

Epidemiology Bulletin

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Prevalence Survey of Gluteus Maximus Contracture Among School Children in Taiwan Area

The prevalence of Gluteus maximus contracture among school children in Taipei City is much lower than that of the remote areas such as Yunlin and Chiayi counties. This geographical difference deserves further investigation. To understand the distribution of Gluteus maximus contracture in Taiwan Area and its relation to the quality of available medical care and the degree of urbanization, the Group conducted in November 1987 general screenings of school children in 2,536 public and private primary schools in 345 townships of Taiwan Area.

Gluteus maximus contracture is easy to detect by asking the subject to either squat or raise his leg^(1,2). For the practicability of a general screening, some specific photos of patient squatting and raising leg had been prepared with notes for health care personnel or teachers to help screening the children. Those thus identified are considered suspects. Teachers were also asked to find out children who had been operated for contracture. They are grouped as the operated patients. The survey has altogether collected information from 1,162 primary schools in 310 townships. In addition, information has also been collected on the number of physicians, the number of clinics and hospitals, the number of drug stores, and the degree of urbanization in each township for the analysis of the relation, if any, between the prevalence of contracture and the resources of medical care and the degree of urbanization⁽³⁾.

The findings are:

The prevalence of contracture by sex and by grade is shown in Table 1. In all grades, the prevalence is higher in male students than in female students. The prevalence also increases with grade.

**Table 1. Prevalence of Contracture
Among School Children in 310
Townships in Taiwan Area by Sex and Grade** (rate: per 1,000)

Grade	No. Examined		No. of Suspects		No. Operated	
	Male	Female	Male (Prevalence)	Female (Prevalence)	Male (Prevalence)	Female (Prevalence)
1	102,747	97,062	258(2.51)	102(1.05)	3(0.03)	1(0.01)
2	101,279	96,010	259(2.56)	96(1.00)	20(0.20)	5(0.05)
3	103,423	99,895	361(3.49)	138(1.38)	26(0.25)	10(0.10)
4	98,623	93,747	451(4.57)	178(1.90)	39(0.40)	12(0.13)
5	99,411	93,550	444(4.47)	198(2.12)	40(0.40)	12(0.22)
6	96,881	91,295	470(4.85)	261(2.86)	57(0.59)	21(0.23)
Total	602,364	571,559	2243(3.72)	973(1.70)	185(0.31)	61(0.11)

In general, prevalence is higher in the remote areas such as Santi Township of Pingtung County (26.32%), and Wanjong Township of Hualien County (24.79%).

Analysis of the relation between the prevalence of contracture and the medical resources and urbanization shows that the prevalence is significantly negatively related to the indices of urbanization, the number of physicians, the number of hospitals and clinics, and the number of drug stores (see Table 2). In other words, the poorer the medical resources, the lower the degree of urbanization, the prevalence is higher.

Table 2. Relation Between Prevalence of Contracture and Available Medical Resources and Urbanization, 310 Townships, Taiwan Area

	Physician/ 1,000	Clinic/ 1,000	Drug Store/ 1,000	Urbanization
Prevalence of suspects	-0.1448 ⁺	-0.2029**	-0.2344**	-0.3446**
Prevalence of operated case	-0.1847*	-0.1725*	-0.1308 ⁺	-0.1868*

+p=0.05-0.1 *p=0.01-0.05 **p<0.01

Many clinical reports and animal experiments⁽⁴⁾ show that the fibrosis of the gluteus maximus is caused by incorrect intramuscular injection, and the quality of medical care is closely related to the occurrence of contracture. The present survey has the similar findings.

Figure 1. Prevalence of Suspected Gluteus Maximus Contracture Among School Children in 310 Townships in Taiwan Area

Prevalence per 1,000 students
?: township of no reply

Reported by the Gluteus Maximus Contracture Study Group, Institute of Public Health, National Taiwan University Medical College, YS Huang et al, Prof. CJ Chen

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