to date (Taipei County and Kaohsiung City) revealed a significant association between incomplete immunization and unregistered children. This is a complicated problem for which there is no easy solution. Too often, parents who have recently migrated to urban areas continue to register their children in their home county rather than in the place where they live. Health station staff in the county of registration attempt to contact these children for immunization, but usually do not follow up children who have moved out of their area. This results in missed immunizations.

In conclusion, we wish to thank the staff of the mobile surveillance teams and health stations for their help in carrying out these surveys.